The dynamics of profit rate and structural transformation in US motion picture industry, 1947-1997

Abstract

This paper analyzes the composition of profit rate in US motion picture industry between 1947 and 1997. Based on that I would argue the industrial crisis in 1950s was due to differential pricing syste m collapse that caused by emergence of broadcast television. The shrinked output, employment, inv estment and margin had not recovered until the mid-70s when pay channels was popularized. While the differential pricing system was re-established the operational risk increased that needed to be spr ead through product diversification and production outsourcing. These two measures encouraged th e independents to spring up that was called flexible specialization. Though they bargained for ultra-high wage level through agencies that squeeze the margin in production sector after the 70s. In the l ong run the accumulation problem was not solved and that might stimulate the merger wave in 90s.

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Introduction

Most of today's film and television program production in the U.S. is carried out by a variety of small and medium companies with different functions collaborating through flexible production networks. The distributors or exhibitors who contract out the works assume the role of coordination and management, being responsible for budget audit, funding, loan guarantee and production progress controlling. Production, distribution and exhibition have a loose relationship that could be defined as vertical disintegration. In general, exhibitors and distributors tend to have more significant horizontal mergers in large scale; producers tend to be smaller with trivial division of labor. In this production network, most workers and employers do not have a secured relationship; the work life is consisted of short-term projects one after another. According to Scott (2005:5), this production model has the features of new economy which are commonly seen toward the end of 80s at many technology-intensive, service-oriented and handicraft sectors, and is achieved early in the film industry, and that it can be called as Post-Fordism.

However, the flexible production system is not born to be like that. When motion picture industry in the US first rose at the beginning of last century, only a few major film companies dominated the supply of films and at the same time operated chain theaters in key cities, achieving the vertical integration of production and distribution. Majors employed workers and controlled budget and progress. All their films followed limited genre formula and were mass-produced through assembly line. After films were completed, they were prioritized to be released at their own chain theaters first. Production and sales were strictly arranged to make the film industry grow stably. To Storper (1989), the production model in the film industry of the first half of the twentieth century was very similar to the automobile industry in terms of disciplined production, pursuit of production volume and market oligopoly. It could be called Fordism, or "Studio system", a term that is not as theoretical.

It is a common argument that the film industry transformed from Fordism to Post-Fordism. According to proponents of the flexible specialization (which would be abbreviated as FS below), these discontinuities are associated with pressures in the system toward economic efficiency and the attempt of producers to separate out a relatively stable and predictable component of demand (where production can utilize the most advanced division of labor) from the fluctuating component of demand, which can be met profitably only with less specialized resources (Berger & Piore: 8). The fluctuations in demand came from that consumers had become reluctant to accept standardized products so that manufacturers were forced to change due to the inventories rising. In other words, as manufacturers could not forecast and control the consumer demands, they had to give up Fordism.

The film industry did experience serious crisis during the mid-50s which ended the previous studio system. Christopherson & Storper (1989) therefore inferred that the regime of flexible specialization was established. However, what is interesting to us is that, did the regime of flexible specialization solve the crisis in the 50s? This study attempts to understand the nature of film industry crisis during the 50s and the implication of film industry transformation from the data on profit rate.

Flexible Specialization in Motion Picture Industry

Most believe that the production system of capitalist economy experienced a major transformation in the middle of twentieth century; there were significant differences between before and after that in terms of production scale, organizational structure, technology form, management tool and market segmentation.

Piore & Sabel (1984), the theorists who developed FS approach, proposed that the production system in the first half of the twentieth century concentrated on large-scale production of homogeneous products and pushed consumers to buy them. To achieve this goal, companies had to make the production process standardized and the establish bureaucratic organization, and the labor process were split into repetitive and monotonous low-skill activities that could be easily replaced and managed. Capitalism during this period achieved an early form of monopoly. Companies then usually tried to control the various aspects between upstream and downstream, and that a large-scale production team was needed. In terms of economy, there was Keynesian demand economics that requested government to use fiscal measures to regulate aggregate demand. In terms of labor market, there were large labor unions fighting for better wages and working conditions for laborers, making the labor market more stabilized.

The problem that Fordist regime experienced at the beginning of 1970s was characterized by the failure of fiscal policies that government took to stimulate effective demand. The rate of unemployment and inflation had risen at the same time (as known as stagflation). To meet the new trends, manufacturers changed the production process to be more flexible in responding to the diverse needs of consumer market. For example, introducing computer system and machine equipped with microprocessor to quickly react to small-volume orders were common then. Large production teams in factories were also gradually disbanded. Labor process went on to develop in two directions, one was to ask the typical employees for voluntary devotion, while the other was the development of specialized division of labor to let workers leave companies to form new companies, forming collaborative production networks. The original manufacturers outsource all or part of production processes to these small and medium-sized enterprises (SMEs) and control quality via new communication technology. These developments led to a trend of vertical disintegration.

What is interesting is that why did this transformation take place? Those FS theorists thought that the crisis to Fordism were based on the two signs, one was that consumption could not work with the arrangement of mass production, while the other was the technology innovation. However, the new technology was adopted by firms to respond to the unstable market. That is to say, the changes in consumer market affect the development of system basically. Piore and Sabel (1984: 184) argued that the internal or fundamental reasons that caused stagnation of global economy in 1970s were " the saturation of consumer-goods markets in the industrial countries." Predictability and controllability of market demand are the preconditions for mass production. When a specific product experiences unexpected changes, or that when the product life cycle shortens or becomes unstable which is also known as market fragmentation, the mass production system composed by hierarchical organization and standardized production process was just not able to react; the products coming out from the assembly line just kept piling up and inventory increased. Finally the huge inventory cost overwhelmed manufacturers, causing the collapse of Fordism. This collapse didn't occur suddenly. Manufacturers with mass production system exited from the market or restructure, and the smaller manufacturers with craftsmanship and tradition may be able to respond to the market change and survive. Therefore the production system that could adjust quickly to the unstable market arose. However, this change was not guaranteed. An economy should immediately adopt a new and flexible production technology to have a chance to achieve "Second Industrial Divide".

