THE ECONOMICS OF OVERSEARCHING:
BLOCK BOOKING BY DeBEERS, PARAMOUNT AND LOEWS

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I. Introduction

Block booking involves "the practice of licensing, or offering for license, one feature or group of features on the condition that the exhibitor will also license another feature or group of features released by distributors during a given period."[1] Exhibitors are said to be denied the possibility of bidding for single films on their individual merits. This contractual arrangement, common in the American motion picture industry from as early as 1916,[2] was declared illegal in two important landmark Supreme Court decisions, United States v. Paramount Pictures Inc. et al.,[3] (1948), where blocks of films were rented for theatrical exhibition, and United States v. Loew's Inc., et al.,[4] (1962), where blocks of films were rented for television exhibition.

The primary legal objection to block booking is that the practice "extends monopoly power". The Supreme Court in Paramount, approvingly quoting the District Court opinion, stated that block booking "adds to the monopoly of a single copyrighted picture that of another copyrighted picture"[5]. Similarly, the Supreme Court in Loew's, asserting that a distributor cannot use the market power validly granted in the copyright to a "desirable" film to force exhibitors to license a second "undesirable" film, stated that "the antitrust laws do not permit a compounding of the statutorily conferred monopoly."[6] George Stigler[7] has trenchantly criticized this extension of monopoly argument by asking the obvious economic question, namely why can the distributor not collect just as much revenue by merely using his "market power" directly on the desirable film? If the undesirable film is "over priced," then the desirable film must be "underpriced."

While economists now recognize that the "monopoly extension" analysis makes no sense, a satisfactory alternative economic explanation for the

practice has not been developed. The commonly accepted analysis is that block booking is a subtle form of price discrimination. This alternative explanation for the existence of block booking dates back to the Aaron Director "oral tradition" at Chicago, where the block booking practiced by Paramount was considered similar in motivation to the IBM machine-cards tie-in sale.[8] In 1956 this ingenious hypothesis, that block booking was a "method of charging different prices to different customers," was explicitly stated by Director but not formalized nor tested.[9] In 1963 Stigler applied the hypothesis to the Loew's case, presenting the theoretical argument in some more detail together with some apparently confirming evidence.[10] The Director and Stigler analysis firmly established the facilitation of price discrimination explanation for block booking as an element in the "Chicago school" view of antitrust[11] and has also led to the general acceptance by economists of price discrimination as a major motivation for "bundling".[12]

The price discrimination hypothesis assumes that films vary in their relative appeal across market areas. A distributor, wishing to set a price for each individual title in his library may find it difficult to gauge this variation as closely as the buyers can and therefore sets uniform prices across markets for each individual film. If, however, those films which are highly valued in some markets are the less highly valued films in other markets, assembling such films into blocks which are then priced uniformly may allow the distributor to increase his total revenue. The prices set are "discriminatory" because, although the block price is identical across markets, the implicit price paid for individual films will vary across markets.

This simple price discrimination explanation for block booking is inconsistent with the basic facts of the Paramount and Loew's cases. First, there is no legal or economic necessity for the prices of the blocks to be

identical across markets and, in fact, prices varied a great deal. For example, evidence in the Loew's litigation indicates that an 85 film package distributed by National Telefilm Associates sold for $700,000 to a television station in New York City and for only $1,600 to a television station in Lake Charles, Louisiana.[13] Similar price differences were present in the theatrical exhibition contracts that were the subject of the Paramount litigation, with a possible first-run exclusive showing rental fee of $150,000 and a last-run rental fee on the same film of only $10.[14] This large price variation appears to contradict the simple price discrimination hypothesis.[15]

A more sophisticated and empirically consistent way to think of the price discrimination hypothesis is not in terms of uniform prices, but in terms of a pricing formula.[16] If relative buyer values on individual films vary across markets and the distributor sets prices in each market according to a general "average value" pricing formula (for example, in the television case a price based on the advertising rates of stations in the different markets) then he will underprice some films in some markets and other films in other markets. However, if the demand for a total block of films is more closely related to the factors in the distributor's pricing formula than are the demands for the individual films in the block, the distributor can capture a larger total revenue by block pricing. Block booking then is a device which aids in the distributors pricing decision and implies price discrimination across markets in terms of deviations of values of individual films as given by the distributor's pricing formula.

However, even this more subtle statement of the price discrimination hypothesis is fundamentally inconsistent with the basic facts of the Loew's and Paramount cases. The important implicit assumption is that prices must be "set" by distributors rather than determined competitively. For example, the

contractual arrangement employed by distributors in the Loew's case granted an exclusive right to broadcast the given group of films to one television station in each market area. In negotiating this contract distributors could and did in fact rely on a competitive bidding process between stations in each market to determine price. If, as is assumed by Stigler, the station buyers have more information about individual film values than the distributor, in multiple station markets the distributor could just let this buyer information be revealed by competitive auction. There is no reason for the distributor to set imperfect prices on the basis of estimated buyer demand and hence no reason for block sales. Similarly, in the Paramount case theaters in a city could, in principle, compete with one another for exhibition rights to a film. There does not appear to be any reason for distributors to "pre-set" rental fees. Hence even the more sophisticated "pricing formula" statement of the price discrimination hypothesis appears fundamentally inconsistent with the basic facts of the cases.

To develop an explanation for block booking contracts that is consistent with the facts of the Loew's and Paramount cases we first consider in Section II the arrangement employed by DeBeers to market gem quality rough diamonds. The facts of the DeBeers arrangement are much simpler than the Paramount facts. Film rental contract terms exhibit significant variance over time and across various sellers and buyers while DeBeers has been marketing diamonds in a fairly constant manner for nearly fifty years. The DeBeers analysis is therefore more straightforward, but the principles presented are identical. In particular, the concept of economically wasteful search costs, or what we have labeled oversearching in the DeBeers market, underlies our analysis in all three cases. In addition, many of the same marketing practices employed in the competitive film industry, such as prespecified buyers, seller brand

names, blind bidding, and the use of block booking are also employed by
DeBeers or can readily be understood within the context of the DeBeers
marketing arrangement. The basic economic forces at work, namely the real
transaction cost savings associated with alternative selling arrangements when
we are dealing with goods of uncertain and difficult to measure quality, can
explain many seemingly different institutional structures.

The DeBeers analysis is applied and extended in Sections III and IV to
the particular contractual arrangements challenged in the Paramount and Loew's
cases. In Section V the analysis of the three examples is summarized and
unified under a more general framework of cost minimizing contractual
arrangements in the presence of imperfect measurement of performance. The
results clearly demonstrate that difficult to explain contractual terms,
rather an indicating monopolistic behavior, provide us with an opportunity to
improve our understanding of the real world.

II. DeBeers

a) the CSO marketing arrangement

The Central Selling Organization (CSO) of the DeBeers group markets a dominant fraction of the world's gem quality uncut diamonds, with an estimated world market share in 1980 of about 80-85 percent and total sales of approximately $3 billion.[17] However, only about 40 percent of these gems come from the seventeen mines owned or leased by DeBeers.[18] The majority of stones marketed by DeBeers are purchased from independent mine owners on the basis of long-term (five to ten year) exclusive dealing contracts.[19] Hence, the standard analysis of the CSO as solely a marketing cartel is fundamentally incomplete.

The obvious unanswered economic question is why independent mine owners would market through DeBeers when it would appear to be more profitable for them individually to expand production and sell their output on the open market. We suggest that the cartel enforcement mechanism that has prevented the deterioration of the CSO's dominance in wholesale diamond marketing is the efficiency of the CSO's selling practices. These cost savings, related to the minimization of buyer "oversearching" for information appear to more than outweigh any potential extra revenue to a diamond producer from marketing outside the CSO arrangement, thereby explaining its stability.

The details of the CSO marketing arrangement are important for understanding our analysis. Several million individual stones from all sources pass through the CSO's selling office each year. The CSO sorts these diamonds first by shape (six categories), then by quality (about seven categories), by color (about eight categories), and, finally, by weight, resulting in more than two thousand distinct categories.[20] The variance in the value of stones within each category, however, remains substantial. The

average value of the stones in each category is determined by the actual
selling price received by the CSO during a representative period, and outside
mines are paid according to the number of stones of each category they
provide.[21] The long-term exclusive sales requirement prevents mines from
searching through their output and selecting the best stones within each
category for sale on the open market rather than through DeBeers.

The CSO's customers are a select group of approximately three hundred
diamond traders and cutters that are invited to purchase from the CSO. These
customers are of two types: major manufacturers who have their own cutting
and polishing facilities and a few major dealers in each cutting center in the
world who supply small manufacturers.[22] Each of these customers is expected
to buy regularly and, since average annual sales per customer is approximately
$10 million, is carefully screened to be financially sound.[23]

Each of the CSO's customers periodically informs the CSO of the
approximate descriptions and quantities of diamonds it wishes to purchase.
The CSO then assembles a single box (or "sight") of diamonds for the
customer. Each box contains a number of folded, envelope-like packets called
papers. The gems within each paper are similar and correspond to one of the
CSO classifications noted above. The aggregate composition of any sight may
differ slightly from that specified by the buyer because the supply of
diamonds in each category is limited.

Once every five weeks, primarily at the CSO's offices in London, the
diamond buyers are invited to inspect their sights.[24] Each box is marked with
the buyer's name and a price. A single box may carry a price of up to several
million pounds.[25] Each buyer examines his sight before deciding whether to
buy or not. Each buyer may spend as long as he wishes, examining his sight to
see that each stone is graded correctly (that is, fits the description marked

on each parcel). There is no negotiation over the price or composition of the sight. In rare cases where a buyer claims that a stone has been miscategorized by the CSO, and the sales staff agrees, the sight will be adjusted.[26] If a buyer rejects the sight he is offered no alternative box. Rejection is extremely rare, however, because buyers who reject the diamonds offered them are deleted from the list of invited customers.[27]

To sum up, the crucial institutional facts of the DeBeers marketing arrangement are: (a) stones are sold in preselected blocks, (b) to preselected buyers (c) at non-negotiable prices, with (d) buyer rejection of the sales offer leading to the withdrawal by DeBeers of future invitations to purchase stones. This is certainly not a textbook case of an open competitive auction where any individual is a potential buyer and can examine and make a bid on any individual stone among the large group of stones DeBeers intends to sell on a particular day. A major cost of such a competitive bidding arrangement, where each stone is sold not to a preselected buyer but to the particular buyer that makes the highest bid on the particular stone, is what we will refer to as "the oversearching for information problem."

b) competitive oversearching[28]

If various buyers bid upon a single unit of a good, each potential buyer has an incentive to inspect the good to determine its value even though only one buyer will ultimately acquire it. Since the winning bidder need only slightly exceed the price offered by the next highest bidder, each bidder spends real resources searching for information about the quality of the good in order to acquire a good which is under-valued by the other bidders. The duplicate inspections of the same good implied by this competitive search process are potentially wasteful of real resources.[29]

Whether there is a social cost associated with the phenomenon of individuals examining the quality of a particular good they do not end up buying depends upon the type of good and buyers in question. When buyers have differing tastes, duplicate inspections are necessary for each buyer to acquire the particular units which most closely satisfy his particular desires. For example, tastes vary considerably among ultimate consumers that are considering the purchase of a diamond engagement ring and therefore duplicate inspections are necessary for allocative efficiency.[30]

The case we are dealing with in the wholesale marketing of rough uncut diamonds can be assumed to be one where each of the buyers place essentially the same value on the stones offered for sale in the sense that with a reasonable amount of search all would agree very closely upon the relative value of the different stones. That is, they would all agree on how to cut it, how to set it, and how long it will likely take to finally sell the stones in that particular configuration (that is, the inventory costs) so as to maximize their value.[31] Since competitive search is not necessay for the stones to go to the highest valued user and since the individual that ultimately purchases the stones must inspect them closely (the exact placement of each flaw, chip and inclusion must be discovered to determine the size of the largest finished gem which can be cut from each diamond) no matter how much prepurchase inspections was done in the aggregate by other potential buyers, duplicate inspections in such a situation is wasteful of real resources. Sellers who prevent such wasteful oversearching could potentially gain an amount equal to the real resources buyers would have expended upon duplicate inspections.[32]

c) <u>pre-set prices: Gresham's Law oversearching</u>

One way to prevent competitive bidding oversearch would seem to be for the seller to do the quality search and then set a price rather than to permit an auction. However, unless the seller is omniscient and costlessly knows the exact market value of each particular good, the oversearching problem will not be solved. First of all, much of the quality search conducted by DeBeers in attempting to very accurately set prices would be duplicative. Because the specific information required by the cutter to optimally cut each individual stone cannot be costlessly communicated by DeBeers, we can reasonably assume that the ultimate cutter will have to examine the stone closely before cutting no matter how much information is collected initially by DeBeers in setting prices.

Because of the difficulty of transmitting precise individual stone information to cutters, the CSO will not engage in the excessive quality search necessary to accurately price each individual stone. Rather, the CSO will merely search to the point where fairly homogenous value categories can be established. This will create another form of potential oversearching, which we call "Gresham's Law oversearching". For example, consider a bin of oranges. If the oranges vary in quality but sell for a uniform price, each potential buyer has an incentive to inspect more oranges than he will ultimately buy, hoping to find those of unusually high quality (which are therefore undervalued). The problem here is that the fixed price set by the seller for different qualities of a good is not equal to the market clearing price and consumers will search out the higher quality oranges and leave the poorer quality oranges behind.[33]

When sellers set a single average price for differing qualities, consumers have an incentive to search for undervalued goods and, if only one

unit of each particular good is to be sold, to find these exceptional values first. While such prepurchase inspections consume real resources, they lead only to wealth transfers between the consumers and the seller with no allocative effects.[34]

Gresham's Law oversearching is therefore very similar to competitive bidding oversearching. In both cases real resources are used by buyers to obtain an informational advantage over other transactors. In the Gresham's Law case the price is set by the knowledge of the seller, in the competitive bidding case the price is "set" by the knowledge of the other buyers. In both cases the search for an informational advantage produces a distribution effect with no gain in total value.

Merely setting a price for the diamonds rather than having an auction does not prevent buyer oversearch. Only if the seller is omniscient and can perfectly set the correct (market clearing) price and buyers learn this will Gresham's Law oversearch be eliminated. With any finite expenditure of resources by the diamond seller, gems will not be valued perfectly. Rather, gems will be categorized, with some remaining variance of quality within each quality classification. Therefore, some units of detectably different qualities will be offered at the same price and the potential for buyer Gresham's Law oversearch remains.

d) pre-selected buyers earning a premium stream

As we have seen, the setting by the CSO of non-negotiable prices on each sight it offers for sale does not solve the oversearching problem. If each buyer were permitted to inspect all of the sights, individual buyers would still have an incentive to inspect more sights than they ultimately purchase. Each buyer would spend time and resources attempting to determine which sights were undervalued. To prevent this Gresham's Law oversearching

the CSO does not permit buyers to inspect all sights. Rather, it assigns each sight to a particular preselected buyer. However, if buyers could "freely" reject the sights they were assigned, they would only accept those they considered undervalued. The rejected sights would presumably have to be repriced at a lower level and assigned once again to another buyer, implying duplicative oversearch. In addition, DeBeers would receive a lower price for its diamonds than the average of the value of all stones represented within each of its classifications.

Given that it is not economic for DeBeers to spend the large amount of money that would be necessary to essentially perfectly price sights, they must devise an alternative way to discourage buyers from rejecting their assigned sights and thus preventing oversearch. The CSO accomplishes this by pricing in such a way so that buyers on average are earning rents, the present discounted value of which is greater in almost all cases than the short-run profit that can be achieved by rejecting the sights of lower than average quality. Since the rents are lost if the buyer decides to reject a sight and is terminated from the list of invited buyers by the CSO, a wealth maximizing buyer will not generally reject sights, with its implied duplicative search, but only examine and purchase his own allotted sight.

This is analytically identical (but the transactors are reversed) to the Klein-Leffler case of a seller with a valuable reputation that is prevented from cheating a buyer.[35] In that case the seller receives a premium stream for the continued provision of high quality goods to the buyer. In this case, the seller (the CSO) "pays" a premium to its buyers by selling diamonds at less than (costless search) market clearing prices. This premium serves to encourage the buyer to occasionally take low quality goods. The payment of the premium is offset by savings in marketing costs, that is, the avoidance of

oversearching, made possible by encouraging buyers to "go along" with the CSO's marketing scheme. The future rents may be a normal return on a CSO specific investment they have made (for example, a human capital investment in learning how the marketing system works), or, what is much more likely, a greater than normal rate of return. That is, the right to be on the CSO list of invited buyers appears to be a valuable asset, the capital value of which is greater than any short-run buyer incentive to search and reject sights of marginal value.[36]

The CSO can minimize the costs of this arrangement by reducing the number of buyers on their list of invitees. This result can be seen by considering the following. Assume that the CSO intends to sell m stones each period forever. Let X_i equal the quality of the ith stone, measured in dollars. Assume further that the quality of the stones marketed each period are identically, independently and normally distributed random variables with means μ and variances σ^2.

