

The German Motion Picture Industry

Regulations and Economic Impact

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Chapter 1

Introduction

This work deals with the economic impact of regulations on the German film industry, focusing in particular on the effects of three pieces of legislation.¹ They are central to Germany's public debate on film politics and comprise:

- the Film Act (Filmförderungsgesetz - FFG), which governs subsidies of the German film industry at a federal level,
- recent changes in the Copyright Law (Urheberrechtsgesetz - GCL) governing the relationship between copyright owners and their contractual counterparts, and
- the Inter-State Agreement on Broadcasting (Rundfunkstaatsvertrag - RStV), which bans the use of product placements as a means of film financing.

A notable feature of these statutes is that they grant exemptions to specific addressees, e.g., film producers and copyright owners, rather than promote level playing fields or standards of fair dealing as in competition law. It thus seems reasonable to ask what tangible benefits, if any, these exemptions confer on society.

We approach this question from an economic perspective, focusing on how these regulations influence economic efficiency. The analysis is supplemented with an overview of market and institutional characteristics of the German film industry.

In addition to a general opportunity to study regulatory effects, the German film industry offers three additional merits that make it an attractive

¹The terms “motion picture,” “film,” and “movie” are used synonymously here.

subject of economic research. First, the industry’s economic significance has grown over the two past decades. With respect to television fiction, the industry has witnessed an explosion of demand with the advent of private broadcasters in the mid-1980s. More recently, revenues in the German theatrical market rose from € 605.10 million in 1995 to € 987.20 million in 2001 – an average annual growth rate of about 8.5%.² Second, as part of the entertainment industry, its products and members generate considerable public interest. Few trade fairs receive as much attention as the *Berlinale* and few heads of major industrial firms are as well known as popular actors. Third, the lack of economic research on the film industry is surprising. This holds especially with respect to the German motion picture industry.³

The work is structured around three main chapters. Each chapter addresses one of the areas of regulation noted above.

Chapter 2 addresses the subsidization of movie production under the German Film Act. The chapter discusses different mechanisms of subsidy allocation invoked by operation of law. We compare the allocation of subsidies via committees to the allocation of subsidies through the reference principle, which binds public support to performance at the box office. The analysis is embedded in a broadly disposed regression analysis of the determinants of the performance of German movies in the theatrical market. It aims to identify market characteristics and contrasts the German case with studies that address foreign markets. Finally, the profitability of the industry is considered as the presumed economic non-viability of the industry constantly recurs in the public debate as an argument for subsidies.

Chapter 3 investigates the economic effects imposed on the industry by recent amendments to the Copyright Law, which governs the relationship between copyright owners (e.g., directors) and their contractual counterparts (e.g., producers). The changes assume the existence of a prevailing “structural superiority” of media companies over their contractual partners in labor markets which supposedly results in “unfair” contracts. Basically, the law establishes two mechanisms to contain the supposed injustice. It fosters collective remuneration schemes and prescribes legal claims for “appropriate” compensation, which includes a *de facto* prescription of the utilization of sharing contracts. Chapter 3 provides an economic approach to the matter. First, it considers potential effects and the plausibility of a “structural superiority” in terms of buyer power in the German film industry. Second,

²Source: Business Reports of the *Filmförderungsanstalt* (German Federal Film Board - FFA).

³The study by [Frank \(1993\)](#) is a notable exception. Economic literature on the US motion picture industry is referred to throughout the following discussion.

it analyzes the effects of collective remuneration schemes with the help of standard models of union behavior and considers how the law affects risk allocation, incentives, transaction costs, and legal certainty in the business.

Chapter 4 addresses the economic impact of advertising regulations in the industry. The digital convergence of media provides a starting point for the analysis. This convergence makes technically feasible “interactive product placement” (IPP), the integration of interactively purchasable products in television programs and movies for the purpose of advertising. Such advertising could conceivably outstrip traditional product placement as a source of revenues for the film industry. Moreover, IPP could provide valuable incentives to create new audiovisual hardware and software. As product placement is generally banned in Germany, we infer that IPP may also be banned. Thus, Chapter 4 identifies German advertising regulations that potentially apply to IPP and considers their reasoning. These regulations are then critically reviewed, and a simple model is developed that allows for a welfare economic approach to the analysis of an IPP ban.

Chapter 5 summarizes the results and provides concluding comments.

Chapter 2

The Performance of German Motion Pictures, Profits, and Subsidies: Empirical Evidence from the '90s

2.1 Introduction

This chapter pursues three objectives. First, against the background of heavy subsidization of the German film industry, it analyzes the effects of two types of subsidy allocation: committee allocation and reference principle allocation. Second, it seeks to identify the determinants of performance of German motion pictures. Third, the profitability of the industry is considered as the presumed economic non-viability of the industry constantly recurs in the public debate as an argument for subsidies.

A number of econometric studies examine the performance of motion pictures, e.g., [Litman and Ahn \(1998\)](#), [Mulligan and Motiere \(1994\)](#), [Prag and Casavant \(1994\)](#), [Sochay \(1994\)](#), [Wyatt \(1991\)](#), and [Smith and Smith \(1986\)](#). Generally, these studies apply the OLS regression technique and estimate a film's success on the basis of box office receipts. The independent variables in the regression equations typically consist of variables such as budget, genre, reviews, stars, directors, awards, age restrictions, and distributors' size. Although these estimates are based on different data and regression specifications, the results reveal certain parallels. Broadly speaking, they suggest a positive relation between a film's performance and its budget, its reviews, and star drawing power.

The recent contributions of De Vany and Walls (1999), Ravid (1999) and Bagella and Becchetti (1999) extend previous studies in several ways. De Vany and Walls (1999) and Bagella and Becchetti (1999) note that distributions of box office receipts are heavily skewed by the few blockbuster films that generate a large chunk of the industry's total revenues. Finding that the general OLS normality assumption is violated for their data, they employ sophisticated estimation techniques in order to overcome methodological problems.¹

De Vany and Walls (1999) suggest that box office revenues are asymptotically Pareto-distributed, and analyze how the marginal probability of a "hit" can be altered with respect to several variables. They demonstrate that extending a film's run and a wide release are the most important factors in raising a film's hit probability.² Budget, stars, sequels, genre types, ratings, and year of release also have significant influences.

De Vany and Walls (1999) further investigate the determinants of profits in the movie business. This is clearly the crucial question from a financier's perspective. The related estimations exhibit a poor fit, indicating there is no formula for generating profits in the motion picture industry. These results are supported by Ravid (1999), who finds that only certain age ratings are positively related to the rates of return on the movies in his sample.³ These studies illustrate the widely reported "nobody knows" property in motion picture production.⁴

Although most studies on motion picture performance focus on the North American market, Bagella and Becchetti (1999) consider the Italian market. Moreover, they investigate the effects of motion pictures subsidies and find that the "net effect" of subsidies is unrelated to a film's performance, although subsidized movies perform, on average, more poorly than unsubsidized movies. They further investigate Rosen's superstar phenomenon

¹For a discussion on the consequences of nonnormality, see Judge et al. (1985), Chapter 20.

²Intuitively, of course, we would expect a "hit" with audiences is more likely to have its run extended.

³De Vany and Walls (1999) define movie profits as: $\text{box office} \cdot 0.5 - \text{budget}$. This measure includes revenues from the domestic theatrical market only. This probably strongly underestimates actual profits, since movie revenues from the domestic market are only part of total revenues. Ravid (1999) defines the rate of return simply as the relation of box office receipts and a movie's budget. This can be problematic as the business is typically dominated by non-linear contracts.

⁴De Vany and Walls (1999) cite the famous remark of screenwriter W. Goldman (1983): "With all due respect, nobody knows anything." Similar statements can be found in Caves (2000) and Litman (1998).

(Rosen (1981)) by controlling for nonlinear effects of the *ex ante* popularity of actors and directors on a film's total admissions. They find their data is "...broadly consistent with this conceptual framework." (p. 251).

The present study (i) provides an empirical analysis of the performance of German motion pictures in terms of admission numbers and in terms of economic success, (ii) introduces independent variables that account for both subsidies and different mechanisms of subsidy allocation, (iii) investigates the feasibility of profits in the German movie industry, (iv) touches on relevant public policy issues,⁵ and (v) considers superstar effects.

The remainder of this chapter is organized as follows. Section 2.2 briefly summarizes the major features of German film funding, which is used as a background for the analysis, and discusses implications of different subsidy allocation mechanisms. Section 2.3 presents the regression analysis. Section 2.3.1 gives a summary of the data base and Section 2.3.2 illustrates the theoretical motivation for our demand model. Sections 2.3.3 and 2.3.4 analyze movie performance in terms of admission numbers, overall rates of return, producers' rates of return, and distributors' rates of return. Section 2.4 investigates the often-questioned feasibility of profitability in the German motion picture business. Conclusions and policy recommendations are presented in Section 2.5.

2.2 German Film Funding

2.2.1 Subsidy Allocation

The German film industry differs fundamentally from the US film industry in that it serves a smaller domestic market, obtains heavy public funding, and captures only a small domestic market share and a microscopic share of the global market.⁶ Proponents of public subsidies argue that the German market is too small to allow German film producers to survive economically.⁷ Every year, about 60 German films, most heavily subsidized, are premiered

⁵Rather than discuss the pros and cons of public subsidies in general, we focus specifically on the effects of some features of funding arrangements. For discussion of public promotion of the arts, see e.g., Pommerehne and Frey (1990) and Frey (2000).

⁶See Table A.2.1 in the appendix to this chapter for a brief description of the German market. This study adheres to the definition of film origin as specified in §15 of the German Film Act (FFG), whereby a German film is one which has a final German language version, uses predominantly German studios, and has a production company registered in Germany.

⁷See Huber (2000).

in German theatres. Of the 120 films released between 1993 and 1998 used in this study, 105 were subsidized. Of these, subsidies covered on average more than 55% of their production budgets.⁸ Total film funding exceeded € 157 million in 1998. Financial support for the motion picture industry is mainly provided by federal and state governments. Additional money is provided by public and private TV stations both at the federal and state level, which in turn usually get access to the TV rights for subsidized movies. About 60% of total funding is used to finance motion picture productions, while the remaining 40% goes to different financing schemes such as film distribution, vocational training, film event funding, and fostering international co-productions. We concentrate our analysis on public support for film production and distribution.

At the state level, *funding committees* are typically responsible for the allocation of subsidies to individual motion pictures. Support is generally provided in the form of a conditionally repayable interest-free loan, i.e., the loan must only be paid back after the distribution costs (prints and advertising - P&A) and the producer's own investment have been covered. Therefore, subsidies from the committee principle provide some degree of insurance to producers. Committees mainly consist of politically appointed representatives and representatives from public and private TV stations.⁹ Therefore, committee decisions are reached through negotiations and are likely to be influenced by non-market factors. For instance, production companies are often obliged to spend a certain share of the budget within the funding state or to produce contents that somehow relate to that state. Furthermore, committees are likely to be subject to lobbying efforts by producers, directors, and distributors.

In contrast, at the federal level, most subsidies are allocated according to the *reference film principle* set forth in the *German Film Act* (FFG).¹⁰ The reference film principle states that the production company of a motion picture (the reference film) is entitled to receive non-repayable financial support for a new feature if the reference film attracts 100,000 cinema ad-

⁸The actual fraction is probably higher, because in the case of international co-productions, foreign subsidies are not considered due to data availability. Note that our use of the term "subsidy" here refers to both non-repayable and conditionally repayable financial support.

⁹The *Intendantenmodell* (director's model) found in the states of Berlin/Brandenburg is an exception to this rule. The managing director of the fund, the Filmboard Berlin Brandenburg, is solely responsible for funding decisions.

¹⁰See § 68 Film Act. It is important to note that committee decisions on the allocation of subsidies also occur at the federal level.

missions within one year.¹¹ The exact amount of the subsidy is computed according to the number of admissions of the reference film.¹² Hence, subsidy allocation is closely tied to the reference film's performance. In 1999, the reference principle was extended to distribution.¹³ Unlike movie production subsidies, distributors need only reach 50,000 admissions to qualify for reference funding.¹⁴ Furthermore, the subsidy consists of a conditional repayable and interest free loan, which means repayment starts only if the costs of distribution (prints and advertising - P&A) have been covered.

2.2.2 Committee vs. Reference Principle

As far as we are aware, [Bagella and Becchetti \(1999\)](#) were the first to investigate the effect of subsidies on movie performance in an econometric analysis. They found that "...the net effect of subsidies on the mean of the dependent variable is irrelevant." (p. 246). We question whether this result holds for the German case. [Bagella and Becchetti \(1999\)](#) investigate subsidies that only consist of below-market interest rates, while our analysis confronts a different situation. As stated above, subsidies account for over half of the average film budget in Germany. Moreover, almost every film is subsidized. We suspect that these subsidies must have a substantial impact on the production of German movies.

The committee principle, in particular, is likely to influence producers' behavior. Our reasoning starts with Kornai's seminal work on the soft budget constraint (see [Kornai \(1979\)](#), [Kornai \(1980\)](#)). [Kornai \(1986\)](#) defines the softening of the budget constraint as follows: "The 'softening' of the budget constraint results when the strict relationship between expenditure and earnings has been relaxed, because excess expenditure over earnings will be paid by some other institution, typically by the state." (p. 4). A fundamental attribute of such assistance is that "...it is negotiable, subject to bargaining, lobbying, etc." (p. 5). This well describes how subsidies are allocated by committees. Committee subsidies weaken the relation between expenditure

¹¹These viewer numbers drop to 50,000 if the reference film receives a certificate from the Filmbewertungsstelle Wiesbaden (FBW) or if it wins a prize at a prominent film festival. If the reference film is a documentary or a children's feature, then the required viewer numbers fall to 25,000 within a four-year period.

¹²A maximum of 1.2 million admissions are taken into account. If the total number of viewers exceeds this level, it does not lead to higher subsidies under the reference principle.

¹³Compare § 53 FFG.

¹⁴Again, the required number of viewers drops to 25,000 when the reference film receives a certificate from the Filmbewertungsstelle Wiesbaden (FBW) or wins a prize at a prominent film festival.

and earnings and are subject to lobbying. With respect to dynamic effects of the soft budget constraint, Kornai (1986) states:

“If the budget constraint is hard, the firm has no other option but to adjust to unfavorable external circumstances by improving quality, cutting costs, introducing new products or new processes, i.e., it must behave in an entrepreneurial manner. If, however, the budget constraint is soft, such productive efforts are no longer imperative.” (p. 10).

Applied to our case, this implies that committee subsidized production companies may work either inefficiently, irrespective of market needs, or both. Moreover, such effects are likely to be reinforced for cultural reasons. Germany has a long tradition of cinema as an elite art form rather than mass entertainment.¹⁵ Thus, it is plausible to presume that some German producers will pursue objectives other than gross at the box office. Their cultural commitments may lead them to sacrifice financial prudence for their own preferences for film quality.¹⁶ One further reason for producing irrespective of market needs is that committees themselves may pursue other priorities than satisfying the audience, e.g., local employment effects from movie subsidization, fitting a project to a TV station’s profile, and the professional or personal preferences of committee members.

In summary, our hypothesis is that subsidies allocated through committees may support films that are unlikely to satisfy demand, because production companies have no motivation to behave in an entrepreneurial manner and because committees can ignore market needs. Therefore, the committee principle seems likely to entail negative effects on the performance of the German motion picture industry.

The reference principle seems *a priori* a more appropriate mechanism for movie subsidization as it binds public support to the firm’s previous market performance. Thus, it provides incentives to produce for the audience and may help reduce the total amount of film funding needed per viewer.

However, some conditions have to be met to make the latter benefits possible. First, production companies that gain support from the reference principle must *consistently* produce movies that enjoy above-average success. Otherwise, it would not matter if the reference subsidies flow to previously

¹⁵See e.g., Jarothe (1997), p. 49.

¹⁶See Rose-Ackerman (1987) for a theoretical treatment of a similar argument. Caves (2000) assumes that creative workers care about their products using the same line of argument.

successful or to previously unsuccessful production companies.¹⁷ Second, a film's success should be defined in terms of *economic success*, i.e., in its rate of return. Otherwise inefficiently high budgets, financed by committee subsidies, could be rewarded with reference subsidies.¹⁸ Third, and most important, we should consider that subsidies only make sense where subsidized movies cannot cover their cost in the marketplace, i.e., they are *not-for-profit* productions. Therefore, it is important to examine whether these conditions are actually met.

2.3 Regression Analysis

2.3.1 Data Base

The analysis includes 120 of 367 German feature films released between 1993 and 1998. Incomplete budget data forced a limiting of the data set. We do not expect a sample selection bias, however, as we see no incentives that could systematically bias decisions with respect to the publication of production budgets. Most previous econometric studies on the determinants of motion picture success only consider successful films. For instance, Sochay's (1994) study is based on *Variety* magazine's list of top rental films. Our study, in contrast, also uses data from films with very weak attendance. Data on such German films is readily accessible, because the FFG dictates publication of all viewer numbers of funded films. Further, the relatively small German market facilitates data research as the domestic professional journals give more space to unsuccessful films. The data has been gathered from a number of sources: the periodical reports of the *Filmförderungsanstalt* (German Federal Film Board - FFA), the film journals *Blickpunkt:Film* and *Filmecho/Filmwoche*, the *Lexikon des internationalen Films* (International Film Dictionary), the *Filmbewertungsstelle Wiesbaden* (Film Evaluation Board - FBW), the *Internet Movie Data Base*, and the *Spitzenorganisation der Filmwirtschaft* (Head Organization of the German Film Industry - SPIO).¹⁹ All Euro (Deutsche Mark) amounts are adjusted to 1993 by deflating them with the cost of living index of private households.

¹⁷It is worth to remember that this condition might not be met too easily. Consider that the statement of screenwriter Goldman (1983): "With all due respect, nobody knows anything." became the motto of De Vany and Walls (1999).

¹⁸This may in fact be the case under the current per-viewer specification of the reference principle in § 22 FFG.

¹⁹The author thanks Mr. Carsten Pfaff from the SPIO department of statistics for contributing data on production budgets.

Figure 2.1 indicates admissions of German movies follow the typical blockbuster pattern, with a few movies drawing enormous audiences, and the rest experiencing modest or poor attendance.²⁰

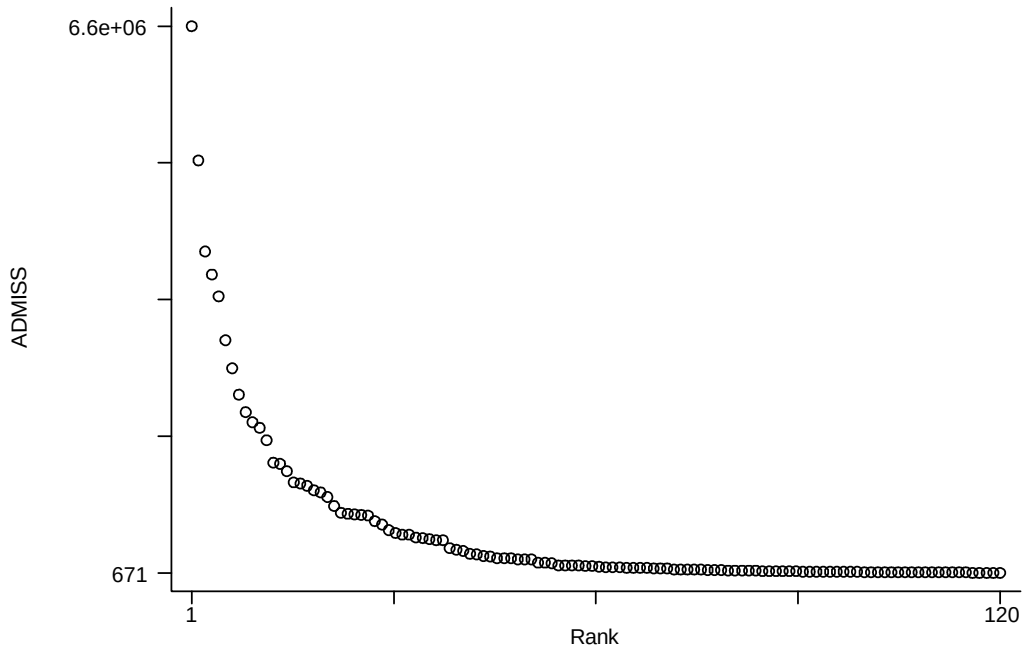


Figure 2.1: Blockbuster Property: Distribution of Admission Numbers of the Movies in the Sample (Ordered by Rank)

The differences between the movies, in terms of audience appeal, is remarkable. The best movie performs more than 9700 times better than the worst! Table 2.1 gives some more information about the distribution of admissions, budgets, and subsidies of the movies in the sample.

We can see that the distribution of budgets is also relatively uneven. Moreover, concerning the distribution of subsidies from different allocation mechanisms, we find that reference subsidies are far more skewed than committee subsidies. This may be explained by the fact that reference subsidies are allocated according to the variable market performance of the reference film.

²⁰For an early analysis of the economics of blockbusters, see [Garvin \(1981\)](#). The most recent German blockbuster was *Der Schuh des Manitu*.

	Admissions	Budgets	Subsidies	
			Reference	Committee
Average	509,002	3,684,655	544,754	1,482,569
Std. dev.	1,014,957	4,342,604	587,635	1,017,526
Maximum	6,565,342	24,877,418	3,464,844	5,879,857
Minimum	671	146,741	9,003	21,726
1% percentile	1,161	193,780	9,003	44,077
5% percentile	2,941	454,027	33,170	174,248
10% percentile	4,568	620,453	45,803	398,280
25% percentile	15,989	1,419,346	105,735	740,695
Median	77,307	2,176,058	401,831	1,371,191
75% percentile	495,076	3,901,157	749,642	1,956,793
90% percentile	1,456,680	8,743,091	1,206,931	2,725,911
95% percentile	2,622,281	11,964,230	1,439,287	3,621,047
99% percentile	4,951,385	20,451,675	3,464,844	4,154,549
n	120	120	51	104

Table 2.1: Admissions, Budgets (in Euro), and Subsidies (in Euro) of the 120 Movies in the Sample

2.3.2 Demand Specification

We apply a log-linear model of demand that ensures a broad description of the determinants of German motion picture performance. The specification of our model is based on the [Dixit and Stiglitz \(1977\)](#) model of monopolistic competition, as specified by [Hamlen \(1991\)](#) and [Hamlen \(1994\)](#) in the context of an empirical analysis of Rosen’s (1981) superstar phenomenon in the record market. Within this framework, the demand for record sales displays a log-linear relationship with a vector of general and quality attributes of the records ([Hamlen, 1991, p. 730; 1994, p. 398](#)). We suggest that this model fits the motion picture business as demand-side and supply-side characteristics of music and movie markets have quite similar structures. On the demand side, we observe that individuals prefer to consume a wide variety of music and movies. Further, in both markets, we can reasonably assume imperfect substitution of lesser quality for greater quality. On the supply side, we find scale economies of joint consumption. As with [Hamlen \(1991\)](#), the log-linear specification is also supported by the Box-Cox transformation technique, which can be regarded as one approach to letting the data determine the most appropriate functional form.²¹ Finally, the log-linear formulation allows us to

²¹Compare [Judge, Griffiths, Carter Hill, Lütkepohl, and Lee \(1985\)](#), p. 840.

investigate Rosen's (1981) superstar phenomenon, because it yields regression coefficients that provide elasticities.

2.3.3 Absolute Performance

Regression (2.1) examines the determinants of German feature film performance in terms of *absolute admission numbers*, which are represented by the variable *ADMISS*.

$$\begin{aligned} \ln ADMISS = & \alpha_1 + \alpha_2 S-PROD + \alpha_3 VS-PROD + \alpha_4 COMM + \alpha_5 COPR + & (2.1) \\ & \alpha_6 \ln ACTOR + \alpha_7 DIRECTOR + \alpha_8 \ln BUDGET + \alpha_9 FBWHR + \\ & \alpha_{10} FBWR + \alpha_{11} DRAMA + \alpha_{12} CHILD + \alpha_{13} CRIME + \\ & \alpha_{14} ACTION + \alpha_{15} FSK0 + \alpha_{16} FSK6 + \alpha_{17} FSK12 + \\ & \alpha_{18} FSK16 + \alpha_{19} MINIMAJOR + \alpha_{20} INDEPENDENT + \varepsilon_1 \end{aligned}$$

The independent variables of regression (2.1) consist of a vector of general and quality attributes that are supposed to affect a film's performance.

With respect to the effects of subsidies, we define four binary dummies. To capture the features of the reference film principle, we construct S-PROD for successful production companies and VS-PROD for very successful production companies. These variables distinguish whether a production company was successful (100,000 admissions) or very successful (500,000 admissions) according to the average admissions of films it produced between 1993 and 1998 that were *not* part of the sample (see Table A.2.2 in the appendix to this chapter). Thus, if the reference film principle supports *consistently* successful production companies, S-PROD and VS-PROD should be positively related to a film's performance. The dummy variable COMM is used to control for the influence of committee types of funding. It reflects all motion pictures in the sample that were subsidized with non-reference film funding. Since committee subsidies are allocated to both successful and unsuccessful production companies, we expect COMM not to be significantly linked to a film's performance. Subsidies for international co-productions are a widespread means of film funding. The most compelling argument for supporting international co-productions lies in the fact that it helps to solve financing problems for movies with high budgets. The subsidization of international co-productions is, however, often criticized. It is said that they have resulted in culturally and economically unsuccessful "Europudding" films. We set up the dummy variable COPRODUCTION to see if there is a relationship between interna-

tional co-productions and a picture's performance with German audiences. Hence, the variable COPRODUCTION is intended to provide clues regarding the validity of the competing arguments.

