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THE ECONOMICS OF BOXING REGULATION IN CALIFORNIA

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ABSTRACT

Boxing was legalized in California through a statewide referendum in 1924 that simultaneously set up a regulatory authority with broad powers to control the industry. This study examines the economic performance of the boxing industry, the case for regulatory intervention, and the effects of the specific kinds of regulatory rules that have been imposed. While regulation in California is widely believed to be an important factor explaining the unusually low rates of death and injury in boxing matches in the state, it is also shown to have anticompetitive effects. Several changes in regulatory procedures are proposed that would not reduce the extent to which regulation protects boxers, but would serve to enhance the competitive performance of the industry.

THE ECONOMICS OF BOXING REGULATION IN CALIFORNIA

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Professional boxing in the United States has always operated on the fringes of respectability. Early in this century boxing emerged from an activity that was illegal in most localities to one that was permitted, but only under conditions of extremely comprehensive regulation. The stated purpose of regulation was to protect against the evils that had led society to ban the sport: to keep criminals and irresponsible people out of the sport in order to protect boxers from serious injury, and fans from fixed fights and uninteresting or gory mismatches. Thus, regulators were normally given the power to regulate contract terms between boxers and managers and between boxers and promoters, to oversee matchmaking, and to control entry into the sport by licensing everyone associated with it, including ushers and ticket-takers.

Certainly the best known activities in the boxing industry are the matches involving champions and top contenders. These receive national media attention and produce huge receipts for everyone associated with them, including the boxers. But this is a fairly uninteresting aspect of the industry from an economic and regulatory point of view. These matches are arranged by the most sophisticated people in the industry, are subject to fairly close public scrutiny, involve fighters who are most able to protect their economic and physical well-being, and are subject to the forces of a competitive market of international scope. The circumstances surrounding the backbone of the industry--the local boxing clubs at which boxers learn their trade and where the promising talents are separated from the "bums"--are far more obscure and complicated. It is the latter part of the industry that is the subject of this paper.

The study focuses on the California boxing industry for a simple pragmatic reason. The California Athletic Commission (CAC), in the midst of an internal reform, allowed us to examine its records for the past twenty years. These records included all contracts between managers and boxers and between boxers and promoters, and all of the financial reports from professional matches that were licensed by the state during this period. In addition, the Commission encouraged its major promoters and managers to cooperate with our study, and as a result one of the nation's leading promoters (and the only promoter in the United States still running regular weekly boxing events), Aileen Eaton, generously provided us with much additional information.

Although the focus on California was not really a matter of choice, the state is nevertheless probably the most interesting one to study. First, it is the largest boxing market in the country, in part because of its size and in part because of its proximity to Mexico. In the lighter weight divisions of professional boxing, Mexican nationals and Americans of Mexican descent are especially prominent. The large Chicano population of Southern California helps make the state the best market for these fights in the United States, and, in

turn, the lighter weights account for most main event fights. Second, the California Athletic Commission is reputed to be the most effective, least corrupt regulatory authority in boxing. For example, the incidence of deaths and serious injuries in the ring is well below average. For these reasons, a study of California boxing is a study of the largest, best managed part of the industry.

HISTORY

Regulation of boxing in California is as old as the industry. Professional prize fighting became legal in California with the passage of a statewide referendum in 1924. The ballot measure authorized boxing and wrestling matches of up to twelve rounds for purses or where an admission fee was charged, and created a State Athletic Commission to license contests and participants.

Before discussing the effects of regulation on the economic performance of boxing, it is interesting to review the arguments that appeared in the voter's information pamphlet about the 1924 ballot measure. Harry F. Morrison, then Assemblyman of the 29th district, wrote the affirmative statement. He argued that boxing and wrestling were already legal and successfully operating in thirty of the forty-eight states. In addition, records and statistics showed boxing to be safer than other major sports such as baseball and polo. Morrison continued: "There is no athletic sport to which Americans contribute more enthusiastically than boxing contests. . . . The audience drawn by promoters in California have been composed of the highest class of patrons. Lawyers, doctors, merchants, bankers, ministers, public officials and ladies have been interested spectators." At another point, Morrison adds: "It will not cost the State of California nor the taxpayers a penny for out of the gross receipts of the boxing and wrestling shows the state will take an amount sufficient not alone to pay the clerical expenses of the commission (the commissioners receive no salary), but to provide for maintenance of a home for veterans of any wars of the U.S." He concludes with a patriotic appeal for a YES vote that will support U.S. veterans while enabling fans who enjoy boxing and wrestling to attend these sports.

Writing a rebuttal was Chester H. Rowell, who was unidentified by trade. He argued that a twelve-round contest was a prize fight, and forbidding prize fights had long been the official policy of the State of California. Mr. Rowell claimed that vigorous attempts were made in three consecutive legislatures to legalize prize fighting. He writes: "But in spite of an active (not to say shameless) lobby, all three legislatures rejected the proposal. . . . Now despairing of the people's representatives, appeal is made to the people themselves. Of course the result will be the same." Rowell questions the integrity of any future commission: "The powers of this irresponsible, irremovable commission are so exclusive that the fighters and their promoters will be effectively immune from interference by any other department of government. The governor has no means of disciplining the commission . . . the assessing of penalties is left so ingeniously to the commission alone that it would be difficult to get either fighters or promoters into courts for anything short of murder . . . and the commission automatically will be controlled by the fight promoters since the commissioners serve without pay (though with unlimited expense allowances) and no one will accept the job on these terms."

In the fifty years since the passage of Proposition 7, there have been three major state and one federal investigations of boxing.

In 1939, testimony by witnesses before the Special Assembly Committee on Athletic Affairs revealed monopolistic control of boxing and wrestling, as well as illegal and/or improper activities by industry participants. The transcripts of the hearings suggest ineffective regulation and improper conduct in concert with promoters by members of the State Athletic Commission.

The next major report was prepared by The Governor's Committee on the Study of Boxing and Wrestling, and presents the findings of a series of investigations beginning in 1955. The Governor's Committee gave special consideration to seventy-two abuses and violations of the rules, regulations and statutes, as well as other unethical or illegal actions uncovered in the flurry of investigations. The report states that "these abuses and violations are not something of recent occurrence but many of them have been of long-standing during the several administrations which have intervened since the creation of the Athletic Commission. . . ."

Following the Governor's Report, a number of reforms were instituted to clean up state administration of the sport. Nonetheless, in the 1960s there was a massive federal investigation of boxing by Senator Kevaufer's committee. The hearings and investigations delved deeply into the criminal aspects of professional boxing. One of the conclusions was that federal regulation was necessary because incompetence, lack of initiative, political pressure, and a desire to obtain profitable matches for their states had crippled the ability of state commissions to keep hoodlums out of the sport. Moreover, boxing involved interstate and international commerce, weakening state regulation. While the bill was being considered, the California State Legislature, the Los Angeles County Board of Supervisors, the San Francisco Board of Supervisors, and several other bodies passed resolutions calling for its passage. Despite this apparent popular support, Senator Kefauver's bill and similar House bills proposing federal control of boxing never came to a vote.

The most recent investigations of California boxing began in 1972, when the offices of the Attorney General and Governor investigated allegations of misconduct by the staff of the California Athletic Commission (CAC) as well as alleged "gate skimming" by a major promoter. While some evidence of questionable conduct by CAC staff and a club was found, it was insufficient to provoke legal action by the Athletic Commission, Attorney General's office, Los Angeles District Attorney's office, or the Internal Revenue Service.

This is the first study of boxing in which regulation by a state commission is investigated in the context of an economic analysis of boxing. The regulatory functions of the CAC and their possible impact on market structure and competitive performance are discussed. Empirical evidence of regulatory bias is also presented. The paper includes a discussion of the manager-boxer cluster and a set

of policy recommendations designed to increase competition in the industry.

