DIVERSIFICATION AND MARKET POWER IN THE US CABLE TV INDUSTRY

by

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The central theme of this dissertation is whether geographic market diversification of the US largest cable TV operators leads to the realization of interdependence and forbearance that affect pricing behavior. A model of price and quantity is estimated for a sample of 27 currently large operating systems in 40 regional markets. Annually data in two time periods; 1987 and 1992 are used for these cable operators.

The empirical results found no support for the view forwarded by Edwards (1955) that diversification may enhance monopoly power and reduce the degree of competition. The collusive behavior is strongly rejected. In the contrary, the study suggests that in a concentrated industry such as cable TV, diversification of dominant firms of the market can lead to competitive pricing behavior.

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CHAPTER 1: INTRODUCTION

There is rising evidence, especially in the business press and in the Industrial Organization literature, that over the past decade many US corporations have "restructured". In this study I will focus on a type of restructuring known as diversification. By this I mean that, "instead of concentration of output or service in one market the firm operates in a number, and each separate market is different in important ways"; J.D.Gribbin (1976).

Specifically, in this study I use the term diversification to mean corporate decision to extend their operations into several geographic markets. I have chosen to discuss this type of restructuring because it is the most recent development affecting the Cable TV industry.

Traditional or standard definitions of market power have been developed in the industrial organization literature and analyses by the FCC, DOJ and the Supreme Court. The term "market power" "refers to the ability of a firm (or group of firms, acting jointly) to raise price above the competitive level without losing so many sales so rapidly that the price increase is unprofitable and must be rescinded"; Albert L.

Danielsen and David R. Kamerschen (1986 pp. 143). Measuring market power is important because antitrust law protects competition in order to deter or correct the exercise of such power. A firm or group of firms acting collectively, possesses market power if the entity is able to profitably raise price above marginal cost.

Cable TV setting is interesting in this context, because of the deregulation which has taken place since the 1984 Cable Act. The major reforms to impact directly the industry were the removal of all federal state or local regulation of prices and programs. The impact of these reforms on consumers remains unclear.

Because there is so much speculation among economists and policy makers concerning the long-run implications of the diversification taking place in Cable TV, it was thought that this might be an appropriate topic for my dissertation.

Diversification represents a dramatic change in the evolution of the US cable TV industry, and subsequently raises questions about its competitive effect. Despite the recent research activity on the topic, there are still many questions about the specific impact of diversification that remain unanswered.

At the very basic level, we still have no definite evidence on the relation between diversification, concentration and firm profitability. The effect of diversification on pricing is another area that needs exploration: that is my concern.

In assessing the likely impact of diversification on industry conduct, researchers have used the mutual forbearance hypothesis first postulated by Corwin Edwards (1955). This hypothesis states that "conglomerate firms, competing in multiple number of markets with their rivals, may avoid competitive behavior because of the potential retaliation actions by rivals in other markets"; Donald L. Alexander (1985).

This hypothesis suggests that diversification can harm consumers if it is a means to achieve market power. This study intend to explore this possibility in the US cable TV industry.

The relationship between diversification and pricing in the cable TV industry is associated with the problem of industry boundaries; boundaries between products and boundaries between regions or States. As pointed out by Walter I. Richard (MSU Public Utilities Papers, 1983, pp. 144) " the future market will define a service network, which

is simply the mapping of various sets of customers' needs into an overall integrated set of customer requirements for services". This future market is already a reality in the Cable-TV industry.

For example, telephone carriers, microcomputer systems, newspapers, television sets, even printers are finding themselves competing for the same markets and the same consumers. That is, nowadays, product functions previously provided by a number of separate products are being provided by a single device; "a copier today is a computer and communication device: a telephone PBS is a memory, logic and data processing device, a television set is a file , a terminal and a two-way communication device " (John D. Ela and Manley R. Irwin; Industrial marketing Management; 12, 153-56; 1983).

The "switched video" capability permits a subscriber to select entertainment, educational, and other programs from a large number of channels as well as from a video library; Gurcharan S. Bhusri; (1983 pp. 115).

Finally, the home computer is capable of receiving electronic mail, the television set is capable of delivering a newspaper or acting as a telephone...The variety of options now available to cable subscriber range from News and sport

to religion and programs designed for special group (foreign language, children..).

Diversification in the cable TV industry provides a new way of thinking about Industrial organization issues, because new technology has made competition possible to a degree that was previously assumed to be economically impracticable.

One approach to the problem of diversification is based upon the concept of network power: Interlocking. According to this approach, conglomerate interdependence and forbearance can arise because the same or related decision makers have simultaneous access to both firms. Interlocking directorates, intercorporate stockholdings represent the first set of factors facilitating coordination relationships among firms. Interlocking is the device that acts as a coordinating agent, and refers to the overlap or relationships among organizations. Firms in this setting are not really separate, they are provided with decision-makers that integrate the overlapping organizations. This suggests that the structure of the Cable TV industry may be markedly different from what is commonly supposed. To the extent that a diversification produces an industry structure that facilitates and furthers reciprocal arrangements, it is

likely to lead to the most serious of anti competitive consequences.

The basic characteristic underlying the overlapping relationship is the "oligopolistic cooperation", based upon structural interdependence, as opposed to independence. This theory of cooperation refers to various types of organizational ties such as, multimarket contact, administrative and stock control interdependencies. These network effects help to explain the economies of scope that one may observe in the cable TV industry.

The multiple contacts within the various markets constitute a source of market power for diversified firms. The debate surrounding this issue has been centered on at least two questions:

- should one expect or not expect competitors to react across-markets (Cournot hypothesis or not), and

- what is the magnitude of the "own" market reaction as opposed to the cross-market reaction (Roades; S. A and A. A. Heggestad, 1985).

