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Prerecorded Home Video and the Distribution of Theatrical Feature Films

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1. INTRODUCTION

In 1982 and 1983 prerecorded videocassettes began taking their turn as the fastest growing of the new media for video program distribution. The "home video" industries of videocassettes and videodiscs are important to understand because they are not only changing the economic system by which media products are delivered but they are also disrupting the framework of copyright law governing that system. Prevailing industry forecasts maintain that household penetration of videocassette recorders (VCRs) alone will reach at least 25–30 percent by 1990, with some predicting as much as 50 percent penetration (*Videoweek,* October 10, 1983, p. 6) While RCA's decision to stop production

of the CED videodisc player in 1984 was a setback for program distributors, discs represented a relatively minor portion of the market.

This chapter deals with the distribution process of prerecorded videocassettes and videodiscs and how these media compete with alternative delivery systems. Understanding the competition among video media greatly benefits from attention to the process of theatrical feature film distribution. Theatrical features are by far the dominant product on prerecorded software as well as on pay-TV systems, and remain among the most important programming ingredients of advertiser-supported television. Consumer demand for all the video media, as well as movies shown in theaters, are closely related.

The thesis of this chapter is that prerecorded home video successfully competes as a delivery system by offering distributors more efficient, "unbundled" methods of pricing programs to consumers. This direct, unbundled pricing is far superior to that of advertiser-supported broadcasting and, in important respects, is superior to the "bundled" pricing of the subscription-supported pay-TV systems. Home video's better pricing can significantly increase the revenues a distributor earns from a given supply of programs. As a result, its main impact on advertiser-supported broadcasting is likely to be not only the direct diversion of viewers' time but also the indirect effect of increased competition and inflation in the program supply market.

A handicap to home video's ability to compete with other pay media has been the First Sale Doctrine of the 1976 Copyright Act, which constrains the distributor's ability to control the pricing of prerecorded software. Congress may modify the doctrine before this article appears, but comments on this issue are offered, if only for posterity's sake.

II. PRERECORDED HOME VIDEO SOFTWARE DISTRIBUTION

A. Consumer Demand for Hardware and Software

Table 7.1 documents the explosive growth of home video hardware and software. By early fall 1984, videocassette and videodisc hardware had reached into about 16 percent of U.S. TV households, with about half of that growth in the previous twelve months alone. Especially in the case of VCRs, the demand has been fueled by steadily dropping hardware

Table 7.1. Growth of Home Video Hardware and Software (Wholesale to Dealers), 1979–1983 (in millions)

	1979	*1980*	*1981*	*1982*	*1983*
Hardware					
Videocassette recorders					
units	0.5	0.8	1.4	2.0	4.1
$	N/A	N/A	$1,300	$1,550	$2,150
Videodisc players[a]					
units	—	—	N/A	0.2	0.3
$	—	—	N/A	$65	$75
Software					
Blank cassettes					
units	10	15.0	23.0	34.0	57.0
$	N/A	N/A	$304	$384	$485
Prerecorded cassettes					
units	2.6	3.8	5.0	5.5	9.5
$	$75	$120	$270	$344	$400
Videodiscs[a]					
units	—	—	N/A	5.0	8.0
$	—	—	N/A	N/A	$150

SOURCES: Knowledge Industry Publications, Inc., Electronic Industries Association.
[a]The CED videodisc, which has dominated the market, was introduced in 1981.

prices in the last few years. In 1984, VCRs ranged in price from about $300 to about $1200 for high fidelity models.[1] Videodisc players ranged from about $200 for the lower-priced CED machines to about $700 for the more sophisticated and generally superior laser disc models. In spite of their higher prices, VCR sales have dominated disc player sales by more than a ten to one margin. With the demise of the CED player, the disc has become a negligible market element; only about 100,000 laser disc players have been sold in the United States, compared to over 500,000 for the CED player.

The greater popularity of VCRs is due to their ability to record programs off the air. This is suggested by the higher sales of blank tape in contrast to prerecorded tapes, as shown in table 7.1. Surveys, in fact, consistently show that the main consumer use of VCRs is time-shift viewing—the recording of programs from broadcast and pay television for watching at a more convenient time (U.S. Congress 1983d). Nevertheless, prerecorded home video programming is emerging as a major domestic industry. Analysts placed total retail volume of domestic sales and rentals of prerecorded tapes and discs at the $1 billion-plus level in

for discs, generally $19.95 to $34.95, while rental prices (where rentals are available) have been in the same $1 to $5 range. As a result, owners of disc players have a far greater tendency to build libraries of prerecorded programming than do VCR owners. Table 7.1—which shows unit sales of discs at nearly as high a level as prerecorded cassettes, despite the much smaller number of disc players in use—underscores this trend.

How do the home video software industries create such great diversity at these radically different prices?