AN ECONOMIC OVERVIEW OF THE BOXING INDUSTRY

The purpose of this section is to examine how the incentive structure of boxing regulation operates through the market to determine the distribution of income in the industry among promoters, managers and boxers. It is easiest to understand the economics of the industry if we begin with the simplest case. Later, we can add complications to move towards a more realistic model.

We begin by considering an idealized world in which there is no regulation of boxing; there are no entry barriers for promoters, managers or boxers; and the potential audience for boxing is sufficiently large that there are a number of promoters competing for the services of a large number of boxers.

We assume that boxers are not perfect substitutes for each other in matchmaking. Each boxer can be imagined as located in a space in which the dimensions measure his skills and other attributes that determine his box office drawing power. The boxers' labor market model proposed here is a continuous analog of the discrete categorization offered by Scoville in his article about players in team sport. Assuming that the costs of collecting and processing information are negligible, there is no necessary role for managers. Promoters and boxers negotiate directly. Competition among promoters would raise boxer purses to the point where each boxer is paid his marginal value product; that is, each boxer would be paid a purse equal to the added revenue that a promoter obtains by placing the boxer on the card. Free entry into promotion means that promoters earn the going rate of return on their investments in the industry; there are no monopoly profits for promoters. And free entry into boxing means that the least skilled boxer (or, rather, the boxer with lowest box office drawing power) gets paid an income just sufficient to make it worthwhile for him to stay in boxing—at any lower income, he would prefer an alternative job to a boxing career. Boxers with skills and drawing power above minimum level earn economic rent; that is, they receive incomes in excess of what is required to keep them in the industry.

Suppose we now complicate things somewhat. In particular, we adopt the realistic assumption that searching out bookings and negotiating contracts with promoters are time-consuming jobs for a boxer, and that obtaining information on the drawing power and/or boxing skills of a boxer is a time-consuming job for a promoter. Moreover, assume that these informational activities require a certain amount of skill and have significant economies of scale. This would create incentives for the development of a specialized group of middlemen who act as employment brokers, mediating between promoters and boxers. In the movie industry, these are the actors' agents; in boxing, these individuals are the managers. If there are economies of scale associated with specialization of the information collecting and processing function, the manager can perform the services of employment agent cheaper than either the boxer or the promoter can.

A novel aspect of the employment market for boxers (which applies to actors as well) is that the boxer is hired for one event at a time, following which he is back on the job market. In the absence of specialized booking agents, a substantial fraction of the boxer's time would be spent seeking out employment and negotiating contracts. For this reason, the manager (booking agent) plays a much more important role for a boxer than employment agents play for the typical worker, providing recurring services over the client's entire working lifetime.

The standard arrangement between managers and boxers is a long-term contract (usually five years) with income sharing.[1] In virtually all California contracts one-third of the purse goes to the manager and two-thirds to the boxer. The choice of a long-term contract with income sharing is of interest (it applies in the case of actors as well). In principle, a manager-boxer contract could be for just one or perhaps only several bouts, and it could be on a flat fee basis per bout. There are many other possible variants, of course. Why is the long-term income-sharing arrangement adopted?

To begin with, once a contract has been signed between a manager and a boxer, there are advantages to the boxer from an arrangement in which the purse is shared over one in which there is a flat fee paid to the manager per bout. In essence, sharing the purse provides strong incentives for the manager to negotiate the highest purse possible for his fighter. On a fee-per-bout basis, the fighter

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[1] Both the duration and share are regulated, as discussed below.

might find himself with numerous fights scheduled at minimum purses.

Long-term contracts can be justified on somewhat the same grounds. Most boxers have a short career of only a few bouts. There are both suppply and demand aspects to this. An inexperienced, unskilled boxer has next to no drawing power, so the demand for his services is virtually nil at any positive price; and if such a boxer gets (and loses) a few bouts, the physical and psychic punishment, not to mention the continued low pay that accompanies low drawing power, discourages him from continuing his boxing career.

Boxing is a glamour profession to ghetto youths with dismal earning prospects in conventional occupations. The economic attraction of boxing is that the fighters who survive to reach the top make very high incomes. This prospect keeps the inflow of new, inexperienced boxers high, and their purses very low. For example, the standard purse in Los Angeles for a preliminary boxer is approximately $150 per bout, from which the boxer must pay training expenses and the manager's share, as well as other costs. Moreover, boxers rarely have more than one bout per month, so that the annual earnings of a prelim fighter are $1000 or less. Table 1 shows the earnings profile of California boxers for 1976 and 1977.

The patterns for the two years are similar. Average boxing earnings per boxer were $3022 in 1976 and $3415 in 1977. Median income figures, which give a better indication of boxing earnings for a typical boxer, are not available. However, the data in Table 1 suggest a median income that probably was less than $1000 in both years. Even taking account of the fact that boxing is often a part-

TABLE 1

DISTRIBUTION OF BOXING EARNINGS

CALIFORNIA BOXERS, 1976-1977

	1976			1977		
Annual Earnings	Number of Boxers	% of Total	Avg. Earnings	Number of Boxers	% of Total	Avg. Earnings
Under $ 2,000	315	78.8%	$ 643	312	77.8%	$ 638
$ 2,000-$ 4,000	37	9.3	$2,615	50	12.5	$2,721
$ 4,000-$ 6,000	14	3.5	$4,780	9	2.2	$4,580
$ 6,000-$ 8,000	8	2.0	$6,675	3	.7	$7,083
$ 8,000-$10,000	8	2.0	$9,170	4	1.0	$9,337
$10,000-$15,000	5	1.3	$11,714	11	2.7	$11,425
$15,000-$20,000	1	.3	$17,170	1	.3	$18,000
$20,000 & over	12	3.0	$53,359	11	2.7	$71,899
Total	400	100.0	$3,022	401	100.0	$3,415

Source: Dan McGinn & Associates, Inc. (Memo, 1978).

time employment, these are still remarkably low earnings for as demanding an activity as prize fighting.

Annual earnings of $1000 to be shared by a prelim boxer and his manager lead to two conclusions: (1) few individuals, if any, would try to earn a living in boxing for very long as strictly prelim boxers, even if managers' fees were nil; and (2) few, if any, managers would find it economically worthwhile to perform booking services for such a boxer, even if they were paid in excess of one-third of the purse. This suggests that entry level boxers would be taken on as clients by managers only if the contract were of long enough duration so that the manager could share in the big purses if a fighter became successful, progressing up the line from prelims to main events and perhaps to championship bouts. In such a long-term relationship there are advantages as well as disadvantages for the boxer. The major disadvantage of a long-term contract is that once the boxer is successful, he no longer has the option of renegotiating his contract to lower the manager's share, even though, ex post, a manager would settle for a much lower fraction of a champion's purse. The major advantage of a long-term contract is that it provides incentives for the manager to develop the boxer's career in a manner so as to maximize the discounted present value (DPV) of the career earnings of the boxer. With a short-term contract, a manager might elect to overmatch a boxer early in his career to cash in on a big purse, but in the process sacrifice the long-term interests of the boxer. With a long-term contract, the manager has an incentive to select matches for a fighter that provide mostly victories, improve the boxer's skills,

and increase the popularity of the boxer with the fans. In the industry, this is called buildup.

An example of this strategy is the career of former North American Boxing Federation Welterweight Champion Pete Ranzany, who was developed in Northern California exclusively by Promoter Babe Griffin from 1974 to 1978. Ranzany's career illustrates how a string of low-pay victories led to some bigger paydays later. Ranzany began his career as a main event fighter in Sacramento on April 2, 1974, with a record of 3-0. He was paid $400 and attraacted 802 fans, a relatively poor turnout compared to that of two popular fighters, Salinas and Mateo, two months earlier. This became the pattern for Ranzany as he dropped in and out of main event flights, always promoted by Babe Griffin, in Sacramento and other Northern California cities. His purse ranged from a low of $150 in March 1975, to a high of $750 late in the year. Ranzany continued to draw poorly at the gate until December 2, 1975. With a record of 17-1 and thirteen knock-outs, 1,000 fans watched him defeat Ruben Vasquez. After this fight Ranzany's career took off. Between 1976 and 1978 he never drew under 1,000 fans. Moreover, Ranzany's average purse for this two-year period rose to $5,760 per bout, compared to $369 per bout between 1973 and 1975.