For the cable industry, there is a different "mix" of competitors in each market. For example, in one area, telephone company may be the prime competitor. In another market, direct broadcast satellite or television broadcast

stations may be Cable's competitors. Thus, services which are viable in one market may not be viable in another.

A general consideration influencing the choice in favor of diversification is the presence of "imperfections" in the market for specific services or assets. Hence, diversification across markets may be considered as a common form of growth in the cable TV industry. But, this strategic behavior also raises questions about market power.
For example, it can be argued that diversified firms are likely to earn high profits in some market, and use these profits to subsidize predatory behavior in another market (James M. MacDonald, vol. 50, 1983-84).

Kreps and Wilson (1982) have shown that in a very simple environment rational strategies in one market can not be influenced by behavior in a second independent market. However, as it will be shown, the cable TV industry is a more complex environment, as such, "game theory models indicate that firm contact in several outside markets can affect behavior in a particular market"; Loretta J. Mester (1987).

Diversification is one of the most efficient ways for cable operators to own resources they don't operationally control, and that affects the market outcome. According to Alexis Jacquemin (Sept. 1989), "this process promotes

synergy, avoids costly duplication, makes it possible to disseminate technological information more widely". In this setting, diversification in Cable TV systems is based on the anticipated or perceived synergy which can be interpreted as the present value of the cost savings expected to be generated from economies of scope.

For my dissertation, an important question is whether diversification affected pricing in the Cable TV industry after the cable Act of 1984. I first propose a general framework of analysis (Interlocking) which is developed for examining the multimarket moves among diversified firms in the Cable TV industry. This part also explores the market boundaries and concentration issues.

Second, to assess the implications of the diversification waves, it will be useful to know whether this phenomenon (diversification) moves the market away from a competitive result and toward a monopoly status.

Roberts N. Rubinovitz (1993) has used the Baker model (1988) to examine whether the price increases in basic cable TV after the deregulation is due to increased exercise of market power (1993; vol. 24; # 1).

However, Rubinovitz's model did not include explicitly diversification. I believe that including a variable

reflecting diversification could be an important improvement to that model, since the modification in market rules may induce changes in behavior.

STATEMENT OF THE PROBLEM.

Cable TV companies typically do not operate in perfectly competitive environments but rather in oligopolistic markets. Realizing the imperfectly competitive nature of the market, structure-performance studies indicate that market structure influences pricing.

The dissertation seeks to determine the validity of the claim that in a concentrated industry such as Cable TV, diversification leading to multi-market contacts among the largest firms in the market will enhance market power. The issue is, if diversification conveys market power it should increase market price. The idea of this line of work is to see whether Cable operators exercise market power in ways that are detrimental to their consumers.

Corwin D. Edwards (1955) argued that the major consequence of this type of business structure is "the encouragement of mutual forbearance", which is the " spheres of influence theory." By mutual forbearance it is referred

to the possible tendency for firms meeting in various markets to account for competitors' reactions across markets. As stated by Edwards (1955) "when one large conglomerate enterprise competes with another, the two are likely to encounter each other in a considerable number of markets. The multiplicity of their contacts may blunt the edge of their competition..., and each conglomerate may develop a live- and let- live policy designed to stabilize the whole structure of the competitive relationship". As a consequence, "the prevalence of conglomerate firms will mean a reduction in rivalry even in markets with a traditional measures of market structure"(Heggestad and Stephen A. Rhoades; (1978; vol. 60).

In a recent article, B. Douglas Bernheim and Michael D. Whinston (1990) have suggested that multimarket contacts may lead to collusive behavior in repeated interactions market settings. Their paper shows that collusion occurs in a multimarket contact when there exists market power. Thus, it is the combination of both multimarket contact and market power that lead to the possibility of collusion in all markets.

David I. Rosenbaum and Ivette Jans (May 1995) applied the Bernheim and Whinston's model to the US cement industry

to examine the link between market performance and multimarket contacts. The study covers a period of sixteen years and twenty- five regional markets. They conclude that multimarket contact influence pricing in the cement industry. More specifically, the study suggests that high concentration in other markets where a particular firm operates, reduces the rivalry in the particular firm's market, and that leads to higher price. One implication of this analysis is that the impact of multimarket contacts on the price level of an industry depends upon the set of markets in which the firms contact one another: contact affects firm behavior, and relationship between contact and concentration is important.

Although Portland cement companies operate in a number of distinct geographic markets, the study examines price competition with homogeneous product in each market. My dissertation will adopt a multiproduct-mutimarket approach because I believe that the effect of multimarket contact on prices should involve an analysis which includes the multiproduct concept. I consider basic and premium Cable services as two different "goods" sold to different group of consumers. In fact, a supplier of Cable services faces two independent markets except that it can save on distribution costs for consumers who subscribe to both services. The

underlying argument here is that the degree of substitutability between the services affects the market outcome (demand function).

It is common knowledge from I.O theory that in a concentrated industry, it will be costly for any firm to try to increase its market share at the expense of others, except by merger. So, to face the threat of future competition, firms in cable TV systems developed "spheres of influence" through diversification.

This way of securing reasonable operating margins seems to be the cheapest and quickest response to the new technological and competitive environment. Thus, adjustments aiming to reduce costs and increase synergy at the production and distribution level would help to protect firms' operating margins by lowering the service prices: that is what one would expect.

However, Jaffe and Kanter (1990) found that sale prices of Cable services increased significantly after the cable Act of 1984. This has prompted concerns among economists over the potential for monopoly power in the industry.