B. Market Structure of Software Distribution

Even though the industry's structure remains unsettled, outlines are emerging. As illustrated in figure 7.1, five stages to the videocassette production-distribution process can be identified. Program producers for videocassettes are mostly the same as for the movie industry because the main product is movies. In addition, hundreds of other entities produce music videos, instructional and other programming. Distributors (often referred to as "distributors/manufacturers") are mainly the theatrical movie distributors because they own the rights to the best-selling movies. Table 7.3 shows their identities and 1983 market shares. Most of the movie studios have simply formed a home video division.

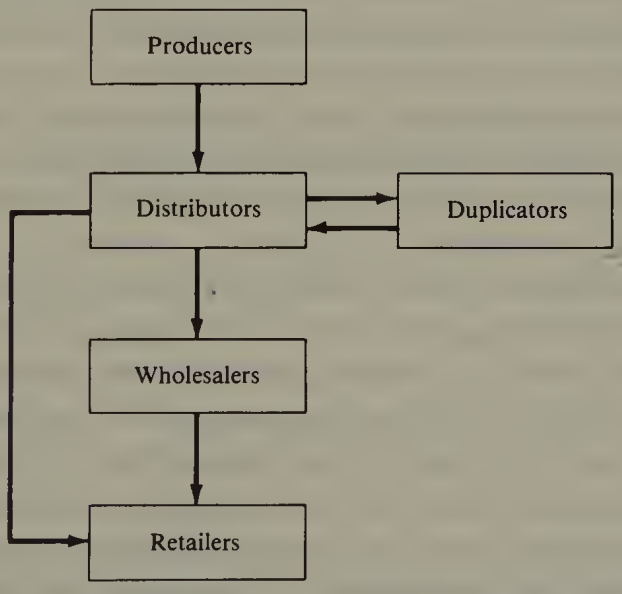

Figure 7.1. The Prerecorded Videocassette Distribution Process

Table 7.3. Distributor Market Shares of Prerecorded Videocassette Shipments, 1983

Distributor	*% Share, Prerecorded Units*[a]
CBS/Fox	18%
Paramount	18
RCA/Columbia	12
Warner	10
MGM/UA	10
MCA	8
Vestron	6
Disney	6
Thorn EMI	5
Embassy	3
Others	4
TOTAL	100%

SOURCE: *Videoweek*, January 2, 1984.
[a]Not including adult titles.

Two of the major firms, CBS/Fox and RCA/Columbia, are joint ventures managed separately from the film studios involved. All these distributors actively compete to buy the home video rights to independently produced and distributed theatrical features and to nontheatrical programming. As a result, the larger distributors offer several hundred titles, including many the movie studios have retrieved from their film libraries. Virtually all revenues, however, are derived from recent major theatrical features during the period immediately following their release on cassettes. Consumer acceptance of them varies as drastically as their popularity with theatergoers. In the duplication stage hundreds of videocassette recorders simultaneously copy the original tape. The duplicator then ships the tapes in bulk under instruction from the distributor to wholesaler warehouses.

The wholesalers negotiate advance orders with retailers and deliver the tapes by reshipping them in smaller quantities. Although wholesalers usually concentrate their activities within geographic regions, they do not retain exclusive geographic rights or dominate local areas. Most important, distributors do not grant exclusive selling rights to a wholesaler for major films. The result is that wholesaling is a free-for-all; firms compete intensely for orders from widely dispersed retailers. Various reports put the number of wholesalers now operating on a national basis at 20 to 30 and steadily declining.

Some of the major distributors avoid the wholesale stage altogether by direct sale and shipment to retail outlets, but to date, such distribution has accounted for a small share of volume. Independent wholesalers have been at an advantage because of the large number of different titles they have to offer. Direct distribution has therefore been primarily to large chain stores and department stores for which transactional economies of scale for individual titles are sufficiently high to compensate for the low number of titles available. Most of the thousands of retailers across the country are specialty stores, some of which also sell audio records and tapes. Growth of nonspecialty outlets has been occurring very rapidly, notably among supermarket chains, department stores and movie theaters.

Videodisc distribution mostly piggybacks on cassette distribution. The main difference is that RCA, the primary manufacturer of CED discs, and Pioneer, the primary manufacturer of laser discs, also distribute discs through their own hardware outlets as well as through other retailers. Usually, however, the disc manufacturers do "custom pressings" for the cassette distributors, which relegates them to a role like that of videotape duplicators.

C. Pricing and Product Diversity

The diversity in the home video industries is based on the fact that economies of scale in manufacturing and physical distribution are reached at very low output levels. The most popular movie titles enjoy a distribution of 100,000 or more videotape units—*Flashdance* (225,000), *Star Trek II* (150,000), and *Raiders of the Lost Ark* (550,000) are examples (*Videoweek*, September 5, 1983, p. 2; *Videoweek*, November 22, 1983, p. 2). More typical movie titles are in the 10,000 to 25,000 unit range. But major distributors interviewed indicate that titles with expected wholesale shipments of as low as 3,000 units are economical to distribute. Many programs, especially those of the smaller distributors, sell fewer than 1,000 units, which is fewer than 1 per 10,000 videocassette machines in the market. High plant costs characterize tape duplication and particularly disc pressing, but most production economies are realized at these low levels, as they are in the distribution process. Each firm acts as a "common carrier" to all pro-

gram suppliers, which permits physical distribution economies to be quickly reached.