(1) $$X_1,\ldots,X_m \sim N(\mu,\sigma^2)$$

Let P_i equal the price set by the CSO on the ith stone, such that

(2) $$P_i = X_i - c + \varepsilon$$

where X_i equals the quality or "true" value of the ith stone to a buyer, determined after buyer inspection, c is a constant and ε is a random variable distributed $N(0,\sigma_\varepsilon^2)$. The expected premium to the buyer from acceptance of the CSO sale offer of the ith stone is $X_i - P_i$, or c.[37]

Consider two alternative marketing arrangements: (1) the CSO offers the m diamonds per period to m different buyers, i.e., one stone per buyer, and (2) the CSO sells the m diamonds per period by offering $n(>1)$ stones per period to each of $j(<n)$ buyers, where $n = m/j$.[38] In arrangement (1) where each buyer is assumed to purchase one stone per period

forever, the expected present discounted value to a buyer of remaining on the CSO list of invited buyers is

$$(3) \qquad PV_1 = \frac{E(X_1 - P_1)}{r} = \frac{E(c - \varepsilon)}{r}$$
$$= \frac{c}{r}$$

The capital cost to a buyer of rejecting an individual stone after examination and being "blacklisted" by the CSO is therefore c/r. Hence a buyer will reject an individual stone if and only if

$$(4) \qquad P_1 - X_1 > \frac{c}{r}$$

Under arrangement (2), where each buyer is offered n stones per period forever, the expected present discounted value to the buyer of remaining on the CSO list of invited buyers is

$$(5) \qquad PV_2 = \frac{nE(X_1 - P_1)}{r} = \frac{nE(c - \varepsilon)}{r}$$
$$= \frac{nc}{r}$$

And a buyer will reject an individual stone if and only if[39]

$$(6) \qquad P_1 - X_1 > \frac{nc}{r}$$

It is therefore obvious that the expected number of stones rejected will be different for the two arrangements. The probability that a buyer in arrangement (1) will reject an individual stone is

$$(7) \qquad P_r(1) = P_r(P_1 - X_1 > \frac{c}{r})$$
$$= P_r(\varepsilon - c > \frac{c}{r})$$
$$= P_r(\varepsilon > c + \frac{c}{r}).$$

The probability that a buyer in arrangement (2) will reject an individual stone is

$$(8) \qquad P_r(2) = P_r(P_1 - X_1 > \frac{nc}{r})$$
$$= P_r(\epsilon - c > \frac{nc}{r})$$
$$= P_r(\epsilon > c + \frac{nc}{r})$$

These rejection probabilities are represented by the cross hatched areas in Figure 1. As we can see, the CSO can decrease the probability that stones will be rejected (and hence duplicative quality inspection will occur) by (i) increasing expenditure on pre-sale classification and thereby decreasing σ_ϵ, or (ii) increasing the share of the marketing cost savings (the premium per stone, c) going to buyers, or (iii) increasing the number of stones offered to each buyer in period, n.

[INSERT FIGURE 1 HERE.]

By decreasing the number of buyers, (and hence increasing the number of stones each buyer receives per period) while keeping the expected premium per stone constant, each buyer finds the capital value of remaining on the CSO list of invited buyers more valuable. He is therefore less likely to reject any individual stone. Alternatively, for any given rejection probability the CSO can decrease the premium per stone as the number of buyers is also decreased. What limits this economizing process short of one or a few buyers is the diseconomies of scale in cutting the stones. Given the fairly small scale of manufacture,[40] limiting sale of rough diamonds to a few buyers would imply reselling of the stones before they are cut and hence "oversearching".

Given the number of continuing buyers, the CSO wealth maximizing decisions concern a) how much should be spent on categorizing and evaluating stones, thereby affecting the distribution of the actual values of sights around anticipated values[41] and b) how much of the total marketing cost savings should be shared with buyers by pricing sights at less than anticipated values. Given a particular sharing decision (i.e., a given expected premium stream received by buyers), a greater categorization expenditure will reduce the variance of the value of sights and hence the number of sights rejected (and therefore the extent of duplicative searching). On the other hand, given a particular categorization expenditure and hence quality variance of price standardized sights, a greater share of the marketing cost saving that is passed on to buyers (i.e., a greater price premium stream), will also imply less sight rejection and hence less duplicative searching.[42]

e) "blind" selling and seller brand names

It may appear that the CSO could prevent buyer rejection of sights and hence oversearching without any rent sharing (buyer premium) by merely prohibiting buyer search, that is, complete the contracting process and demand payment before the buyer has an opportunity to examine the stones. Although this may seem unusual, it is a fairly common marketing practice. For example, a seller of potatoes may prepackage and sell them in opaque bags. Since hiding the quality information eliminates the incentive for buyers to search, such a policy by the seller may be both profit maximizing and socially efficient.[43]. More generally, some element of "blindness" is present in all transactions where buyers do not know fully every characteristic of the product being traded prepurchase or where contract specification and enforcement is not perfect, that is, every transaction where buyers rely on

seller brand names to some extent.

The problem involved in prohibiting all consumer prepurchase inspection is that it creates an increased incentive for the seller to cheat buyers and hence the necessity for increased brand name capital. If goods are sold blindly, sellers can intentionally supply a very low quality product and earn an extra short-run profit. This extra profit only occurs for a short period of time because buyers that are so cheated will refuse to purchase on such terms from the seller in the future. Such seller cheating behavior will be prevented only if the anticipated present discounted value of the loss to the seller from such customer termination is greater than any wealth gain from cheating.

The "seller cheating" problem in the case of the marketing of diamonds is the intentional supply by the CSO of low quality ("overpriced") gems that the buyer accepts because of an implicit (mistaken) belief that in the future a rent will be earned on sights of average quality. This is prevented from occurring if the extra short-run profit that could be earned by the CSO is less than the present discounted value of the marketing cost savings of this arrangement.[44]

The CSO can be thought of as possessing two distinct "brand names". The expected discounted value of the marketing cost efficiencies associated with th CSO selling arrangement is analytically equivalent to the firm specific brand name capital that serves as collateral and prevents the intentional supply of quality less than anticipated in the general consumer product case.[45] Only if the capital value of short-run profit from intentionally supplying lower than anticipated quality stones is greater than the discounted value of the lost marketing cost savings after the selling arrangement collapses will it pay for the CSO to deceive buyers. Buyer estimates of this

brand name capital is what assures sightholders that the CSO will not cheat them by supplying a non-random selection of stones within each category.

In addition, the CSO possesses a "reputation" that it will share their marketing cost savings with sightholders in a particular manner — a premium of c per stone in the context of our model. It is the expectation of this promised future rental stream that prevents "buyer cheating", namely the rejection of "overpriced" sights. Even if the CSO randomly selects stones, that is, seller cheating is not occurring, buyers must be promised a future premium to lead them to accept their assigned sights.[46]

The short-run seller cheating profit potential may be too great in the case of marketing diamonds for the CSO to do away with buyer prepurchase inspections of diamonds completely. Such blind selling may imply a required brand name capital stock that is greater than the capital value of the transaction cost savings of the CSO marketing arrangement. This may seem to be obviously true since the short-run seller cheating potential appears to be enormous under complete blindness with, say, the CSO placing gravel in packets and selling it as diamonds. However, such extreme forms of cheating could easily be prevented by explicit contractual specification of sale terms. The question is whether, given the CSO's imperfect classification process and somewhat subjective categories, the CSO's ability for short-run deception of blind purchasers of contractually specified grades of diamonds is sufficiently high to prevent the use of blindness without some additional costly firm specific, nonsalvageable investments by the CSO. Permitting prepurchase inspections and sharing the marketing cost savings of the arrangement with buyers appears to be a cheaper alternative than relying solely on the brand name of the CSO.

f) "block" selling

One thing a seller may do to minimize Gresham's Law oversearching problem is to prepackage a group of units of the good randomly chosen from an underlying population. If the quality of the units in a given sample have a negative covariance then such "block" selling will imply a reduction in the variance of quality per unit of the good in the block. Therefore the negative covariance will reduce the required pre-sale inspection expenditure by the seller or the necessary buyer premium stream. The reduced variance of quality decreases the incentive of buyers to engage in costly oversearching.

However, there is no reason to believe that the quality of stones within CSO determined classifications exhibit such a negative covariance. If the qualities of the individual stones within a classification are assumed to be independent, as seems reasonable, block selling does not generally decrease the incentive of buyers, each of which is assumed to be receiving a given total number of stones per unit time and hence a given future premium stream, to reject stones.

Recalling the model presented in section (d) above, we will continue to assume that the CSO wishes to sell n stones per period forever to each of j buyers and, from equation (5), the present value to a buyer of remaining on the CSO list of invited buyers is nc/r, where c is the expected premium per stone. As we have seen, if an individual buyer is offered an individual stone he will reject it only if it is overpriced by more than nc/r (equation (6)) and the probability of this occurring is, as we have seen,

(8) $$Pr(1) = Pr(\epsilon > c + \frac{nc}{r}).$$

Alternatively, if the individual buyer is offered n stones this period at a take it or leave it block price of P_B, the buyer will reject the package if and only if

(9) $$P_B - n\bar{X}_B > \frac{nc}{r}$$

where $\bar{X}_B$ is the average quality of a stone in the block. That is, once again a buyer will reject the package if and only if its price exceeds its total value by more than the present discounted value of the expected premium stream of remaining on the list of invited buyers. Since

(10) $$P_B = n\bar{X}_B - nc + \Sigma\epsilon_i,$$

the probability that the block will be rejected by a buyer, $Pr(B)$, is equal to

(11) $$Pr(B) = Pr(\Sigma\epsilon_i - nc > \frac{nc}{r})$$

$$= Pr(\Sigma\epsilon_i > nc + \frac{nc}{r}).$$

That is, in order for rejection to occur the total error of the n stones in the block must exceed n times the expected premium per stone plus the same critical capital value of the future premium stream value.

To more easily compare the single stone and block experiments, equation (11) is rewritten in terms of the average error of stones in the block

(12) $$P_r(B) = P_r(\bar{\epsilon} > c + \frac{c}{r})$$

and the rejection probabilities given by Equation (8) and (12) are represented by the shaded areas in Figure 2.

[INSERT FIGURE 2 HERE]

Whether the block will be rejected more or less frequently is not obvious from examination of Figure 2. Although the standard error of the average random error of the stones included in the block is less than the standard error of the random error of an individual stone, the critical rejection value for the average error is less than that for the individual stone error. The

question is whether $c + \frac{c}{r}$ in Figure 2.B is more or less standard deviations

from zero than $c + \frac{nc}{r}$ in Figure 2.A. Since $\sigma_{\bar{\varepsilon}} = \sigma_{\varepsilon}/\sqrt{n}$, we can standardize

our rejection probability expressions in Equations (12) and (8) by multiplying

the critical point for the block case by $\sqrt{n}$. That is, the block will be less

likely to be rejected $(Pr(1) > P_r(B))$ if and only if $\frac{c(r+n)}{r}$, the critical

value from Equation (8), is fewer standard deviations away from zero than

$\frac{c(r+1)}{r}$, the critical value from Equation (12), or

$$(13) \qquad \frac{c(r+n)}{r} < \frac{c(r+1)\sqrt{n}}{r}$$

Or, equivalently, when

$$(14) \qquad r > \sqrt{n}.$$

Since the rate of interest is unlikely to be greater than $\sqrt{n}$, Equation

(14) indicates that it is generally not the case that the block will be less

likely to be rejected. Rather, it is generally much more likely that a buyer

will reject a block than an individual stone. The intuition of this result

can be seen as follows. We have assumed that the value of the future premium

stream, $\frac{nc}{r}$, is the same in both the individual stone and the block

cases.[47] It follows that if this premium stream value is substantial, the

probability of rejecting an individual stone must be essentially zero. If,

for example, individual stones are priced at \$1,000 and $\frac{nc}{r}$ is \$10,000, it is

impossible that an individual stone will ever be rejected. Each individual

stone by itself, supplies such a small amount of information that a buyer will

never reject solely on the basis of the individual observation.[48] On the

other hand, because the variance of the total value of stones in a block is

necessarily larger, the likelihood that a block will be overpriced by $\frac{nc}{r}$ and

hence the probability of rejection is necessarily larger. We will refer to

this effect as the "critical value" effect of blocking.

A second somewhat offsetting "sharing" effect of blocking is also present. This effect can be clearly seen by assuming that r is infinite. Hence the present value of the future premium stream, nc/r, and our "critical value" effect vanishes. Figure 3 illustrates this second effect.

[INSERT FIGURE 3 HERE.]

The difference between the mean quality of individual stones, μ, and their price, P_1, is assumed to be equal to the difference between the mean quality of the average of the individual stones contained in n-stone blocks, μ, and the average price of these individual stones, P_B/n. In both cases this difference is c. Since the standard deviation of the average quality distribution is necessarily smaller, the rejection probability represented by the shaded area is also necessarily smaller, i.e., $P_r(B)$ must be less than $P_r(1)$. Intuitively, this is because there is a "sharing" of the expected premium on individual stones within a block. If, for example, a stone is overpriced $(P_1 > \mu)$ and likely to be rejected in the individual stone case, when it is combined with other stones that are on average earning a positive premium, it is less likely that rejection will occur, i.e., $\frac{(P_B)_i}{n}$ will be less than μ.[49]

This "sharing" effect of blocking is based upon the fact that as we increase the number of stones and hence the value of a block rises by a factor of n the standard deviation of the total value increases by a factor of $\sqrt{n}$. Hence blocks imply that deivations of actual values from expected values are likely to be smaller. However, it is not deviations from expected values that determine rejection probabilities, but rather deviations of value from a

to be invariant to the number of stones in the current period's block. The results presented in our discussion of Figure 2 indicate that this "critical value" effect of blocking is, in general, more than sufficient to offset the sharing effect. Only if the interest rate is extremely high so as to make the future premium stream irrelevant will the sharing effect dominate.

More importantly, both of these effects which we have isolated are fundamentally irrelevant for comparing block and non-block pricing since our individual stone experiment does not hold constant the number of stones purchased by block and non-block buyers. The experiment represented by Figure 3 not only ignores future sales (because of an infinite interest rate) but also assumes that block buyers are offered n stones this period and non-block buyers are only offered a single stone this period.

If both block and non-block buyers are to be offered n stones this period, the clear question is what should be assumed regarding selling conditions to represent non-block pricing. An obvious analytical alternative to block pricing of the stones this period is the sequential presentation during the period of the n stones, each individually priced and with rejection of any individual stone at any point leading to immediate termination of additional sales in this and future periods.

Block pricing, or the presentation of all of this period's n stones before the buyer purchases any stones, reduces the seller cheating potential compared to the individual sequential pricing alternative, where buyers do not see the entire period's supply. A cheating seller can assume that buyers who would reject an entire period's package of stones if it were made available for them to inspect would initially accept some overpriced stones when they are offered and examined sequentially. As an extreme case, if the buyer's entire promised lieftime supply were sold in a block this period then seller

cheating would, by definition, not be possible. With sequential pricing
buyers are, in a sense, locked into past decisions regarding acceptance. But
this is another way of restating our conclusion that blocks are more likely to
be rejected than individual stones, leading to the inefficient result of
duplicative buyer oversearch.

However, specification of the non-blocked selling arrangement is not as
obvious as it may seem. While a theoretical framework of sequential search is
"natural" to an economist familiar with the standard models of, for example,
labor market search,[50] such a framework is far from obvious when considering
real world marketing alternatives. The transaction costs of instituting such
a sequential arrangement would, in general, be prohibitive. The idea of
having a produce man in a grocery store handing each customer individually
priced oranges one at a time or the CSO having a salesman presenting a sight
to each buyer one individually priced stone at a time, is extremely counter-
intuitive. The marketing costs of such an arrangement would be so high as to
make the suggestion of such an arrangement close to nonsense.

A reasonable alternative to "block" sales, defined as one price for a
package of n stones, may be separate pricing of each of the n stones in
the package, where a buyer is not forced to accept the entire package on a
take it or leave it basis. Buyers could be told that if they rejected any
individual stone in the package they would not be invited in the future to
purchase stones, but in principal they would not be facing a "blocking"
marketing arrangement this period.

