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**The film business in the U.S. and Britain during the 1930s.**

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## **The film business in the U.S. and Britain during the 1930s**

### *Abstract*

Film was a most important product in the lives of the people during the 1930s. This paper sets out to analyse the underlying economic arrangements of the film industries of the U.S. and Britain during the decade in producing and diffusing this commodity-type to the population at large. In doing this, the paper finds a highly competitive industry that was built around showing films that audiences wanted to see, irrespective of the extent of vertical integration. It also examines the nature of the inter-relationship between the two industries and finds an asymmetry between the popularity of British films in the American market and that of American films in the British market. Our explanation for this is that the efforts of British firms on the American market were not sufficiently sustained to make a significant impact on American audiences.

### **The film business in the U.S. and Britain during the 1930s.<sup>1</sup>**

This article examines the manner in which the film industry worked in the U.S. and Great Britain in the 1930s, focusing on the pattern of trade between firms on either side of the Atlantic. A particular emphasis will be placed on the asymmetry in the performance of British and U.S. film producers, and specifically, on the failure of British producers to find sustained success in the U.S. It was a period during which filmgoing was the dominant paid-for leisure activity, with revenue from the box-office in each country constituting two-thirds and four-fifths, respectively, of all entertainment expenditure.<sup>2</sup> It was, as A. J. P. Taylor wrote, ‘the essential social habit of the age...[which] slaughtered all competitors.’<sup>3</sup>

The film business during the so-called ‘Classical’ period<sup>4</sup> (1920 to 1960) evolved in response to two key characteristics of the behaviour of its consumers. First, audiences soon tired of even the most popular films, requiring a flow of new attractions to continuously tempt them back to the cinema. Therefore, once they had been released onto the market, films had short product lives: in the 1930s there was only the theatrical market and thus a once-only opportunity for amortisation. Indeed, so short were their lives as commodities that Hollywood amortised its film products over a period of 12 to 15 months, with half the expected earnings being generated during the first 13 weeks of release.<sup>5</sup> For production, this meant that the ‘major’ studios were required to market annually upwards of 50 new films in order to keep their product before the cinemagoing public. The function of distribution was to maximise the screen-time accorded to each film, whereas that of exhibition was to make screen-time available to a film only while

the paying audience was sufficiently large. Both functions had a life-or-death financial interest in handling the films that audiences wanted to see. Clearly, the function of production was to make those films, but the problem was that *ex ante*, producers did not know exactly what audiences wanted and audiences did not have a full conception of what it was that they liked, mostly because novelty appeared to be an essential element in consumer demand.<sup>6</sup> This implies that audiences were engaged in what Arthur De Vany and David Walls have characterised as a discovery process.<sup>7</sup> As a consequence, both production and consumption decisions were shrouded in uncertainty. It was a risk-laden situation, characteristic of products that have an irreducibly ‘artistic’ component and of course it prevails just as powerfully today. Interestingly, the tendency towards monopoly – suggestive of an industry in which production costs are endogenous and largely sunk, distribution universal, consumer prices invariant and consumer tastes highly developed – was thwarted by the stimulus to competition implicit in the short life-cycle characteristics just described and in the need to constantly innovate.<sup>8</sup>

The second characteristic is the fact that audiences differentiated films qualitatively in such a way that a small number of ‘hit’ films were disproportionately successful at the box office, resulting in a highly skewed distribution of global revenues. In a series of articles, De Vany and Walls have provided evidence of this during the 1980s and 1990s in the American market.<sup>9</sup> Sedgwick has done the same for the period 1946 to 1965,<sup>10</sup> and we present further evidence for this empirical regularity from both sides of the Atlantic during the 1930s. In general terms this regularity arises from exhibitors constantly demanding from producers films that would be expected to appeal widely to consumers

and thereby generate high box-office revenues. In the event, only a relatively small number of films were successful in these terms, as each film release had to compete on its own merits against large numbers of new rival products. The dilemma for producers was that high revenue-generating films tended to be those with high production values, and hence were costly to produce. But for producers high budget films, while having the potential to generate high box-office revenues, were not necessarily profitable – the higher the production budget the higher were the revenues required to cover the costs of production and distribution. Thus while a number of high budget films during the 1930s were outstandingly successful – they were the hits of their respective seasons – there were also a substantial number of high budget films that were markedly unsuccessful in that they generated considerable losses for their producers.

Film producers attempted to resolve this dilemma by constructing diversified annual portfolios of films, diversified in terms of the variation in production budgets, genre composition and the distribution of star and directorial inputs. Thus, low to medium budget production provided a reliable source of profits (given the relatively low box-office revenues that were required to cover costs), and in many cases resulted fortuitously in hit films, but essentially it played the role of cross-subsidising the risky activity of high budget production. The key to financial success during the 1930s was to be found in the aggregate financial performance of the annual film portfolio, with hits often emerging from quite unexpected parts of the portfolio. Thus, film producers built up their understanding of this dynamic market through the performance of their film portfolios, with film making strategies and portfolio construction evolving accordingly.<sup>11</sup> Any new

entrant to this market had to be prepared to undertake the substantial investment required to construct an annual film portfolio, and, crucially, to replicate this investment over a number of years in order to gain a market presence. As will be argued, British producers underestimated the nature of the commitment that was required to achieve success in the U.S. It will also be shown that although the industry had integrated vertically, with the five 'major' Hollywood studios and the two largest British companies operating as producers, distributors and exhibitors, this did not lead to exclusive exhibition arrangements – barriers to distribution and exhibition were not insurmountable to new entrants. Indeed, the point about 'hit' films was that their popularity was such that they appeared on the screens of rival cinemas, of course for a price.<sup>12</sup>

This production environment of the 1930s stands in stark contrast to that of the post-war period. With the collapse of the studio system, brought about by a two-thirds fall in real revenues during the period 1946 to 1965, the focus of the emerging independent producers was increasingly on the production of hits, via the deployment of escalating production budgets, with a move away from lower budget production as television rapidly dominated the market for outputs with lower production values.<sup>13</sup> Consequently, the importance of a diversified film portfolio diminished in the post-war period, with film making focusing increasingly on specialised, high budget production.

The paper is structured as follows: the following section presents some broad statistical summaries of both the U.S. and British markets - the two largest markets in the world at that time - and sets out the context for what follows. A discussion of the structural

characteristics of the production, distribution and exhibition sectors is then presented, followed by a description of the sample data and an analysis of the patterns of film popularity in both markets. A detailed analysis of the exhibition sector in the U.S. is then undertaken, which examines the hypothesis that the relative lack of success of British films in the U.S. can be attributed to barriers to distribution and exhibition. Further detailed evidence of the asymmetry in the performance of British and U.S. films in their respective markets is then presented, followed by an analysis of the performance of three of the majors during the 1930s, emphasising the complexities of film production under the studio system, and the competitive environment within which British producers had to compete. A final section presents our conclusions.

## I

In Britain there were close to a billion admissions per annum during the 1930s, from a population of 47 million, averaging at 19 visits per caput, with audiences paying on average 10d. (= 4.17p) per visit.<sup>14</sup> When compared to the 2.233 billion admissions in the U.S. in 1935, from a population of 127 million, similar statistics emerge: Americans on average made 18 visits per caput to motion picture theatres, paying 25 cents per visit.<sup>15</sup> The British market for film entertainment was in size second only to that of the United States during the 1930s, a fact reflected in cinema statistics. Simon Rowson estimated that there were 4,305 cinemas wired for sound in Britain in 1934, rising to 5,000 by the end of the decade, with a seating capacity of 3,872,000.<sup>16</sup> The U.S. had almost four times as many cinemas in operation, rising from 14,552 to 15,701 between 1934 and 1939, and a greater concentration of seats, with 1 seat for every 12 inhabitants compared with the



ratio of 1 to 15 in Britain.<sup>17</sup> In contrast, Germany, with a much bigger population than Britain's (66 million, against 47 million) and a slightly greater number of cinemas (5,271 in 1937), had a seating capacity of less than 2 million seats; indeed France, with a population of 42 million, had more seats (2,100,000) than Germany.

In terms of box-office revenues, Rowson estimated box office receipts in Britain to be in the order of £40 million in 1934.<sup>18</sup> This compares with estimates in the U.S. of \$518 million for the same year.<sup>19</sup> With an exchange rate of \$4.5 to £1 (based on comparative unit labour costs), it appears that the British market for films was approximately one third the size of the American market.<sup>20</sup> This disparity in size marks a fundamental asymmetry that is crucial to understanding Anglo-U.S. film relations. To compete effectively with Hollywood – to present films of a comparable quality and expense so as to match the production and story-telling values common to the product of its 'major' studios – British films needed to be as popular in the U.S. market as Hollywood's own product: they needed to generate comparable revenue streams.

Unfortunately for British producers, this did not happen. Whereas Hollywood big-budget productions had, through their British subsidiary in-house distribution services, full access to the British market and showed themselves to be highly popular with British audiences, this was not the case with British big-budget films in the U.S. market, which were neither as widely distributed, nor, where they were screened, as popular as rival Hollywood productions.

This was not a failure of timidity or initiative, but the result of telling differences in the investment cultures of Britain and the U.S. During the 1930s, two British studios – Gaumont British, with Michael Balcon as head of production, and London Films, founded and led by Alexander Korda – made serious attempts to devise ‘international’ films that they believed would be attractive to American audiences.<sup>21</sup> In the case of Gaumont British a New York based in-house distribution company was established, while the films of London Films were distributed through United Artists. Although many of these films received good press notices, their performance in U.S. cinemas bore no relationship to their popularity in the British market, and both adventures ended in corporate failure.<sup>22</sup>

One possible explanation for the dominant performance of U.S. films in the British market derives from the socio-economic concept of ‘cultural discount’, introduced by Colin Hoskins and Rolf Mirus in 1988.<sup>23</sup> They were working on problems in the trading of television programmes, and the concept was developed to explain Hollywood’s current contemporary global dominance in cultural trade. In essence, ‘discount’ is used in its literal, monetary meaning: a television programme made in cultural milieu A commands a certain price in its own market, but if it is exported to cultural milieu B, in which some or many of the constitutive cultural elements differ from A’s, its appeal to B’s consumers is diminished, and it has to be sold at a discount in B’s market – the more culturally ‘distant’ is B from A, the higher is the cultural discount. McFadyen, Hoskins and Finn derived a measure of cultural distance – specifically, a composite index measuring the cultural distance between the U.S. and each of a wide cross-section of countries – and

demonstrated that the price paid by each country for U.S. television programmes was lower the more culturally distant was the country from the U.S., after standardising for a range of economic and demographic factors that might also be assumed to influence price.<sup>24</sup> Therefore, for any two countries, that country with the largest domestic market will be the dominant exporting country, with market share in the importing country being directly related to the size of the cultural discount, *cet. par.*