Most previous studies on the movie business find that the appearance of a star improves a film's box-office gross. For instance, [De Vany and Walls \(1999\)](#) and [Albert \(1998\)](#). Furthermore, [Bagella and Becchetti \(1999\)](#) find that the *ex ante* popularity of actors entails nonlinear effects on a film's total admissions. They interpret this result as empirical support in favor of Rosen's (1981) superstar hypothesis. However, following [Hamlen \(1994\)](#), we argue that popularity is only a measure of previous success and, therefore, no objective and external measure of quality. This implies that it might not provide evidence for the superstar phenomenon in the sense described by [Rosen \(1981\)](#), who argues that small differences in *quality* may lead to large differences in earnings. We therefore suggest that the *ex ante* popularity of an actor is rather a measure of the knowledge that consumers have about a particular actor. Such an interpretation fits the model proposed by [Adler \(1985\)](#), who argues that the superstar phenomenon exists because individual utility increases with the individual knowledge about the work of a specific artist. Since individual knowledge can be increased either by direct consumption of the artist's work or through discussion with other individuals, the number of individuals that consume the work of the artist also affects the individual utility. Thus, we prefer the interpretation of *ex ante* popularity in Adler's sense. To control for the effects of *ex ante* popularity of actors in the German market, we define the index ACTOR (see Table A.2.3 in the appendix to this chapter). The value of the index is 1, 2, 3, where the number of actors in the movie who previously had a leading role in a movie that reached at least 400,000 admissions is 0, 1, 2 or more, respectively. If there are superstar effects, the coefficient of this variable should thus be larger than one. It is clear, however, that index construction is arbitrary by nature, so related results should be considered with due caution.

We construct the binary dummy DIRECTOR to analyze the influence that directors whose movies reached large audiences in the past have on movie performance (see Table A.2.4 in the appendix to this chapter). We would suggest DIRECTOR to be positively related to a film's performance, because previously successful directors are likely to be both talented, and willing to meet demand, which is not necessarily the case for directors who never succeed.²²

A film's budget is represented by the variable BUDGET. We expect the

²²See [Rother \(1997\)](#) for a description of the director's role in film production.

budget of a film to have a positive effect on the film's performance. This assumption seems tenable as features with larger budgets tend to reach more viewers. They have the resources to finance high quality inputs for technical equipment and other "below the line" inputs, as well as to buy creative "above the line" inputs such as screen writers, directors and actors (see e.g., [Prag and Casavant \(1994\)](#)).

In Germany, the *Filmbewertungsstelle Wiesbaden* (Film Evaluation Board - FBW) appraises features and awards films it believes have content of outstanding quality with the certificates "recommended" or "highly recommended." The FBW is a public institution and part of the German cultural film policy: a certificate can improve the chances of receiving film funding and, in some states, implies entertainment tax reductions. The certificates are awarded by a committee with five members. In a formal procedure, each movie is viewed at full length and an evaluation is carried out. We use FBW certificates here as a proxy for critical appraisal. Accordingly, the dummies FBWHR for highly recommended and FBWR for recommended films are included in the analysis.

A film's genre may also relate to a film's success (see e.g., [De Vany and Walls \(1999\)](#); [Prag and Casavant \(1994\)](#)). Accordingly, dummy variables are defined and classified as set out in the *Dictionary of International Film*. The classifications are DRAMA, CHILDREN, CRIME, and ACTION, with COMEDY serving as the base category.²³

Age restrictions may also influence the success of a movie ([Ravid \(1999\)](#); [Sochay \(1994\)](#); [Wyatt \(1991\)](#)). These effects are, however, ambiguous. On the one hand, age restrictions reduce the number of potential viewers. On the other hand, they may signal specific contents of a film and can potentially increase the number of viewers. In Germany, age restrictions are set by the *Freiwillige Selbstkontrolle* (Organization for the Voluntary Self-Regulation of the German Film Industry - FSK). The dummy variables FSK0, FSK6, FSK12 and FSK16 reflect the respective age restrictions, while the FSK18 age restriction serves as the default.²⁴

In the area of film distribution, three categories of film distributors' size

²³The category ACTION differs from the classification in the Dictionary of International Film and comprises genres that are rarely produced in Germany (namely action, adventure, war, and science fiction). CRIME consists of movies classified as criminal and thriller. Those movies without information available in the Dictionary of International Film were evaluated with the help of the *Internet Movie Data Base* (www.imdb.com) and the internet database of *Blickpunkt:Film* (www.cinebiz.de).

²⁴The FSK rating is similar to the voluntary Motion Picture Association of America ratings.

are considered (see Table A.2.5 in the appendix to this chapter). These are INDEPENDENT, MINIMAJOR and MAJOR. The latter is used as the base category in the regressions. The rationale for this distinction is that a distributor's size is linked with a film's marketing costs and a film's potential market size. For instance, independent distributors typically focus on niche markets, so releases by independent distributors show low numbers of release prints. This suggests that the number of admissions of an independently released film should, on average, be lower. The same rationale applies, although probably to a lower extent, to mini-majors. Hence, we expect INDEPENDENT and MINIMAJOR to be negatively related to ADMISS.²⁵

Table 2.2 presents the results of regression (2.1). It is revealed that VS-PROD is positively related to a German film's performance in terms of absolute admission numbers. The significance of VS-PROD suggests that, apparently, there is a group of production companies that *consistently* produces exceptionally successful films. However, simply successful production companies do not show any significantly positive effect, as documented by the negative coefficient and the low t-values of the S-PROD variable. Hence, the 100,000 admission threshold seems too low to ensure that only consistently above-average performing production companies gain from the reference film principle.

The *ex ante* popularity index ACTOR shows weakly significant positive effects. However, the coefficient of ACTOR is less than one. Our analysis thus fails to support the existence of a superstar phenomenon. On the other hand, directors have a large positive impact on admissions. Further, while total admissions rise with a film's budget, the elasticity is below one, indicating that a higher budget investment does not necessarily pay itself back. The significance of FBWHR suggests that critical appraisal is important with respect to the box office appeal of a movie. Moreover, films without age restrictions appear to have relatively good chances at the box office. Considering genre types, only dramas do significantly worse than the base category comedy. Finally, with regard to film distribution we find, as expected, that MINIMAJOR and INDEPENDENT are significantly negatively linked to a German film's absolute performance.

It is plausible that there is some degree of collinearity between the independent variables. For instance, one might expect that high budgets, famous

²⁵The primary estimation of (1) included three binary dummies that controlled for the fact that the demand for motion pictures fluctuates considerably within a year. In Germany, film-going is typically high around Christmas and in September, and low from mid-April to the end of August. However, seasonal dummies showed no significance. As omitting the variables had no notable effect on our estimates, we omit them.

Regression (2.1)		
Variables	ADMISS	
S-PROD	- 0.01	(-0.03)
VS-PROD	1.08**	(2.32)
COMM	0.62	(1.31)
COPRODUCTION	-0.42	(-1.06)
ACTOR	0.70*	(1.83)
DIRECTOR	1.02**	(2.48)
BUDGET	0.46**	(2.31)
FBWHR	1.16**	(2.48)
FBWR	-0.24	(-0.70)
DRAMA	-0.57*	(-1.68)
CHILDREN	-0.65	(-1.08)
CRIME	-0.06	(-0.12)
ACTION	0.04	(0.90)
FSK0	1.86*	(1.88)
FSK6	0.95	(1.11)
FSK12	0.67	(0.82)
FSK16	0.14	(0.02)
MINIMAJOR	-0.99**	(-2.04)
INDEPENDENT	-1.22***	(-2.83)
C	3.55	(1.25)
R ²	0.56	
Adjusted R ²	0.48	
Number of obs.	120	

Notes: all continuous variables are in natural logarithms.

Numbers in parentheses are t-statistics.

*Statistically significant at $p < 0.1$.

**Statistically significant at $p < 0.05$.

***Statistically significant at $p < 0.01$.

Table 2.2: Determinants of Absolute Performance in the German Theatrical Market

actors, well known directors and successful production companies are positively related. Therefore, we checked the regression and the data for signs of multicollinearity, but found no signs indicating it. Regression coefficients were stable when adding or deleting independent variables, standard errors of coefficients were not conspicuous, and the correlation matrix showed no high pairwise correlations between the independent variables (see Table A.2.6 in the appendix to this chapter). Furthermore, the variance inflation factors (VIF) of the independent variables were far below the critical value of 10

suggested in the literature as a rule of thumb.²⁶ Therefore, we conclude multicollinearity is not an issue in our analysis.

2.3.4 Rate of Return Performance

Although the film industry seems focused on film attendance, from an economic point of view, profits and rates of return are clearly more important. Moreover, an analysis of rates of return allows us to test whether very successful producers (VS-PROD) are also significantly positively related to rates of return, i.e., whether they consistently produce more profitably than production companies that fail to qualify for reference film funding. Therefore, we seek empirical evidence on the determinants of the rate of return a film generates.

Calculation of Rates of Return

We consider three perspectives on a film's rate of return: the producer's rate of return (PROD-RoR), defined as a producer's profits divided through the film's budget; the distributor's rate of return (DIST-RoR), defined as a distributor's profit divided through the cost for release prints and advertisement (P&A); and the overall rate of return (RoR), i.e., the sum of both types of profits divided through the sum of budget and P&A.

To calculate the specific rates of return a movie generates, it is necessary to consider how box-office revenues are shared among exhibitors, distributors, and producers. Although contracts may vary for each movie, standard agreements dominate the business. Usually, a share of 47% of the box office is returned to the distributor.²⁷ The further sharing among parties is described by Eggers (1997), p. 101, in detail. Within a standard contract, a share of 65% is imputed to the cost of the distributor, while the other 35% remains with the distributor, but is not imputed to recouping distribution costs. Once distribution costs are fully recouped, the producer receives half of the additional distributor revenues. Moreover, the distributor usually guarantees a minimum payment of about € 500 per release print to the producer, irrespective of how the movie performs at the box office. This "minimum guarantee" is added to the distribution costs that consist of the cost for release prints and advertisement (P&A). For those movies where data is available P&A is

²⁶See Kleinbaum, Kupper, and Muller (1988), p. 210.

²⁷See Hauptverband Deutscher Filmtheater E.V. (1999), p. 3.

on average € 7,993 per release print (see Table A.2.7 in the appendix to this chapter). Therefore, we consider this number for our profit calculations.

The producer's revenue is also generated in ancillary markets (video, DVD, pay TV and ad-supported TV, foreign sales, and in-flight entertainment). Since production companies do not publish related data, we estimate ancillary market revenues on the basis of an example given by *Dr. Dieter Frank*, CEO of *Bavaria Film*, one of Germany's leading production houses.²⁸ He states that a German movie with 500,000 admissions yields about € 1.50 per admission from domestic TV right sales, and about € 0.30 from both video and foreign sales, which totals € 2.10 per admission. To calculate producer's profits, we add revenues calculated on the basis of these numbers to the revenues from the theatrical market. Finally, assuming average admission prices of € 5.00 in the theatrical market in the period between 1993 and 1998, we get our proxy for profits and associated rates of return.

Rate of Return Regressions

Following our calculations profits are negative for most films in the sample, which implies negative rates of return. Therefore, a logarithmic transformation of the dependent variables is not possible and the Box-Cox transformation technique cannot be applied. This has two implications. First, the theoretical foundations of the following regressions might be considered weaker than in regression (2.1). However, with respect to rates of return, we could not model demand anyway as consumers do not pay for profits, but rather for a seat in the movie theatre. Therefore, we have to consider the following regressions against a more descriptive tenor. Second, since the calculation of rates of return heavily depends on box office performance, the distribution of these rates is also characterized by the *blockbuster property*, i.e., outliers tend to dominate the means. Therefore, the least squares estimator is not necessarily the most efficient unbiased estimator.²⁹ We thus apply the l_1 -estimator with respect to our rate of return estimations. The l_1 -estimator is more robust than least squares with respect to the form of the underlying distribution of the disturbances and gives more powerful tests (see Judge, Griffiths, Carter Hill, Lütkepohl, and Lee (1985), p. 836).³⁰ This

²⁸See Frank (1995).

²⁹On the basis of the Shapiro-Wilk test for normality, we can clearly reject the normal distribution of profits (the associated p-values are all smaller than 0.00001).

³⁰This estimator is also known as the least absolute value (LAV) estimator, the least absolute residual (LAR) estimator, the least absolute error (LAE) estimator, and the minimum absolute deviation (MAD) estimator.

leads to the following regressions:

$$\begin{aligned}
 RoR = & \beta_1 + \beta_2 S-PROD + \beta_3 VS-PROD + \beta_4 COMM + \beta_5 COPR + \\
 & \beta_6 ACTOR + \beta_7 DIRECTOR + \beta_8 BUDGET + \beta_9 FBWHR + \\
 & \beta_{10} FBWR + \beta_{11} DRAMA + \beta_{12} CHILD + \beta_{13} CRIME + \\
 & \beta_{14} ACTION + \beta_{15} FSK0 + \beta_{16} FSK6 + \beta_{17} FSK12 + \\
 & \beta_{18} FSK16 + \beta_{19} MINIMAJOR + \beta_{20} INDEPENDENT + \varepsilon_2
 \end{aligned} \tag{2.2}$$

$$\begin{aligned}
 PROD-RoR = & \gamma_1 + \gamma_2 S-PROD + \gamma_3 VS-PROD + \gamma_4 COMM + \gamma_5 COPR + \\
 & \gamma_6 ACTOR + \gamma_7 DIRECTOR + \gamma_8 BUDGET + \gamma_9 FBWHR + \\
 & \gamma_{10} FBWR + \gamma_{11} DRAMA + \gamma_{12} CHILD + \gamma_{13} CRIME + \\
 & \gamma_{14} ACTION + \gamma_{15} FSK0 + \gamma_{16} FSK6 + \gamma_{17} FSK12 + \\
 & \gamma_{18} FSK16 + \gamma_{19} MINIMAJOR + \gamma_{20} INDEPENDENT + \varepsilon_3
 \end{aligned} \tag{2.3}$$

$$\begin{aligned}
 DISTRoR = & \delta_1 + \delta_2 S-PROD + \delta_3 VS-PROD + \delta_4 COMM + \delta_5 COPR + \\
 & \delta_6 ACTOR + \delta_7 DIRECTOR + \delta_8 BUDGET + \delta_9 FBWHR + \\
 & \delta_{10} FBWR + \delta_{11} DRAMA + \delta_{12} CHILD + \delta_{13} CRIME + \\
 & \delta_{14} ACTION + \delta_{15} FSK0 + \delta_{16} FSK6 + \delta_{17} FSK12 + \\
 & \delta_{18} FSK16 + \delta_{19} MINIMAJOR + \delta_{20} INDEPENDENT + \varepsilon_4
 \end{aligned} \tag{2.4}$$

The results of regression (2.2) are displayed in Table 2.3.

Compared to regression (2.1), the results change considerably. While very successful production companies, successful directors, and positive critical appraisal are still important for success, BUDGET is also significant, but negatively related, to the financial success of the movies. This is well in line with the result of regression (2.1), where the related coefficient interpreted as an elasticity is below one. Further, the coefficient of ACTOR is no longer significant. Interestingly, distributors' size is not significantly related to overall profits while it has been negatively related to absolute admission numbers. We will turn to this point later.

Note that the overall fit of regression (2.2) is extremely poor, with a pseudo R^2 value of only 0.07, compared to an adjusted R^2 value of 0.48 in

Regression (2.2)		
Variables	RoR	
S-PROD	-0.03	(-0.36)
VS-PROD	0.43***	(4.09)
COMM	0.02	(0.24)
COPRODUCTION	-0.07	(-0.86)
ACTOR	-0.01	(-0.25)
DIRECTOR	0.16*	(1.86)
BUDGET	-6.6 e-09*	(1.87)
FBWHR	0.34***	(3.40)
FBWR	0.01	(0.15)
DRAMA	-0.06	(-0.83)
CHILDREN	-0.15	(-1.31)
CRIME	-0.06	(-0.59)
ACTION	-0.15	(-1.52)
FSK0	0.01	(0.02)
FSK6	-0.11	(-0.64)
FSK12	-0.12	(-0.69)
FSK16	-0.11	(-0.67)
MINIMAJOR	-0.10	(-0.90)
INDEPENDENT	-0.02	(-0.22)
C	-0.85***	(-4.12)
Pseudo R ²	0.07	
Number of obs.	120	

Notes: numbers in parentheses are t-statistics

*Statistically significant at $p < 0.1$

** Statistically significant at $p < 0.05$.

***Statistically significant at $p < 0.01$.

Table 2.3: Determinants of Overall Rates of Return

regression (2.1).³¹ This is similar to the results of De Vany and Walls (1999), p. 310, who state: “That is as it should be, for were profits predictable everyone would make them.” Nevertheless, the very successful type of production companies and experienced directors do not seem to be “everybody,” but special.

The results of the regression of producers’ rates of return are displayed in Table 2.4. It is apparent that the basic set of significant explanatory variables remains the same. Very successful production companies, successful directors, and positive critical appraisal are significant determinants of producer’s

³¹The pseudo R² can be interpreted similarly to the R². Judge, Griffiths, Carter Hill, Lütkepohl, and Lee (1985), p. 767, formulate that the pseudo R² measures the “uncertainty” in the data explained by the empirical results.

Regression (2.3)		
Variables	PROD-RoR	
S-PROD	-0.05	(-0.93)
VS-PROD	0.34***	(5.37)
COMM	0.02	(0.31)
COPRODUCTION	-0.07	(-1.25)
ACTOR	0.02	(0.59)
DIRECTOR	0.07*	(1.90)
BUDGET	-1.84e09*	(-1.83)
FBWHR	0.20***	(3.39)
FBWR	-0.01	(-0.32)
DRAMA	-0.11**	(-2.31)
CHILDREN	-0.16**	(-2.12)
CRIME	-0.04	(-0.67)
ACTION	-0.07	(-1.18)
FSK0	0.12	(0.92)
FSK6	-0.05	(-0.43)
FSK12	-0.02	(-0.16)
FSK16	-0.07	(-0.67)
MINIMAJOR	-0.16**	(-2.35)
INDEPENDENT	-0.12**	(-2.08)
C	-0.70***	(-5.38)
Pseudo R ²	0.14	
Number of obs.	120	

Notes: numbers in parentheses are t-statistics

*Statistically significant at $p < 0.1$

** Statistically significant at $p < 0.05$.

***Statistically significant at $p < 0.01$.

Table 2.4: Determinants of Producers' Rates of Return

rates of return.

MINIMAJOR and INDEPENDENT are significantly negatively related to performance here. This observation, together with our observations that distributors' size does not matter for overall rates of return, suggest that smaller distributors may not perform systematically worse than larger distributors from their own point of view.

We find that this presumption is supported by the results of regression (2.4) of the determinants of distributors' profits displayed in Table 2.5.

Distributors' size is not systematically linked with distributors' rate of return performance. In addition, there is no variable significantly related to DIST-RoR. The overall fit of regression (2.4) is even poorer than all other regressions, with an pseudo R² value of only 0.06.

Regression (2.4)		
Variables	DIST-RoR	
S-PROD	0.02	(0.18)
VS-PROD	0.16	(1.18)
COMM	-0.04	(-0.31)
COPRODUCTION	-0.02	(-0.22)
ACTOR	-0.01	(-0.02)
DIRECTOR	0.02	(0.20)
BUDGET	-6.34e-09	(-1.02)
FBWHR	0.14	(1.06)
FBWR	-0.01	(-0.13)
DRAMA	-0.01	(-0.04)
CHILDREN	-0.02	(-0.11)
CRIME	-0.07	(-0.59)
ACTION	-0.14	(-1.04)
FSK0	-0.01	(-0.03)
FSK6	0.07	(0.33)
FSK12	0.02	(0.13)
FSK16	0.05	(0.26)
MINIMAJOR	0.15	(1.08)
INDEPENDENT	0.21	(1.54)
C	-0.30	(-1.13)
Pseudo R ²	0.06	
Number of obs.	120	
Notes: numbers in parentheses are t-statistics		
*Statistically significant at $p < 0.1$		
** Statistically significant at $p < 0.05$.		
***Statistically significant at $p < 0.01$.		

Table 2.5: Determinants of Distributors' Rates of Return

Why is this the case? We argue that this observation is most probably linked to the amount of information available for producers and distributors. Compared to the information available at the stage of film financing and producing, the degree of uncertainty is much lower at the distribution level. Above all, the film is completed when the distributor decides on the distribution strategy, i.e., the number of release prints and the advertising measures, which account for distributor's costs. Moreover, the degree of information can further be increased by test screenings. This results in a relatively reliable estimate of the potential market for the film and, therefore, suitable marketing strategies. In contrast, there is less information available and the risk is higher when it comes to film production and financing. This might, however, be an opportunity for highly skillful producers and directors with the talent to produce films that enjoy above-average success, and, hence, we

can detect their positive influence on a film's success.

2.4 Profitability of German Movies

We have shown in the previous sections that production companies of the VS-PROD type are consistently able to produce films with above-average success, both in terms of total admission numbers and in terms of rates of return. Therefore, production companies of the VS-PROD type meet the first two conditions formulated in Section 2.2. This suggests that the reference film principle might be favored over committee subsidies when films by VS-PROD production companies fail to break even. Otherwise, reference subsidies tend to go to deserving films anyhow.

Using our sample data, we investigate the question of cost coverage in a disaggregated manner, i.e., for our three different types of production companies. All movies that are international co-productions are not considered, because our calculations of profits are based on domestic admission numbers. Table 2.6 gives the related values.

The results displayed in Table 2.6 show clearly that there are no profits in the German motion picture industry as long as we observe it on the aggregated level. This is how the German motion picture business is usually considered in public debate, and what provides a stimulus to subsidization. However, with our disaggregated approach, it also turns out that production companies from the VS-PROD type are on average profitable.³² Therefore, we can conclude that the reference principle supports VS-PROD type production companies, despite the fact that they principally operate at a profit. Moreover, it is interesting to note that the average share of subsidies of movies produced by the VS-PROD type is about 66% of the production budget and that these 66% are *not* considered in the above profit calculations.

Note that in real life, it might not be obvious that the VS-PROD type is profitable, since this type of production company also produces failures on a regular basis. However, this is just a consequence of the inescapable uncertainty attached to motion picture production. For instance, with respect to the US market, Vogel (1998) points out: "And, in fact, of any 10

³²We are aware that our results depend on the assumptions made about revenues in ancillary markets. Therefore, we have calculated profits for very successful producers with alternative assumptions of ancillary market revenues. It turned out that even with half of the values given by Frank (1995) we would still find overall profits for the very successful type of production companies. Therefore, we can consider profits to be positive even under very restrictive assumptions.

Production Company Types & Profits			
PROD			
	Producer	Distributor	Overall
Average profits	-1,359,989	-164,808	-1,524,797
Std. dev.	1,979,115	739,775	
25% percentile	-2,361,090	-369,909	
Median	-1,292,441	-86,253	
75% percentile	-561,769	-22,014	
Sum of profits			-88,438,226
n			58
S-PROD			
	Producer	Distributor	Overall
Average profits	-88,282	372,999	284,717
Std. dev.	5,488,466	2,053,653	
25% percentile	-2,308,970	-669,596	
Median	-1,332,264	-122,711	
75% percentile	-498,781	19,861	
Sum of profits			4,840,189
n			17
VS-PROD			
	Producer	Distributor	Overall
Average profits	1,183,417	998,190	2,181,607
Std. dev.	6,011,214	2,437,035	
25% percentile	-1,642,470	-423,797	
Median	-1,015,952	148,246	
75% percentile	1,911,310	1,373,515	
Sum of profits			30,542,498
n			14

Table 2.6: Production Company Types and Profits (in Euro)

major theatrical films produced, on the average, six or seven may be broadly characterized as unprofitable.” (p. 31).

The question of profitability in the distribution sphere is answered in Table 2.7. For the analysis of distributors’ profits we can use the whole sample, since international co-productions do not have to be excluded to allow for a proper calculation of profits.

Interestingly, the average profits in the distribution sphere are positive for all types of distributors with a peak in the group of the mini-major type. Moreover, the distribution of profits varies among distributor types. Notably, the 75% percentile of the profits of independent distributors is negative, while the 75% percentile of both other types is positive. This could indicate that

	Distribution Company Types & Profits		
	MAJOR	MINIMAJOR	INDEPENDENT
Average profits	170,555	932,085	104,701
Std. dev.	1,903,007	3,309,772	1,347,372
25% percentile	-1,002,132	-528,362	-195,428
Median	-527,579	-28,221	-63,962
75% percentile	98,562	473,032	-18,645
Sum of profits	3,581,655	32,622,975	6,700,864
n	21	35	64

Table 2.7: Distribution Company Types and Profits (in Euro)

independent distributors choose films with a higher economic risk than other types of distributors.

2.5 Conclusion

Our analysis provides several results. First, a number of determinants of performance of German movies have been identified. These are, above all, production companies that were very successful in the past (VS-PROD), and directors who have reached large audiences with their previous work. In other words, the skills of the people that are closely related to managing film project development and realization play an essential role in film performance. This contrasts with the widely reported *nobody knows* character of the motion picture business, since obviously some people do know at least a little more than others about successful movie making.³³ With respect, however, to German circumstances, one might suspect that this observation is reinforced by heavy film subsidization, since unsuccessful producers are not necessarily driven out of the market and, hence, the range of talent in the industry might be enlarged artificially.

Second, the determinants of the rates of return on films are related to the determinants of film performance in terms of absolute admission numbers. However, there are exceptions. For instance, regression results indicate a negative influence of high budgets on the rate of return on a film, although higher budgets entail a positive effect on absolute admission numbers. Therefore, it seems counterproductive to spend money, including subsidies, on movie

³³To be clear, we do not say that some people can actually predict the success of a movie, but that there are more talented people that do, on average, produce more successful movies.

projects with relatively high budgets. German films with high budgets do not seem to pay themselves back.

Third, the reference film principle appears to support production companies that have consistently above-average success with their films. While our analysis suggests that this holds only for production companies of the very successful type (VS-PROD), our disaggregated view on profits in the German movie industry strongly suggests that production companies with consistently above-average success are precisely the type that makes positive profits. Essentially, this means that such production companies do not need subsidies to produce their films.³⁴ This is a clear drawback to the reference film principle as specified in the German Film Act. While it sets incentives to produce movies for the audience, the reference film principle *de facto* violates a central condition for legitimate subsidies in that it tends to support firms that do not need subsidies to produce their products! Moreover, the reference film principle is improperly defined in the economic sense; it rewards absolute admission numbers rather than profitability. Combine this result with the positive relation between budgets and absolute admission numbers and the negative relation between budgets and profits, and we arrive at the implication that the reference film principle sets incentives to produce films with excessive budgets. The committee principle, on the other hand, weakens the relationship between expenditures and earnings and distorts producers' incentives to make films suited to audience preferences. Therefore, both principles entail negative effects on economic efficiency.