Prerecorded software prices are determined by both economic and legal factors. First, the cost of the physical process of distributing individual cassette and disc units is high. The prevailing allocations of revenues for typically priced units are shown in table 7.4. Manufacturing costs alone are in the $7.50 to $10 range for both cassettes and discs. The large shares to the distributor include inventory and operating expenses and apparently escalating budgets for advertising and promotion. The large variations of retail sales prices for cassettes of $24.95 to $79.95 and for discs $19.95 to $34.95 are partly the result of price experimentation by distributors and a generally downward current price movement[2]. Of greatest interest is the relationship between cassette retail sale prices and their dramatically lower rental prices. This relationship, and that of videocassette to videodisc sale prices, is partly determined by copyright law, a topic we return to below.

III. COMPETITION OF PRERECORDED HOME VIDEO WITH OTHER MEDIA

The competitive role of videocassettes and videodiscs as program delivery systems is best understood in the context of the time release sequence for their dominant programming of theatrical features; the age of the film product is the most important way prerecorded software is differentiated from other media.

Table 7.4. Distribution of Revenues by Industry Branch in Prerecorded Software Sales, 1984

	Videocassettes @ $50 Retail		Videodiscs @ $30 Retail	
	%	$	%	$
Producer/copyright holder	12	5.80	12	3.48
Distributor	28	14.20	21	6.42
Duplicator	18	9.00	25	7.50
Wholesaler	12	6.00	12	3.60
Retailer	30	15.00	30	9.00
	100%	$50.00	100%	$30.00

SOURCE: Waterman and Associates.

A. The Theatrical Film Release Sequence

1. The Film Distribution Process

The first step in the film distribution process is the acquisition of film rights by distributors, for there is little actual vertical integration of theatrical distribution into film production. In most cases, distributors finance films made by independent producers or purchase distribution rights to completed films. There are about twenty national distributors, but six of them, the "majors," consistently earn 80 to 90 percent of domestic theatrical rentals, as shown in table 7.5. The year to year fluctuation in their market shares reflects the notoriously high risk of film production, but the same six or seven firms have nevertheless dominated the industry for over forty years (Waterman 1979).

It is significant that for major films, the distributor usually obtains the rights not only to domestic theater distribution but also to foreign and all domestic video markets including pay TV, broadcast TV, and home video. By purchasing the rights to all theatrical and ancillary markets, distributors gain the opportunity to choose the "windows," the number of exhibitions within each window, the timing and amount of advertising, and, to the extent allowed by technology and the law, retail prices.

The prevailing sequence of theatrical movie distribution is shown in figure 7.2. There are many variations, but this is a representative pattern. After a movie is released to theaters, it is distributed shortly

Table 7.5. Distributor Market Shares of Domestic Theatrical Rentals, United States and Canada, 1977–1983

	1977	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*Averages 1977–83*
Columbia	12%	11%	11%	14%	13%	10%	14%	12%
MGM/UA	18	11	15	7	9	11	10	12
Paramount	10	24	15	16	15	14	14	15
Twentieth Century Fox	20	13	9	16	13	14	21	15
Universal	12	17	15	20	14	30	13	17
Warner Brothers	14	13	20	14	18	10	17	15
All Others	14	11	15	13	18	11	11	13

SOURCE: *Daily Variety,* January 12, 1984.

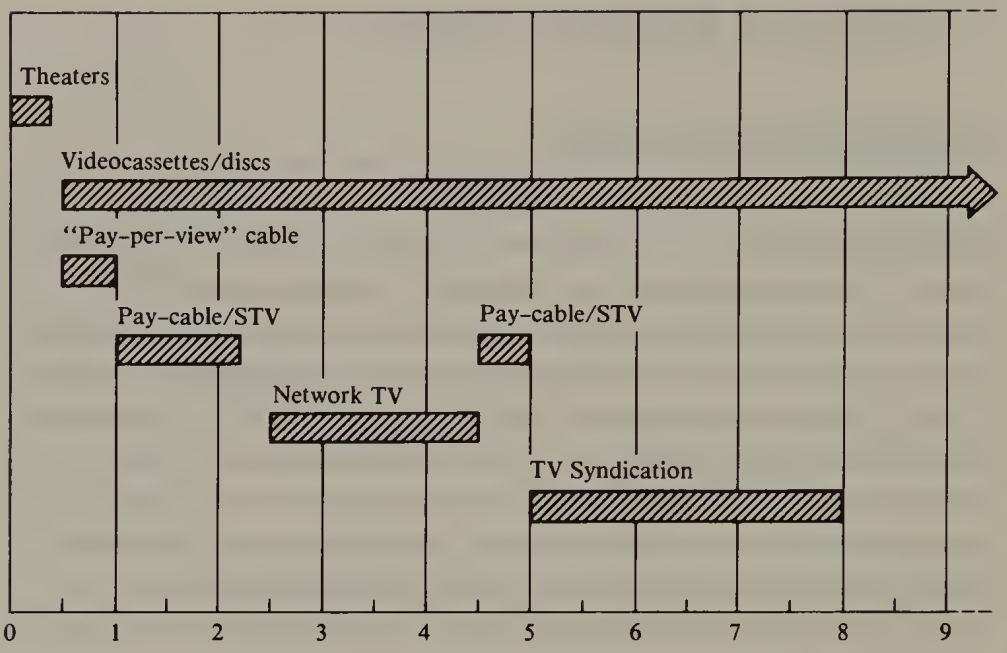

Figure 7.2. Representative Release Sequence for a Major Theatrical Feature, 1984. Source: Waterman and Associates (1984).