Such a concept would appear to be useful in explaining the success of Hollywood films in Britain, in view of the cultural ‘closeness’ of the two countries. Given that the U.S. domestic market for film in the mid-1930s was about three times the size of the British market it is not surprising that Hollywood established a significant presence in the British market. However, the relative lack of success that British films had in the U.S. – no British film entered the U.S. top 100 in the mid-1930s, the highest rank achieved being 104 (see discussion of Table 3 below) – would imply that this concept of cultural distance is not a symmetrical one. Therefore, either it has limited explanatory content, or more complex historical/institutional forces were at work to privilege U.S. production in the minds of British audiences, and/or to condemn British production as inferior in the minds of U.S. audiences. Thus, undoubtedly the limited success of British films in the U.S. was due, in part, to the unevenness in distribution across the two markets, referred to earlier. But the comparative failure of top 10 British features such as *The 39 Steps* and *The Scarlet Pimpernel* when they were screened in the U.S. market suggests that American filmgoers were less interested in British cultural products, *per se*, being more enamoured

of Hollywood's depiction of the material and psychic world, including that of Britain and its heritage.<sup>25</sup>

## II

One film product is preferred to another on the basis of the qualitative density of its content, which will include what are known as production, acting, star, directorial, aesthetic and narrative values: all inputs in the production function. Bakker has shown that in the period from the mid-1910s the U.S. film studios, newly located in Los Angeles, and in particular around Hollywood, started to invest (sink) considerably more in unit film production than their European counterparts, while producing on a markedly greater scale.<sup>26</sup> These developments were the outcome of the acceptance by cinemagoers of a new type of film product – the feature film – that required a new set of artistic conventions to carry the much longer narrative, which in turn required a new approach to the organisation of production.<sup>27</sup> The process was given added impetus by the doubling in the demand for film entertainment in the U.S. during the 1920s.<sup>28</sup> By learning how to produce films in large numbers under competitive conditions, the Hollywood studios developed a mode of production that endowed their films with more, and better-executed, audience-captivating filmic attributes per dollar invested than those of their consequently disadvantaged competitors. Moreover, the divergence that occurred between European and Hollywood production during the 1920s made Hollywood an increasingly attractive work location for European film talent.

That industry production standards were determined by Hollywood is explained not simply on the grounds of cinemagoers' preferences, but also by the fulfilment of the necessary material condition that they were able to see its films constantly and abundantly. With the growth of Hollywood and the development of the studio system came the business of film distribution, the logic behind which is that once the sunk costs of production have been incurred, the resulting film product should be screened whenever and wherever there is a demand for it, with the proviso that the marginal costs associated with its distribution are covered. By the early 1920s Hollywood's distributors had a reach that was worldwide,<sup>29</sup> allowing the productivity of its films (and hence of those inputs that were combined in their production), measured by the number of screenings that they might receive, or the revenue that they might earn, to become potentially very great indeed.

The pattern of distribution/exhibition that emerged in the U.S. during the 1920s was based on a price discriminatory model by which films typically diffused out in time and space from their initial release date in a particular film exchange, from higher order to lower order cinemas. Each order, or 'run', in the distribution hierarchy was well defined according to the grading of the box-office potential of its constituent cinemas. Thus first-run cinemas received films earlier, were larger and charged higher prices than subsequent-run cinemas in their respective cities and hinterlands. In the U.S., block-booking was a key element in the system of runs, clearances and zoning, whereby '...films were sold as a package, with the size of the package depending on the exhibitor's needs' and designed to maximize distributor revenues.<sup>30</sup> Exhibitors were

given exclusive rights to those films in a demarcated location for a period of time. The whole system was policed by the Motion Picture Producers and Distributors of America (MPPDA) – the ‘major’ studios’ trade association. By the 1930s, there were 31 exchanges in the U.S., with a further six in Canada.<sup>31</sup>

The British system of distribution was determined by and then dominated by the same American distributors, who, given the moribund state of British production during the 1920s, had the field largely to themselves. Indeed, such was the influence of Hollywood in the British market that Ian Jarvie has written that ‘British films owed their existence to, indeed were in a certain way parasitic upon, the exhibition industry created around the American [film] product.’<sup>32</sup> In Britain, block-booking was made illegal by the Cinematograph Films Act of 1927, the purpose of which was to encourage domestic producers through the imposition of quotas on distributors and exhibitors, rising in stages, in both cases to 20 per cent, until 1935-36. In effect, the Act changed the risk environment to the advantage of the ‘quality’ end of British production because, given that exhibitors now had to screen a rising proportion of indigenous product, their preference would clearly be for films that would attract cinemagoers, especially as these films would have to compete against Hollywood product also being screened in the same locality.<sup>33</sup> That the act was successful can be gauged by the extent to which the distributor and exhibitor quotas were exceeded annually, causing leading industry intellectual Simon Rowson to proclaim this fact

...as a conclusive demonstration that the Act had achieved its purpose of establishing an industry which might have never come into existence without the protective aid of this legislation.<sup>34</sup>

### III

The assumption that box-office revenues can be used as an index of film popularity is based on the following propositions: first, film audiences are well (though never perfectly) informed; second, in choosing between films *A, B...Z*, they are revealing *ex ante* a preference for particular product characteristics such as star, genre, and/or directorial values;<sup>35</sup> third, the invariance in admission prices between those films being screened at any one cinema, when taken together with the principle of exhibition – to make screen-time available to a film only while the paying audience is sufficiently large – implies that the willingness of audiences to pay for the set of particular pleasures promised by any one film, i.e., the film's popularity, would be reflected purely by the lengths of the runs, hence the revenues, achieved by that film at the cinemas at which it was shown.<sup>36</sup> In the context of the run-hierarchy system of release that was in place in the 1930s, distribution/exhibition had to respond by rapidly adjusting supply to the different demand levels registered for those films on release, through a contingency prolongation or curtailment of the original exhibition contract.<sup>37</sup> It is perhaps worth noting that because a cinemagoer can never be perfectly informed, the fact that a film is popular does not mean that, *ex post*, every ticket buyer will have liked the film, but rather that neither the number of discontents, nor the intensity of their disappointment, is sufficient to create word of mouth that would dissuade many potential attendees.

Two datasets, one for each country, have been constructed to study the patterns of film popularity in both countries, summary data of which can be found in Table 1. The U.S. dataset is drawn from the weekly reports of box-office takings of 104 first-run cinemas, including four in Montreal, Canada, for the 25 months from week ending 4 October 1934 to week ending 29 October 1936, published in the film trade journal *Variety*. The cities reported were Birmingham, Boston, Brooklyn, Buffalo, Chicago, Cincinnati, Denver, Detroit, Indianapolis, Kansas City (Missouri), Los Angeles, Minneapolis, Montreal, New Haven, New York, Philadelphia, Pittsburgh, Portland, Providence, St Louis, San Francisco, Seattle, Tacoma, and Washington D.C.<sup>38</sup> Peter Besas provides an account of the apocryphal nature of some of the reporting, quoting an editor as saying, with regard to their accuracy, that the published grosses a decade later ‘...were as close as one could humanly get, however, with the caveat that there was plenty of bogus reporting and exhibitor cheating.’<sup>39</sup> Nevertheless, as argued elsewhere, the trade treated the box-office data published by *Variety* with respect and while it was roughly hewn and approximate ‘...it accorded with the experience of those whose livelihoods were bound up in the film business.’<sup>40</sup>

In contrast, information concerning the revenues of films distributed in Britain during the 1930s is extremely thin. Indeed, for reasons that are unclear, the trade journal, *Kine Weekly*, from which the British dataset is drawn, did not publish the box-office returns of the cinemas listed in its weekly report on films being screened in leading cinemas.<sup>41</sup> To remedy this deficiency a proxy index of film popularity (POPSTAT) has been



constructed from the imputed box-office revenues of a sample of 88 leading London West End and provincial city cinemas in Birmingham, Bristol, Edinburgh, Glasgow, Leeds, Liverpool, Manchester, Newcastle, and Sheffield for the two years 1935 and 1936.<sup>42</sup> The popularity of each film is defined as:

$$POPSTAT_{it} = \sum_{j=1}^n a_{jt} * b_{ijt} * l_{ijt}$$

where

$n$  is the number of cinemas in the sample set.

$a_{jt}$  is a weighting factor for cinema  $j$  during period  $t$ , reflecting the relative revenue generating potential of cinema  $j$ .<sup>43</sup>

$b_{ijt}$  reflects the exhibition status of film  $i$  at cinema  $j$  during period  $t$ . That is,  $b_{ijt}$  takes on the value 1 if film  $i$  is presented as a single bill programme, 0.5 if it is part of a double bill, and 0 if it is not shown at cinema  $j$ .

$l_{ijt}$  is the length of exhibition of film  $i$  at cinema  $j$  during period  $t$ , measured to the nearest half week.

In effect POPSTAT is an index of the relative revenue potential of each feature film that was programmed at least once in one of the sample set of cinemas and requires the reader to assume that all cinemas in the sample operated at the same level of capacity. By providing relative weights to each cinema, the index reflects the unequal earnings of potential of cinemas in the sample, hence giving greater importance to the cinemas of London's West End.<sup>44</sup>

Table 1 reveals the comparable nature of the two samples, with similarities in the number of cinemas and screenings, and a close similarity in prices.<sup>45</sup> Because the POPSTAT statistic is a measure of relative rather than absolute box-office performance, the actual revenue generated by the films in the British sample is not presented, whereas the figure found in the U.S. column is a simple aggregate of the revenues reported in *Variety*. In Table 1, the predominance of single bill programmes in the U.S. dataset is to be expected, given the first-run nature of the cinemas in the sample and that double-bill programmes were the norm only in half of all the cinemas in the U.S. by this juncture of the decade.<sup>46</sup> That single bills were less common in the British sample can be explained by the fact that a greater number of films were in circulation and the legal requirement that a specified proportion of these had to be 'British' within the meaning of the 1927 Act. Another interesting facet of exhibition in the U.S. was the extent of live shows, with approximately 1,500 distinct weekly, or occasionally longer, acts featured during the 25 months at particular licensed cinemas, often as the evening's main entertainment. These acts commonly fell into the forms of: a) 'vaudeville' or 'stage shows', including American-type 'follies' shows, often top-billed by stars of the screen and/or radio; or b) popular orchestras, often show-casing a nationally known vocalist; or c) 'French' revues, generally containing scantily dressed women performing sexually provocative material; or d) local amateur talent contest evenings organised through the Major Bowes Amateurs organisation. In the sample, just under 15 percent of all programmes had a 'live' dimension, a level of occurrence that would moderate Hanssen's claim '...that the advent of sound technology (during the late 1920s) led to a rapid extinction of live performances'.<sup>47</sup>

[Table 1 about here]

Although each sample of cinemas is small in relation to the population from which it was drawn, they do represent an altogether larger proportion of an elite group of national first-run cinemas.<sup>48</sup> The MPPDA calculated that there were approximately 450 first-run cinemas in cities with over 100,000 inhabitants in 1941, which means that the U.S. sample represents approximately two-fifths of the cinemas in that first-run population.<sup>49</sup> The British sample includes almost all of the first-run cinemas to be found in the cities (listed earlier) from which the sample is drawn.<sup>50</sup>

The significance of this investigation's wide coverage of first-run cinemas is that the films that secured at least one exhibition in the sample set of cinemas, 969 in the U.S. and 1,213 in Great Britain, could be expected to be distributed to second, third, ...  $n^{\text{th}}$ -run cinemas. It is true that the popularity rankings revealed in the set of first-run cinemas (see Table 3 below) would not be exactly replicated in lower order cinemas. An earlier study shows that distinctive variations in preferences existed between audiences attending the London West-End and provincial city cinemas and those attending cinemas in Bolton (in particular) and Brighton.<sup>51</sup> It was also the case that the lower order cinemas exhibited films not seen in the higher order tiers. Nevertheless, local/regional distinctions in taste seldom affected the overall level of popularity of a first-run status film. Films that were the 'hits' of their day needed to perform extremely well in the first-run market and it was a matter of experience among distributors and exhibitors that, for the greater part, those

films that did so were also relatively popular with audiences attending lower-order cinemas.