Recognizing that subsidization of the German film industry is a political reality, we suggest that an adjusted reference film principle may be preferable. Such adjustments may demand that the reference film principle rewards economic success instead of absolute admission numbers and that it reduces producers' "extra" profits, for instance, by prescribing some type of sharing contract between the state and the producer. Incentives to produce for the market could still be set, but "extra" profits would be limited.

Fourth, on examining the field of distribution, it became clear that distributors categorized as independents or mini-majors are negative determinants of performance both in terms of admission numbers and producers'

³⁴We stress here that even currently existing VS-PROD type production companies would be in danger of bankruptcy if all subsidies were abolished. The reason is that these companies produce only about 1 to 4 movies per year. Given the enormous uncertainty attached to the movie business such a small number of projects would hardly provide enough potential for risk diversification to assure the economic existence of such companies. Therefore, the structure of the entire industry has to change to allow for non-subsidized film production in Germany.

profits. However, these results are not relevant to evaluating a distributor's skills, since there is no systematic relation between a distributor's size and a distributor's profit performance. Moreover, there are clearly positive profits in the distribution sphere, irrespective of the distributor type. Therefore, subsidies in the distribution sphere are also questionable.

Finally, our analysis provides no evidence that supports the superstar hypothesis on the basis of our necessarily arbitrary *ex ante* popularity measure for actors. However, primarily with respect to the paramount positive effects of very successful production companies and directors, we suggest that adequate measures of talent and *ex ante* popularity may produce results that support the superstar phenomenon in the sense of [Rosen \(1981\)](#) or [Adler \(1985\)](#).

Chapter 3

The Economic Effects of the New German Copyright Contract Law

3.1 Introduction

In March 1999, the German Federal Secretary of Justice, Herta Däubler-Gmelin, promised listeners at a symposium entitled “Culture is not free” that a political decision for amendments to the German copyright law (GCL) would promote the interests of creative workers.¹ Subsequently, the Federal Department of Justice set up a task force of five copyright experts to propose draft amendments to the GCL.² The task force’s proposal was presented in May 2000 and served as the basis for the Federal Department of Justice’s “legal draft of a law to enhance the contractual status of authors and performers.” A modified version of that draft passed the Deutscher Bundestag (German Parliament) and the Deutscher Bundesrat (Senate of the Federal Parliament) in early 2002. The “act to enhance the contractual status of authors and performers” takes effect July 1, 2002.³

The amended copyright law fosters the creation and use of collective remuneration schemes, and prescribes a strict legal claim for “corrections” of contractual payments when the compensation paid the creative contractual

¹See [Däubler-Gmelin \(1999\)](#).

²The members of the task force were the Professors A. Dietz, U. Loewenheim, W. Nordemann, G. Schricker, and judge M. Vogel.

³Gesetz zur Stärkung der vertraglichen Stellung von Urhebern und ausübenden Künstlern, 22.03. 2002, BGBl I, 1155-1158.

party seems “disproportionate” (the “blockbuster” clause). The next Section gives a more detailed description of the amended GCL.

The legislative motivation for changing the copyright law was to assert “appropriate” compensation for creative workers in the film industry such as directors, actors, and screen writers. The redistributive argument was central to the drafting of the new GCL. This is illustrated by Däubler-Gmelin’s comments on GCL before the German Parliament in 2001:

“The ‘Poor Poet’ of Spitzweg – you all know the painting – is, no, can and must not be a correct description of the circumstances of the lives of creative workers in the 21st century.”⁴

In addition, the law aims at protecting creative workers from financial risks they would otherwise have shifted on them by their contractual partners.⁵

Given that German citizens in general enjoy the right to freely contract, why do legislators feel authors and performers need special protection? The answer, apparently, is that film producers, broadcasters, and other firms in the media industry enjoy a general “structural superiority,” which leads to “unfair” and “unilaterally benefiting” contracts that exploit their creative contractual counterparts.⁶

Däubler-Gmelin (2000), p. 765, grossly underestimated the potential backlash, when she argued:

“In the general sense of justice, there is little to oppose in the notion of appropriate compensation of creative talent, which shall become a legal duty [under this amendment], aside from the fact that it is rather novel for civil law to prescribe a just price for an output.”⁷

⁴Original: “Der ‘Arme Poet’ von Spitzweg - Sie alle kennen das Bild - ist, nein, kann und darf keine korrekte Beschreibung der Lebensumstände der Kreativen im 21. Jahrhundert sein” , [Deutscher Bundestag \(2001\)](#), p. 17715. Author’s translation. See also [Bundesministerium der Justiz \(2001\)](#).

⁵For instance, the risk argument appears in [Bundesministerium der Justiz \(2001\)](#), p. 17.

⁶See e.g., Däubler-Gmelin’s speech before the German Parliament ([Deutscher Bundestag \(2001\)](#)).

⁷Original: “Gegen die angemessene Vergütung der Kreativen, wie sie zukünftig zur gesetzlichen Verpflichtung gemacht werden soll, kann ja nach allgemeinem Gerechtigkeitsverständnis so viel nicht einzuwenden sein, sieht man einmal davon ab, daß es im Zivilrecht eine gewisse Neuheit darstellt, den gerechten Preis einer Leistung gesetzlich vorzuschreiben”. Author’s translation.

The media industry has excoriated the legislation,⁸ arguing that the prescriptions under the amendment hurt film financing and production in Germany, primarily through the introduction of legal uncertainty. Moreover, legal scholars condemn the act's inconsistency with labor legislation, constitutional law, and European Law.⁹ Although, the initial proposal was subject to many changes and the final, adopted version of the amendments to the GCL is better defined than earlier drafts, the debate on the modified GCL remains very much alive.¹⁰

This chapter provides an economic approach to the issue. Our focus lies on the effects of the new GCL in the labor markets for creative talent.

The chapter proceeds as follows. Section 3.2 presents the main characteristics of the new copyright law. Section 3.3 analyzes its effects from an economic perspective. Section 3.3.1 considers how “structural superiority” in terms of “labor monopsony” or “buyer power” may affect the industry. Further the plausibility of significant buyer power in the German film industry is discussed. Section 3.3.2 analyzes the potential effects of encouraging the use of collective remuneration schemes. This is done with the help of two standard models of union behavior: the “right-to-manage” model and the “efficient bargain” model. Section 3.3.3 investigates effects of the “blockbuster” clause. It is shown that the clause may give rise to a link between the efficient bargain model and the right-to-manage model. Further, its effects on risk allocation between producers and creative talent, incentives, and transaction costs are considered. Section 3.3.4 analyzes aspects of legal uncertainty introduced by the new GCL. Section 3.4 concludes.

3.2 The New German Copyright Law

As mentioned above, the amended copyright law seeks to counterbalance a supposed “structural superiority” of the contracting counterparty of originators.¹¹ Originators are defined as the creators of a work (§ 7 GCL). With respect to motion pictures, however, it is difficult to specify who qualifies

⁸Industry lobbyists placed full page advertisements in prominent German newspapers and broadcasters launched a spot advertising campaign against the new law.

⁹For legal analysis, see e.g., Thüsing (2002), Kreile (2001), Poll (2001), Schack (2001), and Flechsig (2000). Gounalakis, Heinze, and Dörr (2001) provide a comprehensive and in-depth juridical expert study of the Department of Justice's draft of the new law.

¹⁰See e.g., Schwarz (2002).

¹¹Despite the fact that it is the fundamental justification for the new law, no research has been done to assess the plausibility of this assumption.

as an originator under the GCL, since there are typically numerous major creative contributors involved in making a movie. Moreover, there is no legal rule to resolve this issue. In principle, then, several originators may become copyright owners, e.g., the director, the screenwriter, and the editor. This breaks with traditional case law, which (loosely) considers the director as the originator,¹² and the producer as the typical contractual counterpart. In the following discussion, we divide these contractual parties as “originators,” “creative workers,” “creative talent,” and “authors” on one hand, and “producers” on the other. The producer is typically in charge of bringing production factors together needed to produce a movie. This includes hiring the writer to write the original screenplay, signing the major actors and the director, hiring the crew, doing the budget, and making sure the set gets made on time.

The core change to the copyright law is the new § 32 GCL. Under § 32 GCL

- originators have a right to demand modification of their contract when the arranged compensation is not “appropriate.”

This right is inalienable. Thus, where contractual compensation is not considered appropriate, creative workers may claim additional payments.

So what is appropriate? The term “appropriate” can be inferred from the interplay of § 32 and § 36 GCL. First, § 32 GCL provides a legal stipulation that “collective remuneration schemes” are sufficient to guarantee appropriateness.¹³ Second, § 36 GCL states that “associations of originators” may bargain with “associations of producers” or “single producers” about such remuneration schemes. Apparently, the authors of the legislation sought to encourage the making and application of a sort of collective wage agreement.

While adoption of collective compensation schemes is voluntary, one can reasonably expect that collective remuneration schemes will generally be accepted in the industry to take advantage of the associated legal certainty.¹⁴ In any case, judges will resort to the legal presumption of collective remuneration schemes in legal disputes over appropriate wages. Therefore, we

¹²See [Brehm \(2001\)](#), p. 28. Note that the new GCL explicitly extends the scope of addressees of the copyright law. Section 3.3.4 discusses this issue.

¹³So far, however, what exactly defines such collective remuneration schemes is an open question.

¹⁴More precisely, the extent of a firm’s deviation from collectively bargained compensation schemes depends on the expected litigiousness of the creative talent, the expected cost of legal disputes, and the firm’s discount rate. If the firm’s reputation is important, there may be no deviation at all.

assume the new GCL establishes *de facto* industry-wide use of collective remuneration schemes.

The new copyright contract law also refers to the “blockbuster” phenomenon that can be found in many creative industries.¹⁵ Under § 32a GCL

- originators have a right to demand a change in their contract when their previous agreed compensation appears “disproportionate” from an *ex post* perspective, i.e., the originator’s claim depends on the performance of the creative product.

As this right cannot be waived, the amended GCL introduces some type of mandatory sharing in such contracts. Interestingly, the authors of the legislation apparently doubt that the collective remuneration schemes they suggest are sufficient to guarantee appropriate compensation, so they explicitly added *ex post* compensation rules. Nevertheless, the legislator considers that collective remuneration schemes are sufficient to guarantee appropriate compensation provided that the respective collective compensation scheme explicitly include ex-post compensation rules.¹⁶ Previous GCL also included a “blockbuster” clause. However, since its conditions of entitlement were very restrictive the clause was actually not enforced.

3.3 Economic Effects of the New GCL

In the following discussion, it is shown that the recent amendments to the copyright law have the potential to affect numerous explicit and implicit characteristics of labor contracts such as wages, income distribution, the allocation of risk between producers and creative talent, incentives, efforts, and transaction costs.

As the impact of the new GCL depends largely on the assumed market structure in the markets for creative labor, we state that, in general, we can only expect to see potentially positive effects from the new law in the event of a market failure. We begin our analysis by exploring the effects and the plausibility of the presumed “structural superiority” of producers, which has been used to justify the new law.

¹⁵Chapter 2 discusses empirical evidence of the “blockbuster property” in the German motion picture industry.

¹⁶Note that the “blockbuster” clause § 32a GCL is also effective for existing contracts, i.e., authors have a right to change existing contracts, if disproportionate gains arise after the law has become effective.

3.3.1 Initial Considerations with Regard to “Structural Superiority”

Monopsony

In economic terms, the supposed “structural superiority” of producers may best be described by the terms “buyer power” or “labor monopsony.”¹⁷ Robinson (1969), p. 215, first used the term “monopsony” to describe a market with a single buyer. Today the expression “labor monopsony” is applied to any model where individual firms face positively inclined labor supply curves. The consequences of monopsony can be analyzed with a simple “isolated firm” model. Assume a firm produces films by employing labor (L). The wage (w) is, due to the labor market monopsony, a function of the number of creative workers that are hired such that $w = w(L)$ represents the inverse labor supply function, with $dw/dL > 0$. Thus, the firm’s profit function is

$$\pi(L) = R(L) - w(L)L,$$

where R denotes the firm’s revenue function. R is assumed to be strictly concave and twice continuously differentiable. Profit maximization gives

$$\frac{dR(L)}{dL} = w(L) + \frac{dw(L)}{dL}L$$

or

$$R' = MLC,$$

where R' denotes the monopsonist’s marginal revenue product of labor.¹⁸ MLC denotes the marginal cost of labor, which reflects not only the cost of the last employee employed, but also the difference in wage the monopsonist must pay for all previously employed workers, i.e., $dw(L)/dL$. Figure 3.1 displays the associated amount of labor employed (L_m) and the associated

¹⁷The following discussion of monopsony borrows from the survey of Boal and Ransom (1997).

¹⁸ R' can be considered the monopsonist’s “hypothetical labor demand function,” although, strictly speaking, a monopsonist has no demand function since price and quantity are determined simultaneously. Here, the “hypothetical demand function” involves the same information as a regular demand function. See Blair and Harrison (1993).

wage (w_m) earned by the creative talent. Note that w_m is the lowest possible level the monopsonist must pay the creative talent to employ the profit maximizing level of labor L_m .

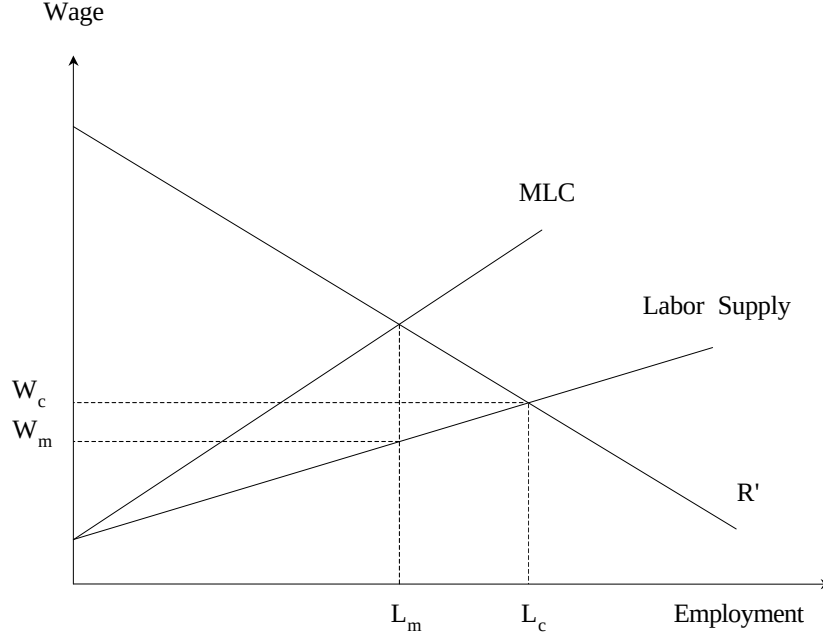


Figure 3.1: Wage and Employment Determination under Monopsony

Compare this to the competitive outcome. In a competitive labor market, the wage no longer depends on the quantity of labor employed by a single firm, but is determined by the market. It follows that each firm employs labor until the marginal revenue product equals marginal costs, which is determined at w_c . Hence, the firm hires the quantity L_c . This result is efficient. We can see that under monopsony both wages and employment are lower than under competition. The associated welfare loss compared to the competitive outcome is given by

$$\int_{L_m}^{L_c} [R'(L) - w(L)] dL.$$

Following [Pigou \(1924\)](#), p. 754, we may also define a measure of “exploitation” denoted by E . The first-order condition can be rearranged to

$$R' = w(L) + \frac{dw(L)}{dL} \frac{w(L)}{w(L)} L$$

and we may write

$$E \equiv \frac{R' - w}{w} = \varepsilon^{-1}, \text{ with } \varepsilon = \frac{dL}{dw} \frac{w(L)}{L}$$

E measures the deviation of wages from R' in percentage terms and is inverse to the elasticity of labor supply. The more elastic the labor supply function, the less monopsony power exists.¹⁹ If $dw/dL = 0$, the labor supply is perfectly elastic and there is no monopsony power.²⁰ In general, monopsony power is weaker in the long run as long-run labor supply elasticities are typically larger than short-run elasticities. Workers can change jobs, move, or acquire skills to qualify for other professions. Under such a dynamic labor supply regime, the monopsonist must weigh short-run gains from exploitation against dynamic supply responses. [Boal and Ransom \(1997\)](#) present a simple model of dynamic labor supply that incorporates such considerations. They find that, within this setting, E is a weighted average of short-run and long-run inverse elasticities and depends positively on the monopsonist's discount rate. Hence, E may be smaller if the dynamics of labor supply are taken into account. Such considerations may help to understand why related empirical literature indicates monopsony power is relatively weak. Empirical studies on labor monopsony power show that even in textbook examples of monopsony such as the case of public school teachers in rural areas or coal mining, the rates of exploitation are very low and sometimes approach zero (see e.g., [Luitzer and Thornton \(1986\)](#); [Beck \(1993\)](#); [Boal \(1995\)](#)).

Thus, while the basic monopsony model provides a valuable reference for the effects of buyer power, it is unlikely to fit many real world situations. Instead, one is much more likely to encounter oligopsonistic market structures, whereby several firms operate in a market. As we show below, the German film industry is characterized by such a market structure. Therefore, we turn our analysis to buyer power within a Cournot model.

¹⁹However, E is not a measure of the deviation of wages from their competitive level when R' is not a horizontal line. For a short discussion of conditions that might imply a horizontal R' line, see [Boal and Ransom \(1997\)](#), p. 88.

²⁰Under competition, E equals zero, because the marginal revenue product equals the wage.

Cournot Competition

The Cournot model assumes that firms simultaneously decide what quantity to produce.²¹ Since creative labor is demanded in more or less fixed proportions to output, for instance, there is typically one director per film, it is straightforward to consider that broadcasters play an employment-setting game.

Consider a simple one-stage game in which two firms i, j choose their quantities of labor demand L_i and L_j simultaneously. The firm i 's profit function is given by

$$\pi_i(L_i, L_j) = R_i(L_i) - L_i w(L), \text{ with } L = L_i + L_j$$

where R_i denotes firm i 's revenue function. Each firm now maximizes its profits given the expected quantity of labor demand chosen by the other firm. The first-order condition of firm i is

$$\pi'_i = R'_i(L_i) - w(L) - L_i w'(L) = 0.$$

Generalized to the case of n firms let

$$L \equiv \sum_{i=1}^n L_i,$$

and the first-order condition of firm i remains

$$\pi'_i = R'_i(L_i) - w(L) - L_i w'(L) = 0.$$

We now define a firm-specific rate of exploitation E_i by rearranging the equation above to

²¹This assumption of competition in quantities well fits decision-making in the film industry. Producers and broadcasters typically decide on the number of films they will produce. For instance, broadcasters produce according to a previously set up program scheme. Since creative labor is more or less hired in fixed proportions to the output, this fits the Cournot model. Otherwise, Bertrand competition implies that producers set wages first and employ every worker willing to work at that wage level. This seems rather implausible. Further, the Cournot model implies the strongest “anti-competitive” outcomes for general oligopsony models. Therefore, the analysis of Cournot competition can be regarded as a “worst case” oligopsony analysis of buyer power.

$$R'_i - w(L) = L_i w' \frac{w(L)}{w(L)} \frac{L}{L} = L_i \frac{w(L)}{L} \varepsilon^{-1},$$

such that

$$E_i \equiv \frac{R'_i(L_i) - w(L)}{w(L)} = \frac{L_i}{L} \varepsilon^{-1}.$$

Obviously, E_i is the same for all firms in the symmetric case, i.e., where R'_i is equal for all firms. Note that E_i is decreasing in the number of firms in the market. In the asymmetric case, where R'_i differs across firms, an employment-weighted average of these individual rates of exploitation can be expressed by

$$E \equiv \sum_{i=1}^n E_i \frac{L_i}{L} = \left[\sum_{i=1}^n \left(\frac{L_i}{L} \right)^2 \right] \varepsilon^{-1},$$

where the expression in brackets represents the Herfindahl-Hirschmann index H . This concentration index is based on market shares that can be represented per unit (which implies that the maximum value of H is 1) or in percent (which implies that the maximum value of H is 10,000). Note that there is no unambiguous relationship between the concentration of firms and the market outcome, because a firm's market shares are endogenous and depend on n and the distribution of R' among firms.²²

Nevertheless, H may provide an useful indication of possible buyer power for practical purposes (Tirole (1992), p. 223). For instance, the US Department of Justice and the Federal Trade Commission use the index in guidelines for evaluating mergers.²³ Similarly, Dobson, Waterson, and Chu (1998), p. 13, suggest in a paper prepared for the UK Office of Fair Trading, "In the case of oligopsony, generally the greater the concentration of buyers then the greater is the distortion in factor price and quantity below the competitive level, other things being equal." The N -firm concentration ratio (CR- N) is

²²For instance, if one firm systematically realizes a higher margin revenue product, it will also yield a higher market share. More generally, it can be stated that with asymmetric firms concentration need not be related systematically to welfare. Note that, although E and H are endogenous, a positive correlation between E and H can be interpreted as evidence of buyer power. The reason is that, in the case of perfect competition, E equals zero.

²³According to these guidelines, market concentration can be broadly characterized as unconcentrated if $H < 1000$, moderately concentrated if $1000 < H < 1800$, and highly concentrated if $H > 1800$ (Department of Justice and Federal Trade Commission (1997)).

another measure of concentration. It simply adds up the individual market shares of the N -largest (measured in terms of market share) firms in the market.

The Herfindahl-Hirschmann index is a more useful concentration measure than the N -firm ratio, because the N -firm ratio does not reflect the distribution of market shares among the N firms. Nevertheless, the N -firm ratio is used by competition authorities, for instance, by the German Bundeskartellamt and the Australian competition authority (see Bundeskartellamt (2001)).

A somewhat more direct relationship between the number of firms in the market and oligopsony power can be described within a symmetric Cournot model if we assume that $w(L) = L$. Under this assumption, the first-order condition of firm i becomes

$$\pi'_i = R'_i(L_i) - L - L_i = 0.$$

In the symmetric case, we have $L = nL_i$ and may write

$$R'_i(L_i) - nL_i - L_i = 0$$

or

$$L_i = \frac{R'_i(L_i)}{(1+n)}.$$

Since we know that $w(L) = L$ and $L = nL_i$, it follows that

$$w(L) = R'_i(L_i) \frac{n}{(1+n)}.$$

This implies that, with an increasing number of firms in the industry, w converges rather quickly to the competitive outcome, whereby $w = R'$.

Experimental evidence on number effects in the symmetric Cournot model indicate that the role of the number of firms in the market is potentially more important than the Cournot model suggests. [Huck, Normann, and Oechssler \(2001\)](#) show that three-firm oligopolies tend to confirm the Cournot prediction, while more than three firms typically produce results that surpass the Cournot outcome in the direction of the competitive result.²⁴ In contrast,

²⁴Note that [Huck, Normann, and Oechssler \(2001\)](#) consider the case of oligopoly, rather

two firms tend to surpass the Cournot outcome in the opposite direction.²⁵

In summary, our discussion suggests that the legislative presumption of “structural superiority” may be described by “labor monopsony,” which represents a type of market failure. Our analysis further suggests that a large number of firms and low concentration rates in the labor markets of the German motion picture industry limit the extent of potential exertion of such buyer power. The next section explores number and concentration characteristics in these markets to check the plausibility of a presumption of “structural superiority.”

Plausibility of Significant Buyer Power

Any analysis of buyer power needs to define the relevant market. In the case of the German film industry, there exist numerous single labor markets, i.e., each creative profession in the German film industry addressed by the new GCL may be considered to operate in a separate labor market. We can reasonably restrict our analysis here to the concentration of firms in the output market, since creative labor is hired in more or less fixed proportions to the output. Hence, concentration in the output market reflects buyer concentration in the input markets. More specifically, we consider two output markets. First, the “theatrical market,” which consists of German motion pictures produced for initial release in theatres. Second, the “market for German television fiction,” which requires contributions from creative talent for products such as TV dramas or serials. While we make this distinction partly in deference to data availability, it should be noted that creatives themselves distinguish between working for the “big screen” and television.

The theatrical market is characterized by a large number of small production companies. In 2000, there were 127 companies involved in the production of 75 theatrical movies. 108 companies were attached to the production of just one movie (Roth (2001), p. 19). Production companies are often related to larger vertically integrated media companies such as Kirch Media, CTL-

than oligopsony. However, the cases may be viewed to produce analogous results. As Dobson, Waterson, and Chu (1998), p. 13, put it: “...it is straightforward to apply the principles of oligopoly theory to model situations of oligopsony where strategic interaction occurs between a few buyers competing in a market...”.

²⁵Number effects may also be important with respect to potential collusion of buyers. Following Blair and Harrison (1993), p. 43, there may be structural conditions that impede such acting. One of these conditions is a “fewness of buyers”. It is argued that the smaller the number of buyers and the higher the concentration in the market the lower the cost of reaching, implementing and controlling an agreement. Conditions that may facilitate collusion are: homogeneous products, a low elasticity of supply, and sealed bids.

Production-Group	Market Share
Kirch	0.15
ZDF	0.09
WDR	0.07
RTL Group	0.07
Arte	0.06
CR-3	0.31
CR-5	0.44

Source: SPIO, Media Perspektiven, own calculations.