The inefficiency of such an individually priced alternative in terms of
our framework of oversearching is clear-cut. If the CSO were assumed to price
each of the n stones individually and let buyers search through their sights
and reject any individual stones they wished to, such a "non-blocked"

alternative would increase the last period gains to a buyer rejecting

stones. Hence such an arrangement would increase rejection probabilities. In

terms of our framework a buyer will reject a block if and only if it is over-

priced by more than the future expected premium, or, rewriting equation (9),

(15) $$\sum_1 (P_i - X_i) > \frac{nc}{r}$$

With separate prices a buyer will reject some stones if equation (15) holds,

but also more generally, if

(16) $$\sum_{(X_i - P_i) > 0} (X_i - P_i) > \frac{nc}{r}$$

That is, even if equation (15) does not hold, if the sum of the deviations of

all underpriced stones in the package is greater than the capital value of the

future expected premium stream, it will pay for the buyer to search through

and separate out these stones and take his return now by rejecting the

remaining stones in the package.[51]

More generally, the essence of "blocking," as the court has defined it,

is not a single price compared to multiple prices, but the presence of a

conditional sale, that is, the requirement that the buyer purchase one product

if he wishes to purchase another. In this context the exact manner in which

this period's n stones are priced is not as important as the fact that this

period's transaction is not isolated but rather is part of a long term

continuing relationship. The crucial element of the DeBeers marketing

arrangement is not the block price in the current period but the large "block"

sale over time to prespecified buyers. Each of a limited number of repeat

buyers are promised n stones per period forever upon which they expect to

earn a valuable premium per stone. These rents and the termination provisions

established by the CSO encourage buyers not to search and reject any

particular sight, whether the sight consists of an individual stone or of a larger subset of the total "lifetime" supply promised to the buyer. While separate pricing of the n stones supplied in any period eliminates the conditional sale within that period, it is the temporal conditional sale of seller selected stones that is present between periods that is essential for the marketing arrangement.

III. <u>The Paramount Case</u>

a) <u>the contractual setting: sharing arrangements</u>

Prior to 1950 contracts between film distributors and theaters for the exhibition rights to films typically covered not a single, individual film but rather a group or "block" of several different films. Since these "block booked" contracts were made prior to the films' production they were also said to be "blind sold". These and other contractual arrangements were challenged on antitrust grounds in United States v. Paramount Pictures, Inc. et al.[52]

The litigation covered the 1930s and 1940s, a period before the introduction and growth of television, when movie attendance was substantially greater than it is today.[53] Film distribution was also more highly concentrated, with the five "majors" named in the suit accounting for 73.3 percent of domestic film rentals in the 1943-1944 season.[54] These companies were fully integrated backward into production and partially integrated forward into theatrical exhibition.[55]

Exhibition consisted of a series of separate runs over time, with contractually specified clearance periods between each run within geographically designated zones. First run exhibition was the most lucrative, accounting for between 30 and 50 percent of total attendance receipts, with later runs accounting for smaller and smaller fractions of total receipts.[56] The last run or neighborhood theater was the closest thing to television viewship now. While first run theaters generally supplied a single feature program in elaborate surroundings, neighborhood theaters catered more to families and usually offered a program of double bills, shorts and newsreels, changing their programs frequently, often twice a week. This marketing arrangement of geographically and chronologically separated exhibitions, together with distributor set minimum admission prices, was a fairly

transparent scheme to facilitate price discrimination.

Film rental terms were generally stated in contingent form, i.e., percentage of gross revenues, for earlier run showings and in flat per unit time form for later runs.[57] Films were generally grouped in quality categories (determined largely by budgetary considerations) with given percentage rental terms for films within each category.[58] Percentage rental contracts entailed two distinct associated costs -- the costs of checking reported box office receipts and the costs of inducing exhibitors to supply optimum cooperative input levels. The costs of monitoring to assure accurate revenue reports by exhibitors appear to be somewhat invariant to theater gross and hence to have implied the use of flat rental fee contracts for the small low grossing later run theaters.[59]

Flat rental fees also maximize the incentive on exhibitors to supply cooperative inputs such as local advertising, cleanliness of physical facilities, competent ushers and projectionists and program design.[60] Many of these exhibition services have a significant but not easily measurable effect on total attendance. Nor, even if the optimum level of services were known ex ante, can the supply of such services be contractually specified in a precise, enforceable manner. Therefore distributors cannot completely rely on a contractual arrangement with exhibitors regarding the supply of these services.

Although flat rental fees maximize exhibitor incentives they distort marginal distributor incentives regarding the supply of cooperating inputs such as film quality and advertising.[61] Exhibitors do rely somewhat on the brand name of distributors to supply the optimum type and magnitude of film quality and promotional services. In particular, a distributor's ability to increase in the future the average lump sum rental fees on its films if it

supplies an exceptionally high level of services in the current period and the necessity to lower its rental terms when supply is lower than anticipated can be an effective policing device. However, complete reliance on this mechanism can be presumed to be prohibitively expensive. Since we are dealing with a product that is being sold blindly and which the quality cannot easily be specified contractually ex ante, the short run "cheating" potential on the part of the distributor is substantial. In addition, the large random element regarding quality (audience acceptance) implies that the exhibitor cannot know cheaply even ex post whether intentional supply of low quality has occurred, thereby exacerbating the short run cheating distributor problem.

A contingent payment arrangement, by decreasing the distributor's short run cheating potential, economizes on the required brand name capital costs. We recognize that it is, in principle, important that the distributor and exhibitor have a contractual arrangement in which each will receive 100 percent of the return on the margin from their respective cooperating investment and that this is foreclosed by the use of a percentage of gross compensation scheme.[62] However, in a world of imperfect foresight, measurement and enforcement, some combination of specification, search and malincentive costs will be associated with any contractual arrangement. The efficient solution entails choosing that particular arrangement which minimizes the sum of these transaction costs. When both parties to a transaction must supply important inputs that cannot be cheaply prespecified contractually and where brand name costs are non-trivial, a sharing arrangement, while creating moral hazard problems, may be the most efficient solution.

We can expect the contractual form and the particular share settled upon to depend upon the relative importance and contractual specifiability and

enforceability of the cooperating inputs involved. When particular services are extremely large and not easily contracted for, flat fees may be the full-cost (including transaction cost) minimizing solution. For example, although first-run theaters generally rented films on a sharing basis, when the exhibitors also supplied live entertainment, the films were rented on a flat fee basis.[63] An exhibitor such as Radio City Music Hall therefore received 100 percent of its marginal increment to gross.

Analogously, a recent development in the movie industry has been the use of a contract where the exhibitor agrees to supply services at a fixed price and the distributor receives 100 percent of the return on the margin. This practice, where a distributor rents a group of theaters in a geographical area for a limited time period at a fixed flat fee, is called "four-walling". The movies exhibited in this manner are usually family type films aimed at an audience which appears to be reached quite effectively by local TV advertising. The distributors of these films often make very large TV advertising expenditures, often substantially larger than the production cost of the film. Because of this extremely important but unpredictable advertising effort, the distributor receives 100 percent of the gross in spite of the increased exhibitor moral hazard problem that may be created.[64]

To sum up, both exhibitors and distributors will rely partially on brand name mechanisms to assure the supply of cooperating inputs by the other party in the final production process. Although distributor-exhibitor relationships were of a long-term continuing nature, this brand name process can be assumed to be far from costless and partial reliance on contractual mechanisms must also be present. Further, because it is difficult to specify ex ante and measure ex post the quality of cooperating inputs, contracts will also be imperfect. A contingent sharing arrangement appears to have been part of the

cost-minimizing solution.[65]

b) <u>prespecified blind buyers</u>

A contingent (percentage of gross) contract, in addition to creating optimal incentives, also ameliorates the oversearching problem. We are dealing in the case of films with a product with a very large underlying variance in quality where the seller cannot cheaply precisely measure the quality of individual units pre-sale and where ultimate buyer identity is not important. Hence somewhat of an oversearching problem may be present.[66] If prices are not set by the seller ahead of time, when the value is highly uncertain, but rather after a final sale is made, the incentive to search out undervalued purchases (given any particular seller categorization expenditure) will be reduced.

However, it is highly unlikely that a purpose for the sharing contract was to reduce the wasteful search by competing exhibitors for undervalued films. This is because "blind" selling, or the practice of licensing films before they were produced, essentially eliminated any oversearching problem. Although potential exhibitors had some information about production budget estimates, likely writers, actors and directors of each film title and the past year's gross rentals of the studio's films, they could not view the product they were purchasing. Exhibitors were forced to rely primarily upon the distributor's reputation for quality supply and the fact that the rental payment was contingent on performance in contracting for exhibition rights to films not yet produced.[67]

Moreover, blindness itself does not appear to have been designed to prevent buyer oversearching. Film licensing in the 1930s did not consist of a competitive auction among exhibitors for blind films, but rather entailed <u>de facto</u> prespecified buyers. Given the elaborate discriminatory marketing

arrangement of runs, zones and clearances, theaters in particular geographical locations were predesignated in terms of run and all theaters could not freely bid on all films without creating an extremely complex scheduling problem. The selling season, which would begin each fall and continue over the next few months, consisted of a process of fitting hundreds of unproduced films into the schedules of thousands of theaters. Each theater generally dealt with the same distributors each year, contracting in advance for the following exhibition season for approximately the same number of films rented in the current season. The rental of films by theaters was very far from a competitive auction but was closer to a continuing franchise relationship.[68]

Within this franchising environment it is unlikely that blind selling was employed to prevent prespecified exhibitors from searching to obtain an informational advantage over distributors. Gresham's law oversearching does not appear to be important because distributors are much more likely than exhibitors to have information on the marketability of individual films. Pre-release screenings are not likely to supply much valuable information to an exhibitor. (If it did, the exhibitor would have a comparative advantage in production-distribution and should change his line of business). In fact, when pre-sale trade showings were required by court decree for a brief period of time, exhibitors did not attend them.[69] Rather than reducing oversearching, the primary purpose of blind selling appears to be the substantial inventory cost savings produced by the practice.[70]

Finally, while blindness reduces production (inventory) costs it also increases the short run cheating potential of the distributor. Therefore a sufficient amount of brand name capital and sufficiently high repeat sale probability is required for the practice to operate. This explains one of the sources of the apparent relative economies of scale in film distribution

(small independent producers generally distribute through "a major") and the
fact that blindness is currently only utilized by "the majors".[71] Since it is
no longer necessary for scheduling reasons for distributors to contract for
later runs before obtaining first-run exhibition results, later run blind
bidding serves no purpose and hence is no longer employed.[72]

    c) <u>block booking</u>

Given the system of zones and runs and the resulting efficiency of
predetermining buyers rather than employing a competitive auction, what
elements of the film licensing agreement between distributors and prespecified
exhibitors can be said to have resulted in "block booking"? First of all, it
is important to recognize that a common description of the usual block booking
contract as an arrangement where "an independent exhibitor had to agree to
license the distributor's entire yearly output of features or he could license
none,"[73] is clearly an inaccurate description of the practice. Only in the
case of the small, late-run neighborhood theaters was demand sufficiently
large for the exhibitor to choose to license the entire annual stock of
several distributors. More generally, early-run theaters, including those
owned by producer-distributors, contracted on a blocked basis for the "best"
films available from various distributors to fill out their annual film
schedules. Contracting for a distributor's entire schedule was therefore
relatively rare.[74] Most exhibitors dealt with too many different distributors
to, for example, exhibit all of each distributor's films, shorts and
newsreels.[75]

While distributors did not generally require that an exhibitor license
their entire annual film output, they did "push" exhibitors to license as much
of their output as possible. Although salesmen for most products exert such
pressure, it was perhaps somewhat more severe than in other industries (such

as the sale of rough diamonds by DeBeers) for a number of reasons. First of all, there is the public good nature of the product. Once a film is produced and a print made there is a very low marginal cost of an additional exhibition. A distributor facing a reduction in demand for its product does not save production costs nor, as is the case of diamonds, can the distributor expect to sell the film in a latter period. In addition, an individual exhibitor deciding to rent less films from a distributor creates scheduling problems. It will not generally be easy for the distributor to quickly line up an alternative theater to exhibit the film in the particular run and zone involved. However, notwithstanding these factors, there is no evidence in the record of compulsory full-line forcing on the part of distributors.

Block booking appears to have existed in the sense of "average pricing". The average pricing of films within particular quality classifications is similar to the DeBeers arrangement and is relatively easy to explain. As we have seen, scheduling considerations and inventory cost savings implied that films be contracted for blindly to prespecified buyers. After initial first-run results became available the limited information conditions under which the licensing agreements had been made is altered drastically and a significant exhibitor contractual reneging problem is created. In particular, after initial marketing results are available, the films are no longer "blind" and exhibitors have a potential informational advantage over distributors. Exhibitors could increase their return if they could selectively choose a subset of the originally licensed films to actually exhibit. This would be equivalent to the rejection after examination of overpriced diamonds in the DeBeers marketing case and a form of Gresham's law oversearching.

Blocking, therefore, existed in the sense that once a particular group of movies was contracted for exhibitors were prevented from later (after initial run results became available) rejecting individual films.[76] Permitting such action would require distributors to quickly resell the rejected film to a different exhibitor. This would entail a costly recontracting process involving a rearrangement of the distributor's planned run scheme and would lead to lower average license fees on the distributor's total film output.[77]

Hence film distribution contracts were block booked in the sense that exhibitors were held to their commitments. Once an exhibitor contracted for a particular group of films within a category and a total price was agreed upon, implicit prices of individual films in the group were set at $1/n^{th}$ of the total price. This was accomplished by the use of a liquidated damages clause which stated that refusal by an exhibitor to accept a particular previously agreed upon film would require the exhibitor essentially to make payment of $1/n^{th}$ of the total agreed upon block price to the distributor.[78] With flat fee rental terms such a liquidated damage clause could be stated on a film by film contract basis. But for films licensed on a contingent percentage of admissions basis, block contracts must be used so that the rejected film's gross could be determined by comparison with other films covered by the contract.

The liquidated damages contractual term encouraged the exhibitor to honor its contract, effectively preventing exhibitors from searching out and rejecting ex post the poorest quality films after their first-run results became available. Since the unanticipated low quality film that the exhibitor would choose to reject will likely have a true value of less than $1/n^{th}$ of the package price, the liquidated damage block booking clause can be viewed as a disguised penalty clause. "Block booking", or the intentional overpricing of

ex post unanticipated poor quality films, can be thought of in this context as a way of enforcing blindness.[79]

Observers have generally described block booking as the practice where distributors systematically underpriced their good movies and overpriced their poor movies.[80] This ex post result will be present in all situations where anticipated quality within a group cannot be measured perfectly and average pricing is employed. It does not imply the intentional overpricing (underpricing) of ex ante anticipated low (high) quality films.

Since rental terms are set on the basis of actual performance of individual films, an obvious question is why more accurate pricing formulas were not devised to minimize the extent of the ex post average pricing present for the films within the contractually determined block.[81] The answer appears to be related to the creation of optimal incentives for the supply of exhibition services. We have noted above that, given transaction costs, there is likely to be a rental sharing percentage that creates the optimal exhibitor (and distributor) incentives. However, as the expected quality of an individual film is increased and therefore the equilibrium average rental percentage rises, it is unlikely that the marginal rental percentage can likewise rise without disturbing exhibitor incentives.

For example, consider a hypothetical case where it costs ten cents for the exhibitor to clean a theater seat that has been used and that it is worth twenty cents to the consumer to have the seat cleaned. If the film rental licensing fee is 50 percent (or lower) the seat will be cleaned. But if the rental fee of a higher grossing film is raised beyond 50 percent the exhibitor will not clean the seat. Only if exhibitor services are supplied solely by a fixed cost with no variable costs related to audience size can the distributor increase the rental percentage for higher quality films without creating

additional malincentives regarding the supply of exhibition services.