To test this proposition for the U.S. market, the first-run cinema box-office revenues, as recorded in the sample, of 93 MGM, 86 RKO and 118 Warner Bros. films released in 1935 and 1936, were compared with their U.S. grosses (i.e., from *all* the U.S. cinemas in which they played) as reported in the complete Eddie Mannix (MGM), C.J. Trevlin (RKO) and William Schaefer (Warner Bros.) ledgers.<sup>52</sup> The results of this analysis show that the two series were highly and significantly positively correlated for all three studios: correlations in excess of 0.9 occurred in all three cases, and so it is possible to say with confidence that films that were popular at the higher level tier of cinemas were similarly popular across the exhibition hierarchy.

The significance of the sample set of cinemas is further confirmed by comparing the gross box-office revenues of all of the films reported in *Variety* during the period of the investigation with Department of Commerce estimates of the U.S. box-office of \$556 million in 1935 and \$626 million in 1936.<sup>53</sup> The aggregate of the box-office reported in *Variety* for the 104 sample cinemas – 0.6 per cent of the population of U.S. cinemas – sums to \$121,114,613, or approximately ten per cent of the market box-office estimate of \$1.182 billion.

First-run cinema ownership was dominated in both countries by vertically integrated film businesses – Associated British Pictures Corporation (ABPC) and Gaumont British in Britain, and Loew’s-MGM, Paramount, RKO, 20th Century Fox and Warner Bros. in the U.S. were the major players. Just under half of the cinemas and seats in the British sample were owned or controlled by the two leading British combines. In the U.S. the vertically integrated ‘major’ Hollywood studios controlled the programmes of over 64 per cent of the sample cinemas and 63 percent of their seats, with the remaining cinemas – as in Britain – either independents, or parts of small regionally based chains.

Although it might be expected that cinema ownership was a determining factor in film exhibition, with exhibitors privileging those films made by their own production studios – thereby saving on search costs while guaranteeing in-house films a retail outlet – the reality was not so simple and clear-cut. Two important factors militated against this practice: first, in the U.S. the major chains were concentrated in particular geographic regions – Fox, in California, the intermountain region of Colorado, Idaho, Montana, Nebraska, New Mexico and Wyoming, and the Mid-West; Loew’s in New York, New York State, and New England; Publix/Paramount in New York, New England, the Mid-West and the South and South-West; RKO in New York and New England, and Warner Bros. in New York City and New England.<sup>54</sup> But even within the regions the distribution was uneven, with different chains being unequally represented in particular locations. Among the sample set of cinemas, Fox was particularly strong in Los Angeles and San Francisco; Publix/Paramount in Buffalo, Chicago, Detroit, and Minneapolis; Loew’s in

New York and Washington; RKO in Cincinnati and Denver; and Warner Bros. in Philadelphia and Pittsburgh.

Second, the distribution/exhibition system did not work on the basis of exclusion, but rather on the principle of expedient inclusion. Each ‘major’ cinema chain readily screened the films of rival studios when their films were likely to be popular with audiences, not hesitating to pull its own films from billings when they proved unpopular with audiences. This behaviour was even more the case where one ‘major’ held a dominant position in the local market. On the basis of contractual evidence of Warner Bros. cinemas in the Long Island area during the 1930s and 1940s Hanssen has argued, ‘...there was substantial *ex post* substitution of poorly performing films for better performing films, but with the blessing of producers – because of revenue sharing, both producer and exhibitor gained when film runs could be adjusted in line with demand.’<sup>55</sup> It was inconceivable that in a U.S. city in which, say, RKO was not strongly represented, such as Chicago, the films of Fred Astaire and Ginger Rogers – RKO’s major joint stars – would not be shown. Rather, the oligopoly that was Hollywood, based upon the fact that cinema real estate accounted for the bulk of studio assets and income, was built upon self-interested cooperative practices whereby ‘...the majors show(ed) their own films and each other’s’ in response to a demand for them.<sup>56</sup> As Barry King argues with respect to ‘hit’ films: ‘What the lucky producer has, therefore, is a monopoly (copy) right to a film which will give his company access to his competitor’s screen time for a price.’<sup>57</sup>

In effect, Hollywood ‘majors’ colluded to maintain supply irrespective of the regional pattern of ownership. In doing this, the studios increased the level of competition in the first run market, since at a point in time all main studio releases competed with each other in each and every first-run location. In other words, geographic concentration was irrelevant as a factor in the choice given to consumers. Evidence for this can be found in the Table 2. In Section A the programmes of five cinemas, each belonging to one of the ‘majors’ and each located in an area in which the respective ‘majors’ were highly concentrated, are counted according to production company. It is apparent that for each of the five cinemas other-studio product constituted a majority of films screened: the bulk of their gross box-office receipts was derived from films emanating from rival studios.

However, the story is different in the less frequent situation where a chain was represented by only one first-run house – such as the Metropolitan, Brooklyn or Stanley, Philadelphia in Section B – in which case the great bulk of its product would come from the in-house studio (MGM and Warner Bros. respectively). From these observations it is possible to formulate a general rule that in a city where a ‘major’ chain was strongly represented by first-run cinemas, a majority of the programmes of its cinemas would be comprised of non-house product, but where the chain had only a single first-run outlet, then the supply of films screened would be much more skewed towards in-house product.

Likewise, in Britain a similar pattern prevailed, in that the two major chains showed films from rival, principally Hollywood, studios. However, because of the much more even geographical spread of the chains, the urban, dataset cinemas of both chains were likely

to be present in the same catchment areas for cinemagoers, which meant that it was less likely that either would show the other's in-house films.<sup>58</sup>

[Table 2 about here]

## V

In section III, it was demonstrated that box-office revenues (and, by extension, proxy measures thereof) could be used as an index of film popularity. Therefore, the box-office indices/revenues of the two datasets can be accepted as reflecting accurately patterns of film popularity in both countries. Figures 1 and 2 depict the frequency distributions of these popularity measures, in terms of deciles, showing them to have remarkably similar characteristics. In both sample sets, almost 70 percent of the films shown at least once generate revenues that fall in the lowest revenue decile of the POPSTAT/*Variety* box-office range. Furthermore, the median revenues for both datasets occur in this decile. Such a combination gives a distribution with a long tail, and a wide spread of box-office earnings, indicating that only a very few films released onto the market could be expected to become the 'hit' films of the season. Moreover, since historically the scrutiny of the 'hits' of past seasons and efforts at mathematically modelling the relations between production inputs, profits and popularity have failed to produce a predictive formula, it has been argued that a 'hit' film can be interpreted as, in effect, the outcome of a stochastic process, i.e., an intractably risky business for the producers of would-be 'hits'.<sup>59</sup>



[Figures 1 and 2 about here]

These top ranking berths were very important to the major producers because of the considerable box-office revenues that accrued to ‘hit’ films, with the number one films in each list of Table 3 generating approximately 10 times that of the mean film. Between them, the top 20 films in Britain and the U.S. generated 10 and 12 per cent of the respective total revenues. At the other end of the distribution, the lowest revenue decile comprised the earnings of the lowest 842 and 645 ranked films in the two markets. Such marked inequalities of revenue result in high gini coefficients, estimated at 0.50 and 0.58 for the British and U.S. datasets, respectively.<sup>60</sup>

The high productivity on the part of the ‘hits’ of the season suggests a market in which products were vertically differentiated because, although audiences may rank films according to their personal preferences, a seasonally recurrent feature of the market for films is that some few films offer audiences the prospect of a level of pleasure that in almost every way exceeds that which they might anticipate from any among the rest of the season’s releases.<sup>61</sup> The (outstanding) top 20 ranking films of each market – approximately the top 10 films of each of the two seasons covered by the sample – are listed in Table 3. In keeping with the role of stars as markers of quality, it is notable that certain generic and star characteristics have multiple representation in these lists, with the Astaire/Rogers musical comedies particularly popular in both markets.<sup>62</sup> Other features common to both markets are the frequency of films that are set in the past, the prominence of British historical/Empire/military-type subjects, and the wide ranging

appeal of musicals, including operettas. In addition to Fred Astaire and Ginger Rogers (4 films), and Clark Gable (3 films), Irene Dunne, Myrna Loy, Grace Moore, William Powell, and Jeanette MacDonald all appear more than once on the U.S. lists, while Robert Donat appears in two British-made British Top 20 films and Fredric March, and Merle Oberon, appear once in a different film in each list.<sup>63</sup> Thus, there is some evidence to suggest that the production of hit films may not be a purely random process, although it is also clear that there is no simple and stable formula for the production of hits.

[Table 3 about here]

The already noted asymmetry between the performance of British and American films in the other's market is also apparent from Table 3. While all of the top 20 films in the U.S. chart emanate from Hollywood, in the British chart, British films take only seven of the top 20 berths. Furthermore, nine Hollywood films are common to both lists, with the remaining four Hollywood-made British top 20 films occupying ranks 23, 34, 103 and 97 in the U.S. charts. In contrast the seven British films featured in the British top 20 were – in the order in which they appear – ranked 104, 281, 379, 154, 206, 237, 234 in the U.S. Although British audiences perceived these seven British films to be outstanding productions, American audiences indubitably did not. Indeed, this sentiment seems to be true of British productions as a whole since, of the 75 films released onto the U.S. market during this period, the highest rank, 104, was that achieved by *The Scarlet Pimpernel*, while the median-ranked British film title took the 751st berth. For all of the corporate energy Gaumont British expended on the U.S. market during this period, the returns from

the 32 films it marketed through its own distribution company were meagre, with a top rank of 228 (*It's Love Again*) and a mean rank of 583.

## VI

In order to understand the relative lack of success that British producers experienced in the U.S., it is important to recognise that in the mid-1930s British producers were entering an established, mature and dynamic market, and can be argued to have greatly underestimated the commitment that was required to achieve success in this market. U.S. producers had a well-defined market presence, built up over a considerable period of time, and had developed a range of evolving film-making strategies. In particular, in releasing upwards of 50 films annually throughout the 1930s, each of the major Hollywood studios had developed a scale and breadth of film production that was almost overwhelming within the context of the activities of their British counterparts.

However, this is not to suggest that consumer tastes were so well understood and predictable that U.S. producers could produce hit films at will. The process was still subject to considerable levels of uncertainty, and strategies had to be developed to attenuate the risks associated with film production. Thus, while it would generally be accepted that the size of a film's production budget has a bearing on the creative and logistical flexibility for making a film that might be expected to become a hit – a positive relationship would be expected between production budgets and revenues – a closer examination of the relationship between the size of production budgets and the revenues (and producer profits) earned by films reveals a much more complex set of relationships.