Table 3.1: Market Concentration in German Theatrical Film Production in 2000

UFA, or public broadcasters that are sometimes referred to as “production-groups” (Röper (2000)). For this reason, we have classed each production company that is owned (disregarding the actual stake) by a larger media company or public broadcaster to these production-groups. Table 3.1 indicates the market shares of the largest production groups in theatrical film production in 2000 and gives associated N -firm concentration ratios (CR- N).²⁶

As is apparent, the concentration ratios in the market are low. Com-

²⁶The allocation of production companies to production-groups is based on the information about firm’s stakes provided by Media Perspektiven (2001). Further, M. Roth of SPIO provided a listing of the production companies of all German theatrical movies in 2000. Where more than one production-group was involved in the production of a movie (which was the case in eight instances and involved three production groups) each of the N groups was considered to have a share of $1/N$ of the movie. Where a production-group co-produced with one or more foreign firms, we counted the maximal one of these foreign companies to receive a prudent result. The potential influence of (independent) co-producing German firms was completely ignored so that the larger production group received the entire associated market share. Thus, our computation is likely to overestimate actual market shares. Due to the insolvency of parts of the “Kirch Group” in 2002, the market structure will likely change in the future. However, it is an open question as to whether we will observe higher or lower concentration ratios. RTL Group was created in early 2000 following the merger of CLT-UFA, a TV and radio group owned by Bertelsmann AG (with the German newspaper group WAZ) and the Belgian-Canadian Groupe Bruxelles Lambert (GBL), with the British production company Pearson TV owned by the UK-based media group Pearson plc. In July 2001, Bertelsmann became majority shareholder of RTL Group following a stock swap with GBL. In December 2001, Bertelsmann entered into an agreement with Pearson plc to acquire its 22% stake in RTL Group, raising Bertelsmann’s interest in RTL Group to 89%. The remaining 11% of RTL Group is publicly traded (www.rtlgroup.com, May 19, 2002).

pared to the benchmark levels of the German competition authority, which presumes joint market dominance in the case of $CR-3 \geq 50\%$ and $CR-5 \geq 67\%$ ([Bundeskartellamt \(2001\)](#)), such concentrations are indeed very low. Therefore, we suggest that buyer power is clearly insignificant in the theatrical market.

The market for television fiction is also characterized by a large number of small production companies. In 1998, there were 101 German production companies that produced 300 movies for television, i.e., TV dramas or serials with run times of about 90 minutes ([Röper \(2000\)](#), p. 19). As in the theatrical market, vertical integration is also a feature of the television market.²⁷ Table 3.2 indicates the market shares of the largest production groups in television market in the year 1998 and gives associated N -firm concentration ratios ($CR-N$).²⁸

Obviously, concentration ratios are also low in the market for German television fiction. As a whole, this suggests that buyer power is not significant in the labor markets associated to the production of movies in Germany. The term “structural superiority” applied to in the German motion pictures industry appears to be a political phrase without economic equivalent.

Therefore, we may conclude that the new copyright law uses a misleading presumption about the German motion picture industry.

We now examine the economic effects of the new law. We first consider legally fostered collective remuneration schemes, then examine the effects of the blockbuster clause.

²⁷Note that [Röper \(2000\)](#) considers the market for productions made for hire only. Therefore, potential productions produced by the broadcasters themselves are neglected. Such productions are a rare with respect to TV dramas and serials. Only news, sports, and magazine-type shows are typically produced by broadcasters [Lange \(1997\)](#), p. 3. Thus, [Röper \(2000\)](#) provides data that is relevant to our analysis.

²⁸[Röper \(2000\)](#) allocates a production company to a production-group, if the production-group has a stake of 25% or more. In the case of N co-producing production-groups each of the N groups was considered to have a share of $1/N$ of the market. Market shares are based on minutes run time. Note that Table 3.2 considers the production of television fiction as a whole, i.e., it includes programs such as soaps and talk shows. However, this may actually contribute to overestimating buyer concentration in television movie production, because the production of soaps is more concentrated than total television production and accounts for a relatively high share of total production ([Röper \(2000\)](#), p. 24). Further, [Röper \(2000\)](#) states that television movie production is characterized by “intense competition”, p. 19.

Production Group	Market Share
CTL-UFA	0,15
Springer	0,08
Kirch	0,06
Holtzbrinck	0,04
Studio Hamburg	0,03
Tele-München/Kloiber	0,03
Bavaria	0,02
Heinrich Bauer Verlag	0,02
CR-3	0.29
CR-5	0.36
CR-8	0.44

Source: Röper (2000), own calculations.

Table 3.2: Market Concentration in German Television Fiction Production in 1998

3.3.2 Effects of Collective Remuneration Schemes

The effects of collective remuneration schemes promulgated by §32 of the new GCL may be analyzed with the help of models of trade union behavior.²⁹ The literature discusses two standard types of models of the influence of unions on wage and employment: the “right-to-manage” model and the “efficient bargain” model.³⁰ Both models utilize the idea that unions have indifference curves defined over wages and employment,³¹ but the models differ in their assumptions regarding what unions and employers bargain about. While the right-to-manage model assumes that the parties negotiate about wages only, the efficient bargain model considers that negotiations are over wages and employment levels. These assumptions are crucial for the implications of the models. The efficient bargain model can result in outcomes with more-than-efficient, less-than-efficient, or efficient employment levels. In contrast, the right-to-manage model generally implies less-than-efficient employment levels.

²⁹See Creedy and McDonald (1991) for a review of such models.

³⁰The expression “right-to-manage” model was suggested by Nickell (1982).

³¹Several types of union utility functions have been suggested in the literature. Oswald (1982) proposes a function that defines union utility as the sum of the utilities of its members. The union’s maximization problem then depends on the expected utility derived from employment and unemployment of each member. Other versions such as those contained in McDonald and Solow (1981) include the alternative wage available without unions.

Although we will show that the assumptions of the efficient bargain model are poorly suited to the provisions of § 32 GCL, this model is presented first, because, as we will see, the blockbuster clause provides a link between the efficient bargain and the right-to-manage model.

Efficient Bargain Model

The idea of the bargaining contract curve with respect to the unionization of the labor market was first proposed by [Leontief \(1946\)](#) and later developed by [McDonald and Solow \(1981\)](#). Labor is considered essential for production, so that the firm's profit is zero when no bargain can be agreed on. Following [McDonald and Solow \(1981\)](#), the union's objective function can be written as

$$U = u(w_u, L, w_a),$$

where w_u denotes the real wage the union can achieve, w_a is the alternative real wage available without unions and L is the employment level of organized workers. The objective function is assumed to be twice continuously differentiable and strictly quasi-concave. Further, assume that its first partial derivatives with respect to w_u and L are strictly positive.³² This objective function gives the union's indifference map as shown in Figure 3.2, where the unions preference order is $I_3 > I_2 > I_1$. The profit maximizing firm's indifference map consists of isoprofit curves derived from the firm's profit function

$$\pi(w_u, L) = R(L) - w_u L,$$

where $R(L)$ is assumed to be strictly concave and twice continuously differentiable in L . Firm's seek to reach their most preferred isoprofit curve, which, in this case, is π_3 . Accordingly, the isoprofit curves in Figure 3.2 are such that for the firm $\pi_3 > \pi_2 > \pi_1 > \pi_{\min}$. In a competitive labor market the firm's demand curve for labor R' cuts through the peak points of its isoprofit curves.

The contract curve is formed by the points of tangency between the employer's isoprofit curves and the union's indifference curves and lies between C at the lowest wage the union will accept, and C' , which is the lowest level of profit $\pi_{\min}$ that the firm will accept. [MaCurdy and Pencavel \(1986\)](#)

³²It is also assumed that the union does not affect the overall price level in the economy.

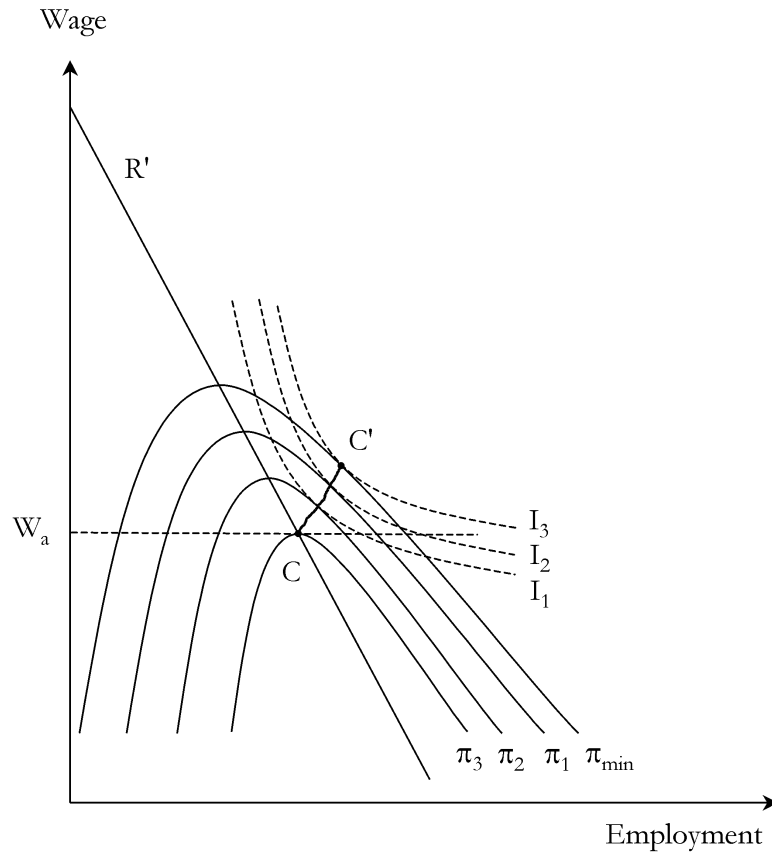


Figure 3.2: Contract Curve Formation in the Efficient Bargain Model

suggest that there exist three potential types of contract curves, which are illustrated in Figure 3.3.

They analyze how the form of the contract curve depends on the specific objective function of the union. If the union's objective function is $U = [w_u - w_a]L$, i.e., a form of rent maximization, then the contract curve within their framework is vertical as displayed by CC'' in Figure 3.3 (MaCurdy and Pencavel (1986), p. S13). If we assume that the alternative wage w_a is the competitive wage, this implies that the employment level is efficient. For other objective functions, contract curves such as CC' and CC''' are feasible. This implies that collective wage schemes may result in more, less or equal employment than under the alternative setting without unions. Therefore, the efficient bargain model is only efficient in the sense that it satisfies the preferences of the union and the firm. From society's standpoint, the efficient

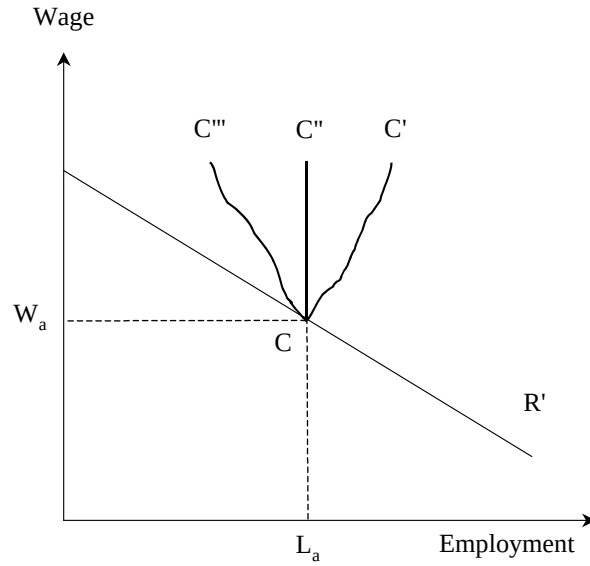


Figure 3.3: Possible Forms of Contract Curves in the Efficient Bargain Model

bargain model generally implies a misallocation of resources as employment levels differ from the competitive level. Moreover, since profits will always be lower with unions, some firms may exit the market. Therefore, unions may indirectly lead to lower levels of employment regardless the actual shape of the contract curve.

Right-to-Manage Model

Just as with the efficient bargain model the right-to-manage model assumes that unions and firms have objective functions such as those used above. Again, it is assumed that the firm will negotiate with the union, because, without a bargained agreement, profits are zero.

The right-to-manage model immediately appears better suited to our analysis than the efficient bargain model. First, it does not assume that creative workers and producers bargain over *both* wage and employment levels – only wages are subject to negotiations. This fits the prescriptions of the new GCL, which explicitly refers to the determination of wages only. Second, it has been argued in the literature that unions rarely negotiate directly about employment levels (e.g., [Brown and Ashenfelter \(1986\)](#)).³³

³³Another view is that bargaining about work practices may be a sufficient proxy for direct negotiations over employment levels ([McDonald and Solow \(1981\)](#)). However, the

The right-to-manage model assumes that, while the union can influence wages, the firm is free to set its profit-maximizing level of employment. Thus, there is bargaining over wages only when employers control employment. The negotiated wage then depends on the union's and the employer's relative bargaining power. More specifically, the right-to-manage model generates outcomes in the wage and employment space that lie along each firm's labor demand curve R' . This is because each point on the demand curve represents the profit-maximizing employment level for a given wage. The outcome is characterized by the tangency between the firm's labor demand curve R' and the union's indifference curve I as depicted in Figure 3.4.

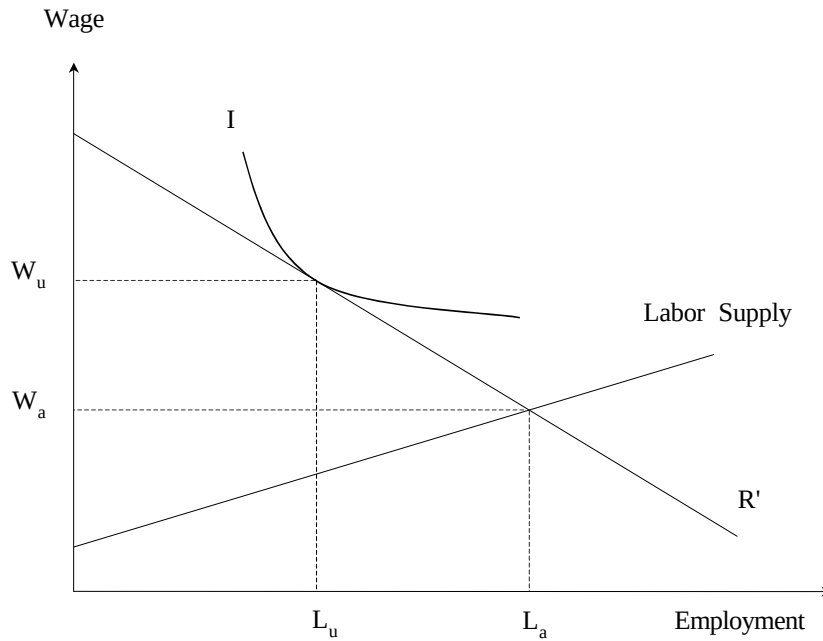


Figure 3.4: Wage and Employment Determination under the Right-to-Manage Model

In general, the negotiated wage w_u is higher than the alternative wage w_a , while the employment level L_u is lower than L_a .³⁴ If we assume that w_a

appropriateness of such an approximation is controversial. For a review, see [Clark \(1990\)](#). [Farber \(1986\)](#) suggests that there may be no negotiations over employment levels due to an incentive problem. In the efficient bargain model, the marginal revenue product is generally less than the wage, which gives an incentive for the firm to behave opportunistically in that it reduces employment at the negotiated wage.

³⁴When the union completely controls the bargaining process, the right-to-manage

	Union Model	
	Efficient Bargain	Right-to-Manage
<i>Direct Effects:</i>		
Wage	+	+
Total Worker Remuneration	+	+
Employment	?	-
Profits	-	-
Efficiency	- ^a	-
<i>Indirect Effects:</i>		
Total Worker Remuneration	-	-
Employment	-	-

^aOnly for vertical contract curves efficient levels of employment are possible.

Table 3.3: Economic Effects of Collective Remuneration Schemes Under Different Models of Union Behavior

equals the competitive wage w_c , a welfare loss $\int_{L_m}^{L_c} [R'(L) - w(L)] dL$ is created. A rise or decrease in the overall remuneration of creative workers depends on the elasticities of labor demand and supply. Nevertheless, for a wide range of elasticities an increase in the overall income of creative workers can reasonably be assumed. On the other hand, the firm's profits will fall unless the union has no bargaining power. This may entail an indirect negative effect on creative workers, since decreasing profits may trigger cuts of employment to the extent that producers exit the market. Table 3.3 recapitulates the effects of § 32 GCL according to the efficient bargain and the right-to-manage model.

Overall, we may conclude that the legally encouraged application of collective remuneration schemes by the new GCL will lead to higher wages for those creative workers that are employed. It may well be possible that total remuneration to creative workers is lower, however, when indirect effects of collective remuneration schemes are considered. In any case, efficiency losses can be expected.

model is equivalent to the traditional textbook union monopoly model. On the other hand, if the firm controls the negotiations, then (w_a, L_a) is the solution. See [Manning \(1987\)](#) for a detailed analysis.

3.3.3 Effects of the “Blockbuster” Clause

According to § 32a of the new GCL originators have the right to demand a change of an existing contract, if the previously agreed on payment is disproportionate from an ex-post perspective. In economic terms this can be interpreted as a provision that prescribes the introduction of sharing contracts. This may affect transaction costs, the allocation of risk between producers and creative talent, and producers’ and creative talent’s efforts.³⁵ The bargaining process between unions and producers may also be affected by that prescription. We turn to the latter point first.

The Right-to Manage Model Reconsidered

Anderson and Devereux (1989) argue that the adoption of profit-sharing contracts may provide a link between the right-to-manage and the efficient bargain models of trade union behavior. An optimal contract can use profit-sharing to establish the efficient bargain outcome within a right-to-manage framework. To see this, we first consider the efficient bargain solution. Assume the firm’s profit function is

$$\pi(w_u, L) = R(L) - w_u L$$

and the unions’s utility is represented by

$$U(w_u, L, w_a) = Lu(w_u) + (\bar{L} - L)u(w_a),$$

³⁵Some of the arguments we discuss in the following have also been analyzed in the context of the *Droit de Suite*, which is a legal instrument that is concerned with the idea of protecting artist. The *Droit de Suite* entitles an artist to a portion of the revenues (French version) or the capital gain (Italian version) obtained from all future resales of his artwork. Perloff (1998) summarizes much of the economic literature on the issue. However, though it provides a good starting point the wisdom provided by that literature is only partly transferable on the analysis of the new GCL. First, the literature does not refer to the issue of collective remuneration schemes. Second, its focus often refers to specific characteristics of the production of artworks such as paintings instead of motion pictures. For instance, Solow (1998) concentrates on the question how the *Droit de Suite* affects the individual artist’s incentives to produce art at different points in time. The idea behind his analysis is that the financial interest in sold works that is generated by the *Droit de Suite* provides an incentive to maintain the future value of the artist’s work by restricting or expanding future output. This argument, however, comes from the theory of the durable goods monopolist as described by Coase (1972). Since the demand for motion pictures in general declines sharply in time the analysis does not seem to be applicable to that market (see e.g., De Vany and Walls (1999)).

where $\bar{L}$ is total union membership. In addition, assume that labor is essential for production, so that the firm's profit is zero if no bargain can be agreed on. Then the bargaining process is characterized by the generalized Nash solution, where the optimal pair (w_u^*, L^*) solves the problem

$$\max B^* = \pi(w_u, L)^{(1-\alpha)} (L(u(w_u) - (u(w_a))))^\alpha$$

with respect to w_u and L . The parameter α is the relative bargaining power of the union, with $\alpha \in [0, 1]$. This gives the solution

$$R_L = w_u^* - [(u(w_u^*) - u(w_a))/u'(w_u^*)], \quad (3.1)$$

$$w_u^* = (1 - \alpha)R_L + \alpha \frac{R}{L^*}. \quad (3.2)$$

The first of the two equations describes the optimal employment rule for the efficient bargain. Since R_L is smaller than w_u^* the optimal wage lies above the labor demand curve unless the union's relative bargaining strength α is zero. In Figure 3.5 this is depicted as point N , which lies on the union-firm contract curve CC''' .

Now assume that employment is determined unilaterally by the firm, i.e., a right-to manage approach. Further, consider the introduction of a profit-sharing compensation scheme

$$y = w_{fix} + \frac{\lambda}{L}[R - w_{fix}L], \quad (3.3)$$

where y is total income per worker, w_{fix} is the fixed payment per worker and λ/L is the profit-share that is paid to each worker. Then the firm's profit function is

$$\pi(w_{fix}, L, \lambda) = R - yL = (1 - \lambda)(R - w_{fix}L). \quad (3.4)$$

This implies that the firm's optimal employment level is given by

$$R_L = w_{fix}. \quad (3.5)$$

Note that the optimal employment level is independent of the profit share parameter λ , because the profit-sharing contract operates like a neutral profit tax. Now consider that the union and the firm bargain over w_{fix} and λ

subject to the restriction that employment is determined by equation (3.5). Then the optimal bargain can be defined as the pair $(\bar{w}_{fix}, \bar{\lambda})$, that is given by the solution of the problem

$$\max B^* = \pi(w_{fix}, L, \lambda)^{(1-\alpha)} (L(u(y) - (u(w_a))))^\alpha$$

with respect to w_{fix} and λ and subject to equations (3.3) and (3.5). Anderson and Devereux (1989), p. 430, show that the first-order conditions with respect to w_{fix} and λ to hold simultaneously require that $\alpha = \bar{\lambda}$, i.e., that the optimal profit-share equals union power in the bargain. Then using equations (3.3) and (3.4) implies that

$$\bar{y} = (1 - \alpha)R_L + \alpha \frac{R}{L}, \quad (3.6)$$

where $\bar{y}$ denotes the optimal total income per worker. Furthermore, w_{fix} can be written as

$$\bar{w}_{fix} = \bar{y} - [u(\bar{y}) - u(w_a)/u'(\bar{y})], \quad (3.7)$$

where $\bar{w}_{fix}$ is the optimal fixed income per worker. Now it is clear that equations (3.5) and (3.6) are identical to (3.1) and (3.2). Therefore, the optimal profit-sharing scheme within the right-to-manage model replicates the outcome of the efficient bargain model.³⁶ Why is this the case? An efficient contract in general requires that there are negotiations over *both* employment and the division of total surplus.³⁷ A profit-sharing contract can achieve the same, since it allows for an independent choice of the fixed wage and the profit-sharing parameter. Figure 3.5 illustrates this result.

The fixed wage w_{fix} is chosen so that the firm chooses point S on the labor demand curve.³⁸ The total income per worker is then determined by the associated efficient-bargain point on the contract curve N . Employment

³⁶The result of the equivalence between the profit-sharing contract and the efficient bargain model does not depend on the particular union's objective function used here. However, $\alpha = \bar{\lambda}$ only holds for the union's preference functions that are linear in employment. See Anderson and Devereux (1989), p. 431-432.

³⁷A similar result is provided by the solution of bilateral monopoly problem. Already Bowley (1928) has shown that bilateral monopolists have incentives to cooperate in order to maximize "joint profits," i.e., to negotiate the efficient solution. Stigler (1987) suggests that it is helpful to consider the outcome of such cooperation by analyzing a fully vertically integrated firm, i.e., to consider the two bilateral monopolists as one vertically integrated entity.

³⁸In the case where the union has no bargaining power, $\alpha = 0$, w_{fix} equals R_L .

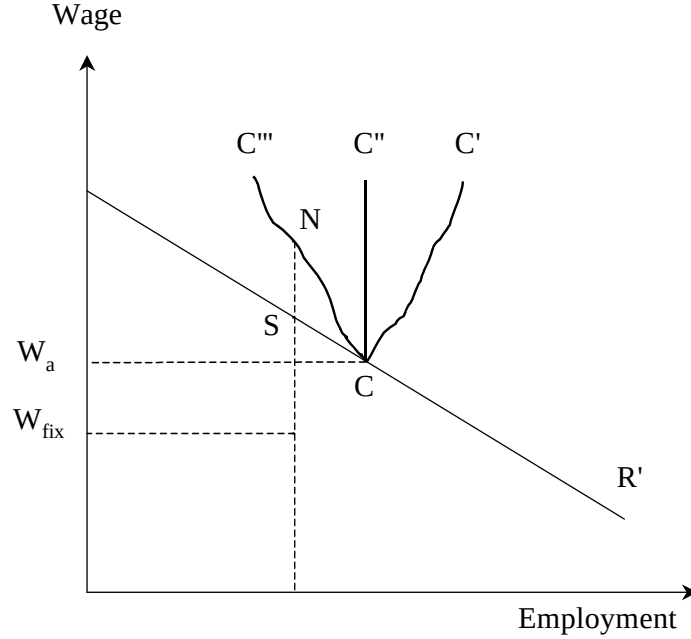


Figure 3.5: Wage and Employment Determination under the Right-to-Manage Model with Profit-Sharing Contracts

can be lower (as depicted in Figure 3.5), higher or constant compared to a setting without the union. This depends on the specific form of the contract curve. Another result is that w_{fix} must lie below w_a , if $u'' < 0$. To see this, consider that, if $u'' < 0$, the condition $u'(y) < u'(x) < u'(\bar{w})$ for $y > x > \bar{w}$ must hold. Now it can be written:

$$u(y) = u(\bar{w}) + \int_{\bar{w}}^y u'(x)dx > u(\bar{w}) + (y - \bar{w})u'(y),$$

which is equivalent to

$$\bar{w} > y - \frac{u(y) - u(\bar{w})}{u'(y)}.$$

Since the right-hand term of the equation above equals w_{fix} , it follows directly that $\bar{w} > w_{fix}$.

To sum up the “blockbuster” clause of § 32a GCL has the potential to foster the replication of the efficient bargain outcome within the a right-to-manage framework. However, we cannot conclude that the usage of profit-

sharing contracts is generally preferable to fixed compensation contracts.

In any case, § 32 and 32a GCL can be expected to cause negative effects (see Table 3.3). Furthermore, § 32a may give rise to more inefficiencies. We turn to such problems in the following sections.

Risk Allocation and Incentives

The “blockbuster” clause also affects the allocation of risk between producers and creative talent, and may alter contractual incentives. We now discuss the interplay of risk allocation and incentives in the context of moral hazard.

Chisholm (1997) suggests such an approach for the motion picture industry. She presents an analysis of sharing contracts in the context of a principal-agent framework with asymmetric information. This model assumes that a film’s performance depends positively on the level of effort chosen by creative talent. Creative talent is considered to engage in a positive level of effort due to the reputation effect of performance on the expected future income stream. However, beyond that level, an inducement to exert more effort is required to offset the disutility of effort. The moral hazard problem here is caused by the fact that it is virtually impossible to monitor the actual efforts of creative talent during the production process. Creative talent such as actors and directors always have, compared to the producer, superior information about their choice of effort. Therefore, there always exists the possibility of undetected shirking. In this context, sharing contracts may help to prevent opportunistic behavior. Conversely, the use of sharing contracts may also introduce a trade-off between efficient risk allocation and incentives.