This incentive problem can, in principle, be solved by the use of lump sum payments. But the lump sum can, of course, not be determined ex post on the basis of the film's results since knowledge of the formula upon which such a payment is to be made would defeat its purpose of not influencing marginal incentives. The lump sum must not be a contingent payment but rather an ex ante determined payment on the basis of anticipated quality, related to, say, the film's production budget. We are left, however, with ex post average pricing within each anticipated quality classification and the same desire for exhibitors to renege on contractual commitments by selecting individual films and rejecting others.

d) post-litigation analysis

The consent decree, entered in November 1940 between the Justice Department and the five major motion picture distributors, ostensibly eliminated block booking and blind selling. It required, in part, that exhibition contracts be limited to five or less films and that every film be trade shown in each exchange district prior to licensing.[82] While the distributors followed the terms of the decree, marketing of films initially remained largely unchanged because buyers and their respective designated runs remained pre-specified by distributors. Exhibitors rented approximately the same number of films from each distributor as they had previously[83] and almost never attended trade slowings.[84] The decree de facto permitted distributors to continue selling largely preselected films to preselected buyers. The main impact of the decree appears to have been an increase in the inventory cost to distributors and an increase in the number of visits and hence the number of salesmen required to service exhibitor accounts.[85]

In part due to the fact that nothing had apparently changed since 1940, the government reactivated the Paramount case in August 1944 in an attempt to modify the decree. The District Court's opinion, issued in June, 1946 required, in part, an end to minimum admission prices, "unreasonable" runs and clearances, and block booking, with the institution of a system of competitive bidding on a film by film basis in each run open to all theaters regardless of past status or affiliation. In addition, trade showings were not required but exhibitors were given the right to reject 20% of films licensed when such showings were not available.[86]

The Supreme Court in May, 1948, affirmed the lower court rulings on the illegality of the trade practices, including block booking, but reversed the lower court's requirement for competitive bidding. The Supreme Court maintained that competitive bidding would necessitate continual detailed judicial interference in and regulation of the operation of the industry to evaluate and monitor incomparable bid terms and directed the lower court to reconsider divestiture of theaters as a more workable remedy.[87] On remand the District Court ordered divestiture by the distributors of their theaters and, while not requiring a system of open competitive bidding, prohibited discrimination against small independent exhibitors in the licensing of films.

In fact little competitive bidding occurred in the period following the final decrees. Open competition with regard to film allocation occurred in perhaps several hundred situations out of some 15,000 or more potential selling transactions,[88] and these instances were primarily so that the distributor would avoid the risk of a legal suit by a disgruntled exhibitor.[89] Distributors, whenever possible, relied on a "product splitting" allocation system. Distributors divided their films among competing theaters, either by assigning the films of a particular distributor to a particular

exhibitor or by assigning shares of the films of a particular distributor to competing exhibitors, with one exhibitor breaking the distributor's films into groups and the other distributor choosing first.[90]

During the 1950s buyers continued to remain largely prespecified. However, the film industry was undergoing radical changes. With the growth of television, attendance and the number of theatrical films, expecially the number of "B" films, declined dramatically together with a sharp drop in the number of theaters and number of runs. Inter-film variances in the length of runs and in grosses increased and the predictability in the value of a given studios annual output declined. Hence pricing of films moved from an average "block" pricing regime to one where individual films were priced more accurately in terms of complex sliding percentage terms.[91] And, correspondingly, exhibitor complaints moved from charges that they were "forced" to rent overpriced bad films in order to rent good films to charges that distributors demanded excessive amounts for their better films.[92]

An obvious question is why product splitting remains as a fairly common practice in the industry today. Since the multiple-run scheduling considerations determinative for prespecification of buyers in the 1930s and 1940s are no longer present today, why has the practice survived? It is intuitively unappealing to suggest that a monopsonistic exhibition industry has imposed product splitting on reluctant distributors. The evidence is clear that originally distributors initiated and acquiesed in the establishment of the arrangement as an attempt to imitate the essential conditions, namely prespecified buyers, prohibited by the Paramount decree.[93] If the arrangement became no longer useful it would appear to be an easy task for the distributors to terminate it by playing off one exhibitor against another. This can readily be accomplished because some exhibitors

within a city are generally outside the split and most split agreements include a provision for competition among alternative exhibitors if the distributor rejects the split designee. Alternatively, the distributor could bring suit against exhibitors which persisted against their desires for competitive bidding.[94] In cities where product splits are present, such distributor behavior is totally absent.[95]

Product splits do appear to be "monopsonistic" in form, yet before one declares a practice anticompetitive or not, one must examine the rationale and effects of the practice rather than merely labeling it. One suggestive piece of evidence is that in non-bidding situations, including cities where product splits occur, distributors engage in renegotiation, that is, adjusting rental terms downward if the film performs poorly.[96] This is, of course, distributor behavior that would appear to be extremely unlikely if they were facing exhibitors imposing an artificially low monopsonistic price.

The renegotiation process may mitigate the increased marginal disincentives regarding the supply of exhibition services that is created by the complex pricing schedule. Although the supply of exhibition services cannot be specified fully in an ex ante contractual manner, the distributor presumably will know ex post if the exhibitor "did a good job" and this will be reflected in the final adjustment.[97] Such renegotiation is not possible in bidding situations without violating the terms of the auction that the film go to the highest bidder, thus opening the distributor up to a discrimination suit by an exhibitor that submitted a failed bid.

Finally, while the evidence is unclear whether the split has any effect on depressing rental terms, it appears to have an unambiguous effect on lowering quarantees -- minimum, nonrenegotiable rental payments for the film run.[98] Although complex sliding percentage rental terms now more accurately

price individual films, they do not perfectly price films. Therefore, given
the absence of block booking, guarantees are an alternative means of
preventing exhibitors from reneging on contracts after initial poor attendance
results become available. Money payments up front thereby prevent scheduling
disruptions and reduced license fees over all films. Guarantees are
substitutes for the liquidated damage clauses of the block contracts discussed
above. The de facto long-term franchise arrangements with particular
exhibitors implied by product splitting reduce the necessity for such
guarantees.[99]

IV. The Loew's Case

a) the contractual and legal setting

Many of the same films produced during the 1930s and 1940s that were covered by the theatrical exhibition contracts declared illegal in the Paramount case became a subject of new litigation in the 1950s and 1960s as they were rereleased by the major motion picture producers for television exhibition. Included among the approximately 2,500 feature films made available for television use by 1956 were major portions of the pre-1948 film libraries of MGM, RKO-Radio Pictures, Columbia, United Artists and Warner Brothers.[100]

Feature films were distributed directly to local television stations, with each station renting a film receiving the exclusive right to air that film in its market area for some stipulated period of time.[101] Each film library was supplied by only one distributor. Buyers were not prespecified; rather films were allocated by a competitive bidding process. After a distributor announced the availability of a well-known library of films (such as the MGM-Loews library) through advertisements in trade magazines (such as Variety) and direct mail advertising to local stations, stations were visited by the distributor's salesmen. The stations would be offered a number of "blocks" of films. The contents of each "block" was preselected by the distributor, the blocks together representing a fairly representative subdivision of the entire library. The various blocks were identified by a name or number and were uniform in composition between market areas. The salesman would attempt to conduct simultaneous negotiations with all stations in the market area. Every negotiation involved price discussions. Although the salesman had some prior conception of what price various blocks should sell for in particular markets, actual contract prices were established by

negotiation between the film salesman and the individual station managements. These negotiations frequently involved several meetings spread over a period of a few months until a licensing agreement was arrived at with an individual station in the market.[102]

Although typical, the sequence above was repeated with occasional variations. Most notable, some stations were allowed to choose films from the entire library, cutting across the distributor's preselected "blocks." For example, only 113 of the 203 contracts made by Loew's and television stations between June 1956, when they decided to release for TV distribution their pre-1948 feature film library, and March 1960 involved preselected packages of films or "block booking."[103] This notwithstanding, in 1957 the government brought six separate civil antitrust actions against the six major distributors of motion picture films for television (Loew's, C&C Super Corp., Screen Gems, Associated Artists, National Telefilm Associates, and United Artists) alleging violation of Section 1 of the Sherman Act by refusing to license films on other than a "block booking" basis. As opposed to the Paramount litigation, there were no allegations of conspiracy or other wrongful acts.

The consolidated action, which has come to be known as United States v. Loew's, Incorporated, was tried in the United States District Court, Southern District of New York, commencing on March 7, 1960. The government demanded that the defendants be enjoined from refusing to license feature films to television on a picture-by-picture station-by-station basis. Judge Dawson ruled that only one instance of refusing to license motion picture films on other than a "block booking" basis was sufficient to demonstrate illegality and granted injunctive relief.[104] The Supreme Court upheld the decision but permitted a distributor to refuse to offer for sale to an individual station

an individual film that was part of a block of films over which negotiations were currently in progress with a competing station.[105] The effect of this modification was a continuation of the existing selling practices.

b) contactual cheating

One explanation for the presence of "block" sales in the Loew's case may be thought to be contractual cheating. Blocking can serve as a method of hiding profits on an individual film by arbitrarily prorating receipts among the various films in the block. If some films in the block are not profitable or do not contain profit sharing clauses, producers and distributors can thereby reduce the contractually obligated profit sharing compensation they must pay to individuals, such as directors and actors, that worked on the successful film.[106]

This form of contractual cheating would seem to be possible only if some unanticipated, not easily contractually avoided, contingency occurred.[107] In the Loew's case we are dealing with movies made in the 1930s and 1940s when the possibility of future television sales must have seemed quite remote. Therefore the likelihood of the existence of explicit contractual protection against this form of contractual opportunism must have been quite low. However, while this explanation is appealing, it is not consistent with the facts of the Loew's case. The pre-1948 films in question were made under the "old studio system" where the actors, writers and directors were on (long term) exclusive employment contracts and paid a flat weekly salary with the studio owning the films entirely.[108] Executive compensation for some of the producers and others employed by the studio was based in part on total studio profit, that is, not on revenues of a particular film, and an agreement was reached by the distributors and the Guild not to claim royalties on these television sales. All the evidence indicates that the distributors had, or

acquired, full exclusive rights to the films licensed for television use.[109]

c) price discrimination

As we noted in the Introduction, the most commonly accepted theoretical explanation for block booking is that it is a subtle form of price discrimination, where distributors use a block to more accurately set prices on films that unpredictably vary in value across geographical markets. This theory is intuitively appealing. Stigler found that first-run theatrical grosses of several different movies released during 1946-47 varied significantly across different U.S. cities. He hypothesized that the aggregate value of a group of films was more predictable and related to general factors of the particular market.[110] We find, as support for this hypothesis, that prices paid for a single package of 85 films sold in 76 different television markets between July 1, 1946 and April 23, 1960 by National Telefilms Associates can be fairly well predicted on the basis of a few obvious explanatory variables. Our estimated equation is presented as Equation (17).[111]

(17) $\log(\text{price}) = -7.0 + \underset{(6.4)}{.58} \log(\text{circulation}) + \underset{(9.7)}{2.1} \log(\text{income/family})$

$+ \underset{(3.8)}{.83} \text{ (no. of stations)} \qquad R^2 = .82$

It is likely that distributors, at least implicitly, used a similar if not more precise, model of the pricing of films to estimate likely prices of blocks across cities. In fact, Oliver A. Unger of National Telefilm Associated, when asked at trial about the factors influencing price replied: "Well, the rate card of the station is a factor as to how much time costs in that area. The competitive situation is another important factor to establish value. The set circulation is an important factor, the number of television sets in the area, and of course the quality of the merchandise that is being

offered at that time is also a big factor".[112] We can therefore assume that distributors had a fairly good idea how the price of film blocks varied across markets.

Hence it is likely to be true that each market area is characterized by people who have tastes which differ significantly from those of people in other market areas and therefore, while the total demand for a group of films may be highly predictable by such factors as income and population, the relative values of the individual films in a block vary unpredictably between markets. However, as we noted in the introduction, there is no reason for a distributor selling films in a multiple television station market on an exclusive exhibition basis not to let the competitive market operate to reveal buyers demand prices. Since there is no need for distributors to "set" prices, there is no need for blocks as a means for distributors to ameliorate the informational advantage assumed to be possessed by buyers.[113]

Stigler's price discrimination explanation makes some sense only in one TV station markets. In such a situation, which was the case in many regional markets in the late 1950s, distributors face monopsonistic buyers of their films. Therefore they obviously cannot leave it up to competition to determine the final price of their films. The distributors must bargain and superior knowledge of the value of a block of films compared to the value of each individual film separately may produce a relative bargaining advantage for them.[114]

However, the evidence from the Loew's record indicates the exact opposite conclusion. Distributors are less likely to break preselected blocks in multiple station markets, where interstation competition could be used to reveal valuations, and more likely to break blocks in single station markets where the supposed increased predictability in the valuation of the block was

necessary for the distributor to counteract the superior information possessed by the monopsonistic buyer on the valuations of individual films.

Table 1 presents a two-way classification of each of the 203 Loew's contracts in terms of whether the transaction involved a Loew's preselected block or a special customer selected individual or group of films and in terms of whether the transaction was with a television station in a multiple station or single station market. Our restatement of Stigler's price discrimination theory predicts that cells (a) (Loew's "block" sales-one station markets) and (d) (customer selected sales-multiple stations markets) would show more than the "chance" number of contracts. "The chance" numbers are presented in the small boxes in the corner of each cell. They were calculated on the assumption that there is no relation between the number of stations in a market and Loew's behavior. That is, since 56 percent of all Loew's transactions were preselected block sales (113/203), we would naively expect 56 percent, or 29 of the 52 sales in one station markets and 84 of the 151 sales in multiple station markets also to be preselected blocks. If the Stigler price discrimination hypothesis were correct, we would expect a larger than 56 percent of sales in one station markets and a smaller than 56 percent of sales in multiple station markets to be blocks. Instead, only 40 percent of the sales in one station markets (21/52) and 61 percent of the sales in multiple station markets were blocks. These results indicate a significantly nonrandom distribution of transactions in the opposite direction one would expect from the price discrimination hypothesis.[115]

[INSERT TABLE 1 HERE.]

TABLE 1

Loew's Television Licensing Contracts, June 1956 - March 1960

	Loew's pre-selected "block" sales	customer selected sales	
One Station Markets	(a) 21 [29]	(b) 31 [23]	52
Multiple Station Markets	(c) 92 [84]	(d) 59 [67]	151
	113	90	203

Data from Loew's exhibit #21 and "International Television Almanac," 1960 edition.

d) <u>search cost savings</u>

Because Loew's had a nonaugmentable supply of films available for license and the marginal cost of licensing a film to an additional station was low, the license fee was almost a pure rent. Hence any buyer inspection costs would be borne almost entirely by the seller. Sellers could therefore be expected to choose selling practices which reduced search costs.

If the Stigler insight is correct and we are dealing here with a group of films of individually highly uncertain value yet predictable aggregate value,[116] blocking can be expected to reduce information costs and hence optimal buyer inspection effort. As in Figure 3 above, the block reduces the variance in the aggregate value. This reduction is magnified in this case by the presence of a negative covariance term. If an individual film in a block is undervalued in a particular market relative to, say, the entire United States, it is likely that the remaining films in the block are overvalued in the market.

If the distributor chooses the composition for each block, on the basis of a random selection of films from his library, then buyers will have a good general idea of the average quality of the block. Film blocks were, in fact, intentionally selected to be "balanced", each including some dramas, comedies, and musicals. For example, one of the six defendants, Associated Artists Productions, divided its entire library of 754 pre-1948 Warner Brothers films into 13 groups of 58 films each. Each group was intended to be not only of the same overall quality as the others, but to contain the same mix of musicals, dramas, westerns, etc.[117] As a result, any buyer who had an estimate of the overall quality of the Warner Brothers library also had an estimate of the "value" of each of the 13 groups.

If buyers are then permitted to search through these randomly created
blocks and select the individual films they wish to purchase, a negative
externality would be created on the other buyers of the remaining films in the
block. Valuable information would be lost, increasing search costs by the
remaining buyers, and this is a cost which will ultimately be borne by the
seller. What we have here is a situation analogous to the oranges example
discussed above in the context of Gresham's Law oversearching for diamonds.
While sellers are not setting a single price for differing qualities, they are
packaging differing quality goods to be sold at a single average negotiated
price to economize on search costs. Attempts by individual buyers to find
exceptional values within the block can be expected to produce higher real
transaction costs with little or no allocative effects.[118]

As opposed to the DeBeers and Paramount situations, there does not appear
to be a seller brand name-repeat sale mechanism present to assure buyers that
the films in the block are selected randomly. Some of the distribution
companies in this case were formed solely for the one-time sale of the old
film libraries to television stations. However, because we are dealing with a
standardized product and therefore information collected from one transaction
can be transmitted cheaply across markets, a repeat sale mechanism is
present. If a nonrandom selection of films were made by the distributor, such
information could be expected to be discovered after the first few sales and
to be reflected in prices paid for the same block in other markets over
time.[119]

This search cost theory of block booking is consistent with the evidence
presented in Table 1 which indicates that significantly more prepackaged
blocks were broken in one station market compared to multiple station
markets. In markets having several stations, sellers would resist buyer's

offers to purchase a part of a prepackaged block of films. Accommodating such buyers means that other buyers in the same market area can no longer use the ex ante knowledge of the average quality of the distributor's library and the price information generated on sales of the particular standardized package in other markets as an indication of value in this market. This implied increase in the variance of the value of films in the broken block leads to an increase in search.