thereafter as home video. It then appears on pay-television systems, network television, and then on pay-television again and is finally syndicated to independent TV stations where contracts for films not reclaimed by cable may be renewed for decades. "Pay-per-view" exhibition roughly coincides with home video release but has been a negligible part of total revenues because few cable systems have the required technology.

Although theaters are still the dominant source of distributor income, the distribution process has become increasingly oriented toward this motley collection of downstream video markets; they now account for 40 to 50 percent of domestic net revenues from theatrical features, including about 5 percent from prerecorded home video (Waterman and Associates 1984; "Cablecasting" 1983). The process of exclusive first-run theater showings followed by progressively wider release to "subrun" theaters has declined. Simultaneous nationwide releases to 500 to 1,000 or even more theaters including as many as 40 to 60 within a single urban area, are increasingly common for major films. A very successful feature may stay in theaters for six months or more, but others are withdrawn much sooner to maximize their value in ancillary markets.

2. Price Tiering

The release sequence is essentially a method of price discrimination by theatrical distributors, or to use a less incriminating term, "price tiering." The value of a movie declines with its age. Movies are first released in theaters at highest prices to "high value" consumers who are most eager to see them. Others who are less eager, but will pay something, may wait to see them a year or more later on pay-TV. Those unwilling to pay anything, "low value" consumers, wait three years or more until the movies are released to the free television market. These "high value" and "low value" consumer markets are segmented by means of the time lags between release to each successive medium.

The pre-television theater distribution system represented the classic example of price tiering. As illustrated by the system used in Chicago in the 1930s (table 7.6), "Class A" films were successively priced in major cities at 75¢, 50¢, 40¢, etc., to as low as 10¢ in a series of twelve or more separate theater runs over a period of several months (Conant 1960). Common knowledge of the elapsed time before the movie would appear at later run theaters separated the "high value" from the "low value" patrons because the former were less willing to wait for lower prices.

Broadcast television and the new video delivery systems have taken the place of subrun theaters in the price tiering sequence. Price tiering at the retail level is harder to identify in the differentiated collection of new technologies, but the outlines are evident. Single pay-per-view exhibitions of movies on the QUBE cable system, for example, are usually priced at $3 to $4 per household, compared to only $10 for a monthly menu of sixteen to twenty new features appearing several weeks later on pay cable.

Achieving the optimal release strategy for an individual theatrical feature is as much an art as a science;[3] underlying the art, however, the role of each delivery system in the modern release sequence is determined by its usefulness to the distributor as a price tiering tool. The distributor's ultimate interest is not retail price, of course, but the net revenue per viewer which the delivery system can earn. This will depend on the delivery system's costs, on its attractiveness to consumers, and, in particular, on the technology's pricing mechanism. In trading subrun theaters for electronic media, the distributor achieved lower delivery costs but sacrificed the pricing efficiency of the theater turnstile.

Table 7.6. The Chicago System of Release for "Class A" Feature Films, 1939

(1) *Run Stage*	*(2)* *Number of Theaters Classified as Eligible*	*(3)* *Admission Price*	*(4)* *Run Length*	*(5)* *Temporal Clearance*[a]
Loop First Run	7	75¢	1 week or longer	3 weeks
A Pre-Release	9	50¢	1 week	1 week
B Pre-Release	20	40¢	½ week	0–1½ weeks
C Pre-Release	49	30¢	2–4 days	0–5 days
1st week, general release	81	25¢	2–3 days	0–5 days
2d week, general release	115	20¢	2–3 days	0–5 days
3d week, general release	40	N/A	2–3 days	0–5 days
4th week, general release		N/A	2–3 days	0–5 days
5th week, general release	23	N/A	2–3 days	0–5 days
6th week, general release	in	N/A	2–3 days	0–5 days
7th week, general release	total	N/A	2–3 days	0–5 days
TOTALS	310			approx. 17 weeks

SOURCE: Conant (1960). Compiled by the author from text discussion.

[a]A temporal clearance is a guarantee to a prior run theater that a certain film will not be released to any subrun theater within a certain time interval following the end of the film's run at the prior run theater. For a third through eleventh run, the theater had a choice for the clearance time within the indicated range. In First Week General Release, for example, the theater could exhibit the film for any 2 or 3 day period within an assigned one week interval. Any remainder of the week at the end of the run was clearance time.