To clarify the problem, assume first that both the principal (producer) and the agent (e.g., the director) are risk-neutral.³⁹ Here, the solution to the incentive problem is trivial: the principal offers a contract to the agent that fully insures the principal’s income and leaves the agent with all the risk (“franchise contract”). This contract has the desirable attribute that the agent chooses his highest level of effort. In this case, there is no trade-off between efficient risk allocation and incentives, because neither the principal nor the agent care about risk and all allocations of risk are efficient. The situation changes, however, if the agent is risk-averse. Here, efficient risk allocation is characterized by a fixed-wage contract, whereby the risk-neutral principal bears all the risk. This gives rise to a trade-off between efficient risk allocation and incentives: if the agent receives a secure income, he has no incentive to increase his effort.

³⁹The following analysis is based on the presentation of Wolfstetter (1999), Chapter 11.

While we have no empirical knowledge about the actual risk preferences of producers and creative talent, we may consider that they are asymmetric. Like Chisholm (1997), we suggest that creative talent is risk-averse, while producers are risk-neutral, because the participation of creative talent in film production is limited at most to a few of films per year. Therefore, the diversification of risk through a high number of projects is problematic. In contrast, producers may engage in a many projects and diversify their risks. In addition, human capital is difficult to diversify, because it is non-marketable. Firms, on the other hand, have the possibility to diversify their financial assets in capital markets.

Given these assumptions, we proceed with the help of a simple model. Consider a risk-neutral principal, the producer, and a risk-averse agent, say, the director. If both parties agree on a contract, the director can choose whether he wants to perform the task with high effort a_h or low effort a_l , with $a_h > a_l$. The level of effort is not observable to the producer. The producer earns a random revenue Y that depends positively on the performance of the film. If the film is a success, Y equals y_s . If the film is a flop, Y equals y_f . The director's choice of effort affects the probability distribution of Y such that high effort action a_h implies a higher probability of $Y = y_s$. Further, assume that the probability of a successful film $Y = y_s$, conditional on the director's effort a_i , is p_i , $i \in \{h, l\}$, where $1 > p_h > p_l > 0$. In this framework, the expected utility of the director who signs a contract $C = \{w_s, w_f, a_i\}$ is

$$U(a_i) = p_i u(w_s) + (1 - p_i) u(w_f) - c(a_i),$$

where $u(\cdot)$ is a strictly concave function, w_s and w_f is the director's salary when the film is a success or failure, respectively, and $c(a_i)$ is a positive function that represents the director's disutility from effort. The producer's expected profit is

$$\pi_i = p_i(y_s - w_s) + (1 - p_i)(y_f - w_f).$$

Thus, the marginal rates of substitution (*MRS*) between w_f and w_s of the director and the producer are

$$\left. \frac{dw_f}{dw_s} \right|_{U(a_i)=const} = \frac{p_i}{1 - p_i} \frac{u'(w_s)}{u'(w_f)},$$

$$\left. \frac{dw_f}{dw_s} \right|_{\pi_i=const} = \frac{p_i}{1 - p_i}.$$

Figure 3.6 illustrates some implications of that model in an Edgeworth box diagram.

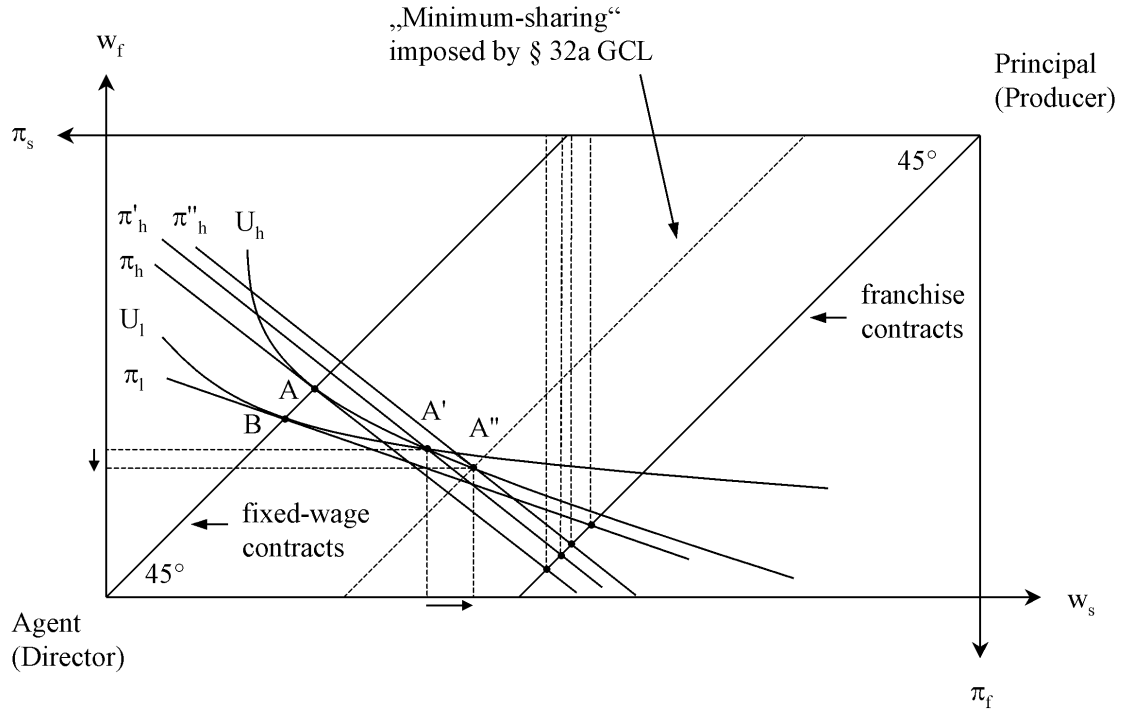


Figure 3.6: The Effect of the “Blockbuster” Clause on Risk Allocation

The agent’s indifference curves U_l and U_h represent his reservation expected utility $\bar{u}$ in a low and high effort state, respectively. The different positions of the indifference curves arise from the differences in disutility from effort $c(a_i)$. Likewise, the principal’s isoprofit curves are denoted as π_l and π_h . The slopes of the indifference curves and of the isoprofit curves reflect the fact that the agent’s and the principal’s MRS in the high-effort state are higher than in the low-effort state, because $p_h > p_l$.

To assess the effects of the new GCL, we first consider the efficient allocation of risk. Efficient allocation is fully characterized by three conditions. First, the MRS of the principal and the agent are identical: only then are further gains from a reallocation of risk impossible. Since agents are assumed to be risk-averse, all efficient allocations must lie on the “fixed-wage contracts” line, because only there the agent’s income is fully secure (implying that $w_s = w_f$). Second, the agent’s reservation expected utility level $\bar{u}$

must be reached or he will reject the contract. Third, the principal's expected profits are maximized. In Figure 3.6, expected profits can be read from the intersection of the principal's isoprofit curves with the "franchise contracts" line.

Obviously, point A represents an efficient allocation of risk: the principal's expected profits are maximized (π_h), the agent's utility level is $\bar{u}$ and both principal and agent have the same MRS . In A , the principal offers a pure fixed-wage contract to the agent that requires high-level effort a_h . However, full income insurance leads to the moral hazard problem. As the agent's effort is not observable, he might shirk and choose the low effort a_l . In this case, full income insurance would lead to a situation represented by point B . Although the agent still reaches $\bar{u}$, the principal's profits fall from π_h to π_l . This is inefficient. The principal now may offer an incentive contract to the agent to achieve a higher level of profit. Since the agent is risk-averse, this inevitably constitutes the trade-off between efficient risk allocation and incentives. Nevertheless, second-best allocations are still obtainable. Point A' represents the outcome of a second-best contract. This contract has the desirable characteristic that the agent is indifferent between exerting high or low effort, and the principal may implement the high-level action. In A' , the principal reaches his second best profit level π'_h by implementing a sharing contract.

Now consider the effects of imposing a "minimum-sharing" provision as demanded by § 32a GCL. Obviously, if the provision is not binding A' would still be realized. In contrast, a binding "minimum-sharing" provision as indicated in Figure 3.6 leads to a less efficient allocation of risk. In this case, A' is no longer feasible. The principal offers a contract to the agent that maximizes expected profits subject to the "minimum-sharing" provision. That contract is represented by A'' and gives (compared to A') the following changes:

First, expected profits are lower, because $\pi'_l > \pi''_l$. Second, if the movie is a flop, the agent's wage is lower. In the case of success, the agent's wage is higher.⁴⁰ Third, A'' represents a less-than-second-best efficient allocation of risk, because risk has been "shifted" from the risk-neutral principal to the risk-averse agent. This contradicts the legislative intent of the new GCL,

⁴⁰The effect of the new GCL on the allocation of risk may also imply a redistributive aspect between different types of agents. From an *ex post* perspective, creative talent attached to more successful projects may receive higher incomes, while creative talent attached to failures may earn less income under the new legislation. This holds, if the number of projects that the average creative employee realizes is sufficiently small and the distribution of the projects performance is sufficiently skewed.

which seeks to prevent a shifting of risk from producers to creative talent. Overall, A'' represents an allocation of risk that is less efficient than the second-best contract.

Note that A is not the only first-best efficient contract within the framework of the model presented here. For instance, if the differences in probabilities p_h and p_l become smaller, or if the parameter g_s is assumed to decrease, a contract which requires only a low level of effort a_l from the agent – similar to that represented by B – could also be offered to the agent. Indeed, all parameter constellations that imply $\pi_l > \pi_h$ would induce the principal to offer a “fixed-wage” contract that in turn induces the agent to choose the low-effort action a_l . Nevertheless, the introduction of a “minimum-sharing” provision would cause analogous effects to the incentive contract case discussed above, and, in particular, risk-shifting on creative talent and lower profits. The reason is that efficient “fixed-wage” contracts are impossible to realize when the “blockbuster” clause is applied.

Further, the introduction of the “minimum-sharing” provision may also give a result where low-effort contracts are exchanged for high-effort contracts. Here, the necessary compensation paid to creative talent for the legally induced risk-taking is larger than the compensation necessary to induce creative talent to choose the high-effort action a_h . Therefore, 32a GCL could also lead to more contracts that induce high effort.

There is yet another incentive effect of the “blockbuster” clause, i.e., the effect of the new law on producers’ incentives to promote the sale of the films they produce.⁴¹ For instance, such promotional activities include efforts to sell a film on the international market. Whether the legally forced introduction of sharing contracts affects such promotional activities will depend on the definition of the “shared” pool. If the pool consists of profits, there will be no distortion. The argument is analogous to the standard neutrality argument concerning the effects of profit taxes on the firm’s decisions. Profit-sharing does not affect the producers’ marginal decisions on promotional effort. Maximizing the “pool” is still optimal. On the other hand, if collective remuneration schemes base on revenues or alternative “pools” that are different from the firm’s profits, then promotional activities will be affected, because the producer bears all the cost of promotion, but receives only a fraction of the associated revenues. Therefore, the expected return from investing into film promotion may decline under the new legislation.

⁴¹The promotional activity effect is analyzed in the context of the *droit de suite* by Karp and Perloff (1993).

Transaction Costs

The “blockbuster” clause effectively turns fixed payment contracts into share payment contracts. This affects the transaction costs of contracting, because the cost of share and fixed payment contracts differ. In the case of the motion picture industry, fixed payment contracts are typically standardized forms that require simple information such as the working title of the film, the name of the producer, and payment of the creative talent.⁴² In general, the marginal cost of drafting, monitoring, and enforcing the contract is small.

On the other hand, share payment contracts could imply significant transaction costs. Imagine, say, that a director’s compensation is tied to the revenue of a film. First, defining the contract can be costly. What sources of revenues should be included? Do revenues include theatrical revenues, revenues from pay-TV and free-TV, DVD, video, in-flight entertainment, merchandising, foreign markets? Should the director’s payment vary with reruns on television? Second, disclosure obligations have to be negotiated to enable the contractual parties to monitor the film’s success. Such monitoring is also costly. Ultimately, the director or a representative may have to control the books of the producer. Third, administrative costs with respect to the recording and the disclosure of respective data will be created. Things get even more complicated where profits, and not revenues, are used as the relevant pool of share payments; should costs include production costs only or are distribution expenses also included? Do production costs include overbudget penalties? Do distribution expenses include transportation insurance, etc.? Fourth, law enforcement costs, i.e., costs of litigation may also be generated.⁴³

Which party will bear the cost? One way to consider this question is

⁴²See Chisholm (1997) and Weinstein (1998) for detailed descriptions of contracting practices in the US film industry.

⁴³Germany has several trustee organizations that administer the exploitation rights of creative talent. For instance, GEMA, the *Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte* (The society for musical performing and mechanical reproduction rights) passes on royalty payments to originators. One might suspect that these organizations could offer their infrastructure to help to reduce transaction costs from sharing contracts. However, since § 32a GCL allows individual legal claims to change existing contracts it seems unlikely that these organizations will actually collect associated *ex post* payments. Statements in personal conversations with representatives of these organizations support that presumption. Nevertheless, one should not exclude the possibility that future collective remuneration schemes may include such cooperation. Provided that these organizations play a role in monitoring or collecting royalties, there would still be transaction costs, since new types of revenues, e.g., from selling foreign theatrical rights of a film, would have to be implemented by these organizations.

to treat legally induced transaction costs as a tax. In general, the answer to this question then depends on the price elasticities of labor demand and supply. The party with the lower elasticity will bear the larger share of that cost.⁴⁴ Moreover, under the reasonable assumption that infinite and zero price elasticities can be excluded, both parties will have to bear the artificially increased transaction costs of contracting.

To sum up, significant transaction costs can be expected from compliance with the “blockbuster” clause.

3.3.4 Effects of Other Prescriptions

Apart from the two main prescriptions discussed so far, the new GCL also gives rise to vagueness that may cause legal uncertainty. Since legal certainty enables economic transactions, legal uncertainty may hinder transactions and may increase incentives to move to other jurisdictions with greater legal certainty. Against that background, we briefly consider two issues: uncertainty attached to the definition of “appropriate” compensation and uncertainty linked to the extended scope of addressees under the new GCL.

Following the wording of § 36 I GCL, “associations of originators” and “associations of producers” shall be legally qualified to conclude agreements on remuneration schemes. It remains unclear what exactly qualifies these associations. § 36 II GCL seeks to clarify the situation by stating that associations must be “representative,” “independent,” and “empowered,” but it is far from obvious what these adjectives actually mean. Moreover, it is possible that more than one association could be qualified to conclude collective remuneration schemes. Therefore, rival remuneration schemes may be negotiated. The question then arises as to which scheme is relevant for defining appropriate compensation. While § 32 I GCL states that collective bargaining contracts (*Tarifverträge*) dominate collective remuneration schemes, it remains an open question which collective wage agreements provide a reliable benchmark and whether any relevant collective wage agreements exist. Therefore, legal uncertainty is introduced by the law.

Further, § 36 III, IV GCL and § 36a GCL prescribe conciliation proceedings proposed by a mediator (*Schlichtungsverfahren*) to specify appropriateness when (i) both parties wish such procedure, or (ii) when one party demands such procedure.⁴⁵ The arbitration board then suggests an agreement

⁴⁴For an analysis of tax incidence in a partial equilibrium model, see Musgrave and Musgrave (1989). A general equilibrium approach is presented by Harberger (1962).

⁴⁵Provided that the other party has not started to negotiate within three months, or,

to the parties. If this agreement is not accepted, the parties may take legal action. In this case, the courts have to decide on the appropriate – or “just” to use Däubler-Gmelin’s term – price of creative work. At this point, we can only speculate about the likelihood as to the legal uncertainty introduced, because the courts’ definition or definitions of “appropriate” compensation can hardly be predicted. Consider, for example, that judges will have to assess the factors to define a “just” price such, risk bearing, costs, and revenues. In addition, judges may choose from a variety of ethical standards such as those proposed by Bentham, Rousseau, Marx, and Rawls, which imply differing concepts of justice.⁴⁶

Finally, due to § 75 IV GCL, the central prescriptions § 32 and § 32a GCL apply to performing artists. Under § 73 GCL, a performing artist is “who recites or performs an opus or who artistically plays a part in reciting or performing an opus.”⁴⁷ Therefore, the new GCL, compared to previous regulations, gives a broad definition of addressees. With respect to the production of motion pictures, originators with legal claims for “appropriate” compensation potentially include many of the participants. For instance, the director, the director of photography, the editor, the sound editor, actors, the production designer, the art director, the costume designer, and the screen-writer. This may cause legal uncertainty, because it seems rather difficult to define rules that stipulate which creative worker accounts for a given amount of creative merit. The production of every film is different. Sometimes the director may provide the driving creative force of a project, sometimes the screen-writer contributes the chief creative ingredient and sometimes this role is played by an actor. Presently, it is an open question as to who exactly will be entitled to receive “appropriate” compensation.

This is also important with respect to new exploitation methods. According to § 31 IV GCL, which was not amended, contracts between originators and users may only refer to known exploitation methods. Therefore, if new opportunities of exploitation emerge, new contracts have to be concluded. This has been the case in the past with respect to the introduction of video, DVD, and internet-based exploitation. Such new contracting becomes more difficult, however, when the range of addressees increases. Therefore, the introduction of new exploitation methods may be hindered by these recent changes in copyright law. This may only be limited by § 75 GCL, which prescribes, that performing artists may elect a single representative to assert

one year of negotiations has not produced results, or, finally, one of the parties states unequivocally that the negotiations have failed.

⁴⁶See e.g., [Musgrave and Musgrave \(1989\)](#) for a brief description of these concepts.

⁴⁷Author’s translation.

their claim from § 32, 32a GCL.

3.4 Conclusion

The main motivation for the amendment package to Germany’s Copyright Law, the “act to enhance the contractual status of authors and performers” is based on redistributive arguments derived from an *ad hoc* presumption by legislators as to the existence of a “structural superiority” of producers against their creative contractual counterparts.

Our analysis of the economic effects of the new GCL reveals two things. First, it is implausible to presume that there exists buyer power in the German motion picture industry, so the changes to copyright law are based on a misleading presumption. Second, the redistribution of income toward creative talent under the new law is likely to generate economic inefficiencies. This implies that the “price” of redistribution of income for the benefit of some members of the pool of creative talent is higher than the gains.

More specifically, our analysis shows that the legally fostered application of collective remuneration schemes under § 32 and § 36 GCL can be expected to cause inefficient employment levels in relevant labor markets. Further, German producers overall will realize lower profits, due to several effects, i.e., the redistribution of income via collective remuneration schemes, the distortion of efficient risk allocation triggered by the “blockbuster” clause 32a GCL, an increase in associated transaction costs, and reduced incentives for producers to promote their films. In addition, legal uncertainty with respect to the definition of “appropriate” compensation and concerning the extended scope of addressees of the GCL may adversely affect producers.

It is important to note that, despite the potentially higher levels of wages and total worker remuneration, creative talent may also be hurt by the new law. First, § 32a GCL contradicts the legislative objective of lowering originator risk by actually shifting risk onto them by lowering the secure part of their income. Second, creative talent can be expected to bear a share of the rising transaction costs associated to the new rules. Third, the amended GCL may reduce employment levels in the industry. Thus, while employed workers gain higher wages, others are no longer employed. This effect depends on the specific model of union behavior suited to the market. However, it is clear that lower producers’ profits and legal uncertainty will increase incentives to produce film outside of the scope of the GCL. This inevitably will adversely affect the economic well-being of creative labor.

Chapter 4

Convergence and the Potential Ban on Interactive Product Placement

4.1 Introduction

Digital technology permits the use of devices such as personal computers and television for similar functions. This digital “convergence” also makes it possible to provide consumers with interactive services. Until quite recently the term “interactivity” was little more than a buzzword. In the case of television broadcasting, for instance, it simply meant selecting programs or choosing teletext pages. Viewers wishing to interact further had to communicate with broadcasters or advertisers by email, telephone, or letters. Industry observers report this situation is about to change dramatically,¹ with the introduction of enhanced television devices (e.g., set-top boxes) that allow viewers to interact directly with web-based information.² In practical terms, viewers will be able to use their remote controls to purchase goods associated with the broadcast without having to go online with their personal computer. The

¹See Blickpunkt:Film (2001) *Interaktives TV mit analogem Fernsehen*, No. 13., p. 43; Berger, R. (2000) T-Commerce could dwarf web sales, *Electronic Media*, November 6, 2000, and McDonald, K.A (2001) Advertisers test interactive arena, *Variety*, January 15-21, 2001 (Section: spotlight television).

²A number of television set manufacturers already offer television devices with internet access, e.g., Fujitsu Siemens Computers (Activy 300), Grundig (WB1), Loewe (Xelos @media TV), and Commodore (Web.it). There have been trials and tests of interactive television since the 1970s. For a review of the history of interactive television trials and experiences, see Carey (1997).

change opens up possibilities for advertisers, not only in traditional spot advertising, but also in connection with products appearing within regular programming. Putting products directly into a program or film is referred to as “product placement” or “brand placement.” Product placement is currently used as a means to help finance movies and TV programs.³

The combination of interactivity and product placement could alter the market for product placement considerably. First, it is likely to enlarge the market substantially and, hence, raise its weight in program financing. Traditional product placement is limited to branded products, i.e., products already familiar to the viewer. Interactive product placement (IPP) in contrast is useful in building brands, because it makes any placed product interactively identifiable and easy to buy.⁴ Second, the commercial possibilities of IPP will likely motivate development of new products by the audiovisual and telecommunications industries, and in the case of television, foster the development of new content formats and services as well.

In Germany, as elsewhere in Europe, however, advertising regulations – above all, the principle of separation between programming and advertising – constitute major impediments to the deployment of IPP. Further, the political discussion seems very much concerned with the desirability of such advertising methods.⁵

Thus, several questions arise. What specific regulations apply to IPP? Will IPP be banned? Which arguments might favor IPP and what legal counterarguments support a ban? How would the introduction of IPP affect economic welfare? We address these questions in the following discussion. Our focus lies on the application of IPP to motion pictures.

The remainder of this chapter is organized as follows. Section 4.2 identifies the legal framework of IPP in Germany.⁶ Section 4.3 critically reviews that framework and explores some of its economic dimensions. In this context, a

³For examples from the US, see [Snyder \(1992\)](#). German cases are described by [Auer, Kalweit, and Nüßler \(1991\)](#).

⁴Digitalization also allows for new types of product placement. In a 1999 episode of a US soap opera, a technology that allows advertisers to have products digitally added to a scene was tested. That technology was subsequently used in sports broadcasts to add or change content of commercial billboard areas seen during baseball and football games.

⁵This scepticism is well illustrated by a recent announcement of the Commission of the European Communities of its intention to study new television advertising techniques, in particular with regard to interactivity and product placement. The main focus of the study is “...to analyze how to ensure a clear distinction between advertising and other content.” See [Commission of the European Communities \(1999\)](#), p. 17.

⁶The focus of the legal analysis here is the German framework, which serves as a fair representation of the regulatory environment found in much of Europe.

brief description of the US legal framework is provided. Section 4.4 presents a simple equilibrium model that permits a welfare economic analysis of a ban on IPP. Section 4.5 summarizes the main findings and concludes.

4.2 Legal Framework

German advertising regulations are complex and differ extensively with respect to media and services. In the following, we seek to examine regulations potentially relevant to IPP. First, we turn to the field of television broadcasting and briefly consider the established principle of separation of regular programming and advertising and its relation to surreptitious advertising, as well as regulations and guidelines concerning specific classifications of advertising such as “teleshopping,” “long time advertising” (*Dauerwerbung*), and “prop & wardrobe credits, and accompanying items” (*Ausstattehinweise, Begleitmaterial*). Second, we discuss regulations that apply to movies that are initially produced for theatrical release. Third, we look at so called teleservices. Then, we consider the *Deutsche Grundgesetz* (German Basic Law), and specifically, the rulings of the *Bundesverfassungsgericht* (Federal Constitutional Court - BVerfG) which provide the legal basis for the current framework for advertising legislation. We take these constitutional interpretations into account in a critique of the current design of the legal framework.

4.2.1 Television Broadcasting

General Regulations

Advertising regulations in the field of television broadcasting can be found at three levels. At the highest level, there are EU directives that provide supranational guidelines.⁷ Within Germany, the *Rundfunkstaatsvertrag* (RStV) governs broadcasting at the interstate level.⁸ Finally, there is specific media

⁷Council Directive 89/552/EEC 03/10/1989. Official Journal L 298, 17/10/1989, modified by 97/36/EC, Official Journal L 202, 30/07/1997 and the European Convention on Transfrontier Television, 05/05/1989.

⁸Rundfunkstaatsvertrag vom 31. August in der Fassung des vierten Rundfunkänderungsstaatsvertrags, in Kraft seit dem 1. April 2000, GBl., Baden-Württemberg vom 30.12.1999. The *Bundesverfassungsgericht* in its very first judgement on television broadcasting in 1961 ruled that broadcasting legislation is, in principle, subject to the jurisdiction of the states. See *Entscheidungen des Bundesverfassungsgerichts* [BVerfGE] [Federal Constitutional Court] 12, 205 ff. (F.R.G.) Therefore, interstate agreements similar to multilateral agreements under international law emerged alongside law at the federal

regulation at the state level. Besides, there are television advertising guidelines issued by the public television stations and a special authority of the federal states, the *Direktorenkonferenz der Landesmedienanstalten* (DLM), which deals with advertising regulations in detail.⁹

For our purposes, it is at first sufficient to discuss the RStV as it is the primary source of regulations governing German television advertising. At the heart of these regulations lies the principle of separating advertising from other programming. This notion may well be considered the great dictum of German broadcasting advertising law.¹⁰ The principle is spelled out in § 7 III RStV:

“Advertising and teleshopping must be clearly identifiable as such. They have to be separated unequivocally from other programming, by optical means in the case of television and by acoustic means in the case of radio.”¹¹

A violation of the separation principle may lead to television broadcasting law complaints and can be prosecuted as a regulatory offense. Of course, it is problematic to apply the separation principle strictly – advertisements and brand name products are ubiquitous parts of everyday life. Therefore, a program that does not display advertisements and brand names does not give an authentic picture of reality. Moreover, it would be impossible to broadcast reports about products. Consequently, it is beyond legal dispute that some usage of brand name products and the filming of advertisements within the scope of programming is tolerable.¹² The distinction between admissible and prohibited product presentations is provided by the term *surreptitious advertising* defined in § 2 II No. 6 RStV:

“Surreptitious advertising is the reference to or the presentation of goods, services, names, trademarks or activities of a manufacturer of goods or a supplier of services in programs when such reference or presentation is intended by the broadcaster to serve advertising purposes and can mislead the general public as to its real purpose.”¹³

level.