The sub-text here is that, typically, audiences are attracted by the promise of spectacle, high-salary charismatic performers, and visibly expensive production values (as opposed to the rare, but hugely profitable, low/modest-budget ‘sleeper’ hit).

Figure 3 shows a scatter of U.S. distributor rental incomes against production costs, in constant 1929 prices, for the 1,796 films distributed by MGM, RKO and Warner Bros. for which production cost data were available, over the period 1930 to 1942.<sup>64</sup> Thus while there was certainly a broad tendency for rental incomes to increase with production budgets, the more notable characteristic of Figure 3 is the increasing instability of this relationship as production budgets increased – revenues became increasingly variable the higher the production budget. The consequences of this instability are reflected in a scatter of distributor profits generated in the U.S. market against production budgets, shown in Figure 4, where the loss-making potential of high budget films can be seen directly (for contextual purposes a number of the more prominent film titles are also indicated). Indeed, of the 10 most expensive films produced over the period, 8 made losses, and in most cases very substantial losses. These 10 films were all released in the latter half of the 1930s, a decade during which the real average production costs of films doubled as producers sought to capture market share with films of ever increasing production values, within a market that was experiencing strong growth after the impact of the depression – real consumers’ expenditure on movie going increased by 40 percent between 1932 and 1940.

[Figures 3 and 4 about here]

However, this expansion in production budgets was presumably also encouraged by the exhibition arms of the majors, given that their objective was to exhibit films that attracted large audiences and therefore yielded large revenues. Mae Huettig has argued that it was the exhibition arms that controlled the ‘purse strings’;<sup>65</sup> two-thirds of the total capital of the majors was invested in theatres during the 1930s, and thus a film that may not have been profitable for producers might still have generated sufficient demand from exhibitors to make exhibition worthwhile. Thus, while eight of the ten most expensive films featured in Figures 3 and 4 lost money for the production wing of the studio, they were by no means unpopular. Eight of these films achieved ranks of between 1 and 6 in the resulting domestic revenue distributions of their respective release years (albeit revenue distributions restricted here just to the films released by MGM, RKO and Warner Bros. of which there was an annual average of 145 films over this period). Of course, the ideal was a film that generated profits for both production and exhibition, and from Figure 4 such films can be seen to have had relatively modest budgets. Indeed, virtually all of the high profit films had production budgets of less than \$2 million, with many costing less than \$1 million. Although many of these high budget films were not profitable, most were critically acclaimed, and so, at least artistically, were considered successful. Furthermore, the studios channelled considerable R&D expenditure into these showcase films in the backing-a-hunch/serendipitous search for artistic innovation, from which new, influential lineages sometimes emerged and, with them, a competitive advantage.<sup>66</sup>

Nevertheless, the extent to which such experimentation was undertaken could only be justified within the context of the overall profitability of film production. It is useful to interpret this process as one of the construction of an annual film portfolio, with the objective of maximising the rate of return on this portfolio, and risk-taking being justified within the context of the studios being able to cross-subsidise within the portfolio. With MGM, RKO and Warner Bros. each producing between 30 and 60 films annually during the 1930s, these annual film portfolios took on quite complex structures, in terms of the spread of film genres, the allocation of actors and directors across the portfolio and the wide range of production budgets that were utilised. Considering just one dimension of these portfolio structures – the variation in production budgets – an insight can be gained into the evolving nature of the strategic responses made by the studios over the decade. Thus, the studios could be interpreted as each year having constructed a portfolio of films, consisting of low, medium and high budget films (broadly, ‘B’, ‘A’ and ‘super A’ films). The key strategic decision was the allocation of production resources to each of these budgetary categories. Low budget films tended to be consistently profitable, given the relatively low levels of demand they needed to achieve to cover costs, but only generated relatively modest levels of profit and hence made limited contributions to annual profit targets. High budget films, on the other hand, had the potential to generate very high levels of demand and hence profits, and consequently a small number of successful high budget films could dominate profit distributions, both at a point in time and over time. An outstanding example derived from two high budget musicals that Warner Bros. produced in the 1932/33 season – *42<sup>nd</sup> Street* and *Gold Diggers of 1933*. These two films accounted for just 7.5 per cent of Warner’s aggregate production budget

for the season, but generated 31 per cent of the season's U.S. profits. An even more extreme example was that of RKO and the success it experienced with its Fred Astaire and Ginger Rogers musicals, eight of which were released between 1933/34 and 1937/38. These were all relatively high budget films, and in total cost \$7.4 million to produce (in 1929 prices), generating aggregate profits in the U.S. of \$4 million, a level of profits that exactly matched the aggregate profits generated by all 332 low budget films that RKO produced between 1929/30 and 1941/42. However, equally, one or two unsuccessful high budget films could produce losses such as to wipe out the aggregate profits that were generated by any number of more modestly costed film projects. For example, in the 1937/38 season MGM produced two high budget films – *Marie Antoinette* and *Conquest* – that absorbed 19 per cent of that season's total production budget but jointly produced losses in the U.S. of \$1.4 million, within a context in which the 16 medium budget films that MGM produced during the season generated profits of \$2.7 million.

As is clear from Figures 3 and 4, the general picture that emerges is one of a volatile production environment, with large variations in profitability both within and between years. Of the 1,796 films shown in Figure 4, a third made losses in the U.S. market. In terms of the high budget films (which accounted for just 19 per cent of all films produced), 43 per cent generated losses, with just 26 per cent of low budget films making losses.<sup>67</sup> However, the attraction of high budget production was the potential it offered for generating substantial profits – over half of the profits generated by all 1,796 films were generated by the 194 profitable high budget films. The downside was that high budget production was the source of most of the losses generated – the 145 loss making high

budget films accounted for over half of all film losses. Thus not only was it necessary to accept that within a season some film projects would inevitably make losses, and sometimes very large losses, but entire seasons might be unsuccessful. The key was to achieve an appropriate mix between innovative yet risky film projects and more modest, safer projects. There were no obvious formulae for producing hit films, in the sense of such formulae being stable over time. Certainly there were particular genres or narrative themes that achieved marked success at various points in time – the Warner Bros. musicals in the early 1930s was one example – but audiences soon tired of these as successful innovations emerged. The simple allocation of large production budgets was not even a necessary, let alone a sufficient condition, for financial success. Nevertheless, ‘playing safe’ was also not an option, and risk-taking was integral to the process.

A further potential barrier to entry for British producers to the U.S. market was the degree of monopoly power exercised by the major Hollywood studios. In Table 3, it is evident that certain studios were responsible for more than one top ranking film, with MGM, RKO and Columbia prominent in both lists, but joined in the British section by the British studios, Gaumont British and London Films. Indeed, it is tempting to frame Hollywood analytically in terms of the industrial organisation literature on monopoly power: that is, as a Cournot-type oligopoly in which the incumbents formed realistic *ex ante* expectations about the factor input quality and the quantity of product released onto the market by rivals and competed accordingly.<sup>68</sup> Table 4 reports industrial concentration statistics.<sup>69</sup> They are notable on two counts. First, the pattern of Hollywood studio penetration in the U.S. market is replicated, albeit at a lower level, in the British market.



Second, the degree of industrial concentration when measured by the Herfindahl-Hirschman Index (HHI) does not suggest significant levels of monopoly power for which, since the 1984 merger guidelines of the Federal Trade Commission, the threshold value of 1800 has been used as an indicator of excessive market power, while measures under 1000 are indicative of no market power of significance.<sup>70</sup> None the less, there was certainly a perception, particularly amongst smaller independent exhibitors and pursued by the Department of Justice, of the major studios exploiting their monopoly power during the 1930s, via their practice of block booking and blind selling.<sup>71</sup> Indeed, so strong and persistent was this perception that it resulted in the Paramount Decree of 1948, forcing the major studios to divest themselves of their cinemas. This would suggest that the market power exercised by the majors was somewhat greater than that implied by the relatively modest levels of the HHIs in Table 4. However, subsequent re-evaluations of the Paramount Decree have argued that the industry practices that were the focus of the Decree, rather than being anti-competitive, were in fact rational solutions to complex industrial organisational problems, with mutual advantages for both studios and exhibitors.<sup>72</sup>

These results are perhaps surprising given the extent of vertical integration in both markets, the highly differentiated nature of the product by which producers deliberately set out to influence demand, and the ability of audiences to form qualitative *ex ante* expectations and hence make rational choices between the products following release.<sup>73</sup>

[Table 4 about here]

While it was the case that both markets were dominated by a small number of firms, with MGM and Paramount the market leaders in both markets, audiences were not influenced as much by the studio's trademark as they were by the anticipated pleasures promised by any single film. Evidence of the wide variance of box-office performance of films from each of the principal studios is given by the coefficient of variation statistics in Table 4, and further reinforced by Figure 3, which reflects the revenue performance of three of the majors over the decade. If it is assumed that the size of a film budget signalled a studio's conception of each film as an investment vehicle, and hence an imputed target revenue, then the variance of the revenues of films from that imputed value would be significantly greater than zero only if the audience's perception of film quality differed from the studio's conception of it. From Figure 3 it is apparent that the heteroscedastic spread of revenues across the cost categories implied that there were marked differences between audience perception and producer conception, exhibiting the producer's nightmare trend that variance increased with production cost.<sup>74</sup> Even in the heyday of the studio system, risk was an integral part of film production. Indeed, the marked instability of revenues over time and between and within cost categories suggests that Hollywood should be perceived as an industry structure predicated upon the attenuation of risk.

As argued above, the key to this instability was the short revenue-earning life of individual film products. Thereafter, for almost all titles, existence as a commodity ended. In the U.S. sample, based on the returns from *Variety* of the 969 films released during the 25 months of the investigation, only 25 were re-issues of 'hit' films from

previous years, none of which received more than a few exhibition dates in the sample set of cinemas. The record of re-issues in Great Britain was similar. More significant for this investigation was the speed with which the films played through the first run cinemas. Thus, for any given week the market distribution of revenues was highly skewed, with a small number of films doing the bulk of business. But, as today, the velocity of circulation was considerable, with most films passing through the sample set of cinemas within two months of release onto the American market.<sup>75</sup> The consequence of this was that the configuration of demand was forever changing, the manner of which could not be known *ex ante*, while the general level of demand for films – the number of people regularly looking forward to ‘going to a movie’, but not just any movie – was stable.