Distributors can be expected to place delivery systems with direct unbundled pricing toward the front of the release sequence because those media can more effectively skim the surplus from high value consumers and therefore return higher net revenues per viewer to them. Contrast, for example, broadcast television, pay cable, and pay-per-view cable. The hapless pricing mechanism of advertiser-supported broadcasting offers no possibility of segmenting high value from low value consumers, banishing them to the end of the sequence. Monthly pay cable is more efficient, but the bundling of sixteen to twenty movies together for a single monthly subscription price—of about $10—cannot take advantage of high intensities of demand for individual movies within the group. Pay-per-view cable is direct, unbundled pricing; it permits the same kind of self-selection of high value consumers for individual movies as the theater turnstile does.

The available data is illustrative. Distributors have typically received about 50 percent of gross revenues from pay-per-view cable exhibitions, or about $1.50 to $2.00 per household when applied to the QUBE system's price levels. This compares to net revenues of approximately 20¢ per subscribing household which distributors are reported to collect from the pay television services. Assuming typical ratings, prevailing license terms for theatrical features on network television yield only about 8¢ per household to the distributor, or about 4¢ per viewer .[4]

It is hard to imagine an invention which could bring more havoc to this economic system than the videocassette recorder. Commercial piracy and home taping have been the subjects of highly publicized legal battles and apparently continue to drain distributors' income.[5] Prerecorded programming is also constrained by technology and the law of copyright, but is an evident net addition to the distributor's earning capacity.

B. Prerecorded Home Video in the Price Tiering Sequence

Both rental and sales of prerecorded software offer new opportunities for the distributor to tier prices and earn higher revenues from each movie. In this respect, retail sales are a bonanza to the distributor. Surplus revenue can be skimmed from consumers with such high value demand that they want to own the whole movie. Distributors heavily promote tape sales and have long expressed an interest in advancing the

release of movies on cassette into an overlapping or perhaps even coincident position with theatrical release. One indication of these interests is that the royalty fee which accrues to the copyright holder (usually the distributor, for major films) for a typically priced $49.95 cassette is about $5.80 (table 7.4 above). Movie theaters are otherwise the most lucrative component of the price tiering sequence; net revenue per patron is about 10 to 15 percent of box office gross, which based on the MPAA 1983 average admission price of $3.14, is approximately 30¢ to 50¢ per individual.[6]

Comparison with the high royalty for tape sales can be misleading, however, without taking into account the distributor's peculiar problem that once sold by the retailer, all control of the tape's use is lost; other individuals besides the purchaser may see it or copies made from it. Data about the extent of this grapevine of viewers is elusive, but distributors apparently believe that its undercutting effect on theater attendance is slight. At least one company, Paramount, has encouraged theater owners to set up videocassette stores in theater lobbies by publicizing survey data that theater attendance and cassette sales are actually complementary; that is, Paramount reported, large percentages of cassette buyers prefer to see the movie in a theater before purchasing a tape of it (Sutherland 1984).

Distributor enthusiasm for cassette rentals has been markedly less because of restraints of copyright law discussed below. But like cassette sales, rentals offer an unbundled method of pricing which is better able to skim revenues from higher-value consumers than the unbundled pricing of pay-TV services downstream in the release sequence. Technology constrains cassette release of movies to be in advance of their pay-TV release; otherwise, the VCR's ability to record programs off the air would undermine the market for prerecorded programming. The unbundled pricing of both cassette sales and rentals, however, is an economic rationale for why they would precede pay-TV regardless of this problem.

1. Effects of the First Sale Doctrine

The distributor's flexibility in the pricing and timing of home video software release has been restrained by the First Sale Doctrine of the Copyright Act, which prevents the distributor of a copyrighted product

from controlling its disposition by a retailer. Under the doctrine, retailers have been able to either rent or sell prerecorded videocassettes or discs obtained from distributors at their own discretion. As physical objects, cassettes are very durable and can be rented out almost indefinitely. The distributor has still been able to at least crudely control rental prices that competing retailers set, and thus the number of times each tape is rented, by controlling the wholesale price of the tape. The First Sale Doctrine has simply forced the distributor to use the same wholesale price to control both the retail sale and rental prices of the cassette.

It would be a complete accident if the relevant elasticities of demand were such that the distributor's optimal wholesale price for rentals and for sales were identical. The available evidence is that the price elasticity of demand for tape sales at prevailing retail prices has been very high, above the distributor's profit-maximizing level, and that conversely, the price elasticity of demand for tape rentals has been very low, below the distributor's profit-maximizing level. An executive of one distribution company presented consumer survey data to this effect in 1983 congressional hearings and testified that if the First Sale Doctrine were repealed, his company's strategy would be to raise wholesale prices of videocassettes earmarked to retailers for rental and lower wholesale prices of tapes earmarked for sale. The pricing experiments of some distributors seem to have confirmed the high price elasticity of sales demand. The discounted $39.95 prices for *Flashdance* and *Raiders of the Lost Ark* in 1983 produced much greater sales than higher-priced but similarly successful theatrical films, such as *Tootsie* ($79.95) (*Home Video and Cable TV Report,* February 13, 1984, p. 1).