Storper (1989) described the development of American film and television industry based on the theory of flexible specialization. He pointed out that in the American film industry before World

War II, several Hollywood-based major film companies had turned into large enterprises with vertical integration system, forming an oligopoly market. They employed a large number of employees, including above-the-line screenwriters, directors and actors and under-the-line technical staff handling costumes, styling, makeup and stage design who were managed by project managers within hierarchical organization. They produced a large number of movies with similar quality and limited plot change that were easy to produce, commonly referred to as "studio system" which had the characteristics of Fordism.

However, the absolute size of the market for films began to shrink and the remaining market was much less stable after the war that caused a crisis to studio system, unified market for filmed entertainment, dominated by one medium, became a segmented market in which different products competed for the consumer's entertainment expenditures (Storper, 1989: 279). Majors were forced to disintegrate vertically, reduce output, enhance innovation and diversify product line, all of which resulted in fragmentation of production departments and further social division of labor. The transformation process is described as followed (ibid: 295):

> in the film industry in the 1960s and 1970s, the studio system would have suffered lower returns than the flexibly specialised system, owing to what would have been a chronic condition of excess capacity or dramatically reduced production levels, while its opposite, an entirely artisanal production technique, would have had to forgo the returns to specialisation....The point is that the industry gains very significant increasing returns owing to the way that flexible inter-firm relations reduce excess capacity and offer greater levels of specialisation than would be possible with artisansal methods. This results in increasing returns for the sector as a whole.

The external economy brought by flexible inter-firm relations is generated from the transaction cost saving. That's why the aggregation of small firms could surpass a big company. Therefore, small firms need to be clustered geographically for effective information-exchange, work sharing and risk diversification (Sabel, 1994: 115). Christopherson & Storper who took this standpoint had published a few papers in the late 80's that discussed the the transformation of Hollywood production system (cf. Christopherson & Storper, 1986, 1989; Storper & Christopherson, 1985, 1987). They described the dualization of labor market (core vs. periphery) and the economies of agglomeration of many small production units in Hollywood (see also Scott, 2005).

However, the FS theorists were so obsessed with the development of division of labor that they were called neo-Smithist. They are criticised for unilaterally assuming that intensification of the social division of labor or closely integrated production networks were the inevitable end of the development of production system in capitalism (cf. Amin, 1994: 16). The main opponent in theory came from regulation school which proposed that the discuss of capitalism development should not neglect the capital accumulation problems that periodically occur and new regime would be adopted to overcome the problems (Aglietta, 1987; 1998; Marshall, 1999). But this view was interpretted by FS theorists as a teleology of history. According to them, the concept of path dependence was used for explain the change of history which was influenced by random factors comprehensively.

Wayne (2003) had tried to discuss the transformation of Hollywood production system with the globalization trend from the perspective of capital accumulation. He thought that the American film industry during 1960s faced the saturation of standardized product market and the intensifying international competition which generated the problem of accumulation. So it had to transform toward post-Fordism. After that Hollywood implemented a capital-intensive but decentralized production system named "decentralized accumulation" where the dominant logics of capital are mediated through a multi-divisional corporate structure in combination with a web of subsidiary and subcontractor modes which give the appearance of plurality and autonomy in the marketplace. However, Wayne's attempt did not really figure out the causes of accumulation problems. That's why the solutions he proposed that film industry adopted were still close to the FS approach. Unless we ask the fundamental question that how possible the capital accumulation of the industry is and try to answer it through the data of profit rate, it might be difficult to correctly point out the obstacle to development and the reasonable measures to overcome it. Therefore, we are not to ask a question about how Fordism gradually transform to post-Fordism. Rather, we step back a little and ask: How the accumulation problem that stimulated system transformation was formed? What were the reasons? What were the measures that capital adopted to overcome the accumulation problems? What was the role of production system transformation during this process?

The Crisis: Causes and Ways of Overcoming

Film is different from the ordinary commodity. First of all, the negative cost of film master copy is very high, but every replica afterward has very low or close to zero cost. In terms of consumption, it has the characteristics of public goods, meaning that it is non-excludable and non-rivalrous (cf. Miège, 1989; Sedgwick & Pokorny, 2005). To overcome the natural disadvantage of public goods whose owners could hardly charge consumers, the film companies had established theaters to separate paying audiences from non-paying ones and charge different fares based on the audiences' ability to pay. As soon as films are produced, they are shown at the luxurious theaters in downtonws. After the so-called first run showing they moved consecutively through several intermediate steps (second-run, third-run, and so on) to final-run venues and that takes about takes about half year to two years. Between different runs there are clearance time when no movies are shown for a few months. So audiences expectation would be strengthen to buy higher-priced tickets. The programs of each local theater are also staggered to avoid fighting for the same type of audiences. This whole system is calle drun-zone-clearance which was established as early as in 1910 and was popular in the first half of the twentieth century (Conant, 1978: 19). This system is the so-called differential pricing in economics, aiming to divide consumers with different purchasing power into different market segment for exploiting as much consumer surplus as possible. This whole set of system was able to operate effectively because the large companies in an oligopoly market dominated the distribution and scheduling of films through cartel (Gomery, 2004; Orbach, 2004).

However, this stable exhibition system collapsed after World War II. On one hand, Paramount Decree forcibly divorce the vertically integrated production, distribution and exhibition sectors so that majors no longer could control the key theater chains, making the strict scheduling system unsustainable. On the other hand, the baby boom and the residential suburbanization caused significant changes to the geographical location where consumers engaged their recreational activities. The entire generation of consumers who used to watch movies at theaters had to take care of their babies and were not able to extricate themself. In addition, the household car ownership after the war increased and the large shopping malls with convenient parking spaces in the suburban area arose. These trends made the original central business districts in each major city hollowed-out, along with the decline of theaters in these areas. Almost half of the four-wall theaters closed by 1957 (Edgerton, 1983: 32; Gomery, 1985).

As shown in Figure 1, the change in consumer behavior is reflected in the decline of theater attendance. Since 1945, the number of attendance quickly fell and reached the lowest before 1970 and stabilized afterward. However, Vogel (2011: 23-27) compiled the consumer spending on recreational activities from 1929 to 2009 and showed that it steadily increased after war. The recreation proportion within disposable income increased while the spending on movies quickly decreasing. Accorting to Figure 1 it could be said that the demand retrenchment of the film industry was not due to the lack of effective demand but was replaced by other products and services.