However, the development of stars did provide a focus for at least reducing the risk associated with any film project. In bringing an identifiable characteristic to a film product that was widely admired and emulated, stars served as a kind of security. While film products were short-lived as commodities, their stars were influential, and more durable, ‘marker’ commodities. For instance, during the 25 months of the U.S. sample the top 5 ranking stars listed in Table 5 – Clark Gable, Fred Astaire and Ginger Rogers (treated as a single star), Fredric March, William Powell and Shirley Temple – appeared respectively in nine, five, eight, eight and eight films.<sup>76</sup> Between them, films featuring the top 20 ranked stars accounted for 46 per cent of the market revenue in the U.S. But stars could only be developed via repeated exposure to audiences, and a studio’s annual film portfolio provided an ideal vehicle for such exposure. It may have taken a studio a number of seasons to develop a star, with actors being distributed throughout the

portfolio from season to season, and a small number emerging as having developed ‘star qualities’ as perceived by audiences. This provided a further rationale for studios employing diversified film portfolios – the more widely diversified the portfolio the more likely it was that stars could be identified and developed. Certainly within the British context British stars had emerged and had been developed, stars such as Robert Donat, Jack Hulbert, Leslie Howard, Leslie Banks, Anna Neagle, Jack Buchanan, Merle Oberon, Jessie Matthews, Ralph Lynn, Will Hay and Gracie Fields. However, given the limited engagement of British producers with the U.S. market, these stars were virtually unknown to American audiences.<sup>77</sup>

[Table 5 about here]

## VIII

The film industry is an interesting and early example of an industry catering to mass consumer tastes. During the interwar period, it was by far the most popular paid-for-leisure activity on both sides of the Atlantic. Furthermore, from the record of its diffusion rates in both countries, film was not only equally popular in Britain and the U.S., but, as important, equally accessible and affordable, unlike the case of many other consumer products.<sup>78</sup>

Because, during the studio system, films from the same studio shared common production inputs it would not have been the case that ‘In effect each movie [was] a separate firm, with its own profit statement’, as Weinstein has suggested, when analysing

the very different contractual arrangements associated with film making during the post-studio period. Nevertheless, it certainly was (and remains) the case that each film had its own demand curve.<sup>79</sup> However, as is clear from Figures 1 and 2, although the market share of the top ranking films was many times greater than that of the median ranked film, the contribution made by the leading films was relatively low, with the top 20 films – more or less the annual top 10 films of each of the datasets – contributing approximately ten per cent of the market. In other words, 90 per cent of the annual revenue in each market was generated by non-top 10 films.<sup>80</sup>

The market for films was one in which audiences were attracted in very large numbers to make choices between the many attractions on offer to them. Crucially, however, audiences soon became weary of any particular film product – even the most popular. Thus films, in the absence of yet-to-be alternative commodity-resuscitating/life-extending media such as video, television in its various forms, and computers, had brief life cycles. The two datasets used in this study provide an unparalleled source of information concerning the week-by-week changes, in each national market, in the configuration of what films were playing where, and for whom.

In this environment of changing audience taste for particular styles of film and the stars who appeared in them, the principal vertically integrated studios of Hollywood were making approximately 50 films per annum during the middle years of the 1930s. This heavy investment in film products required strategies for the attenuation of the risk inherent in being committed to launching so many new products annually. Clearly, the

studios attempted to influence demand for their product through their own marketing, publicity and production departments. In addition, from Tables 3 and 5 it is apparent that particular stars and genres were important markers of quality. It is further argued that R&D expenditure was an important element of cost in big budget films as studios competed to qualitatively differentiate their products and create new aesthetic, narrative and phonic fashions for filmgoers. Elsewhere, we have shown how studios spread their risk through configuring their annual product in the manner of an investment portfolio.<sup>81</sup>

The industry was geared to guaranteeing supply, while responding to revenue-sensitive variations in audience preferences. In its efforts – largely successful – to dominate the supply of films on a global scale, Hollywood early in its history understood the politico-cultural, as well as the economic, efficacy of having its own trade association through which self-interested domestic and foreign policies could be, and are, vigorously pursued.<sup>82</sup>

The British market for films was extremely important for Hollywood producers.<sup>83</sup> However, while Hollywood films dominated the British market and were an integral part of the experience of filmgoing in Britain, British films made little impact in the U.S., and never achieved an analogous status in the reckonings of American filmgoers, an asymmetry which made it extremely difficult for British producers to make films of comparable input quality, although it would seem that where they did, British audiences were appreciative. Given the preparedness of U.S. exhibitors to take potentially high revenue generating films from various sources, it is likely that the relative lack of success

of British films in the U.S. market can be explained at least in part in terms of cultural barriers on the part of U.S. audiences. However, it could also be argued that British producers had little understanding of the dynamic nature of the U.S. market and its cultural characteristics. In Section VI the extensive nature of the annual film portfolios that were released by MGM, RKO and Warner Bros. during the 1930s was emphasised, and the attempts by British producers to break into the U.S. market must be evaluated within this context.

Thus while Gaumont-British made strenuous efforts to break into the U.S. market, via the release of 32 films between 1934 and 1936,<sup>84</sup> such a commitment, for such a relatively short period of time, is almost insignificant within the context of annual film production activities of the majors. By releasing some 50 films per season, not only did each of the majors place a wide variety outputs before its potential audiences, but its understanding of its market also evolved over time and its film making strategies developed accordingly. It may well be the case that U.S. audiences were culturally resistant to British films, but they were exposed to these films for such a short period of time that there was little chance of these cultural barriers breaking down. However, just as importantly, British producers had little opportunity to develop a deeper understanding of the nature of U.S. audiences and therefore to formulate appropriate and consistent film making strategies. Finally, to the extent that stars were important markers of quality, British producers had no opportunity to establish a roster of non-parochial, 'international' stars, given their brief engagement with the U.S. market. To compound this predicament, the pool of talented, ambitious British film actors was trawled for those with

‘international’ potential by the Hollywood studios’ talent spotters, and their ‘catches’ were shipped across the Atlantic for the grooming and exposure that the home industry could not provide.

It is this asymmetric performance of British films that forms the basis of Jarvie’s claim about the parasitic nature of the British industry: that in the absence of Hollywood the market space in which the British industry developed during the 1930s would have been much reduced. It is true that the market share statistics in Table 4 show that two British studios – Gaumont British and London Films, both of which marketed their products in the U.S. – had between them a 10 per cent share of the British market during the mid-1930s, achieving high levels of recognition and popularity for their products among domestic audiences. Indeed, both the distributor and exhibitor quota was exceeded by some margin for each year between 1930 and 1936, providing further evidence that British films were genuinely popular with British audiences.<sup>85</sup> In attempting to break out of the straitjacket of the domestic market, the two companies helped establish a commercial framework for a new British industry during the 1930s. However, their failure to make a significant impact in the U.S. meant that ultimately they were dependent on the home market, along with other, less ambitious, British producers, competing with their larger, more highly resourced, rivals from Hollywood.



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Table 1: Summary data of the sample datasets

	Great Britain	United States
Cinemas	88	104
Total seats	153,106	282,674
Average seats per cinema	1,740	2,718
Average mid-range price	£0.09	\$0.40
Box-office revenue	N/a	\$121,114,613
Films Screened	1,213	969
Total Screenings	13,237	11,016
Single-bill programmes	2,163	6,384
Double-bill programmes	5,537	2,310
Maximum bookings for a film	34	29
Median film bookings	12.5	11
Films with only one booking	63	110
Programmes found with 'Live Acts'	N/a	1,545

*Note:* 'Total Screenings' is derived as single bill programmes plus 2\*double-bill programmes. A 'booking' represents a screen engagement at one of the cinemas in the sample set. The number of live acts in the U.S. is an underestimate since the monthly tables format in which *Variety* reported box-office information and from which the bulk of the dataset was drawn did not always include all of the live acts reported in the weekly text reports. In Britain 'live acts' were far less common and not reported in the trade press.

*Sources:* *KineWeekly* for Great Britain and *Variety* for the U.S.

Table 2, *Exhibition records of selected sample cinemas.*

	Films Screened	Weeks	Revenue	Films Screened	Weeks	Revenue
<b>Section A</b>						
(in which the cinema listed belongs to the city's dominant chain)						
<u>Albee,Cincinnati-RKO</u>				<u>Chicago,Chicago-ParamountPublix</u>		
Columbia	5	5	60,000	Columbia	8	403,200
Fox/TCF	20	19.5	235,800	Fox/TCF	19	671,600
MGM	28	30	409,000	MGM	18	665,400
Paramount	21	20.5	227,000	Paramount	26	1,059,100
RKO	16	16	226,750	RKO	1	25,400
UA	9	9	105,500	WB	24	786,600
Universal	3	3	34,500	Universal	1	55,800
WB	6	6	79,400	<b>Total</b>	97	3,667,100
<b>Total</b>	108	109	1,377,950			
				<u>Stanley, Philadelphia- Warner Bros.</u>		
<u>Palace,Washington-Loew's (MGM)</u>				Columbia	6	118,300
Fox/TCF	20	34	473,500	Fox/TCF	2	32,500
MGM	25	48	794,500	MGM	15	447,700
Paramount	16	22	302,500	Paramount	25	340,400
UA	9	11	142,500	RKO	7	182,500
<b>Total</b>	70	113.5	1,713,000	UA	1	9,200
				Universal	4	55,500
<u>Warfield, San Francisco -Fox</u>				Warner Bros.	22	275,700
Fox/TCF	31	24.5	482,250	Others	2	25,000
MGM	25	30.5	622,550	<b>Total</b>	84	1,486,800
Paramount	22	17.0	317,500			
Warner Bros.	26	21.5	397,250			
Others	5	5	73,750			
<b>Total</b>	109	98.5	1,893,600			
<b>Section B</b>						
(in which the cinema listed does not belong to the city's dominant chain)						
<u>Metropolitan-Brooklyn-Loew's (MGM)</u>				<u>Earle-Washington-Warner Bros.</u>		
Columbia	1	0.5	8,000	Columbia	16	291,000
Fox/TCF	18	14.5	209,500	Paramount	28	486,000
MGM	72	74	1,158,750	RKO	1	15,500
Paramount	1	1	12,000	TCF	1	10,000
RKO	1	0.5	7,500	WB	61	1,099,000
UA	12	9	131,500	Others	4	65,000
Universal	3	2	29,750	<b>Total</b>	111	1,966,500
Others	8	5.5	101,500			
<b>Total</b>	114	105.5	1,658,500			

*Notes:* The total number of films screened by each of the cinemas counts both films on double-bill programmes. The difference in this aggregate across cinemas reflects differences in the propensity of cinemas to screen double bill programmes and to hold films over. The 'Weeks' columns count the number of weeks that films were shown at each of the cinemas. Screenings count films that fall just outside of this time frame where the bulk of those films' screenings took place within the time frame. For this reason, the Chicago, Chicago and the Palace, Washington have more than 109 weeks recorded. In the case of cinemas with less than 109 weeks, the explanation is that the *Variety* records are not complete. *Source: Variety*