A main reason that videodisc sale prices have been lower than cassette sale prices also follows from this agreement; videodiscs are subject to physical damage, and player penetration has been too low for a rental market to be successful. Distributors have therefore set wholesale disc prices at optimal levels for retail sale.

The First Sale Doctrine has also necessarily constrained the timing of sale and rental release to be the same as well. It is likely that the doctrine has inhibited the distributor from moving software release of feature films, at least for retail sales, forward to an earlier date.[7] Release for sale prior to rental release is consistent with the price tiering model since sales appeal to high-value consumers more than do rentals.

From the distributor's point of view, it is evident that software sales and software rentals are essentially two different media which require different decisions as to timing and pricing in order for total revenues from the full release sequence to be maximized. From a public policy point of view, the need to modify the First Sale Doctrine is clear. Because it inhibits efficient pricing by distributors, the doctrine lowers the supply of programming that can profitably be produced. In this respect, it is little more than a quirk in the Copyright Act, another example of the inability of legislation to anticipate technological and marketing developments in communications.

2. Summary

The fact that distributors have chosen to release movies on prerecorded software in spite of the doctrine is evidence that they increase their net revenues by doing so. Because of the doctrine distributors lose control of relative sales and rental prices, but not absolute price levels. By setting wholesale prices high enough, the distributor can ensure that prerecorded software release contributes more revenues than it subtracts from other media in the release sequence. The First Sale Doctrine constrains the distributor, but the end result is a more efficient price tiering system.

IV. PROSPECTS FOR PRERECORDED HOME VIDEO

Eventually, pay-per-view or some other electronic system will no doubt take its turn in the progress of technology toward more efficient video pricing and delivery systems. Until then, there is at least more than just extrapolation from last year's trend behind the high expectations for prerecorded software distribution. We can expect to see these developments:

1. Lower hardware and software prices

   Higher volume and improved technology should continue the trend in the last few years of dropping VCR prices. Reports of VCRs to come in the $200 to $300 suggested retail price range have appeared in the trade press (e.g., *Videoweek,* September 12, 1983, p. 3).

Several factors should contribute to lower costs for prerecorded cassette manufacturing and distribution. Tape manufacturing costs are widely predicted to fall as the technology becomes more efficient, including the prospect for "compressed time" rather than "real time" methods of duplication. VHS seems likely to win the videocassette compatibility war, which will put downward pressure on retailer margins by decreasing their inventory costs.[8] The major impetus toward lower software prices will probably be increased hardware penetration. As software volume rises with it, the distribution system will become cheaper because of greater economies in physical handling and transactions. Direct distribution, rather than the shipping and reshipping process now in practice at the wholesale level, will benefit from a proliferation of nonspecialty outlets.

The relationship of lower software costs to lower software prices must be qualified. Repeal of the First Sale Doctrine may still result in a net increase in rental prices. The overall price trend for software sales and rentals, however, will be downward.

2. Greater program diversity

As hardware penetration rises, it will become increasingly profitable to manufacture and distribute obscure program materials. The film studios, for example, will be able to reach into more and more remote corners of their libraries.

Higher penetration will widen the economic base to support original programming for home video. While the audience base needed to support fictional drama for cassette release alone is very large, there is no reason that original programming for cassettes cannot be price tiered just as made-for-pay TV movies are now sold downstream to independent broadcast stations. Sale and rental of music videos along with their cable TV exhibition on MTV also shows the possibility of price tiering outside the theatrical film category.

Lower prices and greater diversity will increase the competitive edge of home video as a delivery system. What can compete against it? Other unbundled pricing media like pay-per-view cable are the best prospects. The greatest handicap of prerecorded cassette distribution is the inconvenience of traveling to and from rental locations for tapes, a problem solved by pay-per-view systems.

The survival of the laser disc as a significant entertainment medium, faced as it is with the prospect of still lower VCR prices, appears to rest on its use as a read-only-memory (ROM) device for personal computers, a function which some believe will be important. In the meantime, the laser disc will make only very minor contributions to the prerecorded software industry.

V. THE EFFECTS OF PRERECORDED HOME VIDEO

Some fragmentation of theater audiences is inevitable if higher VCR penetration occurs or if software release moves closer to theatrical release. The main impact on video media is likely to be on its downstream neighbor in the release sequence, pay-TV; because of its unbundled pricing, home video rentals and sales can undermine pay-TV's revenue base by skimming off its higher-value subscribers. Still, because cassette rentals and sales offer products differentiated from both theaters and pay-TV, their role as a complementary source of distributor income is ensured.

Of particular interest is the impact of prerecorded home video on the still dominant competitor in the video marketplace, broadcast television. The degree to which prerecorded programming actually diverts viewers' time from broadcasting appears minor. The 1982 Nielsen diary study showed that during the four-week survey period, VCR owners watched an average of only 1.8 prerecorded tapes, a very small proportion of total household viewing. The 1983–84 Nielsen Update reportedly shows little change.[9] However, there is likely to be a greater indirect impact via the program supply market. Along with pay-TV, home video is part of a process by which more efficient program pricing is shifting a vast pool of consumer surplus away from viewers of advertiser-supported broadcast television to the producers and distributors of that programming (see Noll, Peck, and McGowan 1973 for a general discussion). The higher revenues that suppliers can earn from a given supply of programming encourages entry into the market and bids up production factor costs.