Even in the simple world we are considering, with many competitive promoters, there are problems--major problems, in fact--in terms of conflicts of interest between a manager and a boxer. The problems stem from the fact that managers have stables of fighters and are permanent members of the boxing industry, with business lifetimes longer than the lifetime of a contract with any individual fighter. What this means is that managers will tend to make decisions with respect to an individual boxer not simply in terms of the manager's direct income from that boxer, but rather in terms of the way that such decisions will affect the manager's income from all of the boxers in his stable. For example, if a manager has a high-ranking contender under contract, he might market package deals with promoters under which his contender fights only if the card includes some other novice boxer the manager is trying to develop. One way to think of this is that the manager is making choices so as to maximize his own DPV of income, which has a longer horizon date than does that of any one boxer under contract to him. The effect is to transfer income from current headliners to other boxers under contract to the manager.

As long as a boxer fights under a contract that was signed before he achieves widespread popularity, the quasi-rent generated by a superior boxer is transferred in part to the manager, perhaps to some degree outside of the boxer's purse. Managers will tend to use this market power to benefit themselves, even at the expnse of the boxer, until the contract expires and must be renegotiated in a competitive situation. Thus, if a manager has a high-ranking contender or champion under contract, he is in a better position to further the interests of young potential contenders than is a manager without a contender under contract. But this means that the DPV of income from the young potential contender is higher to the manager with a contender already under contract than to another manager. Hence, there will be a tendency for managers with contenders or

champions to buy up the contracts of the best young potential challengers from other managers; the system tends to perpetuate itself, with the same managers in control of the best fighters over time.[2] The only escape is for a boxer to allow several managers to bid for the right to manage him after the contract expires. Because boxing careers are short, this usually occurs near the end of a successful career, so that even for the most talented boxers, this is likely to be a weak check on the ability of managers to extract much of the earnings potential of the best boxers.

Finally, we add one further complication to the picture. Thus far, we have assumed that boxers and managers face a large number of promoters who bid competitively for boxers. Of course, in practice things are not quite like this. Even in large metropolitan areas such as Los Angeles, there are only a handful of promoters who put on boxing events and almost all of them restrict their activities to just one or two shows per year. In Los Angeles, only one promoter--Aileen Eaton at the Olympic Auditorium--presents weekly boxing shows. Indeed, this is the only ongoing weekly operation in the U.S. This suggests that there are barriers to entry into promoting, and it is well to consider just how such barriers might persist.

In general terms, natural barriers to entry are present if a market can support only one or perhaps at most a few firms of efficient size; that is, an efficient size firm is large relative to

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[2] An alternative to buying the contract of a young potential contender is to negotiate a deal under which there are co-managers for the boxer, sharing the manager's income.

the market. Natural barriers to entry arise most often when there are significant indivisibilities in production, such as a piece of capital equipment which cannot be scaled down to handle small rates of output.

In the boxing industry there are indivisibilities that make for natural barriers to entry in promoting boxing matches. To begin with, to reach efficient (low-cost) staging of boxing shows, an arena of a certain minimum size must be rented. Moreover, there are set-up costs for an arena that is used for other events (basketball, hockey, ice shows, conventions, and so forth) that can be bypassed if the arena is specialized to boxing and wrestling. In other words, there are cost advantages to constructing a permanent ring and permanent seating for boxing and wrestling in an arena used for these sports on a regular basis, as compared to use of an arena for boxing one night and conversion to some other purpose following the bout.

But perhaps an even more significant indivisibility is the specialized skill of an experienced, full-time boxing promoter. There is a type of natural monopoly in promoting to the extent that there are significant cost and revenue advantages that can be obtained by an individual who knows the market intimately from both the demand and the supply side, who has negotiated with the various managers over long periods of time, who is familiar with the use of the media in promoting and marketing boxing, and who is aware of the ins and outs of regulation of boxing.

We have no direct evidence relating to the costs of developing a trained promoter nor to how many such promoters can be supported by a large metropolitan area. However, there are only a handful of

full-time promoters in California, and there is specialization even among these (some promote regular weekly or monthly cards involving mainly local boxers, and others promote occasional championship cards involving boxers with international reputations). It appears that the natural barriers to entry in the form of specialized arenas and specialized promoting skills play an important role in restricting entry into promoting.

There are other barriers to entry as well relating to risk aversion on the part of managers. The argument is similar to that which holds with respect to life insurance. An individual buying a life insurance policy is understandably concerned that the company supplying the policy will not go bankrupt by the time the policy comes due; so individuals tend to buy life insurance from old, established, large companies, and it is difficult for a new company to break into the field. Managers who plan to spend a lifetime in the boxing industry are aware of the fact that natural barriers to entry limit the number of promoters in a locality. Any new entrant into promotion in an area faces the problem that unless he can establish himself as a viable long-run competitor to existing promoters, it is not in the interest of managers to book their boxers on his cards, even if the purses are substantially higher than those being offered by other promoters. The problem is that the manager must balance the short-term gains to himself (and his boxers) with the threat of long-term losses if the new promoter fails. Even if the manager is not subject to retribution by the surviving promoter, the momentum of the "build-up" of his best fighters can be lost if the new promoter fails and the manager cannot immediately work them into the matches of the old established promoter. It is not necessary that there be any overt agreement between an established promoter and established managers to squeeze out any incipient competitive promoter; astute managers will be wary of placing boxers with a new promoter simply by following their own self-interest. The result is what are called "clusters" in the industry--groups of managers who work primarily with a single promoter for many years through successive careers of multiple generations of boxers.

Clusters arise from mutual self-interest. Both the promoter and the manager stand to gain from development of local talent in such a way as to maximize the boxer's drawing power. As noted earlier, building a long string of victories can occur through astute choice of opponents who are scheduled over time so as to develop the boxer's skills as well as to provide victories. One of the problems, however, is that the incentives are strong enough that shortcuts in the form of fixed fights can occur--and in fact there are numerous instances of these cited in previous investigations of boxing in California. But even when flagrant violations such as this are not present, there are always potential difficulties when a manager, whose job is to negotiate with a promoter for the best deal for his fighter, finds a mutual sharing of interest with the promoter. For one, the "build-up" of one fighter requires a string of fights in which the opponent is highly likely to lose. Normally the opponent's manager will be prescient enough to know that his fighter is hardly the one being built up. The promoter will want to encourage cooperation with the

build-up process, and can be expected to use his or her local monopoly position as a device for insuring that promising local talent gets transferred (through contract sales) to the "right" managers. This will provide a continuing source of local talent for development and cannon fodder for those being developed.

The presence of clusters is shown in Table 2. This shows the tendency of each of the thirteen major managers in the state to concentrate his fighters in a particular location. People in the industry interviewed for this study cited Aileen Eaton's Olympic Boxing Club and its affiliated managers, in particular Jackie McCoy and Benny Georgino, as an example of a successful boxing "cluster." McCoy's and Georgino's fighters are among the highest paid nonheavyweights in the world, and Table 2 shows that, indeed, they are closely associated with the Olympic.

While the concentration of matches throughout the state that involve particular managers at specific clubs is impressive, it might be explained by natural barriers, such as the residential proximity of managers and fighters to promoters and their minimal earning power, rather than a tendency towards a naturally anti-competitive practice. Therefore a more detailed analysis of the Southern California market was conducted. Table 3 illustrates the segmentation of the Southern California market for boxers. The large diagonal elements suggest that the various clubs are drawing boxers from segmented labor pools, as predicted by the cluster model.