⁹The DLM consists of representatives from each state’s broadcasting authority. The DLM seeks to coordinate the licensing of federal broadcasting, efforts involving protection of children and young persons against immoral influences, and the setting of advertising guidelines.

¹⁰See [Engels and Giebel \(2000\)](#), p. 271.

¹¹Author’s translation.

¹²See [Platho \(2000\)](#), p. 48.

¹³Author’s translation.

The ban on surreptitious advertising is expressed in § 7 VI RStV. Infringements against this ban can result in a regulatory fine and the confiscation of revenues generated by surreptitious advertising (§ 49 I RStV).¹⁴

We can see that there are two elements to the definition of surreptitious advertising: the broadcaster's intent to advertise and the potential for viewer deception. With respect to the broadcaster's intent to advertise, section § 2 II No. 6 RStV explicitly enumerates broadcasters receiving a payment or a similar valuable monetary consideration for product presentation. Furthermore, the legal literature suggests compulsory indication of the advertising's intent where contractual obligations with respect to a product placement exist or if the screenplay has been adjusted accordingly.¹⁵ Therefore, there is a strong likelihood IPP will be classed as surreptitious advertising under existing television broadcasting law. With respect to IPP's potential for viewer deception, the RStV is silent. However, several rulings and discussion in the legal literature indicate that traditional product placement is widely considered as potentially deceptive.¹⁶ This perception is further supported by other provisions of the RStV such as § 7 II RStV, which bans advertisers and advertisements from having any influence on programming content or editorial decisions.

Specific Regulations

The border between illegal surreptitious advertising and pure product presentations is blurred. Legal practices, legislation, and broadcasting authorities have therefore created narrower definitions for making the necessary distinctions. Let us briefly explore the most relevant terms with respect to their applicability to IPP.

¹⁴Regulatory fines run as high as € 510,000. § 7 III RStV also reveals that the fulfillment of the separation principle requires a clear identification of advertising. Basically, this means that advertising has to be readily recognizable as such, for example, by displaying the caption "advertising" on screen. Such identification is sufficient if it is displayed for several seconds at the beginning of a block of commercials.

¹⁵However, the broadcaster's intent is generally not considered with respect to the broadcast of pure licensing products, e.g., foreign movies or sport events that contain product placement. In such cases, broadcasters will not be held liable. See e.g., [Engels and Giebel \(2000\)](#), p. 278. We return to this matter later in the paper.

¹⁶See BGH "Boro" decision, I ZR 78/88 of 22.02. 1990 and [Hartstein, Kreile, and Ring \(1999\)](#).

- Teleshopping

First, one might assume that IPP constitutes one of several permitted types of “teleshopping” and, hence, could be classified as legitimate. Teleshopping is generally defined in § 2 II No. 8 RStV as a broadcast that directly offers goods and services to the public. On the other hand, the RStV says teleshopping is subject to the separation principle of § 7 III RStV. Thus, IPP will probably not be classed as a type of teleshopping under the RStV.

Second, “teleshopping channels” are not regulated by the RStV, but by the *Mediendienstestaatsvertrag* (MDStV), an inter-state agreement on media services. Such channels operate for the limited purpose of selling products to their viewers. While one might logically presume that movies that contain IPP could simply be transmitted via a pure teleshopping channel, § 9 II MDStV states that the “advertising must be clearly identifiable as such and has to be separated unequivocally from other content of the services.”¹⁷ Again, the separation principle is reflected in this provision, which suggests that even on the teleshopping channel, which exists expressly to sell products, it is likely illegal to show a movie that contains IPP.

- Long time advertising (Dauerwerbung)

Another type of permitted advertising that might be relevant with respect to IPP is “long time advertising.” The classification applies to infomercial-type ads. Typically, such advertising is packaged as demonstrations, testimonials, or game show formats. Although, the law offers no explicit definition of such advertising, it is characterized by a combination of advertising and editorial parts of product presentations addressed under § 7 V RStV. The advertising elements must dominate the presentation to ensure that the separation principle is followed, and the presentation must display writing that clearly indicates that the purpose of the presentation is to sell a product.¹⁸ Again, although one might expect convergence to enlarge the market for such presentations, IPP does not necessarily fit the term because it will not necessarily come to the fore in a broadcast. While some interactive presentations may largely be sales events, the sales intention embedded with a movie is only incidental. Again, IPP in movies will likely be banned, because it violates the separation principle.

¹⁷Author’s translation.

¹⁸See [Engels and Giebel \(2000\)](#).

- Prop & wardrobe credits, accompanying items (Ausstatterhinweise, Begleitmaterial)

Further, the “prop and wardrobe credits” view could be considered to apply to IPP. In exchange for prop and wardrobe credits, producers of goods such as furnishing and clothing make their products available at no cost to movie or television show producers. In return, the product manufacturers are mentioned in the end credits by the broadcaster. This approach is not banned according to No. 19 DLM television guidelines. Naming products *within* the program, however, is forbidden. The same holds for accompanying items that are intended to deepen the editorial content of a broadcast, e.g., a companion book to the film.¹⁹ Moreover, money paid to use a prop is generally considered to constitute surreptitious advertising. Thus, also due to its financing function it is unlikely that IPP will be classified as a legitimate means of showing prop credits.

4.2.2 Theatrical Releases

IPP seems unlikely to occur in movie theatres. Nevertheless, it is reasonable to discuss traditional product placement in films, because the analysis here provides insight into the legal discussion of this advertising method. With respect to movies produced for theatrical release, competition law, in particular, the *Gesetz gegen den unlauteren Wettbewerb* (Act Against Unfair Competition - UWG) contains provisions potentially relevant to product placement. § 1 UWG, a universal civil blanket clause, has been invoked by the courts in resolving previous litigation:²⁰

“Whosoever in business dealings for the purpose of competition takes up practices that offend against good morals may be called upon to cease and compensate for damages”²¹

¹⁹See Engels and Giebel (2000).

²⁰§ 3 UWG, which bans deceptive advertising, may also be somewhat relevant. However, § 3 UWG sets broader limits than § 1 UWG. For an extensive discussion of product placement in the context of competition law, see Asche (1996), p. 52 ff.

²¹Author’s translation. Apart from the legal consequences enumerated in § 1 UWG, a contract that offends good morals will void the contract and make it unenforceable. A prominent German example of a voided product placement contract was seen in the case of a textile firm’s advance payment of DEM 200,000 (approximately € 102,500) for a product placement in the popular music telecast “Formel 1.” Although the placement never actually appeared, the firm’s attempt to recover its advance payment was not heard by the regional court, because the court said the contract offended good morals. See Scheele (1986), p. 28, for this and other examples.

The legal literature on this matter states that the potential harm of product placement is covered by two areas of the law: consumer deception (fraud) and rule infringement.²² With respect to consumer deception, it is argued that product placement may be used as a means to circumvent natural consumer skepticism about advertising. When consumers are not in a position to deal critically with the product appearance, the product placement is seen as an act *contra bonos mores*. Similarly, with respect to rule infringement, it is argued that product placement gives the advertiser a competitive advantage over its law-abiding business rivals and is a violation of the separation principle and other RStV prescriptions.

Recently, the German *Bundesgerichtshof* (Federal Court - BGH) considered product placement in detail with respect to the theatrical showing of the movie *Feuer, Eis und Dynamit*.²³ The court's decision found that it is reasonable to assume an audience will not be deceived by product placement as long as the amount of product placement in a motion picture is no more than "generally expected" and kept to a "tolerable" level. In addition, the BGH demanded that the audience be informed about product placement.

Subsequent legal writings have considered product placement in the context of motion picture production for initial theatrical release legal as long as the product placement is announced to the audience.²⁴ This view contrast sharply with the rules concerning IPP in television broadcasting.

4.2.3 Tele-Services

The federal *Teledienstegesetz* (TDG) law governs electronic telecommunications services for personal use, e.g., internet use. Under this law, no separation of advertising and other content is necessary. The TDG clearly allows IPP as part of telecommunications services provided to individuals and clearly contradicts the regulation of IPP in television broadcasting.

To sum up, our analysis suggests that the regulation of IPP differs in accordance with the medium. IPP seems likely to be prohibited in television broadcasting, permitted on a limited basis in movies primarily produced for

²²See [Asche \(1996\)](#).

²³BGH, 06.07.1995, in: *Neue Juristische Wochenschrift* 1995, p. 3177 ff. and BGH, 06.07.1995, in: *Neue Juristische Wochenschrift* 1995, p. 3182 f., for discussion, see [Asche \(1996\)](#), p. 72 ff.

²⁴A narrower evaluation of the BGH ruling is given by [Hartstein, Kreile, and Ring \(1999\)](#), p. 60. Product placement is considered legal when no more than 20% of the movie's financing stem from product placement. If this limit is exceeded, the use of paid product placement must be announced to the audience before the movie is shown.

theatrical release (as long as the amount of IPP is tolerable and announced), and permitted without restriction in electronic telecommunications services provided to individuals.

4.2.4 Constitutional Issues

German Basic Law provides the legal basis for television broadcasting regulations, competition law, and teleservices provisions. Therefore, an analysis of constitutional aspects of IPP and traditional product placement may clarify the underlying reasoning behind the differences in regulation depending on media type.

With respect to competition law, German Basic Law can be used as a guideline for interpretation of the civil blanket clause of § 1 UWG.²⁵ The literature suggests that from this perspective product placement ultimately has to be judged as a balancing of artistic freedom as specified in Art. 5 III phrase 1 Basic Law and consumers' right to autonomously contract stated in Art. 2 I Basic Law.²⁶ The latter right implies that consumers have the right to decide autonomously if they want to contract, with whom, how, and what subject matter the contract might contain. However, to be in a position to decide autonomously it is necessary that consumers can deal freely with product advertisements. If a consumer is unaware that a product in a movie is part of a product advertising campaign, he or she might view the advertising message uncritically. Therefore, product placement can be considered to disturb the consumer's free decision of purchasing. Consequently, one faces a trade-off between the freedom of art and the personal rights of Art. 2 Basic Law, i.e., a trade-off between artistic freedom and consumers' autonomy to contract.

With respect to the field of broadcasting, essentially Art. 5 I phrase 2 Basic Law has to be considered. It states,

²⁵The BGH argued for such interpretation in the *Feuer, Eis und Dynamit* case. Basic constitutional rights, in principle, govern relations between citizens and the state, but they may also be used as guidelines for interpretation of civil blanket clauses. See BVerfGE 73, 261 (269) (F.R.G.).

²⁶Other German Basic Law provisions that protect product placement are the freedom to freely choose one's profession (Art. 12 I phrase 1) and the freedom of opinion (Art. 5 I phrase 1). However, the freedom of artistic expression (Art. 5 III) rules these provisions out. On the other hand, viewers' interest in undisturbed movie viewing could also be deduced from the general freedom of action Art. 2 I Basic Law. However, since viewer decide herself to watch or not to watch a movie, it is implausible to refer to this provision. For an extensive discussion of this issue see Asche (1996), p. 95 ff.

“Freedom of the press and freedom of reporting by means of broadcasts and movies shall be guaranteed.”²⁷

While one might expect this provision supports the broadcaster’s freedom to choose whether to broadcast product placements, the juridical interpretation is quite the opposite. The key to this surprising interpretation lies in a number of seminal decisions by the *Bundesverfassungsgericht* (Federal Constitutional Court - BVerfG). These serve as reference points for all television broadcasting regulations.²⁸ Traditionally, the ruling of the BVerfG has stated that the freedom of broadcasting must serve primarily as a means to ensure the process of free and comprehensive formation of personal and public opinion, which is considered essential in a pluralist democratic society. Therefore, the freedom to broadcast and report freely is considered to represent an institutional guarantee, rather than a basic right to pursue one’s own interests.²⁹ Moreover, the BVerfG considers television broadcasting, due to its scope and suggestive power, to be of special importance in the process of opinion building.³⁰ The essential role of television broadcasting also extends beyond information dissemination and political broadcasting to the field of entertainment.³¹ In this context, the separation principle can be considered to protect the “market for opinions” within society.³² Any direct or indirect influence on programming is considered to be incompatible with this protective function.³³ Hence, television broadcasting legislation considers the separation principle to be a means to protect the function of free and comprehensive formation of opinions by the individual and the public at large.

4.3 Critical Review

We have seen so far that juridical arguments supporting a ban on IPP are essentially based on two grounds. First, following the traditional television

²⁷Translation from [Steiner \(1996\)](#), p. 129.

²⁸So far there have been eight decisions. These “broadcasting decisions” are milestones in the interpretation of German broadcasting law: BVerfGE 12, 205 ff. (F.R.G.); 31, 314 ff. (F.R.G.); 57, 295 ff. (F.R.G.); 73, 118 ff. (F.R.G.); 74, 297 ff. (F.R.G.); 83, 238 ff. (F.R.G.); 87, 181 ff. and 90, 60 ff. (F.R.G.).

²⁹BVerfGE 57, 295, 320 (F.R.G.) and BVerfGE 87, 181, 197 (F.R.G.).

³⁰BVerfGE 90, 60 (87) (F.R.G.).

³¹BVerfGE 90, 60 (87) (F.R.G.).

³²See BVerfGE 57, 295 (323) (F.R.G.), regarding the term “market for opinions” (*Meinungsmarkt*).

³³BVerfGE 90, 60 (87) (F.R.G.).

broadcasting model of the BVerfG, the ban protects the institutional guarantee of a free “market for opinions.” Second, the ban attempts to protect viewers from deception that could occur if products appear unannounced in a broadcast. We next question whether these arguments are necessarily sufficient to justify a total ban on IPP and consider the problems that could arise from a ban on IPP.

4.3.1 The “Market for Opinions”

Lets start out with a potential economic argument in favor of a ban on IPP. With respect to the protection of the “market for opinions” Akerlof’s “market for lemons” ([Akerlof \(1970\)](#)) might be addressed. If IPP is assumed to reduce program quality, and quality cannot be observed by viewers (but by broadcasters), the market for programs may work inefficiently or even break down. The reason is that with IPP broadcasters have less incentives to show programs without IPP, because IPP rewards them with additional revenue. Thus, the market adversely selects by substituting programs with IPP for programs without IPP. The “market for opinions” becomes biased towards motion pictures containing IPP. As this problem arises from the informational asymmetry between broadcasters and viewers, the introduction of a simple obligation to inform viewers about IPP may resolve it. Thus, a simple policy measure can create symmetric information so that there is no “market for lemons”-problem in the “market for opinions.” Note that to the extent the announcement fails to inform viewers, e.g., because viewers may forget or ignore the announcement, a bias towards IPP movies remains possible. However, with respect to IPP broadcasters have strong incentives to make sure that viewers are informed, because they want viewers to “click” on IPP products. This constitutes a contrast to traditional product placement. Thus, overall a ban on IPP in order to prevent a “market for lemons” problem seems misguided.

Other arguments against a ban can also be suggested. First, we should remember television broadcasting is only part of the “market for opinions.” This market also includes radio, newspapers, books, personal conversations, and increasingly the internet.³⁴ Therefore, the “scope and suggestive power” of television broadcasting as suggested by the BVerfG is decreasing. Second,

³⁴The potential of the internet as a tool for political organization is often recognized in public debate with respect to non-governmental organizations, and, in a negative context, e.g., with respect to extremist groups. Moreover, questionnaires indicate that 34% of internet users state that they watch less TV due to internet use (See *Media Perspektiven*, No. 8, 2001, p. 389).

it seems unlikely that movies as escapist entertainment are as important in building public and personal opinion as informative programs such as news, current events analysis, or documentaries. Third, movies exist in enormous diversity. In Germany, viewers can choose between 46 television channels with a nationwide license, and many foreign stations available via satellite.³⁵ In 1998, 10,864 different movies were broadcast on 21,492 occasions.³⁶ Thus, viewers had access to over 29 movies a day. Given this enormous variety and the demanding tastes of audiences,³⁷ it seems implausible to argue IPP would significantly restrict the process of opinion building. Fourth, the “market of opinions” is protected by various television broadcasting provisions that supplement general competition law. For instance, the RStV prescribes that private television broadcasting groups that reach more than 10% of viewers on an annual average have to provide transmission time for independent third parties. Broadcasting groups that reach on average more than 30% of viewers have to sell stakes of related media companies or, alternatively, have to provide transmission time for independent third parties and have to set up an “advisory program council” that consists of members that represent the spectrum of opinions within society. The council then has various informational rights and changes of the program scheme have to be approved by the council (see RStV §§ 25-32).³⁸ Fifth, public television broadcasters (which still reach, by far, the largest average share of viewers) are obliged to provide programs that represent a variety of opinions.

We conclude it is implausible to suggest that IPP will endanger the “market for opinions.”

4.3.2 Viewer Deception and Confusion

With respect to viewer autonomy, the *Feuer, Eis und Dynamit* ruling of the BGH suggested that deception of viewers can be prevented as long as the

³⁵See *Kommission Zur Ermittlung der Konzentration Im Medienbereich - KEK (2000)* - (Commission for the investigation of media concentration - KEK).

³⁶*Kommission Zur Ermittlung der Konzentration Im Medienbereich - KEK (2000)*, p. 26.

³⁷See e.g., *De Vany and Walls (1999)* and Chapter 2 of this work.

³⁸Up to now there have been no private television broadcasting-groups that reach more than 30 per cent viewer share. The two obvious candidates, *Kirch Group* and *RTL Group*, reach about 25 to 28 per cent average viewer share. See *Kommission Zur Ermittlung der Konzentration Im Medienbereich - KEK (2000)*, p. 24. Due to the insolvency of parts of the Kirch Group in early 2002 the market structure is likely to change in the future. However, so far it remains an open question how the insolvency will affect the market structure.

audience is reasonably forewarned of the product placement. We argue, as above, that this consideration could also be applied to the field of television broadcasting. The deception of television viewers could easily be avoided by obliging broadcasters to announce that the broadcast movie contains IPP. For instance, such an announcement could be realized by a simple symbol that appears on the screen during the transmission of a movie that contains IPP. This solution would be similar to teleshopping and long time advertisement regulations and should reasonably prevent deception of viewers. Moreover, as stated above, even without an obligation, broadcasters have strong incentives to announce IPP voluntarily, because they want viewers to “click” on the IPP products offered. Unlike traditional product placements, the fact that the viewer may actively seek information about a product helps avoid viewer deception.

Further, the current ban on traditional product placement in television broadcasting may actually be counterproductive, since it is not enforced strictly. Product placement occurs routinely on German TV screens as US and other foreign productions often contain product placements. This is tolerated, because legislators and courts consider a trade-off between the freedom of program choice and the risk of surreptitious advertising to be acceptable.³⁹ One might also presume that German productions sometimes breach the separation principle, since it is difficult to provide evidence and enforcement costs are high. Moreover, German movies initially produced for theatrical release are permitted to legally contain product placement. These motion pictures, however, typically find their way to television, too. Taken as a whole, this constitutes a confusing situation for television viewers. Viewers that believe in good faith that the ban on product placement is consistently enforced under the current regime seem more likely candidates for deception than viewers reasonably apprised of product placement or IPP in a movie.

4.3.3 Potential Cost-Inefficiencies/Dynamic Inefficiencies

Media-dependent IPP regulations, and most notably the discrepancy between internet-related services and television broadcasting, will become increasingly meaningless with convergence. Future viewers could own a device that enables them to surf the internet, watch television, play music, and possibly call their friends. In a convergent world, then, the viewer’s susceptibility to deception is quite independent of the transmission technology.

³⁹See Engels and Giebel (2000), p. 278.

Given that the actual technological realization of IPP is still an open question, existing regulations could prevent a cost-efficient application of IPP. Technologies that are relatively close to traditional television broadcasting are likely to be banned while teleservices-oriented technologies such as internet-based applications of IPP are permitted. Furthermore, hampering a new technology always implies the risk of dynamic inefficiencies.

4.3.4 US Regulations and Competitive Disadvantage

In the US, the legal setting differs considerably from German legislation. In the US motion pictures that are produced initially for theatrical exhibition face no regulations at all. Nevertheless, product placement has been in public debate for a while and some critics are seeking legislative regulations. For instance, the Center for Science in the Public Interest has called on the Federal Communications Commission (FCC) and State Attorney General to require that product placement be disclosed to theatrical movie audiences. Similarly, the Center for the Study of Commercialism has asked the Federal Trade Commission (FTC) to require disclosure of product placement. However, neither inquiry lead to the creation of any regulations.⁴⁰

Regarding television broadcasting, product placement is not banned, either. However, § 317 of the Communications Act of 1934 demands product placement to be announced, if the station receives a payment.⁴¹

“All matter broadcast by any radio station for which any money, services or other valuable consideration is directly or indirectly paid, or promised to or charged by the station so television broadcasting, from any person, shall, at the time the same is so broadcast, be announced as paid for or furnished, as the case may be, by such person.”

Hence, there exist no regulations that would ban IPP in the United States, if it is announced.⁴² Against that background, a ban on IPP may also create

⁴⁰For details, see [Snyder \(1992\)](#), p. 312 and FTC File no. P 914518.

⁴¹In addition, a similar prescription is given by a FCC regulation. See § 73.1212 FCC = 47 CFR 73.1212.

⁴²Nevertheless, product placement could conceivably be classified as commercial speech in a future decision. The theoretical argument here is that movies with product placement are denied protection of freedom of speech under the First Amendment of the Constitution of the United States. Hence, further regulation could be possible. However, [Snyder \(1992\)](#) who provides an in-depth analysis of this issue concludes that “...such movies should not be regulated under the commercial speech doctrine” (p. 309).

a substantial competitive disadvantage for Germany with respect to product innovations in the audiovisual and telecommunications industry. Consider, for instance, innovative program formats and potentially associated technological innovations that may be created by deploying IPP. Dynamic inefficiency is also therefore relevant in this context.

In summary, we suggest that, from a Basic Law perspective, (i) neither the protection of the “market for opinions” nor consumer deception necessarily provide sufficient legal bases to outlaw IPP in Germany. Therefore, IPP could be realized, if advertising regulations were modified. Further, we conclude that (ii) the current ban on product placement is counterproductive, (iii) may cause cost-inefficiencies with respect to technological choices, and (iv) may induce dynamic inefficiencies. Finally, a ban on IPP (v) may constitute a substantial international competitive disadvantage.

Interestingly, one aspect of product placement is usually not considered in the legal discussion. That is the observation that viewers might simply feel disturbed by product placement, especially, if product placement might have influence on the “ideal” plot of a movie. In the following, part of the paper we turn to this and other economic issues that explicitly refer to potential costs and benefits of IPP.

4.4 Economic Analysis

In contrast to the juridical view on IPP, which stresses problems of viewer deception and the role of television broadcasting for the “market for opinions,” we do not consider these to be the main issues for IPP. Rather, we seek to evaluate the possible ban on IPP against the costs it might cause and the benefits it might deliver to viewers, advertisers, and broadcasters.

Advertising serves as a link between product markets and the television market. We consider that it entails both positive and negative effects. On the one hand, it disturbs viewers who would prefer to watch a program without interruptions or product placement.⁴³ On the other hand advertisements finance the programing. Moreover, advertisers benefit from selling products as a result of advertising and broadcasters benefit from “selling” their viewers to advertisers.

Our intention is to perform welfare comparisons by contrasting two settings: one with commercials (advertising spots) only and the other with commercials and IPP.

4.4.1 Related Literature

Two strands of economic literature relate to our analysis. First, some empirical work has been carried out on the effects of advertising bans. This work typically focuses on whether a ban on a specific type of product, such as alcoholic beverages or tobacco, leads to less total demand. [Duffy \(1996\)](#) conducts a survey of such studies and concludes that bans are generally ineffective. For instance, [Schneider, Klein, and Murphy \(1981\)](#) analyze a ban on cigarette advertising and find that it caused an increase in total consumption. They suggest that one reason for this result may be that a ban leads to lower production costs (because advertising is costly) and, therefore, to lower prices. [Stewart \(1993\)](#), in contrast, analyzes data on tobacco advertising bans in six OECD countries and finds negative, but statistically insignificant, effects on total consumption. Theoretical literature on the issue is rare. One notable exception is [Motta \(1997\)](#) who shows that the effect of an advertising ban

⁴³Market research questionnaires show that television commercials are by far the most disliked type of advertising. A study from 1999 indicated that 98.8% of the interviewees agreed that there is too much television advertising. In a similar questionnaire 42.8% of respondents found television commercials annoying. This indicates that there are, in fact, nuisance costs from advertising (for reference see Media Digest (2000) *Kino/Film/Video*. MMM/Hamburg, Issue 1/2000, p. 44 and p. 16).

depends on two crucial points: the extent to which the ban tightens aggregate demand at given prices and the extent to which the ban results in lower equilibrium prices due to less advertising induced product differentiation. Advertising bans therefore may raise or reduce total consumption.

For our question, however, neither the named empirical nor theoretical literature is particularly instructive, since we seek to analyze the effects of a ban on a specific type of advertisement and not the effects of a ban on advertisements for specific products. Moreover, the literature does not take into account the fact that advertisements may impose nuisance costs on consumers, which is vital for our analysis.