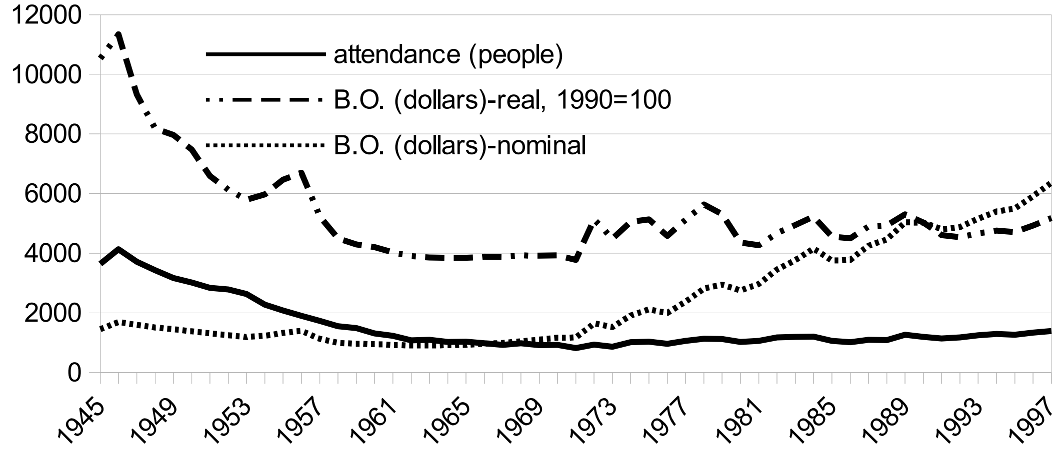

Fig. 1. U.S. box office & film attendance, 1945-1997 (million)
Source: Edgerton, 1983:27; Finler, 2003: 376-7; Vogel, 2011: 90-1

In response to the transformation of consumer habits which covered mobility and new demand for family viewing in private, there were two options proposed in motion picture industry. One is the drive-in theaters that could be operated with low-cost, and the other is broadcast television system. The drive-in theaters was an extension of the previous exhibition system and it complemented the vacancy left by the theaters in the old towns and greatly increased after World War II. However, the growth slowed down toward the end of 1950s and started to decline in the 60s while the colored television sets were available to all and never recovered afterward (Segrave, 1992). We might draw the inference that drive-in theaters were just an interim arrangement during the transformation period of the industry. On the contrary, It only took ten years for television penetration of U.S. households to reach 90%. As a new channel, television was the answer that satisfied the consumers' new needs and solved the distribution problems(Spigel, 1992). Even better, with radio waves transmitting images, the marginal cost to reproduce a movie dropped to zero.

However, how to rebuild the differential pricing on the basis of broadcast television system was a big challenge to motion picture industry. It's well known that Hollywood film makers in the mid-30s had already started to experiment the commercialization of radio wave transmitting images to replace the film reels conveying between theaters. The so-called theater television was proposed by Motion Picture Producers and Distributors of America (MPPDA) to compete with the "free" broadcast television system which was prepared for launch then. All major studios also obtained temporary spectrum licenses toward the end of 40s. Even Paramount had experimented closed-circuit pay television system in communities at the beginning of 1950s. However, these attempts at pay television were all terminated as late as the end of 1950s due to the strong boycott by broadcast television operators (White, 1990).

Television operators who provided "free" services disrupted the well-established system of differential pricing. For them, the value of motion pictures was counted on view ratings. But the rating survey could hardly distinguish the purchasing power of viewers effectively and the audiences were charged equally with flat rate through the advertisement expenditure. However, in the original run-zone-clearance system masterpieces such as "The Bridge on the River Kwai" could be shown in the first-run theaters which charge the highest and the playtime should be extended as long as possible. The cheaper Westerns might be premiered in second-run theaters with the double-feature approach and then quickly transferred to the later-run theaters. But when they were exhibited on television, the only difference between high-budget features and Westerns might be shown in the number of viewers. Both of these two kinds of movies were aired once with no extended playtime and no rate difference. When a large number of theaters went out of business and the television industry received those movie consumers but were not able to identiy their purchasing power, the entire differential pricing system would just collapse.

Besides the theater films were threatened by the collapse of differential pricing, the productive capacity of motion picture industry that had long been devoted in the television industry had to accommodate to the new scenario. Although majors from the classical studio era had kept a distance from the television industry, mini-majors without the ownership of theaters and some independent studios such as Columbia, Universal, Republic, Monogram and others who were good at producing B-class films had participated the production of television programs near the early 50s (Anderson, 2004: 236-9; Davis, 2008). With the extension of television air time and the pressure of competing for audiences, the three television networks all turned to cooperate with Hollywood studios. Toward the end of 1950s, Fox, MGM and Warner Bros. had participated in the production of television programs. The production base for television programs that was originally close to the headquarters of television networks which were located in New York City on the east coast had moved to Hollywood on the west coast by the end of 50s. It was estimated that 3/4 of the workers in Hollywood directly or indirectly participated in the production of television programs in 1963 (Murray, 1977: 67; Stuart, 1982: 300-3).

Other than the low cost telefilms that Hollywood offtered for the needs of television stations and the emerging syndication market, lots of old movies were sold in bundle to broadcasters by majors since mid-1950s (Balio, 1990: 31). As movies shown on television were often the ratings guarantee and the replaying diminished the attraction of old films, the broadcasters became eagerer for newly produced films. In 1961 the three networks purchased a whole package of colored features from Hollywood majors that were produced for wide screen in order to encourage audiences to raplace their monochrome TV with color ones. After that movie playing on television became a norm. In 1956 when RKO sold its film libraries, each film was sold for $10,000 on average. It was an outright sale. However, in the beginning of 60s, the average price of a movie playing twice rose to $150,000. The number kept rising to $400,000 in 1965 and then $800,000 in 1968. While the broadcasters bade for movies more and more crazily, the Hollywood majors could dominate the whole transation gradually. In general the package licensing allowed television stations to win the bids for several ordinary films at once, but the popular blockbusters needed to be bid separately.

Toward the end of 60s, the interval between the movie showing on theaters and on networks was 18 months. After the showing on networks, it would go to the syndication market of local television stations. At first, the revenue from television licensing deal was just dispensable for film makers, but within ten years television became a regular secondary market for movies. The coming revenue from television buyers would be took into serious account for a budget preparing for movie. (Gomery, 1992: 250).