TABLE 2

PERCENT OF TOTAL FIGHTS AT ONE CLUB
FOR 16 ACTIVE CALIFORNIA MANAGERS
1976 and 1977

MANAGER	PERCENT AT SAME PROMOTER	IDENTITY OF PRINCIPLE PROMOTERS	PROMOTER'S % OF TOTAL STATE BOUTS
*Jackie McCoy	85	Olympic	42.
*Benny Georgino	68	Olympic	42.
J. Cabrera	67	Olympic	42.
Norman Kaplan	79	Olympic	42.
Tony Gomez	80	Olympic	42.
Rudolph Tellez	57.1	Olympic	42.
Antonio Buena	54	Olympic	42.
Mario Silva	67	Olympic	42.
Fred Merino	44	Olympic	42.
Santiago Montoya	45	Olympic	42.
Serjio Ojeda	42	Olympic	42.
Norman Lockwood	50	Olympic	42.
Frank Dobales	50	Stockton	4.3
Gene Campbell	40	Garden City	8.1
Pat Difuria	65	Fresno	2.2
Frank Cloud	27	Fresno	2.2

* California managers with highest earnings.

TABLE 3

MOBILITY OF BOXERS WITHIN
THE SOUTHERN CALIFORNIA FIGHT MARKET 1978

		CLUB I			
		Olympic	San Diego	Forum	3 Star
CLUB II	Olympic	83.0	26.6	30.0	15.0
	San Diego	15.6	67.0	15.0	55.0
	Forum	2.8	2.4	65.0	5.0
	3 Star	1.4	8.9	10.0	45.0
% All Southern Calif. Bouts		65.0	23.0	6.0	6.0

Entries in columns are the percentage of fighters who fought at that arena who also fought at location listed in the row. Last row is the fraction of all bouts in Southern California that were fought accounted for by each promoter. Diagonal elements are the percentage of fighters at each location who fought only for the club.

EARNINGS OF BOXERS

As shown in Table 4, almost 80 percent of all boxers earn less than $2000 per year in boxing, and only about 5 percent earn over $10,000 per year. Moreover, data in the table overstate the true California boxing earnings of boxers, for earnings as shown are gross of training expenses and manager's share. Almost all boxer-manager contracts provide for a one-third manager's share, so that earnings going to boxers are actually at least one-third less than those shown in the table. Taking $6000 per year as a "minimum wage" income (it is roughly the annual income from 40 hours of work per week at the minimum wage), it turns out that only about thirty boxers in the state earn this minimum wage income net of manager's share. Needless to say, for most boxers (upwards of 90 percent), boxing is a part-time occupation.

In 1976, the top 3 percent of all boxers (that is, twelve boxers) accounted for 53 percent of all all boxing earnings; in 1977, the top eleven boxers (2.8 percent of the total) earned 57.8 percent of all boxing income. Actually, these data understate the disparity in earnings among boxers, because those boxers in the highest earning group so far as California boxing earnings are concerned also typically earn substantial amounts from boxing outside the state, while boxers in the lowest earnings groups tend to be booked into local clubs only.

These data support the following conclusions:

1. The economics of boxing makes a permanent boxing career

TABLE 4

CUMULATIVE DISTRIBUTIONS OF NUMBERS AND EARNINGS
CALIFORNIA BOXERS, 1976-1977

	1976		1977	
Annual earnings of no more than	Cumulative % of boxers	Cumulative % of earnings	Cumulative % of boxers	Cumulative % of earnings
$2,000	78.8%	16.7%	77.8%	14.5%
$4,000	88.1%	24.7%	90.3%	24.5%
$6,000	91.6%	30.3%	92.5%	27.5%
$8,000	93.6%	34.7%	93.2%	29.0%
$10,000	95.6%	40.8%	94.2%	31.8%
$15,000	96.9%	45.6%	96.9%	40.9%
$20,000	97.0%	47.0%	97.2%	42.2%
	% of boxers	% of earnings	% of boxers	% of earnings
$20,000 & more	3.0%	53.0%	2.8%	57.8%

Source: Dan McGin & Associates, Inc. (Memo, 1978).

very unattractive if a fighter does not reach a very high level of accomplishment.

2. Only a small number of boxers--about a dozen in California--are sufficiently skilled to earn attractive incomes.

3. Boxing is really not a very important sport economically. In 1980, baseball star Pete Rose earned $800,000, which is more than the net earnings (after subtracting managers' shares) of all boxers in California in 1977.

4. The cluster mechanism exists, and is the means by which an unstable, risky situation for boxers is translated into a stable stream of earnings for managers and promoters.

THE ROLE OF REGULATION

The California Athletic Commission's major regulatory functions can be summarized as (1) licensing participants, (2) licensing shows through contest approval and supervision, (3) enforcing and supervising contracts, and (4) collecting taxes. These regulatory roles and their economic impact will be described sequentially.

LICENSING

Licensing controls the entry of clubs, boxers, managers, matchmakers, referees, seconds--even cashiers and box office personnel--into the industry. The stated purpose of licensing participants is to prevent unscrupulous persons from doing business in California and to provide a means of suspending the operations of

those who violate state laws, engage in improper conduct, or endanger themselves by participating in matches. Licensing fees also provide revenues which support Commission operations. The number of licensees, license revenues, and measures of the scope of boxing activity from 1962 to 1978 are shown in Table 5.

In evaluating licensing, a central issue is whether it reduces competition. Examination of the state's major boxing markets on a comparative basis shows relatively little competition everywhere, but some differences among cities. For example, comparing the Los Angeles-Long Beach area to the San Francisco-Oakland market during 1965-77 reveals similarities in the small number of firms but differences in the intermarket mobility of promoters. Over the twelve-year period, fifteen firms operated for at least one year in the Los Angeles-Long Beach area, while twenty clubs were licensed in the much smaller San Francisco-Oakland area. Moreover, while Los Angeles clubs rarely promoted events in more than one city or location, some San Francisco clubs typically promoted in three or four Northern California cities or arenas. Yet both the San Francisco-Oakland and Los Angeles markets appear to have been dominated by one or two major clubs, accompanied by two or three minor promoters. Superior in San Francisco operated until 1973, while the Olympic in Los Angeles has continued to run weekly shows for over thirty years. For somewhat smaller cities, such as San Diego, Sacramento and Stockton, only one or two clubs seem to be able to survive. Although cost data, now unavailable, would be required to prove it, similarities and differences between markets suggest that the extent

TABLE 5

BOXING TIME SERIES -- 1962-1971

	June 62-63	June 63-64	March 64-65	March 65-66	June 66-67	June 67-68	June 68-69	June 69-70	June 70-71
Clubs	86	81	63	68	79	95	80	69	73
Prof. Boxing Clubs			5	21	19	18	15	14	20
Managers	243	207	169	167	211	220	244	248	265
Matchmakers	10	11	8	8	11	15	20	6	10
Wrestlers	141	139	113	115	157	143	150	174	190
Boxers	460	387	272	263	392	401	508	468	499
Wrestling Booking Agents	2	2	2	3	2	6	4	5	6
Boxing Attendance	269,564	195,676	125,508	177,155	357,789	325,229	417,974	443,262	407,871
Wrestling Attendance	745,057	671,110	413,768	441,442	636,071	639,670	688,263	649,436	785,156
Closed Circuit Attendance	---	---	---	---	---	---	---	---	---
Shows Held, Boxing	196	161	100	103	173	180	203	189	202
Shows Held, Wrestling	649	691	498	463	580	563	623	609	677
Closed Circuit Shows	---	---	---	---	---	---	---	---	---
Gate Recipts, Boxing	1,062,008.88	524,601.57	327,939.94	470,982.19	1,278,132.27	1,597,763.5	1,996,283.00	2,628,183.50	2,141,961.00
Gate Receipts, Wrestling	1,434,777.86	1,262,258.14	781,160.42	812,268.04	1,256,449.20	1,283,350.70	1,479,211.21	1,631,859.95	1,847,894.50
Closed Circuit Receipt	---	---	---	---	---	---	---	---	---