Since this extra buyer inspection cost is borne by sellers, buyers in multiple station markets were forced to pay a "premium" if they wished to purchase only a portion of a block. This premium compensated the seller for the reduction in film rents on the remaining films in the block due to the increased search costs, discouraged broken block sales. However, because of the absence of informational "externalities" on other buyers in a single station market, a seller would more likely accommodate a buyer who wished to select individual films from a block. In fact, all of the cases where the court found evidence of unlawful block booking involved market areas having several stations. These "complaining" buyers opposed paying the premium necessary to encourage the seller to break up his randomly selected group of films.[120]

V. Conclusion

Although it is generally the case that there are many different economic reasons for the existence of any particular marketing practice, the essential rationale for block booking is the same in all three of the cases we have examined. Blocking serves the purpose of preventing buyers from rejecting parts of a group of products that has been average priced. In the DeBeers case if stones in each sight were individually priced and buyers were permitted to search through and select the particular stones they wished, the probability of stone rejection would increase and DeBeers would be able to sell the remaining stones in each quality category group only at a lower price. Similarly, in the Paramount case buyers cannot be permitted, after the initial exhibition results become available, to pick through the group of films originally contracted for at a particular average price per film and select the subset they wish. And similarly, in the Loew's case buyers must be discouraged by paying a premium if they wish to search for exceptional individual film values and break up a randomly selected group of films that is priced on the basis of a fairly well known average value.

The details of the contractual arrangements differ in the three cases. The block price is set in the DeBeers arrangment while negotiated in the Paramount and Loew's arrangement. As a means of reducing the probability of nonblock sales in the DeBeers and Paramount cases, buyers are preselected and apparently are earning a premium stream, but in the Loew's case buyers are not preselected. In Paramount, the block is contracted for blindly, while this is not the case in DeBeers and Loew's.

In all our cases, the middlemen buyers (cutters of the rough diamonds, owners of theaters and owners of television stations) must rely on the brand name of the supplier. This is not unusual in itself. For almost any good it

is prohibitively costly to specify in an enforceable way every element of quality and therefore buyers must rely on the seller's brand name to some extent. In the usual case, however, it is generally assumed that sellers know the quality of the goods they are selling and their brand name assures the buyer that this quality will not be less than anticipated and paid for.[121] In our cases sellers do not know quality pre-sale and their brand names assure performance in the sense of assurance that they have selected a random sample of goods from the underlying quality distribution upon which the average price is based.

The particular contractual arrangements chosen by the parties in the various cases are designed to minimize brand name and other transaction costs. Performance called for in every transaction is partially guaranteed by costly implicit brand name capital mechanisms and partially guaranteed by costly explicit legal contractual mechanisms.[122] These transaction costs are totally absent from the standard economic model, where complete, fully contingent, costlessly enforceable contracts are assumed to exist. Real world contracts do not coincide with these costless economic model contracts for two main reasons -- uncertainty and measurement costs.

Uncertainty implies the existence of a large number of possible contingencies, and it may be extremely costly to know and specify in advance responses by the transacting parties to all of these possibilities. These contract costs include not only the "ink costs" of writing down all of the possible contingencies and their corresponding hypothetical responses, but, more importantly, the real resource costs of discovering all the possible things that can happen in the future, the costly attempts by transacting parties to obtain informational advantages over one another, and the bargaining costs in reaching mutually acceptable contingent contractual

arrangements. These costs may yield primarily distributional and little allocative effects.

The goods we have examined in this paper are unique in that an accurate estimate of the quality of the particular good supplied to a buyer is not easily known nor cheaply controlled by the supplier. In the rough diamond case it would be very expensive for DeBeers to determine accurately the quality of the stone presale. A precise estimate of value would necessitate costly examination costs and likely require DeBeers to begin cutting of the stone. Similarly, the values of films are notoriously variable and not very predictably related to production costs.

The goods we have analyzed are unique not only in their inherently variable and uncontrollable quality characteristics, but also in the fact that their value is largely independent of the particular middleman buyer that ends up with the particular good being sold. While the underlying variance encourages buyer search, this independence condition implies that such search will be inefficient and reduce the price received by the seller. Real resources devoted by buyers in searching out more precise estimates of values of these goods is an example of the largely distributional contract costs we are discussing. As we have seen, to minimize such costs reputable sellers will adopt marketing arrangements such as prespecified buyers earning a premium stream, blind selling and block booking.

This is a fairly general phenomenon. Alternative institutions used to produce similar reductions in oversearching include: a) regulations adopted by the U.S. Department of Interior with regard to pre-lease oil exploration activity on offshore tracts,[123] b) stopping rules on stock and commodity exchanges,[124] c) the nonenforceability of penalty clauses,[125] and d) various arrangements to reduce competition for property rights.[126]

Oversearching could be eliminated, in principle, by the use of an ex post contractual mechanism such that the value of the good and hence its price would be determined only after final sale of the product to consumers. Even in the presence of substantial ex ante uncertainty regarding values of individual goods, there presumably would be no uncertainty ex post. However, the presence of measurement costs is an additional transaction cost which prevents such a costless contractual solution. In fact, measurement costs are actually both necessary and sufficient for the presence of incomplete, costly contracts. Our first factor, uncertainty, should more properly be considered as one of the determinants of the difficulty of full measurement.

Contractual performance, such as the level and form of energy an employee devotes to a complex task, may be prohibitively costly to measure and hence to specify contractually. Therefore, contractual breach may often be difficult to prove to the satisfaction of a third-party enforcer such as a court. All ex post contracts entail measurement costs in separating out the effects on final value of cooperating inputs in the production process and the corresponding creation of malincentive problems regarding the optimum supply of these inputs.

In the DeBeers and Loew's cases, these measurement cost problems are economically insurmountable; in the Paramount case they are not. In DeBeers, a sharing contract which would base payment for individual rough diamonds upon the price received for the cut stones in the final product market would create obvious severe incentive problems regarding the supply of cutting services. In the absence of a cheap method of measuring the addition to value produced by the skill and care of the cutter (and of cheaply monitoring final transaction prices), DeBeers has decided to rely on the implicit (brand name of seller-premium to prespecified buyer) contractual solution rather than on

an explicit ex post pricing contractual solution to the oversearching problem.

In Loew's, the use of an ex post contingent contract which based the rental payment on audience size or advertising revenue during the time period the individual film aired would entail the measurement difficulties of estimating audience flows between TV programs on a station over time and the nature of the competitive programming on alternative stations at the same time period. To solve the oversearching problem distributors in the Loew's case therefore relied upon average pricing of randomly selected blocks over which fairly accurate value information existed.

Finally, in Paramount ex post pricing was employed. However, because of the difficulty of measuring the value of cooperating exhibitor inputs, distributors at the time of the litigation did not attempt to price individual films accurately ex post, but rather to average price a group of films so that the marginal rental fee paid by the exhibitor did not become too high. Distributors used blind selling and a liquidated damage clause, in addition to prespecified buyers, to prevent contractual reneging and oversearching.

FOOTNOTES

[1]United States v. Paramount Pictures, Inc., et al., 334 U.S. 131, 156 (1948).

[2]Terry Ramsaye, A Million and One Nights -- A History of the Motion Picture 750-751 (1926).

[3]United States v. Paramount Pictures, Inc., et al., 344 U.S. 131 (1948).

[4]United States v. Loew's, Inc., et al. 371 U.S. 38 (1962).

[5]Paramount, 334 U.S. at 156-57.

[6]Loew's 371 U.S. at 52. It is interesting to note that "Gone With the Wind," the hypothetical example of a "desirable" film with monopoly power used by the Appeals Court and by Supreme Court Justice Goldberg in their decisions, was not one of the films licensed by MGM in their block sales to TV stations. Although the disparity in value of individual films included in the blocks was significant, it is unclear why the degree of monopoly should be related to the value of a good. If, once a film is produced, we assume that the marginal cost of producing an additional print of the film does not vary across films, then price will be directly related to elasticity of demand and hence "market power". It is, of course, unlikely the court had this arbitrary definition of market power in mind.

Justice Goldberg also based his objection to block booking on a "market foreclosure" argument, stating that "Television stations forced by appellants to take unwanted films were denied access to films marketed by other distributors who, in turn, were foreclosed from selling to the stations" id. at 48-49. This argument is clearly inapplicable to the Loew's case where the blocks together accounted for a small fraction of total television station programming. At the time of the case feature films constituted less than

eight percent of a typical station's programming id. at 47. In addition,
since we are dealing in the Loew's case with films that had already been
produced, the marginal cost of extending their use to TV stations was a very
small portion of the total license fee. With such cost conditions it is
difficult to see how one distributor could possibly set up a "barrier to
entry" to another distributor.

[7]George J. Stigler, United States v. Loew's, Inc.: A Note on Block
Booking, 1963 Supreme Court Review 152.

[8]International Business Machine Corp. v. United States 298 U.S. 131
(1936).

[9]See Aaron Director & Edward Levi, Law and the Future: Trade Regulation,
51 N.W.U.L. Rev. 281, 292 (1956).

[10]Stigler, supra note 7.

[11]See, for example, Ward S. Bowman, Jr., Tying Arrangements and the
Leverage Problem, 67 Yale Law Journal 19 (1957); Lester G. Telser, Abusive
Trade Practices: An Economic Analysis, 30 Law and Contemporary Problems 488
(1965); and Robert H. Bork, The Antitrust Paradox: A Policy at War With
Itself 377-378 (1978).

[12]See William J. Adams and Janet L. Yellen, "Commodity Bundling and the
Burden of Monopoly," 90 Quarterly Journal of Economics 475 (1976).

[13]National Telefilm Associates, Exhibit 14, "Dream Features," Loew's 371
U.S. 38 trial record, 804-806.

[14]Michael Conant, Antitrust in the Motion Picture Industry 72 (1960).

[15]Telser, supra note 11 at 493, notes that "It takes a somewhat
complicated mathematical analysis to state precisely the conditions that would
make block booking more profitable than single pricing. Roughly speaking,
block booking is more profitable if the variation of the revenue for the

combination among cities is not too large." In a more recent article, Lester G. Telser, A Theory of Monopoly and Complementary Goods, 52 J. of Business 211 (1979), he presents a formal analysis of the demand conditions under which tie-ins of complementary goods can be used by a monopolist to increase his return. But once again he makes the assumption that prices are identical across markets which makes the analysis inapplicable to the Paramount and Loew's block booking cases.

[16]See Stigler, supra note 7.

[17]Timothy Green, The World of Diamonds 65 (1981).

[18]Id. at 64.

[19]Godehard Lenzen, The History of Diamond Production and the Diamond Trade 190 (translated by F. Bradley 1970). Apparently much of the approximately 20 percent of gem quality diamonds that are not marketed through the CSO is stolen merchandise. Michael Szenberg, The Economics of the Israeli Diamond Industry 14 (1973).

[20]DeBeers Consolidated Mines, The Diamond Mines of the DeBeers Group 33 (Kimberly South Africa, 1963).

[21]Lenzen, supra note 19 at 190.

[22]Green, supra note 17 at 148. Given the fixed cost of traveling to London, it will not be economic for small manufacturers located in the cutting centers to deal directly with the CSO. In addition, as we shall see, it is economic for the CSO to limit the number and therefore the minimum size of customers.

[23]Id.

[24]Paul Gibson, DeBeers: Can a Cartel be Forever? 123 Forbes 45, 46 (1979).

[25]H.L. Van der Laan, The Sierra Leone Diamonds 49 (1965).

[26]Green, _supra_ note 17 at —.

[27]Szenberg, _supra_ note 19 at 14.

[28]The following argument regarding excess search for quality information is analytically equivalent to the Hirshleifer analysis of speculative oversearch in Jack Hirshleifer, The Private and Social Value of Information and the Reward to Inventive Activity, 61 AER 561 (1971) and to the analysis by Spence regarding the over-investment in education as a screening device in Michael Spence, Job Market Signaling, 87 QJE 355 (1973). In both cases, as in ours, the return to an investment is assumed to be purely distributive. Barzel has noted, in the spirit of our analysis, that: "The fact that many information situations have the potential for waste does not necessarily mean that waste actually occurs. If, in the aggregate, these actions produce a negative product, arrangements that successfully restrain them or reduce their impact will generate a positive return Yoram Barzel, Some Fallacies in the Interpretation of Information Costs, 20 J. Law & Econ. 291, 292 (1977). In this context he discusses briefly the DeBeers' selling practices and the supposed gains which result from prepackaging of gems, _id._ at 304. Our analysis, which emphasizes the importance of prespecified buyers earning rents within a repeat sale-brand name enforcement mechanism, builds upon his insightful work.

[29]Search will be reduced if free riding on information collected by competitive bidders is possible. We have not modeled explicitly the search process and the equilibrium quantity of search engaged in by each buyer. But only under highly unrealistic conditions, namely free riding on any informational investment made by any buyer is complete, would search totally vanish.

[30]We should note that all auction sales of goods are not only to accommodate differing values placed on the goods by various buyers. Even if

all knowledgeable buyers would value some unit of a good equally, the seller

may be unable to determine cheaply the price which would maximize his profits

and use competitive, open bidding to have buyers reveal their demands. If

free riding prevents potential buyers from informing themselves about the

quality of the goods offered, the seller may allow bidding through agents

(which disguises the identity of knowledgeable buyers), or adopt the use of

sealed bids or of a Dutch auction. However, Robert Hansen, in a dissertation

in progress at UCLA, claims that such informational free riding is minimal in

an oral auction and demonstrates that the value to a buyer of information is

greater in an English rather than a sealed bid or Dutch auction. Robert

Hansen, The Value of Information in Sealed Bids versus Oral Auctions,

(unpublished manuscript, University of California, Los Angeles, Dept. of

Economics, 1982).

[31]Since the sightholders are all purchasing stones for ultimate resale in

fairly thick markets, the presumption that they would each value the same

stones equally is reasonable. The hypothesis that the DeBeers scheme is a

method of interbuyer price discrimination (see, for example, Kenneth W.

Clarkson & Roger L. Miller, Industrial Organization: Theory Evidence and

Public Policy 244 (1982)), is therefore highly unlikely to be correct.

DeBeers cannot take advantage of differing consumer surpluses between buyers

nor, in the long-run, appropriate the quasi-rents between differing skilled

cutters.

[32]Very large stones weighing more than 14.8 carats, where presumably

estimates of value vary considerably among buyers, are not included in the

sights. Instead, they are offered to particular buyers individually, at

prices set by DeBeers. The buyer offered such a large stone may inspect it at

his leisure and the price is subject to negotiation. The buyers offered large

stones are free to reject them without endangering their relationship with the CSO. Until his death in 1978, Harry Winston, a New York diamond dealer, was usually given the first opportunity to examine these stones. Green, supra note 17 at 152.

[33]This phenomenon, labeled Gresham's Law, was originally applied to full bodied metallic currency. The law stated that when both good (full weight) and bad (light, clipped or sweated) coins circulate at par, the "bad coins will drive out the good." People will remove the "undervalued" fullbodied coins from circulation and use the metal for non-monetary purposes (including foreign trade). This same effect occurs with the oranges. Early arriving shoppers will expend real resources to find the most under-valued oranges, and shoppers arriving late will find that the average quality of the remaining oranges has fallen. Note, however, that if consumers differ in their ability to search out differing qualities and this ability is related to elasticity of demand, for example, those shoppers that can distinguish high from low quality or those shoppers that arrive early in the day usually have lower time values, this bunching of different quantities together by the seller may be intentional price discrimination.

[34]We are assuming that price adjusted high and low quality units of the good are perfect substitutes. For example, the quality of oranges may be measured solely in terms of amount of juice and an average high quality orange yield twice as much juice as an average low quality orange and sell for double the price of low quality oranges. However, if one type of orange is preferred for a particular use (for example, drinking compared to table use) this case would become similar to the differing tastes case and some search would be socially valuable.

[35]See Benjamin Klein & Keith Leffler, The Role of Market Forces in Assuring Contractual Performance, 89 J. of Polit. Econ. 615 (1981).