However, while the broadcasters have expanded so quickly by providing " free " content to audiences that the television penetration reached 95% by the end of 60s, it seemed that could make up for the loss of consumers in traditional theaters. After consumers embraced television, the consistent rise of view ratings allowed the advertisement expenditures to grow from zero to $12.77 billion at 18.3% annual growth rate. In the same period the box office in real terms decreased by

$4.05 billlion. The increase and decrease seemed to be balanced. In reality, the total output of motion picture industry was constantly decreasing as shown in Figure 2.

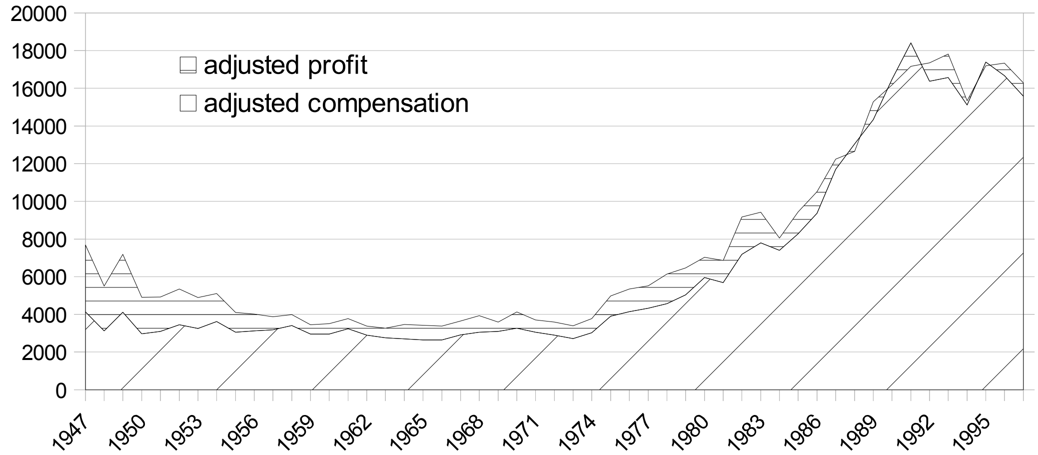

Fig. 2. Composition of net domestic product of motion picture industry, 1947-1997, in million dollars, in real value (1990=100)
Source: Bureau of Economic Analysis

The shrinking output of the motion picture industry had never recovered until mid-70s. Even though the same content could reach a wider audience through broadcast television, there was no way to charge audiences on consumption as effectively as before. The loss of what moviegoers contributed couldn't be filled by the advertisement expenditure on television. The whole motion picture industry needed a new way of commodity realization, which was pay television.

In the early 70s, the "free" service model of television industry was broken. FCC allowed cable systems to show non-network programs and collects fees and raised the curtain on a new era of pay television. HBO, Showtime and The Movie Channel were established one after another that were supported directly or indirectly by Hollywood majors. Until the end of 70s a nationwide operation could be done via satellite links. Cable system subscribers received basic channels with commercials (provided by local channels, super stations and networks) and could also pay to watch ad-free premium tier channels. HBO, Showtime and other premium tier operators purchased the movies that had not been taken off the theaters too long at high prices and advertised them as exclusive premiere to attract subscribers. New channel of exhibition with excludability was therefore established, pushing the playing of movies on broadcast television further backward and even moving forward to squeeze the duration at theaters (Gomery, 1992: 264; Edgerton, 1983: 167).

Furthermore, home video sector also quickly developed at the end of 70s. since the startup cost for video rental stores were not high, many small-scale stores were opened across the US. Hollywood majors were reluctant to run video rental business because of licensing consideration that small and medium film makers sprang up to become main suppliers for video tapes. Orion, Cannon and a few other film studios earned revenues via video tape distribution, and they continuously grew to become mini-majors. To raise funds for production, these independents sold the rights to distribute or exhibit a film in different territories before the film is completed. However, toward the second half of the 80s, majors started to view the video tape rental and sale as a necessary ancillary market and regularly distributed video tapes before the marketing effects faded after the movies were taken off the theaters. After that they acquired well-known mini-majors one by one, dominate the transaction order of the industry which was beneficial to film distributors (Lindstrom, 1989; Wasser, 2001).

Between 1970 and 1990, the motion picture industry re-established differential pricing model that was dependent on a high *television penetration* of U.S. *households*. Nationalwide broadcasting was no longer the only choice for motion pictures out of theaters while audiences could be divided with different purchasing power into different segments and then charged accordingly. In fact the audiences' spending on related services had increased because of the emergence of these new pay channels (Fullerton, 1988). During the period that the new channels opened one after another, the broadcast television had always been the last window for motion pictures. Nowadays, films are exhibited sequentially in differenct windows such as theaters, hotel PPV, home video (rental and sale), home PPV/VOD (cable, DBS, Internet), premium channels (cable, DBS) and broadcast/cable (networks, station syndication). It takes approximately two years when a film is available on free-to air TV after its theatrical release date. (Waterman, 2005: 68).

We can learn from Figure 3 that the investment before early 70s was weak and started to take off afterward. According to output and investment data we might say that the re-establishing of differential pricing was helpful to economic vitality restoring. For profit rate calculating the captial net worth should be denominator and the profit in Figure 2 would be the numerator, and then we might obtain the trend of profit rate as shown in Figure 4. Figure 4 shows that the motion picture industry recovered its profit rate in the mid-70s but then deteriorated to almost zero which was very unusual. From Figure 2 we might learn that it is due to compensation growing too fast and eroding profit. It was obvious that the fast-rising wages caused profit squeeze. Here is the question: why did the re-establishing of differential pricing cause the unusual growth of wages?