TABLE 5 (continued)

BOXING TIME SERIES -- 1971-1978

Category	June 71-72	June 72-73	June 73-74	June 1/ 74-75	June 75-76	June 2/ 76-77	June 3/ 77-78
Clubs	101	108	75	69	97	77	83
Prof. Boxing Clubs	18	14	16	17	17	13	12
Managers	269	220	203	205	246	252	275
Matchmakers	13	11	7	8	8	9	18
Wrestlers	185	169	191	203	188	219	174
Boxers	545	472	425	443	522	465	520
Wrestling Booking Agents	4	7	6	6	7	4	4
Boxing Attendance	392,915	413,980	357,052	352,152	324,261	287,838	322,126
Wrestling Attendance	814,474	648,141	621,016	550,264	620,585	592,896	558,004
Closed Circuit Attendance	---	---	---	133,107	152,217	104,853	24,213
Shows Held, Boxing	185	171	166	173	188	160	175
Shows Held, Wrestling	719	629	678	582	577	597	601
Closed Circuit Shows	---	---	---	116	101	62	25
Gate Receipts, Boxing	2,110,238.00	2,592,745.25	1,694,368.50	2,130,574.00	1,830,666.95	1,891,519.25	2,369,551.00
Gate Receipts, Wrestling	2,138,020.00	1,822,762.25	1,853,065.50	1,712,653.00	1,973,542.55	1,865,601.75	1,812,997.00
Closed Circuit Receipts	---	---	---	2,336,498.00	2,254,662.50	1,606,730.50	227,885.00
Total Expenditures of CAC	171,260	210,596	248,718	264,687	314,640	342,148	373,704

1/ There were two conflicting sets of data for 1974-1975.

2/ Karate Attendance 12,919, $95,294.50 for ten shows.

3/ Karate Attendance 2,015, $7,212.00 for five shows.

of the demand for boxing, scale economies associated with access to permanent arenas, and the scarcity of promotional skills limit the promoter field in a city to no more than a handful of clubs. While locational licensing most likely reinforces and stabilizes market concentration, the cross-sectional data point to some degree of natural monopoly.

In boxing, licensing fees are quite low: $10 for boxers, $50 for managers, and $200 for promoters for each location at which the promoter is licensed to stage contests. Considering the apparently insignificant income earned by the majority of boxing participants, it is not surprising that even these fees may reduce the number of licensees in the industry. For example, consider the manager who usually receives a maximum of one third of a boxer's purse. In view of the small earnings of most boxers, even $50 may be a major drain on earnings for a manager who wants to develop a young fighter. Thus it is not surprising that Mexican nationals who box in California often have unlicensed managers at home. We know of no practical method for determining whether the fee is an important source of this phenomenon, but the difficulty of enforcing a licensing requirement across an international boundary and the lower average incomes in Mexico are factors that make this a likely effect.

In order to test statistically whether state licensing fees or other factors acted as barriers to entry of new boxers, managers, and promoters we performed a multiple regression analysis using data from Table 5 to calculate real industry revenue, real state licensing fees, and the annual number of licensees. As can be seen in Table 6, with

TABLE 6

FACTORS INFLUENCING THE NUMBER OF LICENSEES
1962–1977

Independent Variables †	Boxers	Managers	Promoters
Time	8.02 (2.43)	3.3 (2.47)	$-.3(10^{-1})$ (.095)
Real Boxing Revenues	$8.2(10^{-5})$ (2.87)	$2.5(10^{-5})$ (2.21)	$.17(10^{-5})$ (.7)
Real License Fees	-14.11 (.86)	-3.08 (2.32)	$-.27(10^{-1})$ (.4)
Adjusted R^2	.56	.56	-.19

† t-statistics appear in parentheses.

the important exception of managers, license fees were not a statistically significant factor in explaining the variation in licensees across time. However, the sign of the regression coefficient was negative, as expected, for all participants. The level of real boxing revenues was a statistically significant variable at the 5 percent level for both boxers and managers. The coefficient also had the anticipated positive sign. Neither state licensing fees nor real revenues explained the variance in the number of boxing promoters active in a given year. This result is consistent with the hypothesis stated earlier that significant natural barriers to entry may exist for California boxing promoters.

Nevertheless, boxing promoters argued that the annual $200 licensing fee to promote at a specific arena within a city of greater than 100,000 in population is a strong disincentive for promoters to try different locations within the same marketing area or in nearby cities. If this is so, one effect of locational licensing is to reduce promoter's mobility in a market within a metropolitan area.[3] As a result, promoters in neighboring cities are insulated somewhat from experienced competition that is likely to balk at spending another $200 to attempt one risky show in a market in which another promoter is established. Statewide transitory licenses are available for a club that seeks to put on shows in any city under 100,000 in population, but these are of little help because these cities are

3 According to Business Regulation 272 of the CAC, except for a transient license as provided in Section 270, no promoter or group of promoters shall directly or indirectly hold more than one club license without the consent of the Commission.

unlikely to be profitable markets.

Promoters might bypass the expense of a new license by hiring a locally-licensed promoter to act as a front. Managers, too, can find ways to avoid licensing. Of course, this is contrary to the spirit of licensing, which is intended to keep managers, promoters and their backers public and under the scrutiny of the state. Nevertheless, in some cases licensed California promoters have acted as fronts for financial backers. These latter individuals probably prefer to avoid publicity or public financial disclosure, rather than the $200 licensing fee, simply because the fee to the front is unlikely to be less than the license fee. In other cases, a promoter may be inexperienced in boxing or in the local market, and therefore seeks a knowledgeable local promoter to assist in putting on a show.

If locational licenses do restrict promoter mobility, and thereby reduce competition, one might expect to observe a stability in market shares across time. Time series data are presented in Table 7 on the market shares of the largest California boxing promoting organizations in four of the state's major Standard Metropolitan Statistical Areas.[4] The number of promoters in each market is shown in Table 8. Throughout the 1960s and 1970s, promoters licensed to arenas in Los Angeles never attempted shows in San Diego, Ventura, Santa Barbara, or Bakersfield, and rarely in more than one place in the Los Angeles metropolitan area. This suggests that locational

4 San Diego is excluded because we were unable to distinguish the two firms recorded on Commission monthly show summaries.

TABLE 7

MARKET SHARES OF LARGEST PROMOTING FIRMS

Market	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
	Share by Year												
Los Angeles-Long Beach	.92	.94	.60	.47	.52	.40	.73	.64	.61	.58	.43	.49	
San Francisco-Oakland	.47	.37	.29	.34	.88	.96	.42	.69	.60	.53	1.00	.70	1.00
Sacramento	.82	.52	1.00	.82	.59	.49	.51	1.00	.96	.86	1.00	.90	1.00
Stockton	1.00	1.00	1.00	1.00	1.00	.43	.89	.50	.67	.86	.80	.69	1.00

licensing, particularly in Southern California, has limited promoter mobility and therefore contributed to both the sparcity of contests in surrounding cities and the market stability of established firms.

Whether site-specific licenses reduce competition cannot be decisively proven with the data at hand. Nevertheless, the practice has no logical advantage, and one likely disadvantage--constraints to competition. The argument given for site-specific licenses is that inspection of arenas is deemed desirable before a fight, so that the CAC must know the promoter's location. But this could easily be handled by a simple requirement that promoters inform the Commission about the sites of upcoming bouts and make the facilities available for pre-fight inspection. Or, the Commission could certify arenas, much as the state inspects food establishments, for suitability for boxing, without relating this process to promoters. In any case, the <u>sole</u> criteria for permitting a site to be used for boxing should be health, safety, and security--<u>not</u> the economic impact on other sites, clubs, promoters, and matches.