[36]Our argument is completely analogous to the economic rationalization for a manufacturer to have retailers earn a profit premium by imposing resale price maintenance and to also impose limited entry restrictions so that this premium is not competed away. See Benjamin Klein, Andrew McLaughlin and Kevin Murphy, The Economics of Resale Price Maintenance: The Coors Case, (Working paper, Univ. of Calif. at Los Angeles, Dept. of Econ., 1982). The fact that there appears to be an excess demand to be on the CSO list of invited buyers is evidence that presence on the list is a valuable asset. In particular, a number of qualified dealers have stated they would like to be on the list and be able to buy directly from the CSO. Van der Lann, supra note 25 at 98. DeBeers does not sell this right to be an invited buyer for an initial lump sum payment because of the additional "seller cheating" incentives that are created. (Intentional supply of low quality stones with buyer termination and resale of purchase rights by DeBeers.) For further discussion of seller cheating see Section e infra.

[37]Note that, more realistically, the expected premium is not a constant but is determined by past CSO behavior. Therefore, for example, if the buyer receives a stone where P_i is greater than X_i, the anticipated premium can be expected to fall. This will be discussed further below when we consider the possibility of CSO intentional deception.

[38]We are not assuming here that the n stones are offered to the buyer on a "block" (single price take-it-or-leave-it basis). We only want to consider the effect of decreasing the number of buyers or, equivalently, the repurchase period. Section f infra considers the "blocking" question.

[39]Expression (6) is actually an underestimate of how much an individual stone must be "overpriced" in order for the buyer to reject it since it excludes the lost premium on additional stones offered "this" period. It should more properly be considered the rejection point for the "last" stone offered in the current period. In addition, it is an underestimate of the necessary "overprice" for rejection because the expected value to a buyer of playing this game is greater than nc/r. Even if c equaled zero, buyers would obtain an expected return from the ability to reject, i.e., from the ability to determine the last period. The expected value would be an average of the underpriced and slightly overpriced stones accepted before rejection; nc/r represents the total expected return given the absence of any rejection, which turns out to be our equilibrium condition.

[40]For example, in 1961 the majority of individual employed in the Israeli diamond cutting industry, which accounts for 30 percent of the world's output, worked in firms with 30-99 employees. Szenberg, supra note 19 at 17, 60.

[41]The CSO "warranty" that gross classification "mistakes" will be corrected can be seen as a means of economizing on categorization expenditures in producing the desired underlying variance in stone quality within each stated classification.

[42]The necessary premium per stone to prevent rejection is quite small. Given the CSO physical classification process and the fact that "mistakes" are adjusted by the CSO, the distribution of the value of stones within a category is not likely to be approximated by a normal distribution, but rather by a distribution with much smaller tails and possibly a finite range. If, for example, the underlying distribution of an average value sight of $1 million is uniform between $.5 million and $1.5 million and there are 10 sights a year, a premium per sight of only $5,000, or .5 percent of the average value

would be sufficient to prevent any sight rejection if the interest rate were ten percent. Only if a buyer underestimates the future expected premium stream or overestimates the quality deviation relative to the CSO estimates will a sight be rejected and the buyer be terminated by the CSO. We have not been able to find any examples of such buyer behavior and CSO punishment.

[43]In addition to preventing inefficient oversearch, blind packaging reduces search and hence the uncompensated damage to goods that occurs in the process. An example where a producer deliberately made prepurchase quality inspection more difficult can be found in FTC v. Adolph Coors Co., 83 FTC 32 (1973). Coors, a producer of beer with a limited shelf life, resisted a suggestion by the FTC that it open-date its product by marking each can with a packaging date. The additional cost of open-dating would be small, since each can was already marked with the packaging date in code. Coors resistance of this suggestion may be rational because the open-dating would encourage inefficient search by prospective purchasers and the necessity for a sliding scale of prices or a costly dispensing mechanism. With the dates in code, purchasers are forced to take a "random" sample from the seller's shelves. In addition, open dating would "advertise" the beer's limited shelf life and decrease consumer demand. See Klein, McLaughlin and Murphy supra note 36.

[44]This is analogous to the mechanism used to prevent reverse franchisor cheating on francisees by unfair termination. See Benjamin Klein, The Borderlines of Law and Economic Theory: Transaction Cost Determinants of "Unfair" Contractual Arrangements, 70 AER 356 (Papers and Proceedings 1980).

[45]See Klein and Leffler, supra note 35.

[46]Buyer estimates of the capital value of these two expected rental streams, the CSO marketing cost savings stream and the promised buyer premium stream, are related. First of all, it is obvious that the buyer estimates of

the capital value of the promised premium stream cannot be greater than their estimates of the capital value of the CSO marketing cost savings. The former represents an expected promised share of the latter. More importantly, buyer expectations of future estimated rents will be influenced by current and past CSO behavior. If, for example, a buyer receives an overpriced sight, this is likely to reduce the future expected premium per stone and, in the process, lead the buyer to adjust its anticipations of likely CSO behavior. The buyer is likely to lower its estimate of the CSO's marketing cost savings and hence increase its estimate of the likelihood that the CSO's brand name capital is insufficient (and that it is cheating by supplying a nonrandom selection of stones) and to lower its estimate of the CSO promised share of any marketing cost savings in a continuing random selection arrangmenet.

[47]As we noted above, see note 39 _supra_, the lost premium stream resulting from rejection is identical in the two cases only if we consider the individual stone to be the"last" stone offered in the current period. However, we want to assume that the buyers in the two cases are offered the same number of stones each period to avoid the effect that increasing the number of stones per period, whether blocked priced or not, has on decreasing rejection probabilities. Therefore, in general, the value of the lost premium stream will be greater in the individual stone case than indicated in the text. (For example, if the stone is the "first" stone of the period we must add $(n-1)c$ as the lost premium this period to the $\frac{nc}{r}$ lost in the future). Hence, modifying our analysis in this manner would reinforce our results -- it would be even less likely that an "average" individual stone will ever by rejected.

[48]It appears that the CSO can continue to supply low quality stones without any danger of rejection. However, if the expected premium per

stone, c, is assumed more realistically not to be a constant but to be endogenously determined by past CSO behavior the expected premium stream and critical rejection value will decrease over time.

[49]Note that this "sharing" result only holds if the premium is positive, that is, if there is something to share. If c equalled zero, $P_r(B)$ would equal $P_r(1)$ and both in turn would equal .5 (minus a modification for the reduced probability of rejection due to the expected return to a buyer from its ability to reject, that is, the return to playing a game where we can determine the last period). See note 39, supra.

[50]S. A. Lippman and J. J. McCall, The Economics of Job Search, 14 Economic Inquiry 153, 347 (in two parts 1976).

[51]Even if Equation (15) held and stones would be rejected whether blocked priced or not, there is no reason to permit a buyer that decided his entire sight was significantly overpriced to select out and purchase the most underpriced stones in this package before being terminated. This would merely transfer wealth from the CSO to such last period buyers.

[52]The history of the Paramount litigation is somewhat more complicated than that of most antitrust cases. After an unsuccessful earlier attempt by the Federal Trade Commission to outlaw block booking FTC v. Paramount Famous-Lasky Corp., 57 F.2d 152 (2d Cir. 1932), the Department of Justice in 1938 brought a monopolization case against the industry and certain of its trade practices, including block booking. In 1940 the government and the five major film distributors agreed to a consent decree United States v. Paramount Pictures Inc., et al., 1940-1943 C.C.H. Trade Cases S56,072 (S.D. N.Y., 1940). In 1944 the government reactivated the Paramount Case, petitioning the court to modify the decree. In 1946, the District Court issued its opinion holding that block booking was illegal under the Sherman Act, United States v.

Paramount Pictures Inc., et al., 66 F Supp. 323 (S.D. N.Y., 1946) and in 1948 the Supreme Court issued its decision upholding many of the District Court's rulings, in particular finding block booking to be an unlawful extension of the copyright on a film by tying its purchase to another copyrighted film (19-21).

[53]Average weekly movie attendance peaked during the immediate post-war period (1945-1948) at 90 million, a figure greater than half of the total U.S. population. By 1953 weekly attendance had dropped nearly 50 percent to 46 million, clearly reflecting the growth of television ownership. Recently the market has become even more limited in terms of size and also the age of customers. Weekly attendance in 1976 was about 18 million people, 74 percent of which were under thirty years of age. Cobbett S. Steinberg, Film Facts 45-46 (1980).

[54]Average annual U.S. feature film production was about 500 in the 1930s with each of the eight major motion picture distributors releasing between 25 and 60 films a year Conant, supra note 53 at 36. Current annual U.S. production is approximately 200 films, Steinberg, supra notes 53 at 43.

[55]Of the approximately 18,075 theaters in operation in 1945, the majors had an interest in 3,137 or 17 percent. However, their representation in first run exhibition was large, controlling more than 70 percent of the first run theaters in the nations 92 largest cities. Conant, supra note 14 at 48-50. In this paper we largely ignore the vertical integration and court-ordered divestiture of first-run exhibition and production-distribution that was a major part of the Paramount litigation and subsequent Department of Justice regulation of the industry. We also do not consider the horizontal conspiracy issues raised in the litigation.

[56]The actual number of runs depended on size of city, with, for example, 11 runs in the 1930s in Chicago, and fewer runs in smaller cities. Conant, supra note 14 at 69-70, 155.

[57]Percentage of gross rental terms were generally stated as a simple fraction of admissions revenue but were also sometimes stated as a percentage of revenue over a contractually specified amount to cover exhibition costs (i.e. the "house nut"), or a sliding percentage of gross as a positive function of revenues, or even more complicated formulations. See Conant, supra note 14 at 70, Howard Lewis, The Motion Picture Industry 191-200 (1933), and United States v. Paramount, 694, 1733. If the first or "A" film of a double feature bill was rented on a percentage of gross basis, the second or "B" film selected by the theater was required to be contracted for on a flat fee basis. Frank H. Ricketson, The Management of Motion Picture Theaters 194 (1938). To eliminate the incentive by exhibitors to rent lower than optimal quality B films, their flat rental fee was generally deducted from the gross before the sharing percentage was applied. This created an obvious contrary incentive on the part of the exhibitor to rent higher than optimal quality B films.

[58]Motion Picture Films (Compulsory Block Booking and Blind Selling): Hearings on S. 280 Before the House Comm. on Interstate and Foreign Commerce, 76th Cong., 3rd Sess. 555 (Statement of William F. Rodgers, 1940) [hereinafter cited as 1940 Congressional Hearings]. The contracts during the 1930s and 1940s also contained provisions for reducing the percentages of gross in each price quality class if the aggregate receipts from films within that class fell below a contractually determined level. For example, for each film in the two highest percentage categories, if the theater did not earn a profit equal to at least one-third of the total film rental paid, the film

automatically reverted to the next lowest category. Ricketsen, supra note 57 at 32-33.

[59]See Conant, supra note 14 at 71 and Lewis, supra note 57 at 193-195 for a discussion of the magnitude of the monitoring of revenue receipts problem, including the problem of monitoring the monitors. Lewis concludes that "the rentals involved in many theaters were not large enough to warrant the expense involved in checking" id. at 195.

[60]A major post-production service supplied by exhibitors at this time was said to be the correct choice of a main and B feature. Ricketson supra note 57 at 82-83 suggests that best results were often obtained when two movies of widely different character were billed together. This reflects the fact that individuals attended the theater in families. Two widely different films might each appeal to different family members and the family, as a decision making unit, would prefer such a program to one which offered two similar movies both of which appealed only to some of the family members. Because of television, today's audience includes substantially fewer complete families and the more usual practice is to bill together movies of similar character.

[61]An individual theater will not supply the optimum amount and type of promotion without a complicated and imperfect distributor subsidization scheme (because advertising generally affects attendance at other theaters, including later runs). Hence much advertising is supplied by the distributor rather than the exhibitor.

[62]An ingenious solution to the exhibitor moral hazard problem implied by the use of a sharing contract was the distribution contract employed with the large theater circuits. These circuits consisted of up to several hundred theaters under common ownership and spread over a considerable geographic area. The contract specified payment for licensed films based upon a

percentage of the film's national gross (so-called "formula deals"). The

circuit's actual success with the film did not affect the price paid Conant,

supra note 14 at 74, thereby eliminating any marginal malincentives on the

part of the exhibitor. Since these theaters were spread over a wide

geographical area the national gross might be a good proxy for the value of

the film to the circuit. Formula deals were not the contractual form used

with individual independent theaters because regional variations in taste

might cause large regional variations in the film's value.

[63]See 1940 Congressional Hearings, supra note 58 at 983 (Statement of

Austin C. Keough).

[64]Where the distributors' and exhibitors' effort are both important and

difficult to specify, as appears to have been the case for first-run

exhibition in the 1930s, vertical integration, that is, an exhibitor employee

that can be controlled more closely by the distributor may be an efficient

solution.

[65]Exhibitor risk aversion, rather than transaction cost minimization, is

an alternative non-mutually exclusive hypothesis for the presence of sharing

arrangements. However, one should, in general, be hesitant to accept risk

aversion explanations for contractual terms. Risk explanations are logically

equivaslent to relying on tastes to explain behavior and they ignore the

separate insurance markets that may develop in response to such tastes and the

fact that many similar sharing contracts are observed in situations where risk

considerations alone would appear to imply lump sum payments (for example,

royalty contracts of publishers with authors or of oil companies with

leaseholders). Illustrations of economists too quickly adopting the risk

sharing explanation can be found in the agricultural sharecropping literature

(see Steven N.S. Cheung, Transaction Costs, Risk Aversion and the Choice of

Contractual Arrangements, 12 J. Law & Econ., 23 (1969)) and in the principal-agency literature. While incentive considerations would imply a 100 percent contingent payment share from the principal to the agent, if both parties to a contract can shirk a partial sharing arrangement may be shown to be optimal under fairly general measurement and transaction cost conditions within a risk-neutral environment. See Benjamin Klein, Kevin M. Murphy and Ben T. Yu, Measurement Costs and Sharing Contracts (1983), unpublished manuscript, UCLA.

[66]Although Ralph Cassady, The Impact of the Paramount Decision on Motion Picture Distribution and Price Making, 31 Southern Cal. L. R. 150, 153 (1958) asserts that the particular theater chosen for the first-run influenced the audience size in later runs.

[67]Mr. Hammond Woober, General Manager of 20th Century Fox, testified at the 1940 Congressional Hearings in opposition to legislation that would have prohibited "blind" selling that "...there is a common belief that we sell pictures prior to their making and, in theory, that is correct. There is a belief that we sell, as it is commonly expressed, a pig in a poke. In reality that is not the way pictures are sold. We sell pictures the same as other articles of merchandise are sold. If you are the owner of a Buick car and you paid a certain price for it, and the time comes to repurchase a car, you either place your confidence in the machine you own or you change the type of machine that you are going to buy and this is the way motion pictures are negotiated for." 1940 Congressional Hearings, supra note 58 at 585 (Statement of Hammond Woober).

[68]Explicit franchise agreements which gave the exhibitor exclusive rights to license the distributor's films over a period of time, usually more than one year, were entered into with affiliated circuits. See brief for plaintiff at Appendix 50-58, United States v. Paramount 334 U.S. 131 1948 and 1940

Congressional Hearings supra note 58 at 645 (Statement of R.H. Poole).

[69]See Section d infra at 35. Non-attendance may also have been due to exhibitors' fear of losing their valuable run designation if they attended such showings. But we have not been able to find any evidence to support the existence of such a threat on the part of distributors.

[70]Mr. Woober testified at the 1940 Hearings that "...each producing company would have to increase its inventory 50 to 100 percent to meet the requirements of the bill and that would require at least $100,000,000 to $200,000,000 of new capital..." 1940 Congressional Hearings, supra 58, at 585 (Statement of Hammond Woober).

[71]See David Lees and Stan Berkowitz, The Movie Business, New York: Vintage Books 135 1981.

[72]Our analysis of blind bidding implies that both distributors and exhibitors would generally favor the practice. This appears to be consistent with the available evidence at the time. At the 1940 Congressional Hearings numerous independent theater representatives and owners voiced strong opposition to a proposed legislative end to "blind bidding" (and block booking). Support for the legislation primarily came from "disinterested" civic and religious consumer groups concerned about theater owners being "forced" to exhibit "immoral" films. The recent state legislative movement to outlaw blind bidding arrangements, on the other hand, has been supported by exhibitor trade associations and is more difficult to explain.

[73]Conant, supra note 14, at 77.