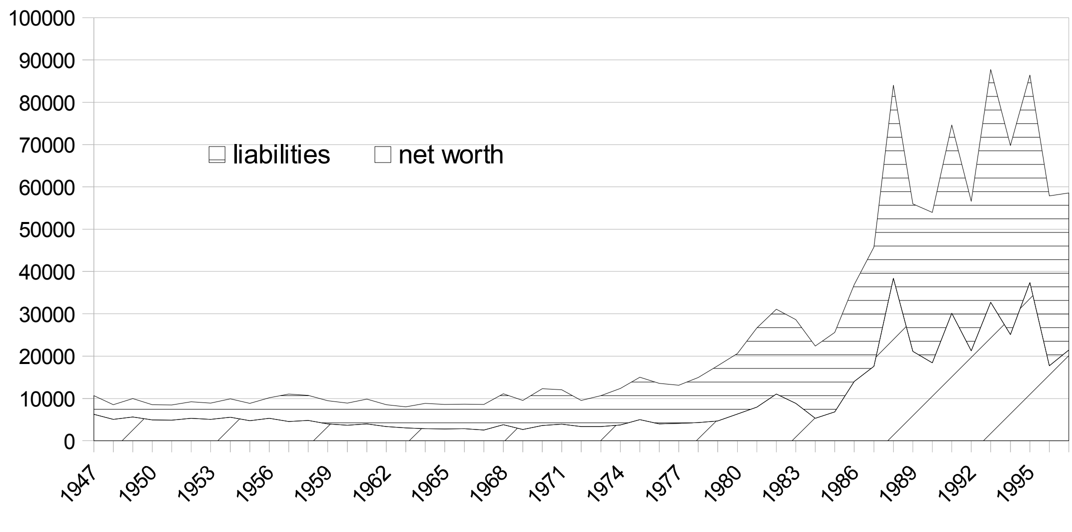

Fig. 3. Asset composition of motion picture industry, 1947-1997, in million dollars, in real value (1990=100)
Source: IRS Corporation Source Book

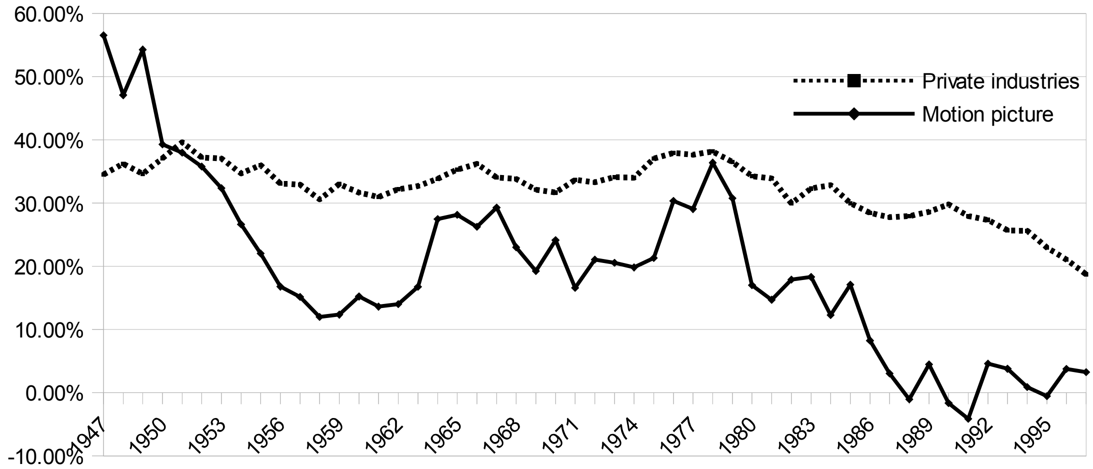

Fig. 4. Profit rate of motion picture industry and total private industries, 1947-1997

The early stage of product hierarchy

FS theorists used dualism of production system between the rigid mass-production and the flexible differentiation to analyze history which was criticized for being too arbitrary and misleading. The dual system is not necessarily opposing or substituting to each other, it can be complementary.

It's known that before sound film became popular at the end of 1920s, the motion picture industry had already achieved high level of division of labor and production efficiency. During the studio era every Hollywood major had established all facilities required for its own production and organized large in-house workforce that was tightly supervised and not allowed to paticipate outside projects. These arrangements would faciliate mass production of genre films. In the 1930s, as the US film market was under control of a few majors, the theater operaters had widely adopted double-feature approach to quickly consume the purchased films. That showed how film makers had dumped and the market was almost saturated.

According to the analysis of Staiger (Bordwell, Staiger & Thompson, 1985: 321), the mass-production system that had been established in the 20s that was led by few omnipotent producers who coordinate all resources, labors and monitor production process. However, as productivity kept growing and the application of sound film made production even more complicated, the film production in the 30s could not be solely controlled by those few producers, and that the production system was deveoped further into unit system of production. The compensation of producers began to deviate from the fixed salary system and became some kind of profit-sharing deal. In addition, popular actors who had signed long-term contracts with some studio and were viewed as important brand assets and representatives had been leased to competitors for short-term project since the beginning of the 30s. For example, RKO had rented out their own studios and facilities in the early 30s and collaborated with independents by providing funds. This proved to be an effective way to maintain production volume and reduce overheads. Semi-independent production units were stimulated to split from majors because of these conditions. After that majors started to try similar subcontract or outsourcing model in small volume, further contributing to form the project-based production networks (Bernstein, 2004).

The beginning point of transformation was much earlier than what Storper (1989) assumed and the causes were somehow internal factors that Storper neglected. More importantly, mass-production might not be replaced by flexible production networks in one way. The production dualism that Piore suggested might be complementary.

Films in the 1930s had been labeled as "duals" by a film historian, Jacobs (1992: 2). One was the B-class movies that were based on genre formulae and produced through assembly-line largely. The period of time was short and the cost was low for the production of B-movies which targeted second and later-run theaters as main markets. The other was made with high budget and some famous stars and usually based on unique scripts (It might be named A-class films which was rarely heard of though). In contrast to B-movie, A-movie's quantity was small. The major studios generally maintained two product lines: A and B films while the mini-majors or some independents such as Monogram, Republic and many other smaller ones called "Poverty Row" specializes in producing B films, cheap quickies, short films or newsreels. Among four thousand films produced in the 1930s there were 75% of them were classified as B films (Jacobs, 1992: 8; Taves, 1995: 314).