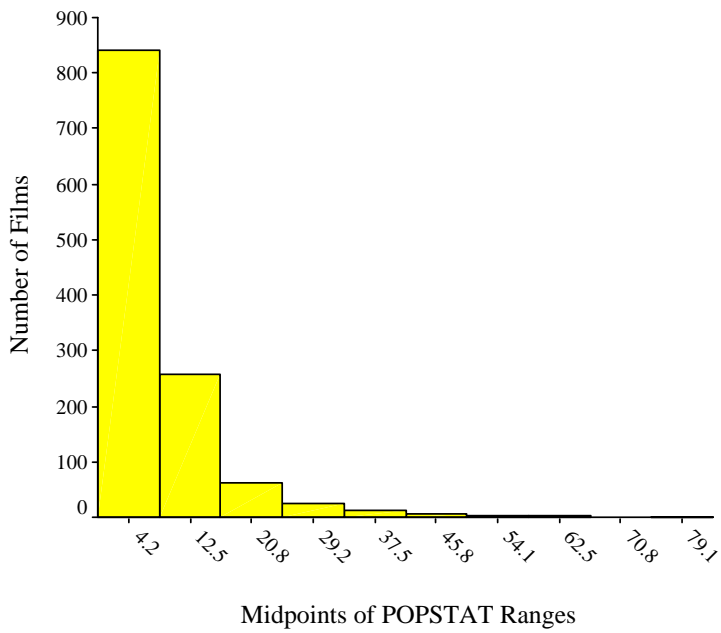


Figure 1. Frequency Distribution of POPSTAT Data, Great Britain

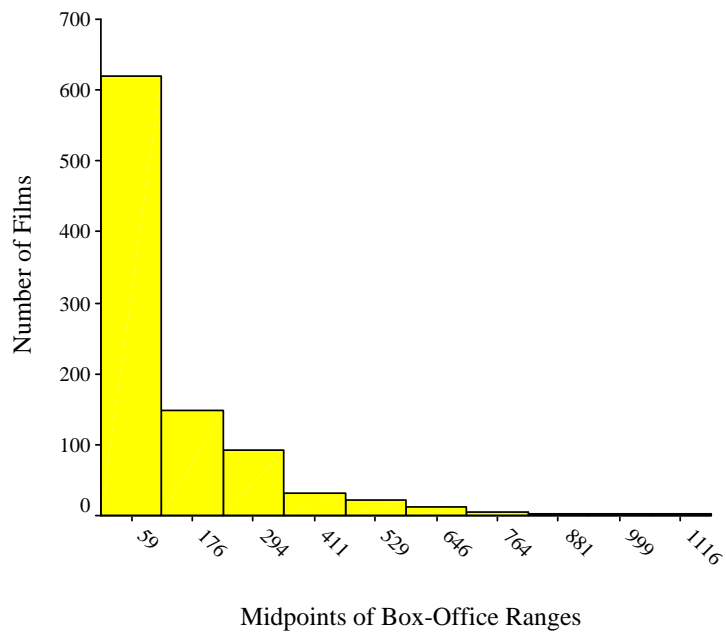


Figure 2. Frequency Distribution of Box-Office Data, U.S.

Table 3, *Top 20 films in U.S. and British markets.*

U.S rank/ British rank	Film	Year	Sample BoxOffice \$U.S.	Studio	Genre	Star1	Star2
<b>United States</b>							
1/28	San Francisco	1936	1,163,400	MGM	Historical/action/melodrama	Gable, Clark	MacDonald, Jeanette
2/4	Top Hat	1935	1,135,500	RKO	Musical romantic comedy	Astaire, Fred	Rogers, Ginger
3/15	Swing Time	1936	999,700	RKO	Musical romantic comedy	Astaire, Fred	Rogers, Ginger
4/5	Great Ziegfeld, The	1936	966,700	MGM	Musical biopic	Powell, William	Loy, Myrna
5/3	Mutiny On The Bounty	1935	939,100	MGM	Historical naval drama/ adventure	Gable, Clark	Laughton, Charles
6/21	Roberta	1935	873,650	RKO	Musical romantic comedy	Dunne, Irene	Astaire, Fred
7/14	Follow The Fleet	1936	806,600	RKO	Musical romantic comedy	Astaire, Fred	Rogers, Ginger
8/36	Anthony Adverse	1936	793,000	WB	Historical/action/adventure	March, Fredric	De Havilland, Olivia
9/10	Love Me Forever	1935	745,900	Columbia	Musical/operetta	Moore, Grace	Carillo, Leo
10/20	David Copperfield	1935	740,700	MGM	Historical literary adaptation	Fields, W.C.	Barrymore, Lionel
11/2	One Night Of Love	1934	733,150	Columbia	Musical/operetta	Moore, Grace	Carminati, Tullio
12/42	My Man Godfrey	1936	684,200	Universal	Comedy	Powell, William	Lombard, Carole
13/22	Gay Divorcee, The	1934	671,500	RKO	Musical romantic comedy	Astaire, Fred	Rogers, Ginger
14/25	Broadway Bill	1934	668,900	Columbia	Romantic Comedy	Baxter, Warner	Loy, Myrna
15/92	Gorgeous Hussy, The	1936	657,800	MGM	Historical drama	Crawford, Joan	Taylor, Robert
16/7	Mr Deeds Goes To Town	1936	647,000	Columbia	Comedy/social comment	Cooper, Gary	Arthur, Jean
17/62	China Seas	1935	644,900	MGM	Action/adventure	Gable, Clark	Harlow, Jean
18/1	Modern Times	1936	643,270	Chaplin	Comedy	Chaplin, Charles	Goddard, Paulette
19/51	Rose Marie	1936	634,100	MGM	Musical/operetta	MacDonald, Jeanette	Eddy, Nelson
20/39	G-Men	1935	626,200	WB	Crime/police drama	Cagney, James	Dvorak, Ann
<b>Great Britain</b>							
British rank/ U.S. rank			POPSTAT				
1/18	Modern Times	1936	83.26	Chaplin	Comedy	Chaplin, Charles	Goddard, Paulette
2/23	Lives of a Bengal Lancer	1935	63.14	Paramount	Historical Empire Adventure	Cooper, Gary	Tone, Franchot
3/5	Mutiny On The Bounty	1936	59.36	MGM	Historical naval drama/ adventure	Gable, Clark	Laughton, Charles
4/2	Top Hat	1935	54.20	RKO	Musical romantic comedy	Astaire, Fred	Rogers, Ginger
5/4	Great Ziegfeld, The	1936	53.29	MGM	Musical biopic	Powell, William	Loy, Myrna
6/104	Scarlet Pimpernel	1935	51.20	London Films*	Historical Drama	Howard, Leslie	Oberon, Merle

7/16	Mr Deeds Goes To Town	1936	47.43	Columbia	Comedy/social comment	Cooper, Gary	Arthur, Jean
8/34	Show Boat	1936	46.65	Universal	Musical	Dunne, Irene	Jones, Allan
9/281	Iron Duke	1935	45.68	Gaumont British*	Historical drama	Arliss, George	Terriss, Ellaline
10/9	Love Me Forever	1935	44.71	Columbia	Musical/opera	Moore, Grace	Carrillo, Leo
11/379	Sanders of the River	1935	43.83	London Films*	Empire drama/adventure	Robeson, Paul	Banks, Leslie
12/103	Dark Angel	1935	42.73	Goldwyn	Romantic melodrama	March, Fredric	Oberon, Merle
13/154	Ghost Goes West	1936	41.60	London Films*	Comedy fantasy	Donat, Robert	Parker, Jean
14/7	Follow the Fleet	1936	41.41	RKO	Musical romantic comedy	Astaire, Fred	Rogers, Ginger
15/3	Swing Time	1936	40.95	RKO	Musical romantic comedy	Astaire, Fred	Rogers, Ginger
16/206	Things To Come	1935	40.65	London Films*	Futuristic drama	Massey, Raymond	Richardson, Ralph
17/237	39 Steps	1935	40.20	Gaumont British*	Comedy crime drama	Donat, Robert	Carroll, Madeleine
18/97	Clive of India	1935	39.41	20th Century	Historical biography	Colman, Ronald	Young, Loretta
19/234	Escape Me Never	1935	39.01	British and Dominions*	Romantic melodrama	Bergner, Elizabeth	Sinclair, Hugh
20/10	David Copperfield	1935	35.50	MGM	Historical literary adaptation	Fields, W.C.	Barrymore, Lionel

*Note:* \* represent British studio productions.

*Sources:* *Variety*, *Kine Weekly*.

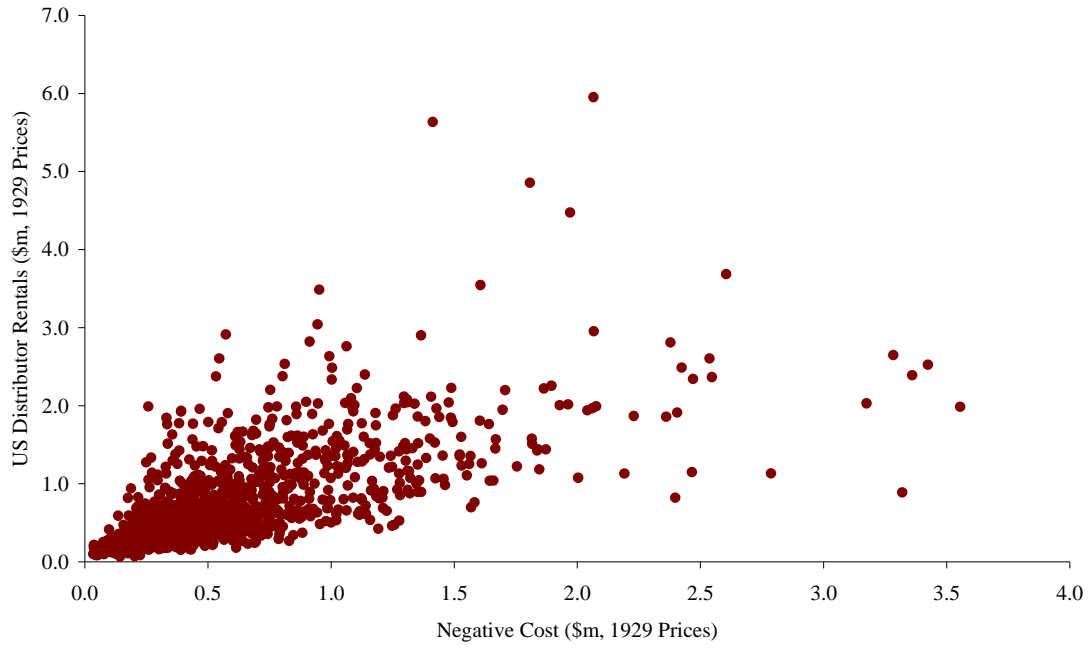


Figure 3 Scatter of Distributor Rentals against Film Costs, 1929 Prices, 1929/30 to 1941/42

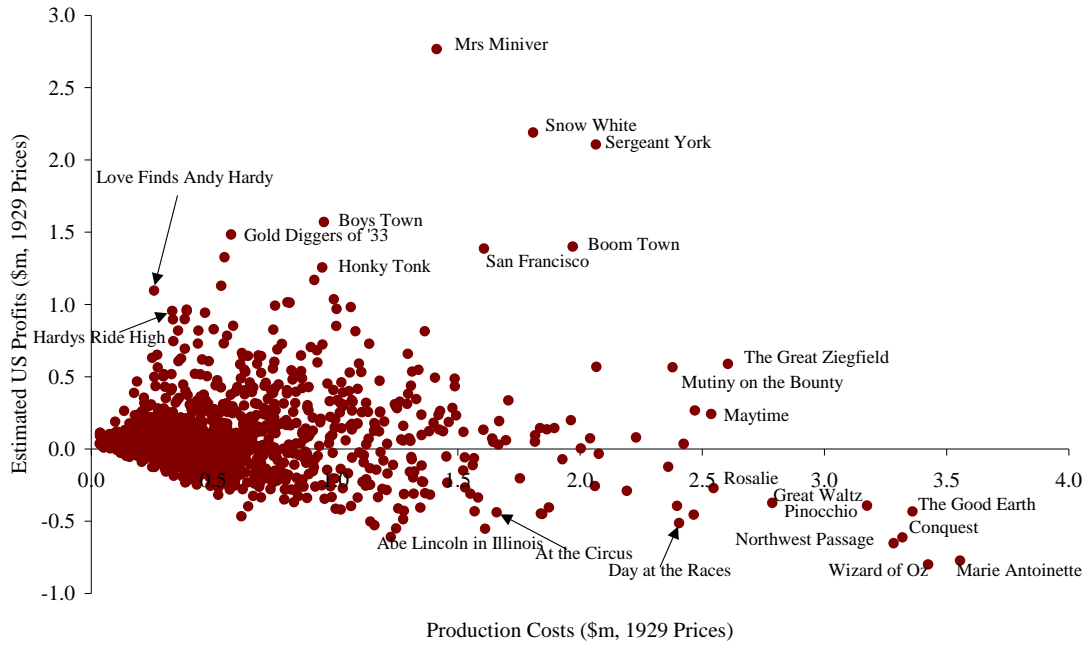


Figure 4 Scatter of U.S. Profits against Film Costs, 1929 Prices, 1929/30 to 1941/42