[74]Twentieth-Century Fox sold its entire output of 52 films in 1938-39 to less than 20 percent of their accounts. The bookings for the 52 films distributed by Paramount during the 1938-1939 season ranged from 14,261 to 4,408 with a median of 7,855 (1940 Congressional Hearings, supra note 58, 469,

584 (testimony of Charles C. Pettijohn and Hammond Woober respectively). The Famous Players-Lasky Corporation (predecessor of the Paramount Corporation) contracted for the exhibition of all of the films they offered in a particular year with only 4.6, 2.6 and 4.7 percent of the exhibitors they dealt with in 1922, 1923 and 1924, respectively, Lewis, supra note 57 at 158-159. Part of the confusion regarding the nature of the practice may be due to the fact that the original "Trust" method of distributing films pre-1920 appears to have involved complete "program booking," that is, the distributor's films were rented on an all or nothing basis. See Cassady, supra 66 at 154 n. 30 & 155 n.46. This "full line forcing" method of distribution vanished by the time of the Paramount litigation.

[75]The fact that exhibitors almost universally licensed films from more than one distributor is inconsistent with the hypothesis that block booking served the purpose of preventing exhibitor free riding on the brand name of the distributor. It is true that the brand name of the distributor was relatively more important to consumers than it is today. Audience flows over time between different films released by a distributor were more substantial because film runs were much shorter and attendance more frequent and regular. Hence consumers relied to a much lesser extent on movie reviews and other sources of information. But block booking does not appear to have served the purpose of protecting the distributors' brand name, similar to the use by a franchisor of an exclusive requirements contract on an important input to protect its brand name. Neighborhood theaters, changing their double bill programs twice a week, demanded more than 200 films a year, or more than three times the annual output of the largest distributor. Hence exclusive input supply was impossible. This "brand name" analysis of block booking, however, can explain the use of block booking-type contracts by the television

networks. The free riding on the audience flows between programs in the absence of block booking is demonstrated by the use of substantially lower quality programming (that is, lower audience ratings) by the affiliates when the block was broken by the FCC prime time access rule. See William Jennings, The Economic Effects of the Prime Time Access Rule, (unpublished manuscript California State University, Northridge, Dept. of Economics, 1982).

[76]See 1940 Congressional Hearings, supra note 58 at 600-601 (testimony of Roy L. Walker, president of the Theater Owners Protection Association of Texas).

[77]In addition to scheduling difficulties, post-contractual substitution of films by theaters within a zone could have important externalities and imply that individual exhibitor profit maximization would not lead to group or distributor maixization. For example, if two theaters in a particular zone are showing different films, say A and B, with respective weekly revenues of $1,000 and $200, individual exhibitor maximization may lead the exhibitor showing film B to substitute to film A. But such substitution may lead to a reduction in weekly revenue below $1,200 — say $1,000 to $500 and $500 — at the two theaters taken together. However, if the contract were with an exhibitor in a one theater town, post contractual substitution would not be disruptive and hence would be permitted as long as rental fees were not reduced. 1940 Congressional Hearings, supra note 58 at 553 (statement of William F. Rodgers).

[78]Lewis, supra note 57 at 196; 1940 Congressional Hearings, supra note 58 at 430, 585 (Twentieth Century-Fox License Agreement and statement of Hammond Woober respectively).

[79]In addition to this contractual mechanism distributors also used a premium stream mechanism via control of the run pattern to encourage

exhibitors to cooperate in their marketing scheme. The promise of an earlier
run or the threat of termination or of reclassification to a later run
represented a major reward or sanction to most theater owners. See Conant,
supra note 14 at 61-69 and Tino Balio, The American Film Industry 164
(1976). The magnitude of the theater owners' investment was dependent upon
run and, given the complex scheduling arrangement, generally not costlessly
transferable to another distributor. Therefore the quasi-rent stream earned
by an exhibitor via its run assignment was analogous to the valuable right
possessed by a DeBeers sightholder. See, for example, testimony of William G.
Ripley, at the 1940 Congressional Hearings, supra note 55 at 714 and of R. H.
Poole, 1940 Congressional Hearings, supra note 58 at 643. It is interesting
to note that of the 450 arbitration cases filed between 1941 and 1946 under
the terms of the 1940 Paramount decree (which established a system of system
of arbitration tribunals where independent exhibitors were permitted to bring
complaints against distributors) more than 400 were related to clearance
and/or run designation disputes rather than contract disputes. See Conant,
supra note 14 at 96, and Paramount, 334 U.S. 131, 1860 (1948).

[80]See, for example, Lewis, supra note 54 at 163, Bertrand Daniel, The
Motion Picture Industry: A Pattern of Control 5-6 (1941). Conant, mirroring
the explanation given by the court, notes that "Blockbooking involved the
transfer of monopoly power from popular pictures and actors of great public
preference to inferior pictures and unknown actors. Distributors charged less
than the highest possible price for superior films and more for inferior films
than if sold singly." Conant, supra note 14 at 79. Evidence for this
"average" film pricing is the fact that while current first-run rental terms
for individual films range up to 90 percent of gross (after deducting the
exhibitor's contractually specified "nut") maximum percentage rental terms

were generally less than 50 percent in the 1930s (with the very unusual rate of 70 percent charged for Gone With the Wind). See 1940 Congressional Hearings, supra note 58 at 542 (statement of William F. Rodgers). Average rental terms over all films, on the other hand, are quite similar with a 34 percent film rental rate currently and a -- percent film rental rate during the 1930s. Film Facts, p. 40.

[81] United Artists, a "major" distributor of films supplied by many independent producers that therefore required accurate individual film value measures, did not practice block booking, Lewis, supra note 57 at 144, and extensively employed complex sliding percentage rental contracts. (U.A. Brief to Supreme Ct., U.S. v. Paramount 334 US 131 - get p. cite), a practice followed by the other distributors in only the largest theaters (Paramount printed record, p. 431).

[82] Paramount, 1940-1943 C.C.H. Trade Cases S56,072 (S.D. N.Y., 1940).

[83] For example, prior to 1940 the State Theater in Norfork, Virginia rented almost all its films from Loew's and United Artists. After the decree in the 1943-1944 season the same theater rented 36 of its 38 films from the same two distributors. See Paramount, 334 U.S. 131, Loew's Brief to the Supreme Court, Appendix.

[84] See testimony of William J. Kemper, general sales manager, Twentieth-Century Fox, Paramount-Supreme Court Briefs & Records, 334 U.S. 131 and Paramount trial record 1178-1179, United States v. Paramount 66 F Supp 323 (S.D. N.Y., 1946).

[85] H. Huetting, Economic Control of the Motion Picture Industry: A Study in Industrial Organization 122-123 (1944 reprinted 1971).

[86] U.S. v. Paramount Pictures, 66 F Supp (S.D.N.Y., 1946). Paramount, 334 U.S. at 163.

[87]The Supreme Court also rejected competitive bidding on the grounds that such a system would place those exhibitors with "the longest purse," namely the defendants and the large circuits, at an advantage. Paramount 334 U.S. at 164.

[88]Cassady, supra note 66 at 161. One general sales manager of a large distributor stated in 1956 that competitive bidding occurred in only 3.2 percent of the selling situations. Motion Picture Distribution Trade Practices, Hearings Before a Subcommittee of the Select Committee on Small Business, U.S. Senate, 84th Cong., 2nd Sess. 372 (Statement of Charles M. Reagan, 1956) [hereinafter cited as 1956 Senate Hearings].

[89]As one company official stated, "The plain fact was that...[we] lawyers felt very keenly that the only way we could eliminate these endless legal disputes...was to have some system like competitive bidding which will afford the company an immunity..." Hearings Before a Subcommittee of the Select Committee on Small Business, U.S. Senate, 83rd Cong., 1st Sess. 583 (Statement of --------------, 1953). (An Antiturst Division spokesman stated in 1953 that there were more than one hundred private antitrust suits pending against the major distributors, id. at 655 (statement of -------------). One company stated that it used competitive bidding only at the "specific request of one or more competing exhibitors or at the request of an exhibitor that he be licensed pictures on a run which had been formally licensed by his competitor." 1956 Senate Hearings, supra note 88 at 372 (statement of Charles M. Reagan).

[90]Cassady, supra note 66 at 164, James Gordon, Horizontal and Vertical Restraints of Trade: The Legality of Motion Picture Splits Under the Antitrust Laws, 75 Yale Law Rev. 239, 240 (1965), Cassady at 165 and Gordon at 241 fn. 5 make extremely weak attempts to rationalize this practice.

[91]An implication of this is that by the mid-1950s distributors that had previously lost money on very few films, see Conant, supra note 14 at 79, reported loses on 40-50 percent of their films, see 1956 Senate Hearings, supra note 8 at 153 (statement and enclosures of Abram F. Myers), while continuing to report approximately the same rate of return on stockholders equity as in the prewar (1937-41) period, see Conant, supra note 14 at 129-130.

[92]Conant, supra note 14 at 150. Variety, January 4, 1956 cited Senate Report, 1956, 9.

[93]Film licensing in England, which does not have the legal legacy of a Paramount-type decree, consists of quite explicit product-splitting arrangements in the form of right of first refusal agreements by the two major exhibition circuits, EMI and Rank, each accounting for approximately one half of all first-run releases. Buyers are thus prespecified over the long-term. Contract terms are relatively simple with the maximum rate at 50 percent and arrangements are often similar to the formula deals and master agreements that existed in the U.S. in the 1930's House of Commons, The Monopolies Commission, Films: A Report on the Supply of Films for Exhibition in Cinemas 1-16 (1966).

[94]The argument that distributors might be reluctant to bring suit against exhibitors and damage their good will in continuing relationships makes little sense. There already exists a substantial amount of litigation between these parties concerning, for example, under reporting of receipts and other claims regarding contractual breach.

[95]Most litigation with regard to splitting has involved suits by exhibitors excluded from the split. (See, for example, Viking Theater Corp. v. Paramount Film Distribution Corp., 320 F. 2d 285 (3d Cir. 1963). There are a number of cases where distributors have claimed the illegality of product splits, but, as far as we know, these represent counteractions. For example,

General Cinema Corp. v. Buena Vista Distribution Co., Inc., 532 F. Supp. 1244

(C.D. Cal. 1982) represents a counterclaim by Buena Vista against General

Cinema's original claim that a minimum film rental based on a per capita

charge represented illegal price fixing. (We conjecture that this contractual

term is designed to prevent exhibitors from underpricing admission and

overpricing a complementary input such as popcorn upon which no licensing fee

is paid.) The court dismissed the original complaint and ruled on the

counterclaim that General Cinema's participation in split agreements was per

se illegal. This decision is contrary to most recent opinions. See, for

example, Greenbrier Cinemas, Inc. v. Attorney General of the US, 511 F. Supp.

1046 (W.D. Va 1981), which represented an exhibitor's challenge to the

Department of Justice April 1, 1977 change in policy regarding the legality of

splits. Distributors are, however, cooperating with the Department of Justice

in their most recent attack on the practice of splitting in Milwaukee (United

States v. Capitol Service, Inc. et al. civil action no. 80-C-407 (E.D. Wisc).

[96]See Cassady, supra note 66 at 176-177. Renegotiation only goes one

way, namely non-contractually required payments made by distributors to

exhibitors.

[97]In the 1930s renegotiation, although much rarer and of a smaller

magnitude, did occur when an entire block was, ex post, priced "unjustly".

See, Loew's Inc., 20 Fortune Magazine, 25, 110 (August 1939) and 1940

Congressional Hearings supra note 55 at 547, (testimony of William F. Rogers)

and footnote 55 infra.

[98]We would, of course, expect that a split would only be accepted by a

distributor if rental terms are not lower. Mr. Charles M. Reagan, general

sales manager and vice president of Loew's Inc., stated that "...we have

indicated a willingness to eliminate competitive bidding whenever possible in

situations where returns from the theaters are comparable by licensing our

pictures on a split basis, that is, dividing our product between or among

competitors," 1956 Senate Hearings, supra note 88 at 373 (statement of Charles

M. Reagan). The evidence presented in U.S. v. Capital Service et al.

indicates an unambiguously sharp decline in guarantees after the establishment

of the split in Milwaukee (see exhibit GX9 and GX) but disagreement regarding

the effect of the split on film rentals (see trial testimony of Ben Marcus and

Irving Palace and exhibit DX509).

[99]The common argument that guarantees are used as a means of reducing

distributor's risk (see, for example, Los Angeles Times, June 1, 1981, part

IV, 3 and 5) makes little intuitive sense given the relative asset position of

distributors compared to exhibitors and the ready access of distributors to

more generalized capital and insurance markets.

[100]United States v. Loew's Inc., et al., 189 F. Supp 373, 382 (S.D. N.Y.

1960).

[101]An exclusive exhibition contract need not diminish the value of the

film to the distributor. Since households can view programs on any station in

their area, an exclusive right lagely channels viewers that desire to see the

particular film to the particular station exhibiting it. In addition,

licensing a film to every station in a market would eliminate the incentive

for stations to bid against one another. Instead, each station would be in a

bilateral monopoly position with respect to each seller, and the demand

revealing effects of competition would be lost to the distributor.

[102]The description of a "typical" contracting sequence is a composite of

testimony from the trial court case Civil Action N. 119-24 reproduced in

Loew's 371 U.S. 38 Supreme Court Records, Briefs. In particular see the

testimony of Oliver A. Under, president of National Telefilm Associates Inc.

[103]The 113 block licenses included 63 contracts for the entire 723 film library, 9 contracts for either preselected half of the library, 36 contracts for one or more of the three preselected groups of 100 films and 5 contracts for a group of 67 films preselected by Loews. Information about Loew's contracts is from Loew's Exhibit #21, Civil Action No. 119-24. The information about the relative quantities of the various Loew's packages is found in the Loew's court record, 371 U.S. 38, court record at 675, 4869.

[104]Loew's 189 F. Supp 373 (1960).

[105]Loew's 371 U.S. at 55.

[106]This may explain Twentieth Century Fox's alleged violation of the Paramount decree in 1978 by forcing theaters to show the unsuccessful film "The Other Side of Midnight" in order to rent the highly successful film "Star Wars", upon which George Lucas had a 40 percent share of net revenues.

[107]An example of a contractual solution to an anticipated cheating opportunity can be found in United States v. Columbia Pictures Corp. 189 F. Supp. 153 (S.D. N.Y. 1960), where the government challenged an agreement between Universal Pictures and Screen Gems, a wholly owned subsidiary of Columbia Pictures, in which Universal granted to Screen Gems a fourteen year exclusive license to distribute for television exhibition approximately 600 pre-1948 Universal feature films. Since Screen Gems also distributed for television substantially all of Columbia's pre-1948 films, the agreement further required that films in the two libraries would be classified before distribution into categories of comparable quality and that the Universal films would not be sublicensed to TV stations by Screen Gems for less than the Columbia films of comparable quality. Rather than a per se price fixing agreement, as the government contended, the court recognized that without such an agreement it would have been possible for Screen Gems to shift profit from

Universal to Columbia by offering TV stations Universal films at lower prices
if they also rented Columbia films at correspondingly higher prices. See
Robert H. Bork, The Rule of Reason and the Per Se Concept: Price Fixing and
Market Division, 75 Yale L.J. 373, 461-64 (1966).

[108]See Balio, supra note 79 at 376-77.

[109]For example, Mr. Unger testified that both Loews and Columbia owned
their negatives fully (Loew's 371 U.S. 38 Court Record, at 5840).

[110]See Stigler supra note 7, Appendix.

[111]Price of the block is taken from Loew's 371 U.S. 38 Trial record, NTA
exhibit #14, 804, 806. This package was chosen because, of the fifteen
packages for which price information was available (all from NTA), it was sold
unbroken in the most market areas. For the potential audience the (Broadcast
Information Bureau) 1962 estimates of "net weekly circulation," TV Factbook
#33, Metropolitan Market, 249-289 (1962). This measure, first published in
1962 (for the year 1961), is an estimate of the number of families which
watched television during an average week in each market area. For the value
of advertising messages per viewer reached, the per family median income by
SMSA for 1960, Country and City Data Book, item 28 (where data by SMSA was
unavailable, county data was used). Commercial stations within a fifty mile
radius were counted in the estimate of the number of stations in each market
area, TV Factbook #33, Metropolitan Markets, 249-289 (1962). This number
ranged from one to ten.

The positive significance of the number of TV stations in the market on
the price of the block may reflect demand variables unaccounted for by
circulation and income (since the number of TV stations in different markets
should not be considered exogenous but largely determined by demand
considerations.) It also may reflect the net positive theoretical effect of

number of buyers on price within a Nash equilibrium framework.

[112]Loew's 371 U.S. 38 Court Record at 5856.