The second strand of related literature refers to the economic analysis of television and radio program choice. Work in this field traditionally focuses on the question of how competition between broadcasters affects program diversity.⁴⁴ It is frequently argued by critics that there would be too many “mass appeal” programs and too few programs for viewers with specialized preferences in television. This focus might be one reason for the neglect of advertising, which is typically considered exogenous in such models. Moreover, benefits to advertisers are usually ignored. There is, however, a growing literature that considers advertising related issues more closely. For instance, [Vaglio \(1995\)](#), [Wright \(1994\)](#), and [Gabszewicz, Laussel, and Sonnac \(1999\)](#) address the effects of advertising rate regulations on quality and program differentiation.⁴⁵ [Vaglio \(1995\)](#) applies a Hotelling-type approach and finds that rate regulations may reduce the degree of program quality. Broadcasters’ decisions on program quality depend on advertising rates: if they choose higher advertising levels, a higher investment in program quality is necessary to keep audiences watching the program. However, the paper does not identify the equilibrium path of the associated sequential game, which reduces considerably the scope of the presented conclusion.⁴⁶ Similarly [Wright \(1994\)](#) explains that, although advertising quantity restrictions may reduce nuisance costs, they may also reduce program quality. Therefore, its effect on viewers’ welfare is ambiguous. [Gabszewicz, Laussel, and Sonnac \(1999\)](#)

⁴⁴For comprehensive surveys, see [Owen and Wildman \(1992\)](#), Chapter 3 and 4, and [Brown and Cave \(1992\)](#).

⁴⁵In addition, [Nilssen and Sorgard \(2000\)](#) present a model of the television industry that covers product markets, as well as markets for television programs. They find that under a TV monopoly, there may be both, more advertisements, as well as more viewers, compared to a TV duopoly. Another model is given by [Owen and Wildman \(1985\)](#), who assume that higher advertising levels lead to smaller audiences. They compare viewer surplus under pure advertising and pure price competition and find that viewer surplus is identical for both settings.

⁴⁶[Gabszewicz, Laussel, and Sonnac \(1999\)](#), p. 3., make this point.

develop a three-stage sequential game with broadcasters, television viewers, and advertising agencies. Broadcasters select their optimal program differentiation and their optimal advertising rates, taking into account an upper advertising limit imposed by the government. The authors find that program diversity rises with the level of advertising, while at the same time nuisance costs from advertising increase. Within this model, the net effect of advertising regulation is positive, because the reduction of the nuisance cost of advertising dominates the negative effect of advertising regulation on program diversity. Another facet of advertising in the television market is presented by [Anderson and Coate \(2000\)](#). Their model considers that advertising may entail negative external effects on viewers, because broadcasters care only about viewers who switch their channel off and not about viewers' nuisance cost intensities. Therefore, inefficiencies concerning the number of advertisements may occur. There are two potential sources of inefficiencies. The market may provide too few or too many commercials. Specifically, the result depends on the relative size of the social benefits, i.e., the benefits from sales triggered by advertisements and program provision, on one hand, and the nuisance costs which burden television viewers, on the other.

In the following we develop a model that is based on the approach of [Anderson and Coate \(2000\)](#), but which extends their work in that it (i) incorporates IPP as an additional source of broadcasters' revenues, and (ii) considers increasing marginal nuisance cost of both interruptive advertising and IPP. The intention of our analysis is to assess economic welfare effects of the potential ban on IPP in Germany.

4.4.2 The Model

Television broadcasting is a good consumed by advertisers and viewers. In general, it is a private good for advertisers and a public good from the audience's point of view.⁴⁷ We consider advertising to provide information on the existence of new goods to consumers and, therefore, to facilitate beneficial trades.⁴⁸ We assume that there are two television broadcasters, *A* and

⁴⁷For simplicity, we ignore viewer exclusion.

⁴⁸The role of advertising can be analyzed from distinct perspectives. The literature on the matter can roughly be divided into two extreme positions. One claims that advertising acts as a means of persuasion and alters consumer preferences. Therefore, advertising creates product differentiation that is not real. Work in this tradition is provided, e.g., by [Kaldor \(1950\)](#), [Galbraith \(1967\)](#), [Solow \(1967\)](#), and [Nichols \(1985\)](#). The second view considers advertising primarily as a means of solving informational issues. Starting with [Telser \(1964\)](#), numerous aspects of this role have been explored in the literature. Adver-

B , and two types of programs $t \in \{1, 2\}$, both equally costly to produce. The production of a program only causes fixed cost C . Further, two forms of advertising, traditional commercials and IPP can be sold to advertisers. Potential television viewers can be divided into two equally sized groups of N individuals each. Each viewer is characterized by a pair (t, λ) , where t denotes the type of program the viewer prefers and λ denotes the fraction of the viewing benefits from the less preferred program. The variable λ is distributed uniformly on the interval $[-\varepsilon, 1]$ with $\varepsilon \geq 0$. A viewer's benefit from watching the preferred program is β , with $\beta \geq 0$, and $\lambda\beta$ from watching the less preferred program. This benefit can, due to nuisance costs, be reduced by both types of advertising. We suppose that the marginal nuisance cost of interruptive advertising increases with the number of commercials a and, likewise, the marginal nuisance cost of IPP rises with the number of IPP z in the program.⁴⁹ This follows the concept of rising marginal disutility, which is a standard concept in a number of economic fields associated with negative or unpleasant issues. For instance, the cost of work in terms of effort in labor economics and pollution costs in environmental economics. Further, the cost of advertising depends on a parameter $\gamma \geq 0$ which represents the level of nuisance cost of advertisements to viewers. This parameter is assumed to be identical for all viewers and across the two forms of advertising. More specifically, we suppose that a viewer's net benefit from watching the preferred program is

$$u^p(\beta, a, z) = \beta - \frac{1}{2}\gamma(a^2 + z^2)$$

and

$$u^{lp}(\lambda, \beta, a, z) = \lambda\beta - \frac{1}{2}\gamma(a^2 + z^2)$$

from watching the less preferred program.⁵⁰ A viewer who does not watch

tising has been interpreted as a signal for product quality (Milgrom and Roberts (1986)). We follow Butters (1977), Grossman and Shapiro (1984) and Stegeman (1991) in concentrating on advertising for new goods, i.e., we assume consumers only buy once they have seen the product advertised.

⁴⁹The number z may also be considered to be the degree of negative influence of IPP on the "ideal" plot of a movie.

⁵⁰This formulation greatly simplifies the analysis by implying that consumers receive no benefits from watching advertisements. However, product placements could conceivably benefit viewers. For instance, the way BMWs are presented in James Bond movies might be appreciated by many viewers. The same holds for commercials. In Germany, the *Cannes Rolle* provides a fun compilation of commercials that is even shown in movie

any program receives zero benefit. If λ is negative viewers suffer from watching the less preferred program and the larger ε , the more viewers fall in this category.⁵¹ Finally, we assume that viewers who are indifferent about whether they watch a type-1 or a type-2 program will watch either program with identical probability.

With regard to producers that wish to advertise, we assume that there are m producers of new goods that can produce at most one product at a constant cost per unit, which is set to zero without loss of generality. Each good is of a type σ which is distributed uniformly on the interval $[0, \bar{\sigma}]$, with $\bar{\sigma} < 1$. A higher type σ indicates that a product is more attractive to consumers. Each viewer watching a commercial or IPP will receive information on the existence of the advertised good. If a viewer watches an advertisement she or he will either have a willingness to pay $\omega > 0$ for the product with probability σ or a willingness to pay 0 with probability $1 - \sigma$. The assumption that all viewers have a willingness to pay ω or 0 implies that each producer will set a price ω , because a lower price would not increase the probability of a sale. Therefore, a producer of a good of type σ is willing to pay $\sigma\omega$ for contacting each viewer. Furthermore, this implies that producers extract all the surplus from the trades that are stimulated by advertisements, i.e., viewers do not benefit from buying the advertised good. Moreover, we assume that the information on the existence of a new good is the essential feature of advertisements and, therefore, repetition of advertisements to the audience does not increase the probability of a sale. Within this setting, producers are indifferent with respect to the kind of advertisement they choose.

The Ban: Commercials Only

If broadcasters sell advertising spots only, the demand for advertisements can be described as follows. Let p denote the price per viewer of a commercial. Then the number of firms that wish to advertise is $a(p) = m \cdot [1 - \frac{p}{\omega\bar{\sigma}}]$ and the corresponding inverse demand curve is $p(a) = \omega\bar{\sigma} \cdot [1 - \frac{a}{m}]$ (see also Figure 4.2 on page 85).⁵² Note that each producer's demand for advertising on one channel is independent of its demand for advertising on the other channel, due to the assumed constant marginal cost of production and the assumption

theatres.

⁵¹For some viewers, folk music could be costly to watch, while others might suffer from watching MTV.

⁵²These functions are approximated to avoid analytical difficulties of step functions. The fit of the approximation depends positively on the number of producers of new goods m .

that viewers watch only one program.

The two broadcasters A and B are supposed to maximize their profits via the choice of the type of programming they offer and the choice of the price per viewer of commercials. We consider the situation as a three-stage Cournot-type game. In stage one, each broadcaster chooses its type of program and whether to operate. In stage two, given the choices of stage one, each broadcaster chooses its profit-maximizing level of commercials. In stage three, given the choices of the previous stages, viewers decide if and which program to watch. The subgame perfect Nash equilibria of this game can then be solved by backward induction.

Consider stage 3 first. Viewer decisions on watching a program depend on the advertising levels of the broadcasters. If broadcaster A has the lower advertising level, it will get all N type-1 viewers and those viewers of type 2 for whom $(1 - \lambda)\beta < \frac{1}{2}\gamma(a_B^2 - a_A^2)$ or, verbally, for whom the cost of viewing the less preferred broadcaster is lower than the cost of more advertising on the preferred broadcaster.⁵³ Similarly, if A has the higher advertising level, its program is watched by all type-1 viewers, except those for whom $(1 - \lambda)\beta < \frac{1}{2}\gamma(a_B^2 - a_A^2)$.⁵⁴

Now, suppose that in stage two, broadcaster A chooses the type-1 program and B chooses type 2. In this case, each broadcaster may set a price per viewer $p(a_J)$, $J \in \{A, B\}$, which is independent of the advertising level of the other broadcaster, because each broadcaster has a monopoly in selling its viewers to advertisers. On the other hand, the overall number of viewers each broadcaster gets depends on the advertising level of the other broadcaster. Accordingly, A 's and B 's profit functions are:

$$\pi_A = N[1 + \frac{\gamma(a_B^2 - a_A^2)}{2\beta(1 + \varepsilon)}]R(a_A) - C,$$

with $R(a_A) = p(a_A)a_A$ and

$$\pi_B = N[1 + \frac{\gamma(a_A^2 - a_B^2)}{2\beta(1 + \varepsilon)}]R(a_B) - C,$$

with $R(a_B) = p(a_B)a_B$.

⁵³For simplicity, we assume that each broadcaster chooses an advertising level that does not drive all viewers away, i.e., $a < \sqrt{\frac{2\beta}{\gamma}}$. We take this into account in the welfare analysis that follows, and naturally, exclude negative values for a .

⁵⁴See the appendix to this chapter for a detailed description of viewer choice and associated broadcaster profit functions.

Differentiating w.r.t. a_A and a_B yields

$$\partial\pi_A/\partial a_A = N \left[1 + \frac{\gamma(a_B^2 - a_A^2)}{2\beta(1 + \varepsilon)} \right] R'(a_A) - N \frac{\gamma a_A}{\beta(1 + \varepsilon)} R(a_A) \quad (4.1)$$

and

$$\partial\pi_B/\partial a_B = N \left[1 + \frac{\gamma(a_A^2 - a_B^2)}{2\beta(1 + \varepsilon)} \right] R'(a_B) - N \frac{\gamma a_B}{\beta(1 + \varepsilon)} R(a_B). \quad (4.2)$$

Expressions (4.1) and (4.2) reveal two effects. The first term of the marginal profit functions on the right-hand side represents the marginal revenues from all viewers who watch the program of the broadcaster, while the second term indicates the loss of revenues from viewers who switch to the other channel. Obviously, broadcasters face a trade-off between a higher price per advertisement against the loss of viewers that switch to the other broadcaster.

In equilibrium, the first derivatives of A 's and B 's profit function must equal zero. It is straightforward to show that the equilibrium levels of advertising a_A^* , a_B^* are equal such that $a_A^* = a_B^* = a^*$.⁵⁵ Figure 4.1 illustrates the way to that equilibrium. It depicts broadcasters' reaction functions $r_A(a_B)$ and $r_B(a_A)$, which represent the profit-maximizing output for each output choice of the other broadcaster. The Cournot equilibrium is at (a_A^*, a_B^*) , where the two reaction functions cross.

Tedious, but simple, evaluations show that the reaction functions have positive slopes. Moreover, the slopes are smaller than one, which indicates that a unique symmetric equilibrium exists.

By substitution of a^* for a_A^* and a_B^* , the optimal decision of each broadcaster can be expressed as

$$R'(a^*) = \frac{\gamma a^* R(a^*)}{\beta(1 + \varepsilon)}. \quad (4.3)$$

In other words broadcasters maximize their profits when marginal revenues equal marginal costs, which are represented by the term on the right-hand side of equation (4.3) and equal marginal lost revenues per viewer. In

⁵⁵Consider $a_A^* > a_B^*$. Both the first term and the second term of the right-hand side of (4.1) are negative. Hence, if $a_A^* > a_B^*$, there is no equilibrium. The same applies to $a_B^* > a_A^*$ with respect to (4.2).

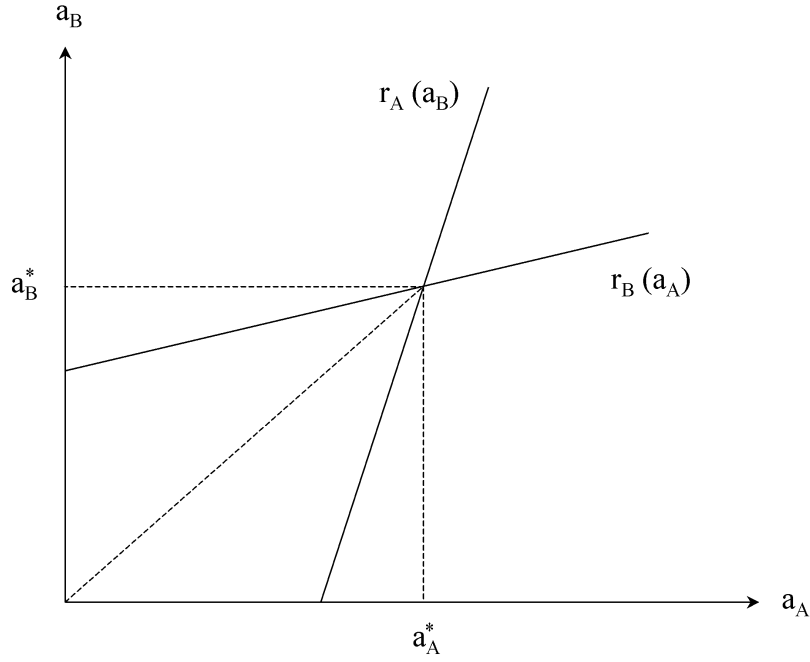


Figure 4.1: Reaction Functions and Cournot Equilibrium

terms of equation (4.3), the equilibrium is characterized by Figure 4.2 on page 85.

As can easily be seen from equation (4.3) and Figure 4.2, the level of a^* depends negatively on the nuisance cost parameter and positively on viewers' benefits from watching television.

By recourse on the inverse demand function, equation (4.3) can be rewritten as

$$1 - \frac{2a^*}{m} = \frac{\gamma a^*}{\beta(1 + \varepsilon)} \left(1 - \frac{a^*}{m}\right) a^* \quad (4.4)$$

which we use for the determination of a^* in the welfare analysis.

In stage one, both broadcasters will choose to provide different programs. If they chose the same type of program, competition for viewers would be

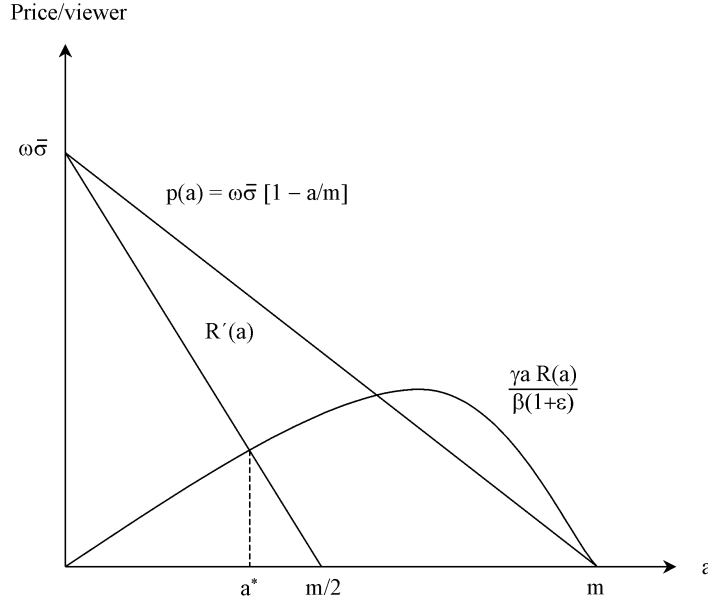


Figure 4.2: Optimal Number of Commercials

introduced and result in zero profits, because the broadcaster with less advertising gains all viewers. Hence, rational broadcasters would not give up their monopoly in selling their viewers to advertisers and would choose different programs.⁵⁶

No Ban: Commercials and IPP

Now consider a case where broadcasters sell both interruptive advertising and IPP. At stage 3, viewers' decisions are similar to the case above. If broadcaster A has the lower advertising level, it will get all N type-1 viewers and those viewers of type 2 for whom $(1 - \lambda)\beta < \frac{1}{2}\gamma[(a_B^2 + z_B^2) - (a_A^2 + z_A^2)]$.⁵⁷

⁵⁶For the sake of completeness, the question as to whether the channels would operate at all depends on the extent of the fixed cost C . There would be no operation where C exceeds the revenues that one broadcaster generates. One broadcaster would operate if C is less than these revenues, but exceeds each broadcaster's revenues in the case that two firms operate, and both would operate if C is less than the latter revenues. Given the high number of broadcasters in the business, this question does not seem to be relevant to reality.

⁵⁷See the appendix to this chapter. We assume that broadcasters choose an advertising level that does not drive away all viewers, i.e., $a < \sqrt{\frac{2\beta}{\gamma} - z^2}$ and $z < \sqrt{\frac{2\beta}{\gamma} - a^2}$. We

Similarly, if A has the higher advertising level, then its program is watched by all type-1 viewers except those for whom $(1-\lambda)\beta < \frac{1}{2}\gamma[(a_B^2 + z_B^2) - (a_A^2 + z_A^2)]$. Turning to stage 2, note that broadcasters will sell the same amount of a and z . This is an optimal strategy because, due to increasing marginal nuisance costs, the number of viewers who stop watching the channel for a given revenue is minimized if $a = z$. Therefore, the maximum “demand” for each type of advertising becomes $m/2$ from each broadcaster’s point of view such that half of the potential advertisers will be offered interruptive advertising and the other half will be offered IPP. More specifically, let p° denote the per-viewer price of a commercial and q denote the per-viewer price of an IPP. The number of firms that buy the two types of advertisements are $a(p^\circ) = \frac{1}{2}m \cdot [1 - \frac{p^\circ}{\omega\bar{\sigma}}]$ and $z(q) = \frac{1}{2}m \cdot [1 - \frac{q}{\omega\bar{\sigma}}]$, respectively. The corresponding inverse demand curves are given by $p^\circ(a) = \omega\bar{\sigma} \cdot [1 - \frac{2a}{m}]$ and $q(z) = \omega\bar{\sigma} \cdot [1 - \frac{2z}{m}]$.

It follows that the profit functions of A and B are

$$\pi_A^\circ = N \left[1 + \frac{\gamma[(a_B^2 + z_B^2) - (a_A^2 + z_A^2)]}{2\beta(1+\varepsilon)} \right] [R^\circ(a_A) + R(z_A)] - C,$$

with $R^\circ(a_A) = p^\circ(a_A)a_A$, $R(z_A) = q(z_A)z_A$ and

$$\pi_B^\circ = N \left[1 + \frac{\gamma[(a_A^2 + z_A^2) - (a_B^2 + z_B^2)]}{2\beta(1+\varepsilon)} \right] [R^\circ(a_B) + R(z_B)] - C,$$

with $R^\circ(a_B) = p^\circ(a_B)a_B$, $R(z_B) = q(z_B)z_B$.

Solving for the broadcaster equilibrium levels of advertising $(a_A^{\circ*}, a_B^{\circ*}, z_A^*, z_B^*)$, it is straightforward to show $a_A^{\circ*} = a_B^{\circ*} = z_A^* = z_B^* = \theta^*$. Hence, in equilibrium, it is given that

$$R'(\theta^*) = \frac{\gamma\theta^*}{\beta(1+\varepsilon)} [R(\theta^*) + R(\theta^*)].$$

Figure 4.3 illustrates the optimal number of advertisements in equilibrium.⁵⁸

have to take this into account in the welfare analysis that follows. Naturally, we exclude negative values for both types of advertising.

⁵⁸Note that Figure 4.3 is a simplification. It is limited to two, instead of three, dimensions.

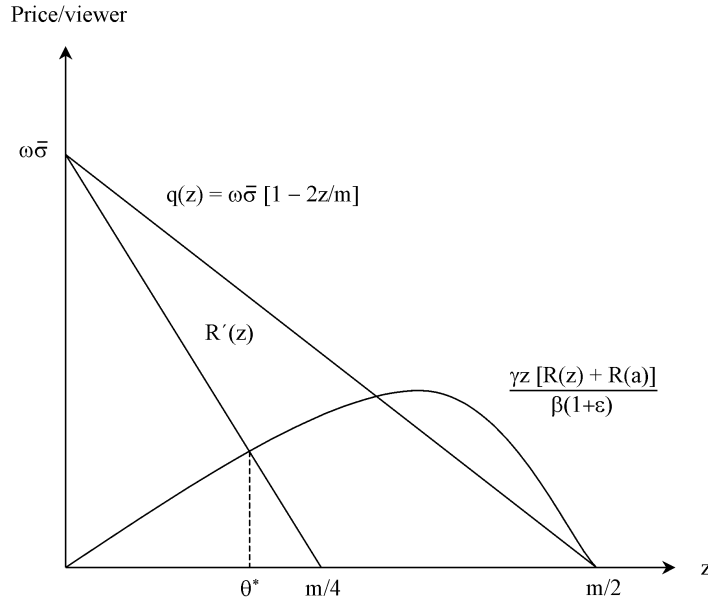


Figure 4.3: Optimal Numbers of Commercials and IPP

By substitution, we obtain

$$1 - \frac{4\theta^*}{m} = \frac{\gamma\theta^*}{\beta(1+\varepsilon)} 2\left[\theta^* - \frac{2\theta^{*2}}{m}\right] \quad (4.5)$$

which we use for the determination of θ^* in the welfare analysis.

As before, in stage one both broadcasters will choose to provide different programs. If they chose the same type of program, competition would result in zero profits.⁵⁹

4.4.3 Welfare Analysis

What are the total benefits generated by the provision of advertising financed television with respect to the two cases considered above? Viewer benefits consist of the benefits from watching their favorite program less the nuisance

⁵⁹With respect to channel provision there would be no operation where C exceeds the revenues that one broadcaster generates. One broadcaster would operate if C is less than these revenues, but exceeds each broadcaster's revenues in the case that two firms operate, and both would operate if C is less than the latter revenues.

cost of advertising. Advertisers gain from selling their products to viewers and suffer from the price they pay for their advertisements. Broadcasters receive revenue from selling advertising space to advertisers less the fixed cost C of providing the program. These considerations give the following functions of the overall benefits B associated with advertising-financed television.⁶⁰

Assuming broadcasters operate and IPP is banned, total benefits B are

$$B(a^*) = 2N(\beta - \frac{1}{2}\gamma a^{*2}) + 2N \int_0^{a^*} \omega\sigma(1 - \frac{\alpha}{m})d\alpha. \quad (4.6)$$

The first of the two terms represents viewers' welfare in equilibrium, while the second term accounts for the welfare of producers and broadcasters.⁶¹

With IPP benefits add up to⁶²

$$B(\theta^*) = 2N(\beta - \gamma\theta^{*2}) + 4N \int_0^{\theta^*} \omega\sigma(1 - \frac{2\alpha}{m})d\phi. \quad (4.7)$$

The crucial question is in which case aggregated welfare is larger, i.e., if $B(a^*) \lesseqgtr B(\theta^*)$. However, the general solution of this relationship is complex and not informative. We therefore solve the model parametrically. In doing so, we first solve for the optimal a^* and θ^* using (4.4) and (4.5), respectively. Next, we calculate the associated welfare by substituting a^* and θ^* in (4.6) and (4.7). Table 4.1 presents welfare results for different assumptions on the level of the nuisance cost γ .

The parameter values we have assumed are: $\beta = 6, \varepsilon = 2, m = 15, \omega = 0.03, \bar{\sigma} = 0.9, N = 100$. We have chosen these specific values in order to get a close approximation of reality. For instance, β is 6 because rental charges in video stores are about DEM 6 (€ 3). Similarly, m is 15, because 15 commercials per movie seems a reasonable number, the product $\omega\bar{\sigma}$ is 0.027, because the price to contact 1000 viewers in German television is about DEM 27 (€ 14) for a 10 second spot.⁶³ Only N has been chosen arbitrarily

⁶⁰fixed costs are neglected as C is the same in both cases. We are only interested here in the differences in welfare.

⁶¹More explicitly, producers' welfare plus channels' welfare (neglecting C) is $2N \int_0^{a^*} \omega\sigma(1 - \frac{\alpha}{m})d\alpha - p(a^*)a^* + p(a^*)a^*$, which is simply the integral under the inverse demand function up to a^* .

⁶²This is a simplification of $B(a^{o*}, z^*) = 2N(\beta - \frac{1}{2}\gamma(a^{o*2} + z^{*2})) + 2N \int_0^{a^{o*}} \omega\sigma(1 - \frac{2\alpha}{m})d\alpha + 2N \int_0^{z^*} \omega\sigma(1 - \frac{2c}{m})dc$, which accounts for viewers' welfare from watching the two programs and for producers' welfare.

⁶³Source: IP Deutschland GmbH, 2000, TV-Werbung für Einsteiger, p. 24.