Another effect of licensing is that the entire set of Commission licensing procedures tends to reinforce anticompetitive attitudes, norms and behavior among Commission staff and promoters. Two examples illustrate this point: the Commission's former policy on overpriced shows, and the administrative hearing given to any protest, regardless of grounds, to new club licenses. The Commission's policy on overpriced shows limited the number of professional boxing contests on the same night in the Los Angeles or San Francisco metropolitan area (with minimum ringside prices of $10). The policy was

discontinued in 1976 when it became evident that it may violate the federal antitrust laws.

The policy of considering protests by established licensees before approving a new club license encourages anticompetitive behavior by firms and delays approval of license applications by forcing the Commission to deliberate about biased and usually irrelevant information.[5]

One example of a written protest recorded in Commission minutes consists in its entirety of the sentence: "I would like to protest the issuance of a boxing license to Doyle Millcap." Another states: "I hereby protest the wrestling license of Valente Perez to promote wrestling at the Sports Arena." While Commission minutes do not reveal that new clubs or other participants were denied licenses because of protests by competitors, neither do Commission records indicate how many license applications might have been withdrawn before a hearing because of the delay in the proceedings or the unwillingness to deal with these kinds of issues. Through interviews we discovered one case in which a potential licensee claimed he was sufficiently discouraged by personal financial disclosure, administrative red tape, and other Commission procedures that he withdrew his club license application.

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[5] Rule 271, Protest to Club Applications, states that written protests may be filed with the Commission within ten days of the mailings of a bulletin carrying notification of new licensees. The Commission may schedule a hearing on the application after ten days' notice to all interested parties. On the basis of our March 1979 report to the CAC on the effects of boxing regulation, the CAC has significantly narrowed the grounds for protesting the entry of a new promoter.

TABLE 8

NUMBER OF PROFESSIONAL BOXING CLUBS STAGING EVENTS IN CALIFORNIA MARKETS*

Markets defined as SMSA*	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
L.A. - Long Beach	3	3	2	2	3	4	4	3	2	3	5	5	3	4
San Francisco - Oakland	0	5	6	4	4	2	3	1	3	4	4	2	2	1
San Jose	2	4	1	1	1	1	2	1	1	2	1	3	1	0
Sacramento	0	2	2	2	2	2	2	2	1	2	2	1	1	2
Stockton	0	1	1	1	1	1	1	2	1	2	2	2	2	1
Fresno	0	1	1	1	2	1	1	2	1	0	1	1	2	1
San Diego	0	1	3	3	3	1	2	2	1	1	0	1	1	1
Riverside - San Bernardino - Ontario	0	1	1	1	1	0	0	1	1	1	1	1	0	0
Bakersfield	0	1	1	1	0	0	1	2	1	0	0	1	0	1
Santa Barbara - Santa Maria - Lompoc	0	0	0	1	0	1	1	0	0	0	0	0	0	0
Anaheim - Santa Ana - Garden Grove	0	0	1	0	0	0	1	1	1	1	1	0	0	1
Vallejo - Fairfield - Napa	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oxnard - Simi - Ventura	0	0	0	1	0	1	1	0	0	0	0	0	0	0
Modesto	0	2	0	0	0	0	1	0	0	0	0	0	0	0
Santa Rosa	0	0	0	0	0	0	0	1	1	0	0	0	1	0
Santa Cruz	0	0	0	0	0	0	0	0	0	0	0	0	0	0

A final anticompetitive effect associated with both licensing of shows and promoters, but seldom mentioned in regulatory review, involves the state's role as an information-gathering entity. New license notifications, and advance notices of match plans, as part of the public record, can inform established clubs of the intent of a new market entrant well in advance of any show. Thus, established licensees are given plenty of time to muster economic, political and other resources to protect their business. The small number of clubs and arenas operating in boxing markets makes strategic behavior possible. For example, one Northern California promoter allegedly booked the only arena in town and then cancelled his reservations to keep a new competitor off balance. A Southern California boxing promoter greeted a new competitor with a competing free show with free hot dogs. Finally, in a Northern California city, two managers, planning to arrange a card promoted by a new entrant, were warned by a competing promoter well in advance of the show not to appear. One manager subsequently claimed he was assaulted. In effect, the state serves an information-gathering function for the established promoters which is used to prevent competitive entry. While all of the activities listed above are probably illegal, costs of litigation, coupled with the relatively small economic stakes in boxing, make a civil legal remedy unattractive. Thus, the Commission willy-nilly is making largely unpunishable anticompetitive actions easier to undertake.

CONTEST APPROVAL

In addition to licensing participants, the Athletic Commission plays an active role in boxing by regulating the composition of a boxing card. In effect the Commission licenses and supervises every show. It selects referees and other officials, and passes judgment on the appropriateness of every match. The purposes of contest and matchmaking regulation are allegedly: (1) to protect the boxers from bodily harm that could result from a mismatch or prolonged pummeling; (2) to prevent boxers from fighting with physical disabilities or injuries; and (3) to protect the public from fraud with respect to mismatches, fixed fights, or contests ending in quick KOs.[6] Because the Commission staff does not keep quantitative records on contest disapproval,[7] we will rely on statements by Commission personnel to determine the magnitude of the state's role.

Joe Olmos, inspector in Southern California, stated that while he rarely rejected preliminary matches proposed by qualified matchmakers, he has requested that promoters reduce the number of rounds of a bout to protect an inexperienced or poorly-conditioned fighter. He added that he has on occasion rejected main event contests. Former Assistant Executive Director Roy Tennison stated that he often disapproved matches suggested by promoters or

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[6] When evaluating the current system, it should be noted that California's safety record is excellent. There have been four deaths resulting from professional boxing matches in California over the last twenty years. Two fighters have also died in training. This compares to eight boxing fatalities throughout the world in 1978.

[7] We have attempted to gather this data, but to no avail.

matchmakers in Northern California. In some cases he suggested opponents when the promoter or matchmaker had exhausted his ideas. One industry spokesman believes that these decisions reflected concern for the safety of fighters. The scarcity of events, the shortage of talented or skilled boxers in Northern California, and the inexperience of some Northern California promoters also contributed to the disapproval of bouts. Without empirical evidence to support these qualitative statements, we can only conclude that contest approval or the selection of a permissible subset of boxer combinations for each weight class is a major regulatory activity. To the extent that Commission approval of contests restricted the supply of boxer combinations in Northern California, it raises the purses of some fighters, lowers the purses of others, and generally increases the cost of staging fights by enhancing the bargaining position of fighters who are approved by the regulators.

There are two relevant questions related to the regulation of contest approval: (1) Is it necessary to protect the boxers from themselves and the public from fraud? (2) Is administrative contest approval the most effective way to accomplish the desired level of protection?

In the absence of government regulation, matchmaking would depend on negotiations between boxers (or their managers) and promoters (or their matchmakers). Assuming a manager maximizes the present value of the future expected earnings of his fighters over the duration of their contracts, managers are unlikely to agree to a fight in which the probability is high that a young fighter will be badly

beaten, injured, or even lose, because these events would reduce the value of the boxer. However, perverse incentives might exist for a manager to overmatch the fighter as a fighter ages, his lack of talent beomes apparent, his contract approaches expiration, or he contemplates switching to another manager. Moreover, a manager might make a poor match for one of his fighters in order to secure an exceptional payday for another. Of course, these incentives lead to an inefficient outcome only if someone besides the boxer possesses the best information about the risks of a match, as can easily be inferred from Oi´s analysis of product safety.