[113]If the relative demand for individual films varied significantly and unpredictably among television stations within a market, it would generally pay for a distributor to break the block and sell the individual films separately in a competitive bidding manner. As in all discontinuous markets the distributor would only receive the second highest station evaluation. This interstation variation, however, is unlikely to be very important because viewers can switch stations to watch a particular movie on whatever station it appears.

[114]This argument continues to assume that buyers have better information than sellers about the relative appeal of individual movies. Otherwise buyers will also want to depend on their knowledge of the value of the block in striking a bargain. The existence of such asymmetrical information seems unlikely.

It may appear that monopsonistic buyers actually do not have to bargain solely on the basis of their estimates of film value but can merely attempt to drive price down to the seller's marginal cost. Since the distributor is selling previously produced films with essentially no alternative use, a competitive distributor might appear to be unable to resist the monopsonist's market power and the price will be driven down close to zero. The obvious solution is for the seller to make a firm commitment not to sell unless he receives his asking price which he sets equal to the market clearing price given by Equation (17) above. Such a commitment strategy will only work if the commitment is credible, that is, only if the buyer thinks that the seller would not gain by accepting a lower price rather than refusing to deal at all. Although such commitments generally are not credible in the more common

formulation of the bilateral bargaining problem they are likely to be here. This is because the various regional markets are tied together by the exchange of price information and an individual transaction is therefore not isolated. Each buyer looks at the prices various blocks sold for in other markets. These prices contain two sorts of information: 1) they indicate what other buyers think of the quality of the films offered; and 2) they indicate whether a particular seller is able to keep this price commitments. Since there is no reason to assume that the quality of any block is systematically lower in a single station than in multiple station markets, a seller that cuts the price below his commitment price in any one single station market transfers his ability to gain revenues from the other single station markets. The other monopsonistic buyers will think that the seller is unable to keep a commitment. This potential loss in revenues in other markets serves as an incentive for the seller to maintain his commitment in any one market. The single station observation residuals in equation (17) are not generally negative or very large.

[115]Using a chi-square test the null hypothesis that there is no relation between single or multiple stations in a market and the presence of block sales can be rejected at a .05 level of significance. (The computed chi-square value is 5.807).

[116]Potential purchasers could not merely check the original theatrical gross in the particular market of the individual film in question (reported in trade magazines such as Variety) and hope to obtain with some simple conversion formula an accurate estimate of the film's current TV license value. Very dramatic demographic changes had occurred in particular markets over the years since original release and the values of the films had depreciated at widely different rates. George Hartford, vice president and

general manager of Station WTOP testified that some older films, particularly

musicals, were badly dated and would no longer be well received by the

audience (Loew's 371 U.S. 38 Court Record at 391). (However, many of these

musicals were later edited, spliced together and re-released theatrically by

MGM, with great success as "That's Entertainment").

[117]See the testimony of Eliot Hyman, President of Associated Artists

Production, Loew's 371 U.S. 38 Court Record at 5581.

[118]Because of viewer mobility between stations in a market, all stations

in a market are likely, given full information, to place similar valuations on

individual films. There may be some allocative effects if a particular film

fits in better in a particular station's programming schedule. But such

effects must have been quite minor for the "time-filler" type of films

involved in these contracts. In any event, the seller has the optimum

incentive to trade off these allocative and transaction cost savings factors.

[119]There is some indication that buyers in the various markets were in

contact with one another. For example, Oliver A. Unger (of National Telefilm

Associates, Inc.) testified that: "This is a business of so few people that

you [as a film distributor] can do something in New York at 8 o'clock in the

morning and you will hear about it in Seattle at 3 that afternoon. This is

the fastest underground there ever was" (Loew's 371 U.S. 38 Trial Record at

5870). Since the stations in each of the 240 regional TV markets were not in

competition with each other, they may have shared information with one

another. Reciprocal exchange of information could be of benefit to all

noncompeting stations. In addition, transactions for the various standardized

blocks and generally transaction prices were regularly reported in trade

journals such as Variety.

[120]See Loew's 189 F. Supp. 373, 382 (1960).

[121]See Klein and Leffler, supra note 35.

[122]See Klein supra note 44, and Oliver E. Williamson, Transaction Cost Economics: The Governance of Contractual Relations, 22 J. Law and Econ. 233 (1979).

[123]"In order to minimize duplicative geological exploration activities ...a person proposing to drill...shall afford all interested persons...an opportunity to participate in the drilling on a cost-sharing basis." Geological and Geophysical Explorations of the Outer Continental Shelf, 45 Federal Register 6338, 6348 (January 25, 1980). In addition, the Department requires the buyer to obtain a permit, to post a bond and to furnish all resulting data, raw and analyzed, to the Department upon request. This information remains private but is used by the Department in setting reserve prices, thereby reducing the incentive on a buyers to search. See id. at 6338-6352 and Douglas K. Reece, Competitive Bidding for Offshore Petroleum Leases, 9 Bell J. of Econ., 369, 381 (1978).

[124]Duncan Cameron, in a dissertation in progress at UCLA, uses such an analysis to explain the efficiency of the call rule in the context of the 1918 Chicago Board of Trade case.

[125]Benjamin Klein, The Economics of Damages in Contract Law, unpublished manuscript, UCLA, Dept. of Economics, (1983).

[126]See, for example, Gordon, The Economic Theory of a Common-Property Resource: The Fishery, 62 J. Polit. Econ., 124 (1954); Steven Cheung, The Structure of a Contract and the Theory of a Nonexclusive Resource, 13 J. Law & Econ. 49 (1970); Kitch, The Nature and Function of the Patent System, 20 J. Law & Econ. 265 (1977); and Michael Canes, The Social Benefits of Restrictions on Team Quality, in Roger Noll, ed., Government and the Sports Business, Brookings, 1974.

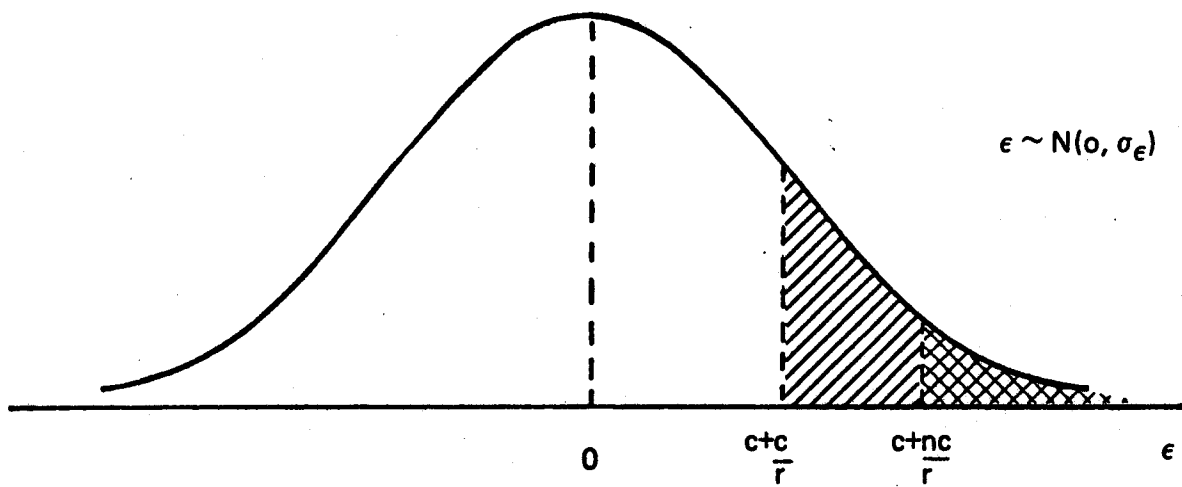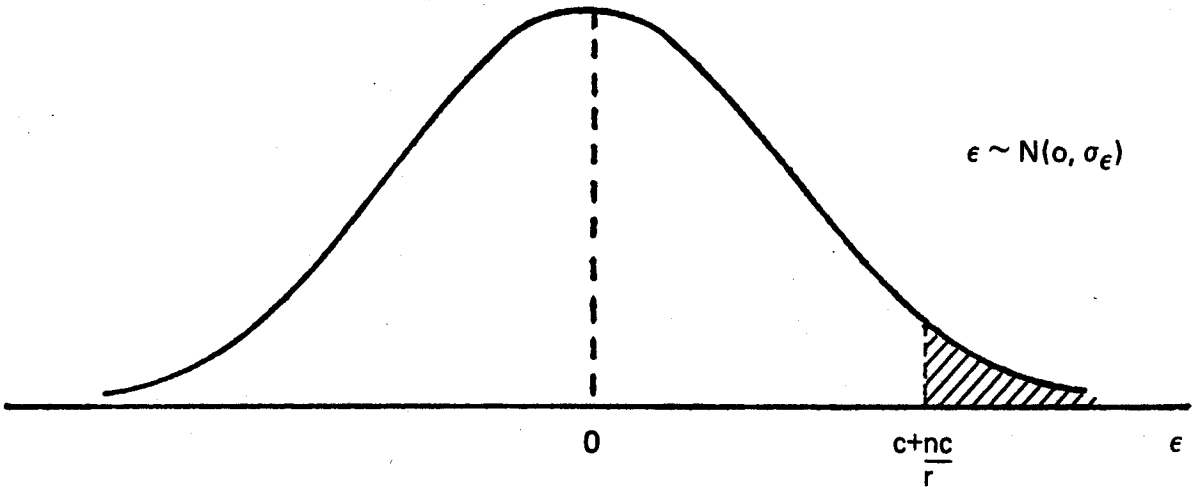**FIGURE 1**
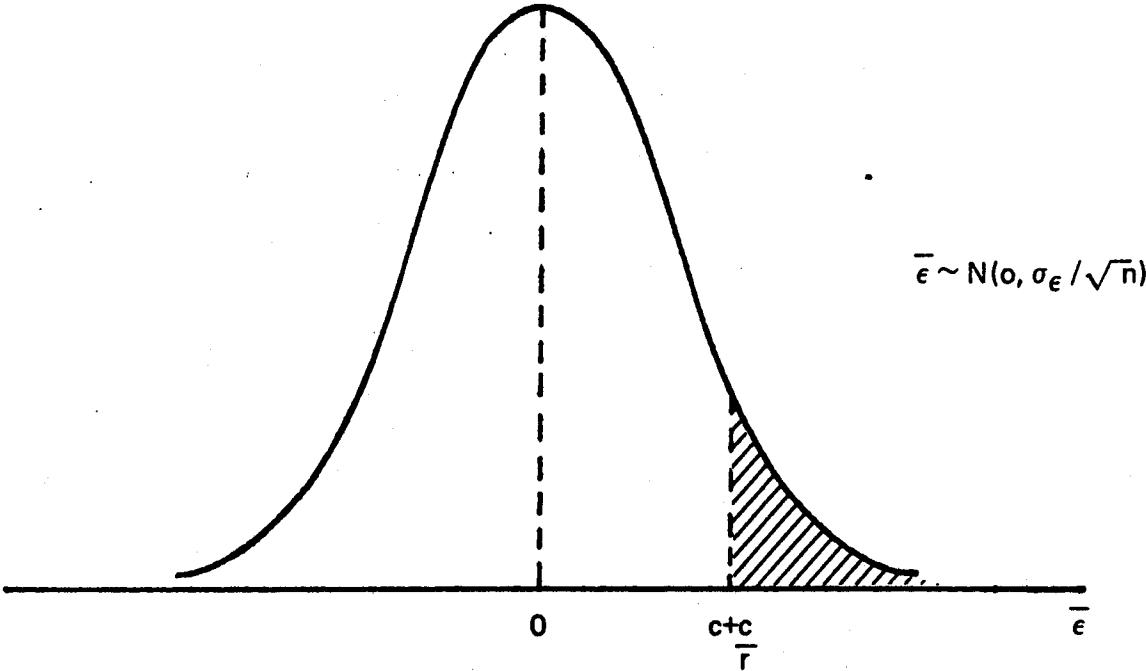Rejection Probabilities, One v. n Stones per Period

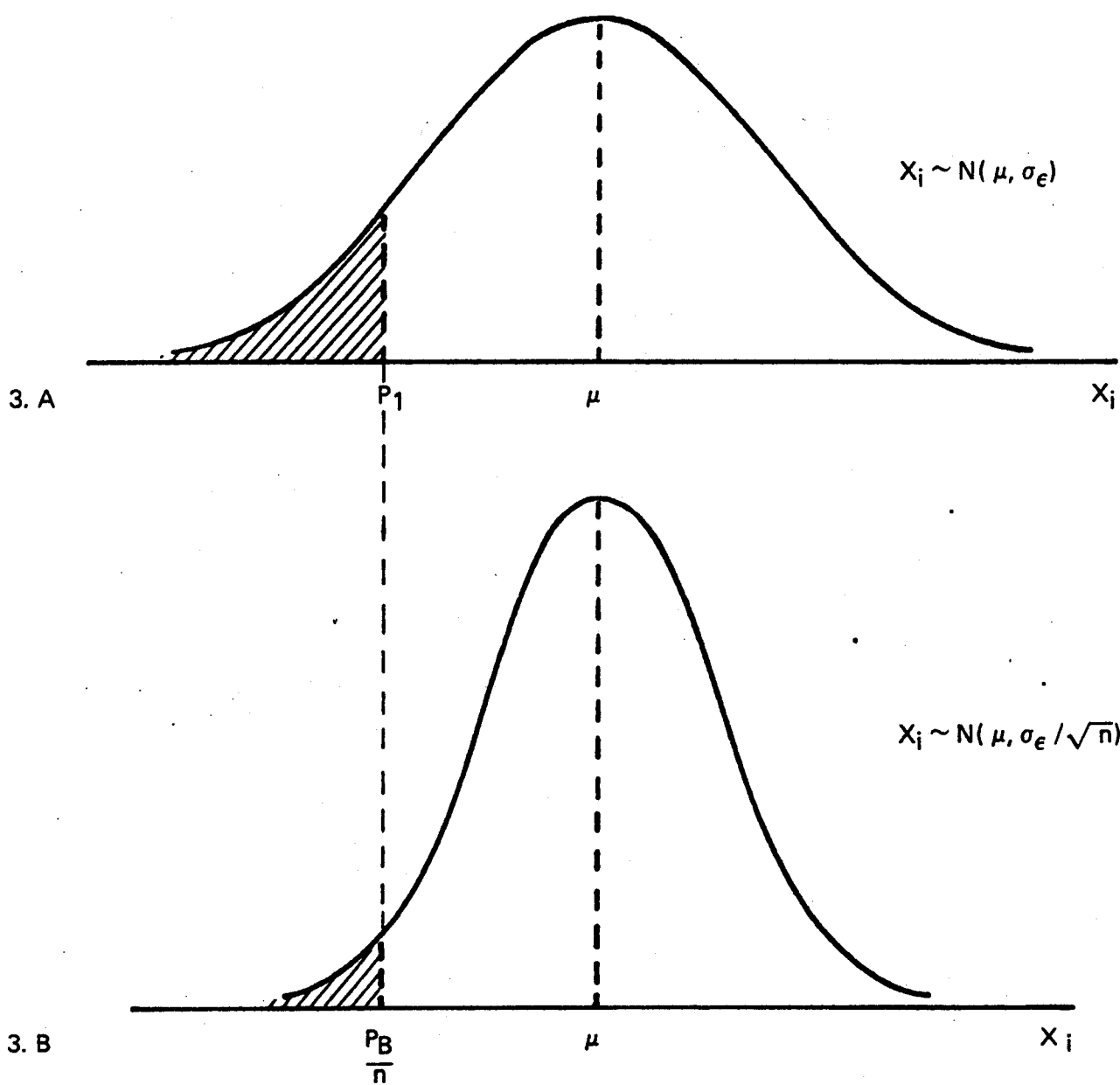# FIGURE 2
Rejection Probabilities, Single Stone v. Block

$\epsilon \sim N(o, \sigma_\epsilon)$

2. A

0

$c + \dfrac{nc}{r}$

ϵ

$\bar{\epsilon} \sim N(o, \sigma_\epsilon / \sqrt{n})$

2. B

0

$c + \dfrac{c}{r}$

$\bar{\epsilon}$

FIGURE 3
Rejection Probabilities Assuming $r = \infty$, Single Stone v. Block

$X_i \sim N(\mu, \sigma_\epsilon)$

3. A $\qquad$ P_1 $\qquad$ μ $\qquad$ X_i

$X_i \sim N(\mu, \sigma_\epsilon / \sqrt{n})$

3. B $\qquad$ $\dfrac{P_B}{n}$ $\qquad$ μ $\qquad$ X_i

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