Consider the effects to date of all the pay media on the demand for theatrical features. In sharp contrast to broadcast television's decimation of theater attendance in the 1950s, table 7.7 shows that the wear and tear of the new video revolution on domestic theater demand has been slight. Both real box office revenues and theater admissions have remained roughly constant since 1977, in spite of the rapid growth through 1983 of VCRs (1 to 10 percent penetration) and pay-TV services (2 to 22 percent penetration) ("Cable Stats" 1984, p. 5). Theatrical film revenues from the broadcast networks have apparently declined during this period, but not nearly as much as pay-TV and home video income has increased; since 1977, the contribution of all domestic ancillary

Table 7.7. Motion Picture Theater Admissions and Box Office Revenues, 1977–1983 (Millions)

	1977	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*
Number of admissions	1063	1128	1120	1021	1067	1175	1197
Box office revenues							
current $	$2372	$2643	$2821	$2749	$2960	$3452	$3766
1977 $, CPI-deflated	$2372	$2454	$2353	$2020	$1971	$2162	$2250

SOURCE: Motion Picture Association of America.

markets to theatrical film revenues has risen from about 20 percent to its present 40 or 50 percent level (Waterman and Associates 1984; *Cablecasting,* 1983), mostly because of growth in pay cable television.[10]

A similar expansion has occurred in foreign markets for theatrical features, where the respective position of pay-cable and home video in the domestic market are reversed; while pay-TV is almost nonexistent in most countries outside North America, home video has boomed even faster overseas than in the United States. In spite of heavy losses from piracy, foreign sales of home video software were reported to account for about $2 billion in gross revenues for 1983 (Terry, 1984). This has been at significant expense to foreign theatrical rentals, but the result has evidently been positive for U.S. distributors.

The result of this market expansion has been as expected—increased theatrical production. The number of theatrical features released since 1977 has steadily risen, as shown in Table 7.8. Meanwhile, inflation in production factor costs is suggested by a reported rise in the average feature budget of MPAA member companies from $5.6 million in 1977 to $11.9 million in 1983, a 29 percent increase in 1977 constant dollar terms (*Millimeter,* 1984).

Theatrical production is accelerating. Based on 1983 production activity, another 12 to 20 percent increase in theatrical features by the major distributors should have occurred by the end of 1984. *Daily Variety* reports theatrical production investment planned by the nine major distributors to be $1.7 billion in 1984, an increase by 36 percent over 1983 expenditures (Cohn 1984). If history is a lesson, the 1983–84 frenzy of theatrical production may be part of the perennial boom and bust cycles the film industry is famous for. The general trend skyward, however, is clear.

Table 7.8. U.S. Theatrical Motion Picture Releases (not including reissues), 1977–1983

	1977	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*
Nine largest distributors[a]	112	121	133	136	145	149	165
All national distributors[b]	167	171	188	193	208	222	265
All distributors[c]	N/A	N/A	N/A	N/A	N/A	379	429

SOURCE: Motion Picture Association of America.

[a]MPAA Member Companies: Columbia, MGM/UA, Paramount, Twentieth Century Fox, Universal, Warner, Embassy, Orion, Buena Vista (Walt Disney). These data do not include releases by the "classics" divisions which five of these companies formed in 1981 and later; these accounted for 8 new releases in 1981, 14 in 1982, 33 in 1983.

[b]Eighteen to twenty companies; also includes releases by the "classics" divisions of the major distributors.

[c]Includes approximately ninety distributors for which data has been tracked by the MPAA since 1982; includes releases by the "classics" divisions of the major distributors.

The role which home video alone has played in building these high expectations for theatrical features cannot be isolated, but it certainly has been important. Foreign home video markets are widely expected to continue growing (Terry 1984). If expectations for VCR penetration in the United States materialize, net domestic revenues to distributors from prerecorded home video could approach the income from subscription-supported pay-cable by the end of the decade.[11]

Theatrical films are themselves a relatively minor ingredient on broadcast television, but the higher costs of making them inevitably spill over and raise television production costs since both media draw on essentially the same factor markets. Substantial investment in original programming by the pay-TV networks contributes to this. The 21 to 35 percent constant dollar increases reported for various network TV program types since 1976–77 (table 7.9) suggest the extent of these inflationary pressures to date.