From the promoter´s angle, in a free market with many managers and promoters, matchmakers usually have incentives not to agree to a mismatch or fixed fight because this might anger fans or sacrifice future ticket sales. This would create a conflict of interest between managers who prefer easy victories for their young fighters and promoters who desire to attract fight fans with competitive bouts. The free market outcome will depend on the attitudes of fight fans about mismatches. One might expect balanced, competitive cards to emerge from such a system, even when a manager faces perverse incentives.

In two situations the conflict of interest between managers and promoters may disappear, upsetting the competitiveness of bouts and necessitating oversight of contest approval. First, if a promoter only puts on one show and then goes out of business, the danger of mismatches or fraud increases. Thus, there would be a role for the state to prevent the occasional charlatan. According to one boxing source, phony boxers have been promoted in California and other states despite regulation. Moreover, many promoters over the years have purchased licenses only to promote one show.

A second case in which government supervision of contest approval might be necessary to protect the boxer occurs when a permanent boxing cluster creates a common interest between a promoter and manager in building up a young, talented fighter. As noted earlier, boxing is entertainment, and creating a "star" pays dividends. Thus, some slightly unbalanced matches for a fighter in one year, accompanied by somewhat lower revenues than more competitive fights would bring, may create a very popular fighter for outstanding gates next year. However, the development of a young fighter might create dangers for the eager, sometimes older fighters who are used as opponents. These fighters might have a tendency to fight too often and out of their class, taking the small chance of a big win against a better fighter. As a result, the state might have a role to protect these eager fighters from themselves.

The revenue foregone while developing a fighter will depend on the tastes of fight fans. If fans like to see quick knockouts and one-sided maulings, the cost of mismatches in loss of ticket sales might be minimal. To gain information on the matchmaking incentives created by the preferences of fight fans we used regression techniques to estimate the reduced form demand for boxing and boxers in Sacramento during 1972-76. Sacramento was selected because we were able to obtain detailed information on the characteristics of fighters in the main events.

Table 9 contains the results of a statistical analysis of the effect of a set of main event fight parameters on attendance at boxing events, real revenue, and boxers' purses. The reported equation is linear in the logarithms of all the variables except the dummy variables that were used to denote the race of the fighters and fights involving Pete Ranzany when he was a champion. A linear version of the equation yielded essentially the same qualitative results, but fewer statistically significant regression coefficients and lower values of $\bar{R}^2$.

The first two columns in Table 9 are demand equations for fights. Price data were not available, so separate estimations were undertaken with attendance and gate receipts in real dollars as the dependent variable. Ideally, an attendance equation with price as an independent variable would be preferred. As it is, these two equations must be used together to measure fan interest. The third equation estimates the determinants of the size of the purse for the main event fighters. Because the demand for boxers is derived from the demand among fans for boxing matches, the equations should differ very little if factor markets are competitive and promoters are rational in negotiating purses. The slightly lower explanatory power of the real revenue equation is expected because some fan interest is attributable to other fights on the card, and, in any case, greater random errors can be expected in realized sales than in contract negotiations. Coefficients in the revenue equation should generally be nearer zero than in the purse equation because other fights on the card will affect only the former. Except for the Ranzany dummy,

TABLE 9

REGRESSION ANALYSIS OF BOXING EVENTS IN SACRAMENTO, 1972-76

Independent Variables (Main Event)	Dependent Variables*		
	Attendance	Real Revenue	Real Purse For Main Event
RACE	-.20 (1.73)	-.27 (2.22)	-.33 (2.90)
BUILDUP*	.22 (2.73)	.28 (3.24)	.34 (4.13)
RANZANY 76	.39 (1.94)	.73 (3.46)	.55 (2.77)
STYLE*	-.15 (.88)	-.21 (1.15)	-.63 (3.89)
MATCH*	.11 (1.67)	.12 (1.77)	.28 (4.38)
ADS*	.24 (2.00)	.30 (2.43)	
CONSTANT	5.29	6.03	6.11
$\bar{R}^2$	.39	.55	.64
DEGREES OF FREEDOM	37	37	38

* - Variables expressed as natural logarithms

t-statistics in parentheses

Definitions of Variables: RACE takes the value one if both main event fighters were of the same ethnic background (black, hispanic or white) and zero otherwise; BUILDUP is the number of matches by both fighters in Sacramento during the preceding twelve months; RANZANY 76 takes the value of one for matches involving Pete Ranzany in 1976 when he was champion; STYLE is the sum of the percentages of past bouts won by a knockout by the two fighters; MATCH is the sum of net victories of the two fighters; and ADS is the number of inches of advertising in local newspapers promoting the match.

this is always the case, and RANZANY 76 may be explained by the fact that Ranzany's manager was, in effect, also the promoter of his fights, so his purse was hardly the outcome of an arm's-length negotiation.

The regression results provide a means for testing several of the hypotheses about the operation of the boxing industry and the conceptual basis for regulating it. The attendance and revenue equations are consistent with the hypothesis about the importance of buildup. The coefficients (elasticities) on prior fights in the area and the records of the fighters show a linkage between the attractiveness of a fight and the history of the fighters, but both elasticities are less than unity, indicating diminishing returns to a string of victories at the local club against relatively weak opponents. For a good fighter, a match against another good fighter will be worth the risk eventually, but probably not at the beginning. For a fighter who is not as good, the coefficients for BUILDUP and MATCH indicate little incentive for a string of weak local fights, some of which are losses, so that risky matches against good fighters are more attractive to mediocre boxers than to good ones. Hence, the buildup process has attractions for both winners and losers.

The purse and revenue equations are very similar, as they should be if the industry is operated rationally. The ratio of the coefficients on the same variable in the purse and revenue equations differs the most for percent knockouts and net wins. For MATCH, this indicates that an established fighter with a large number of net wins seems to earn proportionately larger purses in relation to his effect on gate receipts. This is consistent with the hypothesis that the best fighters sell their services in essentially competitive national and regional markets, whereas fighters early in their careers or with mediocre records operate primarily in the local market, which has very few promoters who, therefore, may be able to extract some rents. With respect to STYLE, the difference between the purse and revenue equations has no ready explanation; however, the negative coefficient in all three equations--although significant only in the purse equation--seems to indicate that the more dangerous matches generate less interest.

Several other variables were tried that would reveal a preference for certain kinds of mismatches: creating two variables for net wins, the first being the number for the fighter with the greater net wins; entering knockout percentages in a similar fashion; using products and higher powers of these variables and of STYLE and MATCH as defined in Table 9. In all cases, no evidence could be found for a demand for mismatches or even mixed boxing styles, nor were there any payoffs in terms of statistically significant gains from the more complicated specifications.

These results weaken, but do not eliminate, the case for regulation. While the evidence against a taste for one-sided fights is a point against the need for regulation, it does not rule out matchmaking mistakes through informational imperfections in the market. The importance of buildup and, therefore, of clusters also is consistent with the argument for regulation. As argued above, the presence of clusters, the concentration of income in the hands of a

tiny portion of boxers, and the importance of buildup in generating fan interest create incentives for boxers below the top rung and their managers to accept risky matches. Given that a misinformed judgment in this industry can cost a life or end in permanent injury, a state role in contest supervision may be justified. But the present system, based on personal judgment, unencumbered by due process, and freed of possibility of appeal, creates opportunities for abuse. And, the domination of a few promoters and managers could be aided by differences in the extent to which proposed cards are scrutinized. Although we have no evidence that contest approval is consciously used to limit competition, we would be surprised if a card proposed by a successful, trustworthy promoter with a long history of dealing with the Commission would be scrutinized with the same care as a proposal involving unknown promoters, managers, and fighters. If this tendency is in operation, the result is a barrier to competition.