Table 4. *Market shares in the U.S. and Great Britain in the mid-1930s*

	Films	Total Revenue (\$U.S)	Average revenue (\$U.S)	Coefficient of variation	Percentage revenue share	Percentage share squared
U.S.	(1)	(2)	(3)	(4)	(5)	(6)
Columbia	91	8,303,227	91,244	1.62	6.86	47.00
MGM	110	23,939,339	217,630	1.01	19.77	390.69
Paramount	131	19,539,464	149,156	0.90	16.13	260.27
RKO	82	13,366,878	163,011	1.34	11.04	121.81
TCF	107	16,910,144	158,039	0.86	13.96	194.94
Universal	69	6,444,183	93,394	1.26	5.32	28.31
WB	124	17,124,359	138,100	0.93	14.14	199.91
Total 'A' Studios	714	105,047,394	147,125		86.73	1,242.93
Others	255	16,067,219	63,009		13.27	
Total All Studios	969	121,114,613	124,989		100	1,260.37*

Great Britain		Total POPSTAT	Average POPSTAT			
Columbia	75	546.05	7.28	1.13	5.99	35.84
GB/Gains	41	667.88	16.29	0.55	7.32	53.62
London Films	9	258.87	28.76	0.54	2.84	8.06
MGM	94	1,116.98	11.88	0.83	12.25	149.99
Paramount	123	1,221.47	9.93	0.75	13.39	179.36
RKO	82	696.44	8.49	1.09	7.64	58.31
TCF	91	782.30	8.60	0.64	8.58	73.57
Universal	55	372.75	6.78	1.05	4.09	16.70
WB	107	865.23	8.09	0.67	9.49	90.00
Total 'A' Studios	677	6,527.97	9.64		71.57	665.46
Others	536	2,592.51	4.84		28.43	
All Studios	1213	9,120.47	7.52		100	692.34*

\* The Herfindahl-Hirschman Index.

Notes: The U.S. data are for the period October 1934 to October 1936, Source: *Variety*. The British data are for the years 1935 and 1936. Source: Sedgwick, *Popular filmgoing*, derived from *Kine Weekly* information.



Table 5. Top 20 ranking stars by box-office in the U.S. market between October 1934 and October 1936.

Rank	Star	Studio	Films	Box-office revenue (U.S. dollars)	Star market share ratio	Cumulative star market share ratio	Mean box-office revenue (U.S. dollars)	Top 10 Films	Top 20 Films	Top 100 Films	Top 200 Films	Re- releases
1	Clark Gable	MGM	9	5,202,745	0.043	0.043	578,083	2	3	7	9	4
2	Astaire/Rodgers	RKO	5	4,486,950	0.037	0.080	897,390	4	5	5	5	0
3	Fredric March	various	8	4,060,066	0.034	0.114	507,508	1	1	7	8	1
4	William Powell	MGM	8	3,571,750	0.029	0.143	446,469	1	2	4	8	1
5	Shirley Temple	TCF	8	3,456,950	0.029	0.172	432,119	0	0	5	8	0
6	Claudette Colbert	various	7	2,940,650	0.024	0.196	420,093	0	0	5	7	2
7	Warner Baxter	TCF	8	2,864,900	0.024	0.219	318,322	0	1	3	6	1
8	Gary Cooper	Paramount	7	2,770,300	0.023	0.242	395,757	0	1	3	7	2
9	Jean Harlow	MGM	6	2,730,100	0.023	0.265	455,017	0	1	4	6	0
10	Jeanette MacDonald	MGM	4	2,699,600	0.022	0.287	674,900	1	2	4		0
11	Joan Crawford	MGM	5	2,477,395	0.020	0.308	495,479	0	1	5	5	2
12	James Cagney	WB	7	2,310,300	0.019	0.327	330,043	0	1	3	5	2
13	Irene Dunne	various	5	2,302,116	0.019	0.346	460,423	1	1	3	4	1
14	W.C. Fields	Paramount	6	2,108,850	0.017	0.363	351,475	1	1	2	4	0
15	Will Rogers	Fox	6	2,016,350	0.017	0.380	336,058	0	0	3	3	2
16	Katherine Hepburn	RKO	6	1,996,516	0.016	0.396	332,753	0	0	3	3	0
17	Grace Moore	Columbia	3	1,926,350	0.016	0.412	642,117	1	2	3	3	1
18	Bing Crosby	Paramount	5	1,826,333	0.015	0.427	365,267	0	0	2	5	0
19	Miriam Hopkins	various	5	1,797,700	0.015	0.442	359,540	0	0	3	5	0
20	Ronald Colman	TCF	4	1,655,500	0.014	0.456	413,875	0	0	3	4	0

*Note:* The revenue values are derived by summing the box-office performance of the films in which the star is first or second billed, but does not include re-release revenues, which in all cases were relatively very small in comparison to new releases. The studio column refers to the studio that held the star's contract. In the case of a 'various' entry the star worked on a freelance basis.

*Source:* *Variety*

## Endnotes

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<sup>1</sup> The authors would like to acknowledge the contribution made by Bernard Hrusa Marlow to the development of this paper. Helpful comments on earlier drafts were also made by Mark Glancy, Andrew Hanssen and James Obelkevitch. The comments of two anonymous referees also improved the focus of the paper.

<sup>2</sup> Stone and Rowe, *Consumer expenditure; Historical statistics of the U.S.*, ch. H, series 883-884.

<sup>3</sup> Taylor, *English History*, p. 313.

<sup>4</sup> Bordwell, Staiger and Thompson, *Classical Hollywood*.

<sup>5</sup> Greenwald, *Motion picture industry*, tab VI-2, presented in Sedgwick, *Popular filmgoing*, tab. 3.1.

<sup>6</sup> Bianchi, 'Taste for novelty'

<sup>7</sup> De Vany and Walls, 'Bose-Einstein'

<sup>8</sup> Sutton, *Sunk Costs* and Bakker, 'Decline and Fall'.

<sup>9</sup> Collected in DeVany, *Hollywood Economics*.

<sup>10</sup> Sedgwick, 'Product Differentiation'.

<sup>11</sup> See Sedgwick and Pokorny, 'Risk environment' and Pokorny and Sedgwick, 'Stardom' for a more detailed discussion of these issues for the case of Warner Bros. in the 1930s.

<sup>12</sup> King, 'Stardom as occupation'

<sup>13</sup> A fuller discussion of these trends can be found in Sedgwick, 'Product Differentiation' and Pokorny 'Hollywood and the Risk Environment'.

<sup>14</sup> Browning and Sorrell, 'Cinema and cinema-going'; Sedgwick, *Popular filmgoing*, Table 2.1.

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- <sup>15</sup> Conant, *Antitrust*, Table 1 from Department of Commerce Publications.
- <sup>16</sup> Rowson, 'Statistical survey', p. 76.
- <sup>17</sup> U.S. Department of Commerce and collected in Woods, *British films*, pp. 128-130.
- <sup>18</sup> Rowson, 'Value of remittances abroad'.
- <sup>19</sup> *Historical statistics of the U.S.*, Chapter H, Series 884.
- <sup>20</sup> Dimsdale, 'British monetary policy'
- <sup>21</sup> Sedgwick, *Popular filmgoing*, ch. 10; Street, *Transatlantic crossings*, chs. 2 and 3.
- <sup>22</sup> Low, *Film making*.
- <sup>23</sup> Hoskins, and Mirus, 'Reasons'.
- <sup>24</sup> McFadyen, Hoskins and Finn 'Measuring the Cultural Discount'.
- <sup>25</sup> Glancy, *When Hollywood Loved Britain*.
- <sup>26</sup> Bakker, 'Decline and Fall'.
- <sup>27</sup> Bordwell, Staiger and Thompson, *Classical Hollywood*; Izod, *Hollywood and the Box-Office*; Sklar, *Movie-made America*.
- <sup>28</sup> *Historical statistics of the U.S.*, Chapter H, Series 884
- <sup>29</sup> Thompson, *Exporting entertainment*.
- <sup>30</sup> Hanssen, 'Block booking of films', p. 997.
- <sup>31</sup> *Film Daily Yearbook*, 1936: 835.
- <sup>32</sup> Jarvie, *Hollywood's overseas campaign*, p.172.
- <sup>33</sup> For their part, the Hollywood studios, via the MPPDA, had lobbied forcefully against the legislation, and did no more than obey the letter of the law, instructing their British distribution subsidiaries to fulfil their obligations as cheaply as possible. They commissioned films that became known pejoratively for their quantity and quality as

‘quota quickies’. See Low, *Film making*, pp. xiv and 33; Jarvie, *Hollywood’s Overseas Campaign*, ch. 5; Sedgwick, *Popular Filmgoing*, ch. 4.

<sup>34</sup> Rowson, *Statistical Survey*, p. 108. The extent to which the Quota requirements were exceeded is evident in the table below.

Renters and Exhibitors Quotas 1928-29 to 1935 to 1936. (Figures in percentages)

Quota year	Renters obligation	Quota actually registered	Exhibitors obligation	Quota actually screened
1928-29	7.5	19.9		
1929-30	10	14.5		
1930-31	10	15.0		
1931-32	12.5	19.6	10	21.6
1932-33	15	20.3	12.5	23.7
1933-34	17.5	24.1	15	26.1
1934-35	17.5	23.8	15	25.5
1935-36	20	26.6	20	27.4

*Note:* For the exhibitor’s quota the years 1928 to 1931 were not published by the Board of Trade.

*Source:* Low, *Film making*, Table 6, Appendix, derived from Board of Trade records

<sup>35</sup> The history of film criticism suggests that there have been many films elevated to canonic status that were not so highly considered by contemporary audiences. See Klinger, *Melodrama*; and Staiger *Interpreting Films* for accounts of the various strands in the reception of films and how different agencies are affected by the context in which the reception takes place.

<sup>36</sup> DeVany and Walls, ‘Bose-Einstein Dynamics’, p. 1497. Exceptionally, the opening nights of particularly eagerly awaited films were priced more highly. *Variety*, 4 September 1935, report for the opening of *Top Hat* (1935) at the Pantages theatre, Los Angeles.