In terms of the operation of the whole industry, B films might be the support for A films. First of all, the revenue of A films were came from the share of the box office with exhibitors and that would be fluctuated greatly while the B films were bundling for sale that exbibitors would be charged flat fees. So the revenue came from B films were more stable that would help reduce the operational risk. Second, regular B films releasing could make the the facilities and labors being used adequately to avoid idling. Besides, the big demands of distributors and exhibitors should be satisfied by B films that the circulation of capital would be guaranteed continuing. Third, B films production would be treated as the training ground or laboratory for fresh and junior talents. Moreover, not because they lacked genius but because they were skilled at produce films efficiently that they involved in B films production. Such reliable and efficient execution may not work well with the production of A films which were characterized by uniqueness. B film workers often supported the production of A films and served as the reserved team for them. However, as studios tended to emphasize the special status of A films from the formula films, the B and A films workers were defined clearly and they also belonged to different production units under the arrangement of studios (Taves, 1995: 329).

In the 40s, this dualism of in-house structure was further externalized. Various low-cost B genre films, series and short films were still produced through assembly-line and coordinated by producers with centralized power who emphasized cost-effectiveness. A films were produced by semi-independent or independent production units. Sometimes the well-known producers or writers were contracted shortly for A films production whose creativity and uniqueness were accentuated.

As time went by A films production increased while the others decreased in proportion. The box office of A films were regularly greater than B that encouraged studios to shift resources to the former(Chambers, 1938). Majors such as Warner Bros, Fox and Paramount started to cut the production of B films while the mini-majors like Columbia and Universal who had focused on B films increased A films production. RKO, a major studio emerged in the late 20s, had maintained the mass production workforce for basic B films and adopted a new measure called in-house indepenedent that some famous producers were allowed to organize their own teams and use equipments and props freely that under the supervision of managers. At the beginning of 1940s, it even became the first in the industry to accept the package deals proposed by a newly emerged entertainment agent, MCA. RKO then provided funding and studio equipments to let MCA produce films with its own prepared scripts and organized talents (Schatz, 1997: 45).

For independents, the environmental changes in the motion picture industry provided favorable conditions to split from studios. The first was the adjustment of wartime tax policy that made the tax rate of personal income higher than the corporate's, so that many talents started their own businesses to produce films with others for tax saving (Hoyt, 2010). Their funding and distribution business was usually provided by majors which was called stuio-based production unit. The second line telents could sign single film or short-term contract with studios and have great sovereignty in production (so called in-house independent). Second, loose liquidity policy and low borrowing rate during war time had made independents raised money easily. Third, in 1940 court asked majors to loosen their grips on block-booking and blind-bidding that let exhibitors have more rooms for independents' works. Under these favorable conditions, the production cost in the 1940s increased rapidly and the production periods were longer and variable (Gomery, 1986: 10; cf. Nelson, 1947; Wasko, 1982: 107-108).

We might say that the product differentiation was the privilege of a small number of A films while the mass-produced B ones were still the mainstream in motion picture industry. Regarding the entire product types of the industry, there would be a phenomenon of product hierarchy rather than the comprehensive product differentiation which was suggested by FS theorists, as shown by Figure 5:

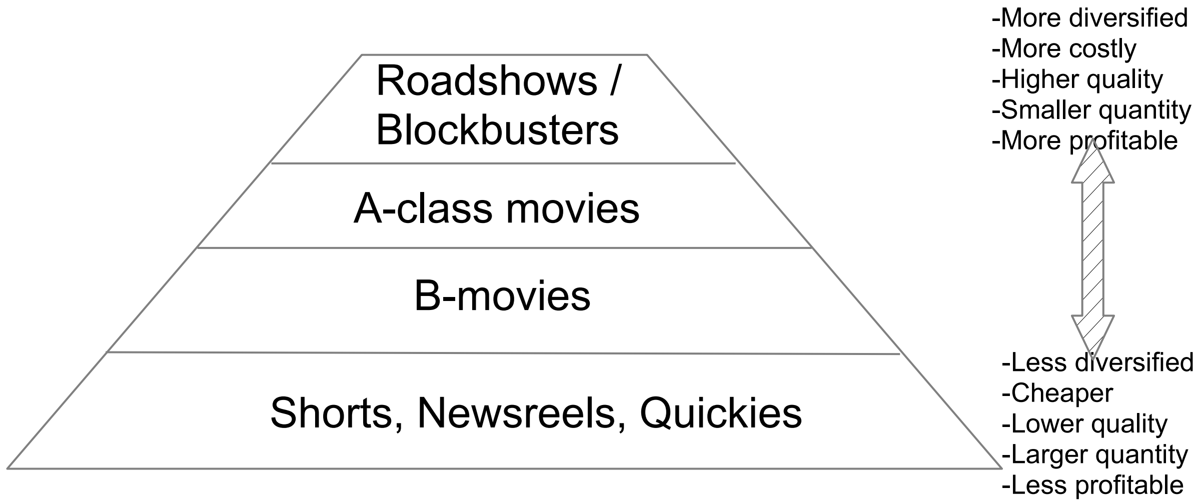

Fig. 5. Hierarchy of product in motion picture industry

After the 40s, the differential pricing based on run-zone-clearance system during the studio era collapsed because of the emergence of free-to-air television. The studios that didn't concern quality and diversity of films and excelled at mass-production B movies and quickies switched immediately to TV programs supply at the beginning of the 50s. Even Warner Bros. also restructured its B film department and supplied television dramas through mass-production model (Anderson, 1994: 157-190; Davis, 2008). It seemed like that the B films production capacity was absorbed by television sectors. B filmes, shorts, quickies, news reels and documentaries in theaters were replaced by tele-films, soap operas, game shows, and news programs etc. on television which were played once mostly. The life of mass production model kept going through daily broadcasting.

In the meantime major studios who had earlier devoted resources on high-end projects were forced to cut down on production, employees and equipment. They reversed the progress of outsouring and re-centralized all power of supervision back to the in-house producers. Budgets were tightened also. (Schatz, 1997: 329-347). Fig. 6 shows that the proportion of self-employees was limited during the first half of the 20th century. The prosperity of broadcast television sector had negative effect on labor market and the number of self-employeed had grown slightly until the mid-60s.