What, then, are the alternatives? The key regulatory role, if the argument for any intervention is accepted, is to provide information about boxers and to establish boundaries on the skill differences between boxers who are matched against each other. One possibility is for boxers to be classified by quality, based on experience, by referees, officials, and Commission staff after each fight. Matchmakers would be allowed to match boxers within a certain range of classifications without Commission approval, or to file a request at the Commission, with supporting evidence, to match outside of the allowed range of quality. New boxers would request classification when initially licensed in California, and would be classified according to their records as amateurs or as professionals in other states. Any boxer dissatisfied with his rating could appeal to the Commission, presenting evidence to support a change.[8]

The advantages of such a system are twofold: (1) it keeps the Commission out of reviewing most matches, thereby minimizing the possibility for anticompetitive or otherwise undesirable consequences of discharging this responsiblity; and (2) it brings the process of Commission supervision of matches--and the rankings that are already implicit in these decisions--into the light for public scrutiny and possible appeal.

With respect to other Commission licensing activities, we are sympathetic to the desire to maintain the integrity of the sport by supervising all employees of promoters and arenas, including referees, officials, and timekeepers. We suspect, though, that this is regulatory overkill. If the Commission retains the right to bar or to suspend people from participating in the sport in any capacity, based upon evidence concerning past activities and subject to public review, the sport should be safeguarded. All sports depend on honest officiating, and all face the temptation of gambling interests to

[8] For example, boxers could be given a rating of 1 through 10, with 1 reserved for boxers with minimal ability and 10 accorded to fighters with national rankings. Promoters could then match without prior approval two boxers in the same weight class whose ratings were within two categories of each other, e.g. a "6" could fight anyone between "4" and "8." The range could be adjusted for matches across weight classes, e.g. an "8" welterweight could fight no better than a "9" middleweight and no worse than a "7" lightweight, but might be allowed to fight as low as a "5" middleweight. The Commission could retain discretionary powers to limit the number of rounds of preliminary fights.

tamper with outcomes. Yet other sports survive nicely without licensing everyone from the referee to the ticket taker. The Commission should retain its investigatory powers and should watch performances closely, but we see no reason to do more.

CONTRACT TERMS

The third major regulatory activity of the Commission involves writing and enforcing contracts between the various boxing participants. Currently the CAC limits the duration of a contract between a boxer and a manager to five years, and sets a maximum of one-third of the purse as the manager's fee for his services.

The rationale for Commission rules regarding contracts is to protect boxers from managers and promoters. Presumably a boxer, at least at the beginning of a career, has less information about contracting policies and boxer earnings than the others. The rules are argued to produce better terms for boxers than would otherwise occur. In this milieu, contract rules like those in force change the information available to the boxer. In effect, they establish a "government seal of approval" for the "fairness" of the worst legal outcome for the boxer. Whether the issue is contract rules, price/wage controls, or other forms of government economic controls, the effect of imposing a floor or ceiling to a negotiation involving parties with differing information is, if anything, likely to be to drive the result to the legal limit of the more informed party.

In a competitive market with perfect information, purse-sharing arrangements should differ among boxers. Managers would be willing to accept a lower share of purses for the young boxers who have the most promise because of their higher expected earnings and, possibly, the lesser effort of the manager that is required in arranging matches and teaching skills. Regulation might truncate this distribution of outcome from above. But with imperfect information, regulation may truncate both tails of the distribution by making the maximum legal share for the manager a focal point in negotiations between managers and boxers.[9] In all likelihood, this focal point, plus uninformed boxers, explains why all managers except one negotiated the maximum one-third income-sharing arrangement. Because the talent, career lifetime, and earnings potential of boxers vary widely, it is unlikely that laissez-faire negotiations between boxers and managers would result in all managers receiving precisely one-third of a fighter's lifetime earnings. As a result, we conclude that the prescribed wording of contracts probably has increased the earnings of managers at the expense of boxers.

Another Commission policy, pushed by the Managers and Coaches Association, extended the maximum lifetime of boxers's contract from three to five years. The five-year maximum has also acted as a focal point to encourage boxers to sign contracts for the maximum period. After the Commission ruling, a number of California managers refused to sign boxers for less than five years.

[9] The CAC-approved form for a boxer-manager contract reads: "2. After the deduction of all training and transportation expenses that may be incurred by the athlete in the performance of his duties hereunder, the manager agrees to take only 33 1/3 % of all sums of money earned by the athlete from any services that the said commission has rendered or may render hereunder. . . ."

One final example illustrates the Commission's unintentional role of restraint of trade in contract negotiations. Rule 292 states that no club, without written and final approval of the Commission, can pay more than 60 percent of the gate receipts, with state tax deducted, to either boxing contestant. While the effectiveness of this rule is somewhat in doubt, there is no way of knowing how many promoters over the last decade might have cited it during negotiations with managers. Furthermore, it makes a public issue out of private negotiations. Why should Commission rules restrain the earnings of a valuable fighter?

If regulators seek to protect boxers, the best they can do is the following: (1) Adopt a standard form of contract between boxers and managers, and between boxers/managers and promoters, that contains clearly worded clauses dealing with all the issues common to such negotiations but leaving blanks where sharing arrangements and reimbursements are to be entered. (2) Periodically provide every manager and boxer information on the range and average values negotiated for each of the blanks, e.g. the 25th, 50th, and 75th percentile for the duration of a manager's contract, the standard purse-sharing arrangement, the typical purse for a preliminary fighter of a given experience and ability, etc. In instances in which boxers cannot read or are otherwise not able to digest such information, as can be determined at medical inspections, the Commission could appoint a special aide to assist the boxer in executing a contract.

OVERALL ASSESSMENT OF THE COMMISSION

We complete our study of boxing regulation with a short discussion of the influence of a career bureaucracy and a political commission on the industry. Regulatory commissions sometimes display evidence of "regulatory capture" by the industries that they regulate. Capture means that the Commission becomes a promoter and protector of the industry. The licensing policies, contract involvement, and contest approval of the Commission all exemplify these roles. Our study revealed that Commission staff quickly develop close working relationships and even friendships with managers and promoters. This is not surprising, because the economically significant part of the industry can be narrowed to a handful of boxers, managers, and promoters. In addition, referees' and managers' associations designed to protect the interests of their members are well organized, whereas fans and boxers are not. These associations persistently lobby the Commission for rules they favor, perhaps to the detriment of other participants, and they often succeed.

It is natural for Commission members and staff to be concerned about the economic health of boxing. After all, by choosing to become associated with the Commission, these people show an atypical interest in the sport, and can be expected to want it to flourish. But this can be dangerous, as benevolent interest slides easily into anticompetitive protectionism. And several people whom we interviewed believe that the Commission has stepped over this fine line. We were able to obtain a notarized, sworn affidavit from a licensed California promoter. It states that the CAC staff intervened to prevent

competitive bidding among promoters for a major fight, and reflects attitudes and conduct described by other sources who were not willing to be named.[10] It deals with the fight with the largest gross in the history of boxing in California, Ranzany vs. Cuevas. We are not lawyers, so we have no way of evaluating the legal implications of this information. We do see, however, a persistent pattern in Commission activities to engage in anticompetitive practices in an industry that already faces severe limits to competition in any case.

History tells us that regulation persistently exhibits much the same tendency evident in the California Athletic Commission.[11] If regulation of some aspects of boxing is a social necessity, institutional protections must be carefully constructed to minimize its anticompetitive effects. In general, the guidelines should be: (1) to minimize the extent of "informal" regulation outside of public scrutiny (e.g. informal supervision of matchmaking); (2) to keep the domain of regulation to a clearly defined minimum, in this case a set of specific aspects of boxer protection; and (3) wherever possible, to use informational strategies and general rules that are enforced through ex post punishments, rather than case-by-case decisions in which normal business practices must be approved by the Commission in advance.

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[10] The affidavit is included in our second report to the CAC, "Regulation of Boxing in California."

[11] The capture theory was originally explicated by Bernstein. Regulation as the outcome of interest-group politics is explored more fully in Noll, Peltzman and Stigler, among others.

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