A key question for the future is the elasticity that the film and program supply markets will show in the face of this increased demand. Will there be more and better programming, or just higher costs for the same programming? To the extent that inflation is the determining factor, how will the broadcast networks be affected? To the degree that network advertising demand is inelastic, higher prices can presumably be passed along to advertisers without damage to programming appeal and audience sizes. To the degree advertising demand is absorbed by substitute media, however, the direct diversion of network audiences by

Table 7.9. TV Program Production Cost Trends, 1976/7–1983/4 Seasons

	1976/7 (current $)	*1983/4 (current $)*	*% Increase (current $)*	*% Increase 1977 (constant $)*
60-minute action/ adventure	$330,000	$672,000	103%	24%
30-minute situation comedy	$168,000	$336,000	100%	21%
Made-for-TV movies	$850,000	$2,000,000	122%	35%

SOURCE: *Millimeter,* Anniversary Issue, 1984; *Daily Variety* data.

home video and other pay media will be exacerbated by lower program values. In spite of current efforts by the networks to differentiate their programming from pay-TV and home video with more of their own "made-for" material, broadcast television may eventually be forced to increasingly rely on leftover programming, originating, if not in theaters, then on pay-TV, pay-per-view, or, perhaps, prerecorded home video.

Notes

1. Like videodisc players, VCRs are manufactured using two incompatible technologies. The advantages of one VCR format over the other (called Beta and VHS) are fairly minor, but VHS is becoming more dominant; the percentage of VHS hardware sales has risen from 55% in 1979 to 70% in 1983 (*Home Video and Cable TV Report,* January 21, 1983:3; *Home Video Yearbook,* 1982:146). The dual format problem has some effects on distribution costs and software availability, but we will generally not distinguish between them.

2. Judgments are difficult to make in this rapidly changing industry, but it appears that a dual pricing structure may be developing in which the lower grossing theatrical features are priced relatively high—$79.95 is a predominant benchmark—and the higher grossing films such as *Flashdance* and *Raiders of the Lost Ark* are priced low—$24.95 or $39.95 are the current standards. An economic explanation is that the low grossing films tend to be minority taste

films with relatively inelastic sales demands and the high grossing films popular taste programming with elastic price demand. See Spence and Owen 1977.

3. Word-of-mouth from the theatrical release, potential appeal of the film on alternative media, and the prospects for repeat viewing are among the numerous factors which enter in. The advertising campaign is also a key component of all release strategies. In general, time periods before the "windows" of each medium must be long enough to encourage early patronage but not so long that the impact of the advertising and publicity from the theatrical release is lost.

4. Theatrical feature prime time ratings are usually in the 14 to 18 range. Reports of transactions compiled from the trade press indicate prices for major features (typically allowing two to three exhibitions), have generally been in the $2 to $4 million range since 1979. (See, for example, *Weekly Variety,* March 21, 1979; December 19, 1979; March 12, 1980; March 21, 1980.) Transactions in the past two years have apparently been very few. A 16 rating and a $1 million per exhibition license fee yields approximately 8¢ per viewing household.

5. Commercial piracy, at least in the United States, has been greatly contained through tighter security and stiffer penalties (Tusher 1984). Surveys show that there is a significant amount of home taping from pay-TV and trading of these tapes among friends (U.S. Congress, 1983d; A. C. Nielsen Co., 1982b). In early 1984 the U.S. Supreme Court (*Sony v. Universal Studios* 1984) held that the sale of VCRs did not violate the copyright law.

6. About 55 percent of box office revenues remains with the theaters to cover their utilities, labor, capital depreciation, and a share of local advertising expenditures. Another 10 percent is accounted for by the distributor's overhead and operating expenses for an elaborate process of negotiating license terms with theaters and making and shipping film prints to them (Waterman 1979, Londoner 1980). The major expense of theatrical distribution is advertising, which accounted for an average of 24 percent of all box office revenues from 1980 to 1982 (Motion Picture Association of America 1984b).

7. A major obstacle to any home video release during a movie's theatrical run or to sales of any cassettes at movie theaters has been the opposition of theater owners. This seems to be crumbling rapidly and one distributor, at least, recently released a major feature on home video software before the end of the film's theatrical release (Sutherland 1984).

8. Retail stores compete on the basis of title availability, and a major expense is inventory. Larger retailers often stock 3,000 to 4,000 titles. Although some stores have now dropped Beta tapes and others carry them in more limited quantities, most retailers carry the majority of titles in both VHS and Beta formats.

9. The 1982 calculation uses all owners of VCRs, renters, and nonrenters as a base. *Cablevision* reports that the November 1983 to January 1984 update of the Nielsen diary study shows an average of 5 prerecorded tapes rented by the 38 percent of respondents who rented any tapes (Capuzzi 1984). Again taking all VCR owners as a base, this translates into an average number of rental tapes viewed by VCR owners as approximately two per month.

10. Assuming that the producer-distributors earned, net of all expenses, 25 percent of the approximately $368 million in 1983 domestic wholesale volume for theatrical feature cassettes and discs (67 percent of $550 million, the wholesale volume for all program categories), net theatrical distributor revenues from domestic cassette and disc release were in the $100 million range. Distributor revenues from pay cable license fees were reported to be about $425 million in 1983.

11. If pay cable revenues double by 1990, as is generally expected, and domestic home video revenues quadruple, domestic home video's contribution will be about 40 percent of pay cable's (see note 10 above). Scenarios assuming substantial substitution effects or faster home video revenue growth predict that home video will contribute a significantly higher percentage of total revenues to distributors.