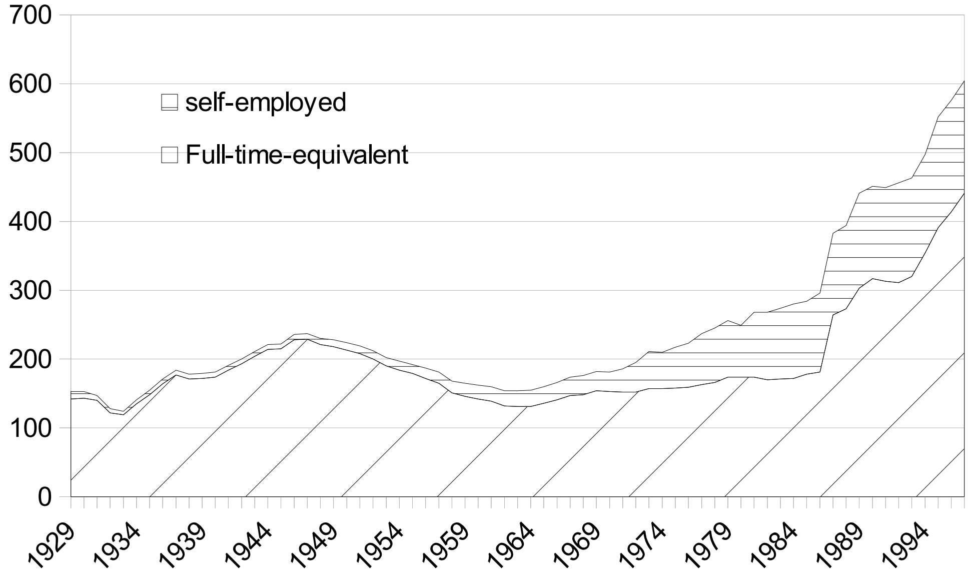

Fig. 6. Labour market composition (persons engaged in production) of motion picture industry, 1927-1997, in thousand. The category of "Self-employed persons" consists of active proprietors or partners who devote a majority of their working hours to their unincorporated business.
Source: National Income and Product Account.

Cost Control of the Differential Pricing System

The trend shown at Figure 7 that the proportion of self-employees increased dramatically in the second half of the 20th century seemed to match the claims of FS approach. However, the fact of profit squeezing mentioned earlier reminds us that the outsourcing production and product differentiation which FS proposed might not solve the problem of capital accumulation in the long run. Or it might be said that the flexible specialization adopted since the 70s generated adverse effect on profit margin. As capitals can be switched from low to high-margin sectors at will, the phenomenon might not be simply ignored by the idea of history without a purpose or path dependence.

In the history of new channel adoption Hollywood majors were reluctant to embrace new technology that were not under their control. Therefore, the content sources for the new media needed to come from elsewhere, usually supplied by independents or mini-majors (cf. Wasser, 2001). The growth of independents or self-employees could be reasonably explained as complementary effect with the expansion of new exhibition channels.

The Hollywood studios mainly took the package-selling approach to license movie-bundle to broadcast television. That is the reproduction of block-booking which they had adopted to deal with the later-run exhibitors in the early years (Conant, 1982: 97; Segrave, 1999: 59). For bundles majors charged the exhibitors a flat-fee that had no concern with box office performance. It is said to be beneficial to both sides because of transaction cost saving (Kenney & Klein, 1983). However, for film makers, it also reduced the incentives to pursue differentiation and quality. In contrast, in a perfect differential pricing system, programs should emphasize on their uniqueness and quality to earn the opportunity to be played longer in the early-run channels that could charge audiences higher rate. In other words, differential pricing system could stimulate film makers to conduct differentiated production (Waterman, 2005: 113).

However, more differentiated production means higher uncertainty and risk. To film makers, after the expansion of release windows, the best scenario is that each film was unique and could be played from the first window (theaters usually) to the last one (broadcast TV) in sequence to exploit consumers' surplus perfectly and maximize revenue. In reality, producers cound not know in advance which movies would have the potential to go viral. Empirically high-budget blockbusters usually have better returns, but they suffer huge losses sometimes. Therefore, film makers must try to invest in several projects at the same time to diversify risk and stabilize profits, operating them like a investment portfolio (cf. DeVany, 2004). Through short-term contracts to recruit film workers to conduct interim production, studios could make the cost of project maintainence and overheads externalized to share risk with independents on one hand, and use the least resources to findout the most valuable project effeciently on the other. (Chisholm, 1997; Menger, 1999).

Another common measure of risk control is the greater reliance on the star system. Big-name talents are thought as the guarantee of box office performance and treated as the core of marketing that they could be a valuable and "bankable" asset for fundraising. As the budget rocketed the star system was further established through the intermediary of talent agency. While lots of long-term contract workers were laid off by studios at the beginning of the 50s, some of them were signed by emerging agencies that would like to develop production capacity. After gathering the crew and appropriate script from market with their talents, the agencies would propose a "package deal" to majors. Until the proposal was approved and initial funds was ensured by studios (so called "get greenlight") the filming work will not proceed. The actual works of which the major studios take charge were funding, distribution and marketing rather than production. This approach gave almost complete autonomy in production after approval to the independent film makers or agencies who proposed package deals, and that the top actors, screenwriters and directors could dominate or intervene the whole production plan (Monaco, 2001: 23). However, the extent of such externalization was still limited in the era of broadcast television. It was further shaped up after the new paying channels were established at the end of the 70s, and that was when large agencies aprang up (Bielby & Bielby, 1999).

The production outsourcing approach and star system made the bargaining power of big-name talents increased, and that they often asked profit sharing contracts as a precondition of agreement. The agencies that negotiated contracts for their clients earned commissions at a percentage of clients' remuneration. So they were so enthusiastic on bargaining around different studios. As the agencies controlled the package proposals and the contracts of big-name talents, the competitive studios were usually forced to accept the terms in order to ensure the films becoming big hits. That's why the production budgets were inevitably pushed higher and higher.

Blind belief in stars as the box office guarantee was the catalyst for the rising budget and marketing spending, and make in-house production capacity of studios drain away in the long run. As mentioned earlier, agencies take one tenth of clients' remuneration as their commissions, so they would try their best to impose their own talents into the package deals. In the 80s when the production outsourcing model became common, the shares that agencies requested were stabilized at 6% to 10% of the total budget, and that there were even some cases that they asked for share of box office which was called "first dollar gross". That menas the A-list stars have used gross-participation contract rather than profit-sharing. Studios were required to appropriate funds for shooting as soon as possible, otherwise they might still have to pay a part of the guaranteed remuneration. This was the so-called "Pay or play". With this type of contracts, the share of total box office that big-name talents get might be as high as one third (McDonald, 2008 ; Prince, 2000:

160-165). According to Weinstein(1998), the first priority that a-list talents have to claim their remuneration would squeeze the remainder of gross receipts which include compensation of other participants, revenue of exibitors, and even the profit of studios. Sometimes a blockbuster failed but the pay of A-listers kept untouched. This compensation model would benefit big-name talents and their agents first but sacrifice others (Cook, 2000: 341-349).