	Nuisance cost level γ			
	0	0.01	0.025	0.05
<i>Ban on IPP:</i>				
Total welfare $B(a^*)$	1230.40	1175.50	1099.30	986.66
Advertising level a^*	7.5	7.39	7.22	6.96
Viewers' welfare	1200.00	1145.40	1069.70	957.79
Producers' & broadcasters' welfare	30.40	30.10	29.60	28.87
<i>No ban on IPP:</i>				
Total welfare $B(\theta^*)$	1230.40	1202.70	1163.80	1104.50
Advertising level θ^*	3.75	3.70	3.63	3.53
Advertising level $2\theta^*$	7.5	7.40	7.26	7.06
Viewers' welfare	1200.00	1172.60	1134.10	1075.40
Producers' & broadcasters' welfare	30.40	30.10	29.70	29.10

Table 4.1: Parametric Welfare Comparisons Ban vs. No Ban on IPP for Different Nuisance Cost Levels

(which has no qualitative effects) such that numbers are kept small.⁶⁴

The results indicate that a ban on IPP leads to a lower welfare level if viewers feel disturbed by advertisements, i.e., if $\gamma > 0$. Moreover, both viewer and producer/broadcaster welfare is higher where IPP is permitted and overall advertising levels are higher with IPP. Interestingly, audiences are better off, although we have assumed that viewers do *not* benefit from buying the products that are advertised and advertising levels are higher with IPP. The reason for this observation is that viewers prefer a situation where advertising spots can be substituted with IPP.

For $\gamma = 0$ we find no differences in welfare. If viewers do not care about advertisements, broadcasters offer monopoly advertising quantities to producers. These quantities are $m/2$ if there is only interruptive advertising and $m/4$ in the case where IPP can also be sold to advertisers (see Figures 4.2 and 4.3).

To sum up, our analysis shows that toleration of IPP has the potential to enhance economic welfare.

⁶⁴Many calculations with alternative parameter values gave us the same qualitative results.

4.5 Conclusion

Our analysis suggests that valid arguments can be made against the application of the principle of separation to IPP. The essential objectives of the principle of separation – the protection of the “market for opinions” and the avoidance of “viewer deception” – are not at risk if IPP is introduced, provided the utilization of IPP is announced. This statement is supported by several arguments.

With respect to the protection of the “market for opinions,” a bias towards broadcasting motion pictures with IPP in the sense of Aklerof’s (1970) “market for lemons” may easily be prevented by compelling broadcasters to announce IPP. Moreover, broadcast motion pictures are only part of the “market for opinions.” Further, competition for fastidious audiences, can be expected to provide a variety of movies and opinions especially, because competition is supported by numerous television broadcasting provisions that supplement general competition law. Finally, public broadcasters, which reach the largest share of viewers in Germany, are committed to present a diversity of opinions.

Moreover, given the number of legal and illegal possibilities of achieving product placement on the TV-screen, we suspect that the separation principle actually confuses viewers and is, therefore, counterproductive.

Our critical review of the legal framework of IPP has shown that a ban may generate cost-inefficiencies in technological choices and create dynamic inefficiencies. In addition, a ban may establish an international competitive disadvantage. Our theoretical model on the effects of a ban provides welfare economic arguments that indicate IPP has the potential to enhance economic welfare.

Summarizing, we would suggest that lawmakers should carefully consider the application of the separation principle in the case of IPP. An obligation to announce whether a program contains IPP seems sufficient to prevent deception of viewers and helps advertisers to gain the benefits of IPP. At the very least, flexible regulations such as the permission of IPP for private broadcasters or specific channels should be considered.

With respect to the economic model we have proposed, it would be interesting to explore a number of extensions in future work. Above all, an analysis of the effects of banning IPP on program diversity would be rewarding. Further, the impact of informational benefits to viewers, asymmetric nuisance costs and benefits, asymmetric group size, and asymmetric values of different groups to advertisers could be addressed.

Chapter 5

Conclusion

The above analysis considered the economic impact of three pieces of legislation on the German motion picture industry, and more specifically, how they influence economic efficiency. In addition, major market and institutional characteristics of the German motion picture industry were analyzed. The study found that the legislation considered generally had an adverse effect on economic efficiency. Moreover, the regulatory outcomes in some cases appeared to contradict the stated purposes of the legislation.

Chapter 2 indicated several drawbacks in the allocation of subsidies through the reference film principle as specified in the German Film Act. The analysis suggested that the principle *de facto* violates a central condition for legitimate subsidies, i.e., the reference film principle tends to subsidize firms that do not need subsidies to produce their products. Moreover, the reference film principle was found to be improperly defined in the economic sense; it rewards absolute admission numbers rather than profitability and sets incentives to choose inefficiently high budgets. Moreover, it was found that the committee principle weakens the relationship between expenditures and earnings and distorts producers' incentives to make films suited to audience preferences. In recognizing that subsidization of the German film industry is a political reality, it was suggested that an adjusted reference film principle may be preferable. The proposed approach would require that the reference film principle rewards economic success rather than absolute admission numbers. It also calls for reducing the "extra" profits of producers, for instance, by prescribing some type of sharing contract between the state and the producer. In this context, incentives to produce for the market could still be set, while "extra" profits were limited. With respect to our analysis of the determinants of success of German movies at the box office and in terms of

rate of return, it was suggested that the skills of production companies and directors are among the most decisive factors. This result may be linked with the distribution of profits across producers in the industry. While German producers can generally be expected to produce films that lose money, the analysis found it was possible to identify an economically successful type of producers that consistently generates positive profits.

Chapter 3 considered the economic effects of recent amendments to Germany's Copyright Law. The analysis indicated that the legislative assumption of the structural superiority of media companies has no sound economic foundation with regard to the German motion picture industry. It is implausible that significant buyer power prevails in these markets. Thus, corrections to compensate for a fictive "structural superiority" create economic inefficiencies. First, it was found that fostering the creation and use of collective remuneration schemes implies labor market frictions. Under such conditions, producers typically experience lower profits, and thus find it reasonable to avoid such losses by relocating production to other jurisdictions or by exiting the business. It is thus unclear whether the law actually increases the total remuneration of creative talents. Second, the *de facto* prescription of sharing contracts under a "blockbuster" clause distorts efficient risk allocation, shifts risk onto creative talent, increases transaction costs, and reduces producers' incentives to promote their movies on national and international markets. Clearly, this contradicts the legislative intent of protecting creative talent from bearing risk. Finally, the law was found to affect the economic outcomes negatively by generating legal uncertainty.

Chapter 4 contemplated the economic impact of advertising regulations with respect to "interactive product placement" (IPP). The analysis identified regulations and rulings that might be applied to IPP and suggested that, although IPP likely violates the principle of separation between programming and advertising, it might not necessarily violate the underlying policy reasons for the separation principle from a constitutional point of view. First, deception of viewers cannot reasonably be considered to be a problem where viewers are made aware of IPP. Second, we suggest that movies only play a modest role in building public opinion. Moreover, given the number of allowed and forbidden possibilities of making product placements on the TV screen, we suspect that the separation principle might only confuse viewers. Finally, we noted several drawbacks from a ban on IPP, including cost-inefficiencies with respect to technological choices, dynamic inefficiencies with respect to the production of audiovisual hardware and software, and increased international competitive disadvantage. Our analysis of potential costs and benefits of IPP also showed that welfare economic considerations

may support the application of IPP.

In a way, our analysis suggests that the famous saying: “If it ain’t broke, don’t fix it” (Bert Lance) should be applied to the politics of the German motion picture industry: subsidies are payed to firms that do not need them; buyer power is foughted where there is none; and advertising regulations are based on questionable grounds.

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Appendix to Chapter 2

Table A.2.1: German Theatrical Market for Motion Pictures, 1995-2001

Year	2001	2000	1999	1998	1997	1996	1995
Admissions	177.9 million	152.5 million	149.0 million	148.9 million	143.1 million	132.9 million	124.5 million
Box office gross (Euro)	987.2 million	824.5 million	808.1 million	818.2 million	750.9 million	672.0 million	605.1 million
Theatre companies	1,177	1,200	1,173	1,189	1,210	1,230	1,223
Screens	4,792	4,783	4,651	4,435	4,284	4,070	3,901
Seats	884,033	873,538	844,829	802,765	796,848	768,144	732,367
Inhabitants per seat	93	94	97	102	103	107	111
Inhabitants per screen	17,166	17,178	17,649	18,495	19,154	20,150	20,929
Cinema admissions per inhabitant ^a	2.16	1.86	1.82	1.82	1.74	1.62	1.52
Average admission price (Euro)	5.55	5.41	5.42	5.50	5.25	5.06	4.86
German market share in % ^b	18.4	12.5	14.0	9.5	17.3	16.2	9.4

Source: German Federal Film Board - FFA.

^a1994: 1.63; 1993: 1.61.

^bBased on admissions

Table A.2.2: Definition of the Variables S-PROD and VS-PROD

Production company	Admissions per movie (average)	Category
Ascot Film	392,781	S-PROD
Avista	168,426	S-PROD
Boje-Buck	229,300	S-PROD
Constantin	723,106	VS-PROD
Delta	163,988	S-PROD
Diana Film	3,250,411	VS-PROD
Dream Joint Venture	137,052	S-PROD
Ecco Film	392,781	S-PROD
ENA	710,081	VS-PROD
Futura Film	144,305	S-PROD
Hager-Moss Film	1,236,373	VS-PROD
John Filmproduktion	571,930	VS-PROD
Lichtblick	123,213	S-PROD
Mr. Brown	710,081	VS-PROD
Olga-Film	137,522	S-PROD
Pandora Film	351,276	S-PROD
Prokino	137,522	S-PROD
Real Film	101,369	S-PROD
Rialto	346,204	S-PROD
Road Movies	120,427	S-PROD
Royal-Film	831,939	VS-PROD
SAM	1,315,357	VS-PROD
Senator	1,693,591	VS-PROD
Tele-München	158,104	S-PROD
Trickcompany	3,066,325	VS-PROD
UFA	206,892	S-PROD
Warner	137,052	S-PROD

Source: Business Reports of the FFA 1993-1998, own calculations.

This list enumerates all production companies that have produced German films (i) with more than 100,000 viewers (ii) premiering between 1993 and 1998, and (iii) not included in the sample used for the regressions. Classification in the category VS-PROD occurred only with firms that had average viewer numbers per film of over 500,000. It is interesting to note that German production companies usually produce only a few films per year; e.g., in only two instances between 1993 to 1998 did a production company produce more than three films in one year.

Table A.2.3: Well Known Actors

Adorf, Mario	
Arent, Eddi	
Béart, Emanuelle	
Becker, Ben	Schlafes Bruder (1995)
Berben, Iris	
Binoche, Juliette	Die Liebenden von Pont-Neuf (1991)
Bleibtreu, Moritz	Das Stadtgespräch (1995)
Brandauer, Klaus-Maria	
Close, Glenn	
Ferres, Veronica	Schtonk! (1992)
George, Götz	
Gerhart, Tom	
Guinness, Alec	
Heinze, Thomas	Allein unter Frauen (1991)
Jacob, Irene	Die zwei Leben der Veronika (1991)
Juhnke, Harald	
Kirchberger, Sonja	
Krebs, Dieter	
Król, Joachim	Wir können auch anders (1993)
Lauterbach, Heiner	
Makatsch, Heike	Männerpension (1996)
Marceau, Sophie	
Mueller-Stahl, Armin	
Muti, Ornella	
Ochsenknecht, Uwe	
Paul, Christiane	Knocking on Heavens' Door (1997)
Piccoli, Michel	
Potente, Franka	Nach fünf im Urwald (1995)
Richter, Ilja	
Richter, Jason James	Free Willy (1993)
Riemann, Katja	Abgeschminkt (1993)
Rois, Sophie	Wir können auch anders (1993)
Rossellini, Isabelle	
Sägebrecht, Marianne	
Sander, Otto	
Schneider, Helge	
Schrader, Maria	Keiner liebt mich (1994)
Schweiger, Til	Der bewegte Mann (1994)
Schygulla, Hanna	
Semmelrogge, Martin	
Sommer, Elke	
Streep, Meryl	
Thalbach, Katharina	
Trintignant, Jean Louis	
Vogel, Jürgen	Kleine Haie (1992)
Wiesinger, Kai	Kleine Haie (1992)

Apart from long time well known actors, actors who have recently played a leading role (as shown by the Internet Movie Database or the Internationales Lexikon des Films, respectively) in a popular movie have also been taken into account. Accordingly, these “new” well known actors have only been integrated into the analysis after enjoying their first big success (more than 400,000 admissions). In these cases we have cited the relevant films and the years in which they premiered. Finally, celebrities whose popularity has resulted in film appearances have also been listed. These are Helge Schneider, Tom Gerhart and the cabaret artists of “Badesalz”.

Table A.2.4: Successful Directors

August, Billie	
Buck, Detlev	Karniggels (1991)
Dörrie, Doris	
Garnier, Katja von	Abgeschminkt (1993)
Hahn, Gerhard	Werner - Beinhart (1990)
Kaufmann, Rainer	Stadtgespräch (1995)
Peter, Timm	Go Trabi Go (1991)
Schaack, Michael	Werner - Beinhart (1990)
Schlöndorff, Volker	
Trotta, Margarethe von	
Tykwer, Tom	Winterschläfer (1997)
Verhoeven, Michael	
Vilsmaier, Joseph	
Wenders, Wim	
Wortmann, Sönke	Allein unter Frauen (1991)

Successful directors are, like their acting counterparts, established directors or directors who have recently directed a popular film (more than 400,000 admissions). These “new” well known directors have only been integrated into the analysis after enjoying their first big success. In these cases we have cited the relevant movies and the years in which they premiered.

Table A.2.5: Distributors' Size, 1993-1998

Distributor	1993	1994	1995	1996	1997	1998	Category ^a
Buena Vista	16	23	21.8	17.9	20.1	21.2	MAJOR
CI	0	5	6.2	0	0	0	MINIMAJOR
Columbia	16	9	8.5	7.6	12.4	7.2	MAJOR
Concorde	2	3	4.4	5.2	2	2	MINIMAJOR
Constantin	3	0	4.4	9.9	9	4.3	MINIMAJOR
Delphi	0	0	0	2.7	0	0	INDEPENDENT
Fox	7	8	3.3	12.7	11	21.7	MAJOR
Jugendfilm	0	0	0	1	0	0	INDEPENDENT
Kinowelt	0	0	0	1.4	5.1	5.8	MINIMAJOR ^b
Pandora	2	0	1.2	2	0	0	INDEPENDENT
Polygram	0	0	0	0	7.5	2.7	MINIMAJOR
Prokino	0	0	0	1.1	0	2	INDEPENDENT
Scotia	2	0	4.3	0	0	2.3	INDEPENDENT
Senator	3	3	3.2	0	4.5	2.1	MINIMAJOR
Tobis	3	3	1.3	0	3	2	MINIMAJOR
UIP	20	27	21.6	23.7	14.9	16.8	MAJOR
Warner	21	15	14.6	8.6	7.2	7.6	MAJOR
Other	5	4	5.2	6.2	3.3	2.3	INDEPENDENT
Sum	100	100	100	100	100	100	

Source: Blickpunkt:Film. Filmecho/Filmwoche.

^aApproximated values are given for the years 1993 and 1994. Classification is based on average market share (admissions) between 1993 and 1998: Major starting at 10%, Minimajor starting at 1.5%, and Independent less than 1.5%.

^bKinowelt was the only company to record steady growth between 1993 and 1998. Accordingly, it has been categorized as Independent for the years 1993 until 1996 and as Major for 1997 and 1998.

Table A.2.6: Correlation Matrix of Selected Variables

	ADMISS	S-PROD	VS-PROD	ACTOR	DIRECTOR	BUDGET	MINIMAJOR	INDEPENDENT	PRINTS	Sub ^a
ADMISS	1.00									
S-PROD	0.07	1.00								
VS-PROD	0.44***	-0.14	1.00							
ACTOR	0.25***	-0.12	0.17***	1.00						
DIRECTOR	0.43***	0.14	0.28***	0.29***	1.00					
BUDGET	0.26***	0.07	0.13	0.19**	0.26***	1.00				
MINIMAJOR	0.27***	-0.05	0.43***	0.10	0.35***	0.29***	1.00			
INDEPENDENT	-0.32***	-0.01	-0.37***	-0.18**	0.23**	-0.32***	-0.69***	1.00		
PRINTS	0.66***	-0.07	0.44***	0.19**	0.33***	0.40***	0.29***	-0.50***	1.00	
Sub	0.26***	-0.08	0.20**	0.11	0.32***	0.28***	0.26***	-0.21**	0.37***	1.00

*, **, *** is statistically significant at $p < 0.1, p < 0.05, p < 0.01$, respectively.

a) "Sub" is the total amount of subsidies.

Table A.2.7: Correlation Between P&A and the Number of Prints at Release

Title	P&A (Euro)	Prints	P&A per print (Euro)
Feuerreiter	306,264	30	10,209
Requiem für eine romantische Frau	384,696	30	12,823
Fette Welt	255,646	34	7,519
Zugvögel	386,537	48	8,053
Trio, Das	1,210,739	55	22,014
Kurz & Schmerzlos	441,245	60	7,354
Musterknaben, Die	588,944	70	8,413
Südsee, eigene Insel	1,014,090	76	13,343
Palmetto	772,419	88	8,777
Frauen lügen nicht	613,550	98	6,261
Bis zum Horizont	434,598	156	2,786
Lola rennt	1,073,713	209	5,138
Frau Rettich...	810,909	216	3,754
Solo für Klarinette	1,027,958	229	4,489
Campus, Der	1,829,390	286	6,396
Cascadeur	1,114,105	299	3,726
Merkwürdige Verhalten..., Das	1,738,392	360	4,829
Average:			7,993
Correlation (P&A and prints):			0.79

Source: German Federal Film Board (FFA), Blickpunkt:Film, own calculations.

Table A.2.8 : Movies in the Sample

...und der Himmel steht still	Lola rennt
00 Schneider - Jagd auf Nihil Baxter	Looosers
14 Tage Lebenslänglich	Lorenz im Land der Lügner
2 Männer - 2 Frauen - 4 Probleme?	Mambospiel, Das
Abbuzz! - Der Badesalz-Film	Mann für jede Tonart, Ein
Adamski	Männerpension, Die
Alles auf Anfang	Maria
Alles nur Tarnung	Maries Lied
Apothekerin, Die	Mario und der Zauberer
Asterix in Amerika	Mediocren, Die
Auf Wiedersehen, Amerika	Moebius
Auge um Auge	Mr, Bluesman
Ballermann 6	Mutters Courage
Bandits	Nach fünf im Urwald
Beim nächsten Kuß knall ich ihn nieder	Nostradamus
Benjamin Blümchen - Seine schönsten Abenteuer	Nur aus Liebe
Bewegte Mann, Der	Nur über meine Leiche
Broken Hearts	Obsession
Bunte Hunde	Palmetto
Cascadeur	Peanuts - Die Bank zahlt alles
Charlie & Luise - Das doppelte Lottchen	Pippi Langstrumpf
Childmurders - Kindermorde	Prinz Eisenherz
Comedian Harmonists	Prinzenbad
Couch in New York, Eine	Probefahrt ins Paradies
Diebinnen	Putzfraueninsel, Die
Dreifache Locke, Die	Ratte, Die
Echte Kerle	Rennschwein Rudi Rüssel
Einfach nur Liebe	Rotwang muß weg!
Erste Semester, Das	Roula
Ex	Schelme von Schelm, Die
Felidae	Schlafes Bruder
Frankie, Jonny und die Anderen	Sieger, Die
Französische Frau, Eine	Solo für Klarinette
Frau Rettich, die Czerny und ich	Spur der roten Fässer, Die
Frauen sind was Wunderbares	Stalingrad
Fräulein Smillas Gespür für Schnee	Stille Nacht
Friedrich und der verzauberte Einbrecher	Story von Monty Spinneratz
Für immer und immer	Strand von Trouville, Der
Furchtlosen Vier, Die	Stumme Zeugin
Geisterhaus, Das	Tödliche Maria
Gespräch mit dem Biest	Tödliches Verhältnis, Ein
Handbuch des jungen Giftmischers, Das	Totmacher, Der
Harald	Transatlantis
High Crusade - Frikassee im Weltraum	Tykho Moon
Hollow Reed - Lautlose Schreie	Und keiner weint mir nach
Honigmond	Underground
Hunger - Sehnsucht nach Liebe	Unendliche Geschichte III, Die
Inge, April und Mai	Unhold, Der
Japaner sind die besseren Liebhaber	Unter der Milchstrasse
Jenseits der Stille	Utz
Jenseits der Wolken	Versprechen, Das
Karakum	Werner - Das muß kesseln!!!
Kaspar Hauser	Widows - Erst die Ehe dann das Vergnügen
Knockin' on Heavens' Door	Willy Bogners White Magic
Keiner liebt mich	Winterschläfer
Lea	Wir können auch anders
Leben ist eine Baustelle, Das	Workaholic
Legende von Pinocchio	Younger & Younger
Let's talk about Sex	Zirri - das Wolkenschaf
Liebe und andere Geschäfte	Zugvögel...einmal nach Inari

Appendix to Chapter 4

Determination of Broadcasters' Profit Functions

I. Commercials Only:

For the sake of simplicity, assume that Broadcaster A has chosen the type-1 program and B has chosen the type-2 program. Then the viewer's choice will depend on the number of advertisements on each channel:

- Assume broadcaster A has fewer advertisements:

If A has the lower advertising level, all type-1 viewers will choose A . Further, those viewers of type 2 for whom

$$(1 - \lambda)\beta < \frac{1}{2}\gamma(a_B^2 - a_A^2)$$

$$\Leftrightarrow 1 - \lambda < \frac{\gamma(a_B^2 - a_A^2)}{2\beta}$$

will choose A , too. The fraction of the N type-2 viewers that choose broadcaster A can be calculated by dividing the right hand side of the above expression through the length of the interval of λ , which is $1 + \varepsilon$. Therefore, that fraction is:

$$\frac{\gamma(a_B^2 - a_A^2)}{2\beta(1 + \varepsilon)}$$

- Assume broadcaster A has more advertisements:

If A has the higher advertising level, then its program is chosen by all type-1 viewers except those for whom (note that the right hand side is negative in this case)

$$(1 - \lambda)\beta < \frac{1}{2}\gamma(a_B^2 - a_A^2)$$

$$\Leftrightarrow 1 - \lambda < \frac{\gamma(a_B^2 - a_A^2)}{2\beta}$$

The fraction of the N type-1 viewers that broadcaster A loses can be calculated by dividing the right hand side of the above expression through the length of the interval of λ , which is $1 + \varepsilon$. Therefore, that fraction is again:

$$\frac{\gamma(a_B^2 - a_A^2)}{2\beta(1 + \varepsilon)}$$

- Assume broadcasters have the same advertising levels:

All type-1 viewers for whom

$$\beta > \frac{1}{2}\gamma(a_A^2)$$

will watch A and all type-2 viewers for whom

$$\beta > \frac{1}{2}\gamma(a_B^2)$$

will watch B . All viewers who do not watch their preferred program switch off because of the excessive advertising.

We can use the information from above to determine the broadcasters' profit functions, i.e.,

$$\pi_A = N[1 + \frac{\gamma(a_B^2 - a_A^2)}{2\beta(1 + \varepsilon)}]R(a_A) - C$$

with $R(a_A) = p(a_A)a_A$ and

$$\pi_B = N[1 + \frac{\gamma(a_A^2 - a_B^2)}{2\beta(1 + \varepsilon)}]R(a_B) - C$$

with $R(a_B) = p(a_B)a_B$.

II Commercials and IPP:

- Assume broadcaster A has fewer advertisements:

If A has the lower overall advertising level, all type-1 viewers will choose A . Further, those viewers of type 2 for whom

$$(1 - \lambda)\beta < \frac{1}{2}\gamma[(a_B^2 - a_A^2) + (z_B^2 - z_A^2)]$$

$$\Leftrightarrow 1 - \lambda < \frac{\gamma[(a_B^2 + z_B^2) - (a_A^2 + z_A^2)]}{2\beta}$$

will choose A , too. The fraction of the N type-2 viewers that broadcaster A gains can be calculated by dividing the right hand side of the above expression through the length of the interval of λ , which is $1 + \varepsilon$. Therefore, that fraction is:

$$\frac{\gamma[(a_B^2 + z_B^2) - (a_A^2 + z_A^2)]}{2\beta(1 + \varepsilon)}$$

- Assume broadcaster A has more advertisements:

If A has more advertising, then its program is watched by all type-1 viewers except those for whom (note that the right hand side is negative in this case)

$$(1 - \lambda)\beta < \frac{1}{2}\gamma[(a_B^2 + z_B^2) - (a_A^2 + z_A^2)]$$

$$\Leftrightarrow 1 - \lambda < \frac{\gamma[(a_B^2 + z_B^2) - (a_A^2 + z_A^2)]}{2\beta}$$

The fraction of the N type-1 viewers that broadcaster A loses can be calculated by dividing the right hand side of the above expression through the length of the interval of λ , which is $1 + \varepsilon$. Therefore, that fraction is:

$$\frac{\gamma[(a_B^2 + z_B^2) - (a_A^2 + z_A^2)]}{2\beta(1 + \varepsilon)}$$

- Assume broadcasters have the same advertising levels:

All type-1 viewers for whom

$$\beta > \frac{1}{2}\gamma(a_A^2 + z_A^2)$$

will watch A and all type-2 viewers for whom

$$\beta > \frac{1}{2}\gamma(a_B^2 + z_B^2)$$

will watch B . All viewers who do not watch their preferred program switch off because of excessive advertising.

We can use the information from above to determine the broadcasters' profit functions, i.e.,

$$\pi_A^\circ = N \left[1 + \frac{\gamma[(a_B^2 + z_B^2) - (a_A^2 + z_A^2)]}{2\beta(1 + \varepsilon)} \right] [R^\circ(a_A) + R(z_A)] - C$$

with $R^\circ(a_A) = p^\circ(a_A)a_A$, $R(z_A) = q(z_A)z_A$ and

$$\pi_B^\circ = N \left[1 + \frac{\gamma[(a_A^2 + z_A^2) - (a_B^2 + z_B^2)]}{2\beta(1 + \varepsilon)} \right] [R^\circ(a_B) + R(z_B)] - C$$

with $R^\circ(a_B) = p^\circ(a_B)a_B$, $R(z_B) = q(z_B)z_B$. Note that the profit functions necessarily include both types of revenues, $R^\circ(a_B)$ and $R(z_B)$, because broadcasters' sell the same amount of a and z .