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<sup>37</sup> In exceptional circumstances the number of screenings per day was increased. The film *Roberta* (1934) had two 7.00am screenings in its first week at the RKO Theatre in Los Angeles. *Variety* 13 March 1935.

<sup>38</sup> Films included in the sample are those whose principal exhibition was during these 25 months. The records of films released before 1 October 1934 but exhibited predominantly during and after this month will be included. Likewise included are the records of films released during October 1936 and receiving subsequent exhibitions in November and December 1936. The dataset remains largely unexploited by scholars and represents an important new source of information about film popularity.

<sup>39</sup> Besas, *Inside Variety*, p. 283.

<sup>40</sup> Sedgwick, 'Product differentiation', p. 682.

<sup>41</sup> This is doubly strange because at irregular intervals (between six weeks and three months) box-office reports of London's West End cinemas appear in *Variety* during the period.

<sup>42</sup> These cinemas are listed in Sedgwick, *Popular filmgoing*, appendix. 1. The cinemas make up almost a complete set of first-run cinemas in the named cities. The discrepancy in the dates allows for the later release of Hollywood films in the British market.

<sup>43</sup> The weighting for each cinema is given by its potential gross box office revenue, which is obtained by multiplying its mid-range price by number of seats, expressed as a proportion of mean potential box office revenue of the sample cinema set. Hence the weights reflect the relative commercial status of each cinema.

<sup>44</sup> Due to the absence of any consistent box-office data for film releases in Britain, it is not possible to test directly the reliability of the POPSTAT measure as a reflection of

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actual box-office revenue. However, an indirect test can be performed. Sedgwick, *Popular filmgoing*, Appendix 3, presents the POPSTATs for 166 films released by MGM, RKO and Warner Bros. in Britain between 1932 and 1937. The actual U.S. and foreign distributor incomes generated by these films are also known (see Glancy, 'MGM'; Glancy, 'Warner Bros'; and Jewell, 'RKO'). Assuming that distributor incomes are highly correlated with box-office revenues, and that foreign distributor incomes are closely correlated with British revenues (because Britain was the main foreign market for U.S. films), then there should be a high correlation between POPSTAT and foreign distributor incomes. The resulting correlation coefficient for the 166 films is 0.75, supporting the general robustness of POPSTAT as a reflection of British revenues. Additionally Walls, 'Review' subjected the POPSTAT data to further statistical scrutiny and also concluded that the measure provides a reliable reflection of box-office revenues.

<sup>45</sup> Given the exchange rate of £1=\$4.5.

<sup>46</sup> *Film Daily Yearbook*, 1936, p. 39; Balio, *Grand Design*, ch. 4; Gomery, *Shared pleasures*, pp. 77-8.

<sup>47</sup> Hanssen, 'Revenue-sharing', p. 392. Unfortunately, in Britain, there is no systematic source of information on this aspect of cinemagoing as the *Kine Weekly* did not record 'live acts', although it is likely that 'live' entertainment was not so widespread. See Eyles, *Granda Theatres*.

<sup>48</sup> The *International Motion Picture Almanac*, 1936-7, p. 992, derived from the Department of Commerce.

<sup>49</sup> *International Motion Picture Almanac*, 1946-7. The populations of the cities from which the sample set of cinemas is drawn sum to just under 26 million.

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<sup>50</sup> The listings of all cinemas in operation in Britain, found in the *Kine Weekly Year Books*, suggest that perhaps only six additional cinemas also might have been included in the cities from which the sample was drawn.

<sup>51</sup> Sedgwick, *Popular filmgoing*, chs. 5-6.

<sup>52</sup> The ledgers are partially reported and analysed in Glancy, 'MGM'; Glancy, 'Warner Bros'; and Jewell, 'RKO'. We are grateful to Mark Glancy and Richard Jewell for making the complete ledgers available.

<sup>53</sup> *Historical statistics of the U.S.*, Chapter H, Series 884.

<sup>54</sup> Film Daily Yearbook, 1937. In Britain the geographic distribution of ownership was much more regular.

<sup>55</sup> Hanssen, 'Block-booking', p.423. See tab. 7 for further evidence.

<sup>56</sup> Huettig, 'Economic Control', p. 303. See also Izod, *Hollywood*, p. 86.

<sup>57</sup> King, 'Stardom', p. 162.

<sup>58</sup> Outside of the sample, the town of Bolton had two ABPC cinemas, but none owned by Gaumont British. Nevertheless, Gaumont British films were screened in the town, mostly by independent cinemas but occasionally on the screens of the rival chain's cinemas.

Sedgwick, *Popular filmgoing*, ch.5

<sup>59</sup> De Vany and Walls, 'Bose-Einstein'; De Vany and Walls, 'Uncertainty'.

<sup>60</sup> These distributions underestimate the significance of top ranking films in relation to lower ranking films because films that share a billing are given an equal share of the box-office, whereas in practice most double (dual) billing programmes consisted of an 'A' and 'B' film in which the former was booked on a percentage basis while the latter earned a flat rate sum.

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<sup>61</sup> Sedgwick, 'Product differentiation'

<sup>62</sup> For an assessment of the life cycle of the Astaire/Rogers films see Sedgwick, *Popular filmgoing*, ch. 9.

<sup>63</sup> Although shown later to be a top star, none of Shirley Temple's eight films made the top 20 lists, although she had four top 50 successes in the U.S.

<sup>64</sup> The data set consists of 1,861 films, for which production cost data is available for 1,796 of these films. See Glancy, 'MGM'; Glancy, 'Warner Bros'; and Jewell, 'RKO', for a detailed description of the ledgers from which the data were extracted. For the films produced by RKO and MGM the ledgers also provide data for profits/distribution costs and hence the profits generated by these films was available. In the case of Warner Bros., film profits were not available, and these were estimated on the basis of the close relationship between distribution costs and the revenue and cost data in the RKO and MGM data set. See Pokorny 'Hollywood and the Risk Environment', Appendix 10.1, for a fuller description of the estimation methodology employed. The profits and revenue data used here relate to profits and revenues generated in the U.S. market only.

<sup>65</sup> Huettig, 'Economic Control', p. 291.

<sup>66</sup> In Hollywood at this time, R&D operated in three tiers. The first was at industry level, in which the technical departments of the studios, often in collaboration, engaged in research the results of which would benefit all studios in improving the visible and audible quality of the product. The little known history of this research is encapsulated in the citations for the Scientific or Technical 'Oscar' Awards, which started with the ceremony of 1930-31, and continue to this day. The existence and scope of this research



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adds to the evidence that Hollywood was, and is, an industrial structure in a way that no other film industry has been.

The second tier was at studio level. The ‘majors’ invested extensively in permanent outdoor sets: house/shop exteriors, village/town/city streets, harbour quays, mini-jungles, etc. MGM and Warner Bros. had permanent theatre sets, with a stage and fully seated auditorium, and custom built facilities for all manner of lighting effects and camera movements. All these assets could be rented by other studios and independent producers, for example, Paramount used Twentieth Century Fox’s railway station in *White Christmas* (1954).

The third tier was at the level of a particular (big-budget) film. For *The Great Ziegfeld* (MGM, 1936), a very large revolving turntable stage was constructed – the biggest in the world, according to studio publicity – on which a tall helicoidal stairway was built to accommodate dozens of singers and dancers. The whole was concealed under a massive curtain, railed and threaded so that for the reveal it furled as the inverse of the structure. The whole set was seen again as footage in *Ziegfeld Girl* (MGM, 1941), with cut-in shots of Judy Garland performing on top of it. For *Sweethearts* (MGM, 1938, in Technicolor), the turntable supported a hillside path, the curtain disclosing Jeanette MacDonald and Nelson Eddy, who sing their way down as the curtain slowly descends. Their audience is seen singing along in a reverse shot, which, not by accident, shows MGM’s theatre auditorium to great advantage. Slightly modified, the curtain is seen in *Lady Be Good* (MGM, 1941), its moving folds choreographed as a ‘partner’ in one of Eleanor Powell’s dance routines.

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<sup>67</sup> A high budget film, in any given year, is here defined as a film whose production budget exceeded the average production budget of all the films distributed by the three studios in that year by 50 per cent or more. Medium budget films were those that fell within the range of 75 to 150 per cent of the average cost of all films produced in the season, and low budget films were those costing less than 75 per cent of average cost. Note that these budgetary categories are defined in relative rather than absolute terms – they are defined relative the average production budget in any given year. That is, it would be inappropriate to use absolute cost criteria – the (real) cost of a high budget film in the early 1930s was markedly different from the cost of high budget film in the late 1930s, given the increase in average production budgets over the decade. Such a partition produced 339 high budget films, 573 medium budget films and 884 low budget films over the sample period.

<sup>68</sup> Martin, *Industrial Economics*.

<sup>69</sup> The market shares reported in Table 4 are strikingly similar to those for 1939, published by Huettig, ‘Economic control’.

<sup>70</sup> Coate and McChesney ‘Enforcement’.

| <sup>71</sup> See *Hearing*.

<sup>72</sup> De Vany and Eckert, ‘Motion picture antitrust’, come to this conclusion in their analysis of the impact of the Paramount divorcement case of 1948 on the subsequent history of the studio system. It is also a conclusion consistent with Hanssen’s work on block-booking. See Hanssen, ‘Block-booking’.

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<sup>73</sup> This is an example of what Sutton has termed a stage II type industry, in which one would expect industrial concentration to increase as the market size increases. Sutton, *Sunk Costs*.

<sup>74</sup> See Sedgwick and Pokorny, 'Risk environment', for a fuller discussion of these issues in the case of Warner Bros. in the 1930s.

<sup>75</sup> Unlike the practice in the U.S., where films were released more or less simultaneously across the 31 exchanges, the London West-End cinemas showcased major productions for between one and three months prior to their general release, presumably allowing distributors time to estimate the number of prints and volume of publicity materials required.

<sup>76</sup> A similar table of top ranking stars in the British market can be found in Sedgwick, *Popular filmgoing*, tab. 9.2.

<sup>77</sup> On the economic rationale for the development of stars see also Bakker 'Stars and Stories'.

<sup>78</sup> See Bowden and Offer, 'Household appliances'.

<sup>79</sup> Weinstein, 'Profit-sharing contracts', p. 79.

<sup>80</sup> During the studio period (1925 to 1950) the contribution to total revenue made by the 'hit' films of the season was much smaller than was the case during the post-studio era. Sedgwick, 'Product differentiation', tab. 4.

<sup>81</sup> Pokorny and Sedgwick, 'Stardom'; Sedgwick and Pokorny, 'Risk environment.'

<sup>82</sup> Jarvie, *Hollywood's overseas campaign*, Trumpbour, *Selling Hollywood*, Ulf-Møller, *Hollywood's film wars*, Vasey, *World*.

<sup>83</sup> Glancy, *When Hollywood*.

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<sup>84</sup> See Sedgwick, *Popular filmgoing*, Chapter 10, Table 10.3.

<sup>85</sup> Low, *Film making*, tab. 6. Low reports that in the 1935-36 season, when distributor and exhibitor quotas were 20 per cent of all footage, the Board of Trade registered volume of British films as 26.6 and 27.4 per cent respectively, figures that confirm the POPSTAT estimates found in Sedgwick *Popular filmgoing*, tab. 4.4.