According to the statistics of average payroll by firm size in motion picture industry in 90s, the smallest business employing less than four had ultra-high wage level. As shown in fig. 7, in total private industries the wage level grows with the size of business. However, it is reversed in motion picture industry that the biggest business (number of employees more than 500) had the lowest wage level. Combining with Figure 2, we might draw the inference that the rapid growth of compensation was driven by the small business, and that might be the result of production outsourced by big corporation such as major studios.

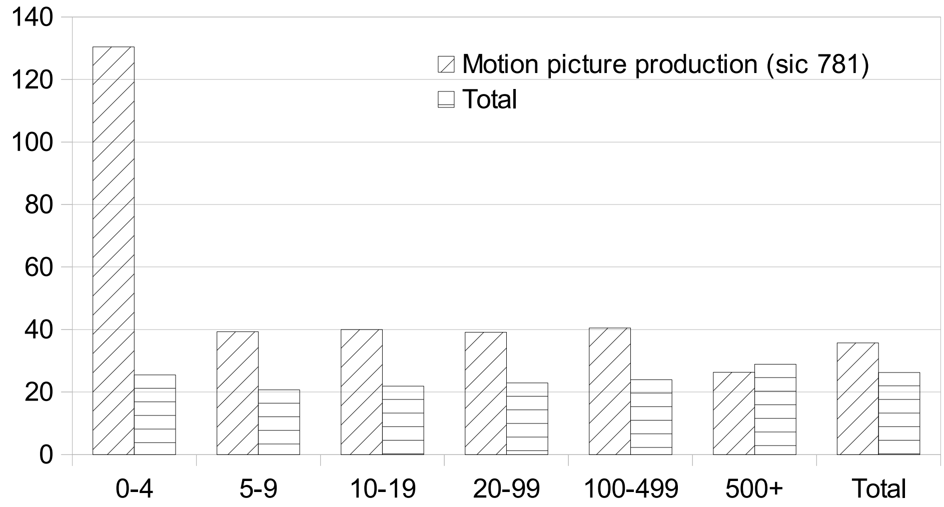

Fig. 7. Average payroll per capita by firm size(employees), 1990-1997, in thousand dallars.
Source: SBA statistics.

Discussion

According to the data of output, investment and profit rate changes between 1947 and 1997, the whole motion picture industry had shrunk for twenty years after the end of WWII and could not recover until the mid-70s when pay channels emerged. Considering the public goods characteristics of the products, we might say that the re-establishing of differential pricing stimulated the further development of the industry. However, there was no clear evidence to show that the abrupt decline in attendenace and box office was due to that consumers grew tired of the mass-produced formula film. It is also difficult to argue that the consumers suddenly developed the needs for differentiated products after the 70s, as claimed by the FS theorists. Therefore, we might say that the crisis of motion picture industry in the 50s was caused by the emergence of broadcast television which had made differential pricing system collapsed. So the overcome of this crisis was based on re-establishing this system.

Nevertheless, the phenomenon of flexible specialization did occur. The independents represented by the self-employeed had grew significantly since the 70s because the high-end products which were required by differential pricing system brought uncertainty that needed to be spread through investment diversification. Besides, newly established pay channels without support from

Hollywood majors needed reliable sources of content that were composed of mini-majors, packagers, independents or free film makers. While more and more labors were laid off by traditional major studios and became self-employees, the agencies which served the function of a go-between sprang up.

In the meantime, major studios could hardly govern the labor market especially in the salary-negotiation of wage since the production were outsourced. As they competed for big-name talents, the mediation of agencies drove the wage growth out of control that eroded profit finally. The data shows that the profit performance of the whole sector in the 80s was poor that investment and output was encumbered in the 90s.

There were several large-scale mergers between content providers and channel operators that occurred in media industry in the late 80s. Aksoy & Robins (1992) had interstes in the oligopoly phenomenon and critize the argument of Storper (1989) for being optimistic about production networks and ignoring that centralized ownership and vertical integration might threaten diversity. Later Storper (1993) responded by saying that Aksoy & Robins overly emphasized on the threat of conglomerates that they could not understand the vitality of flexible specialization system. In this regard, Christopherson (1996), a co-author who conducted research with Storper in the early years, admitted that as the major studios re-took the control of ownership of exhibitions, they would have the absolute leadership in the production projects and virtual integration would occur she thought. Wayne (2003) also tried to use "decentralized accumulation" to reconcile the contradiction between the two parties. However, how the new accumulation regime overcame the system crisis in the early years was not explained very well that his attempt might not be successful.

However, after re-examining the profit rate dynamics in the motion picture industry, we might say that the merger wave in media industry in the 80s was due to fact that the profit margin at production sector was too low, and capital was not able to overcome the difficulties caused by overgrowing wages and profit squeeze internally, resulting in a new round of accumulation problem. While investment and risk needed to be diversified, successful products were hard to be picked up in advance and that studios would not give up the star system, let alone going back to the studio system in the early years to rebuild internal labor market. Therefore, capital chose to further integrate distributors and exhibitors (either active or passive). One reason was for risk control, the other was to obtain stronger bargaining power against the outsourced production sector.

As the profit margin in the film and video production sectors were so low but the output and investment still remained, it could mean that capitals were transferred into distribution and exhibition sectors through merger and acquisition. We might also say that during the 20 years after 1990 the investment and output of pay television and other new exhibition channel kept growing rapidly, stimulating the growth of low-margin production sector.

Another issue that cannot be ignored was that for years Hollywood accounting has been critized for the lack of transparency and the use of two books, especially in responding to the profit or revenue-sharing model for the talents that book losses were listed deliberately to hide actual profit. After the waves of merger and acquisitions, distributors and exhibitors were integrated vertically to create the space for transfer pricing that captial could deliberately suppress prices when licensing the broadcasting rights to keep the profit in exhibition sector. Although this is not impossible in practice, more empirical data are required to draw relevant inferences.

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