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The Dubbing Standard: Its History and Efficiency Implications for Film Distributors in the German Film Market

Miika Blinn

miika.blinn@wiwiss.fu-berlin.de

Doctoral Program Research on Organisational Paths

School of Economics and Business Administration

Freie University Berlin

1. Introduction

In the German movie market dubbing is the dominating standard for transferring foreign-language films into German. Other transfer techniques, such as subtitling or voice over, play only a minor role. This predominance of dubbing dates back to the 1930s and has been the industry standard since then. This amazing persistence raises many questions: Where does this persistence come from? What are the major reasons? Is this predominance efficient? Can we still change the system, e.g. through digitalisation of film distribution and consumption?

Dubbing has never been an uncontested technique; merits and drawbacks have been fiercely discussed. Many countries have taken the opposite direction – predominantly using subtitles. Facing increasing internationalization and globalization many Germans nowadays are wondering whether subtitles would not be the better choice for various reasons: economic, aesthetic and educational. The economic argument stresses the relatively high production costs of dubbing as compared to subtitling. The cost argument extends into a cultural and aesthetic argument: the dubbing imperative puts low- and medium-budget films marketed by small film distributors to a systematic disadvantage in the market, thus hampering the diversity of the films supplied and consumed in the market. This cost inefficiency becomes more accentuated under the forthcoming digitalisation of theatrical film distribution. The educational argument stresses positive externalities of subtitling for foreign-language

proficiency. The argument is that viewers' acquire foreign-language skills by hearing the original language in subtitled films/programmes. This argumentation has become popular when it comes to explaining the populations' relatively strong English skills in subtitling countries such as the Netherlands and Scandinavia, as opposed to the populations in dubbing countries such as Germany, France, Spain and Italy. So, why not change to subtitling?

It has, however, proved that changing the mode of language transfer of foreign films is difficult terrain; there are strong hidden barriers prohibiting a major change. Germany seems to be bound to dubbing. This paper aims at contributing to this discussion. For exploring this complex field this research will be guided by the concept of path dependence (David 1985, Arthur 1994). In light of this framework the major question is whether or not the German movie market has become path dependent in terms of dubbing.

To study path dependency it has proved useful to distinguish three different stages of the process (Schreyögg, Sydow & Koch, 2003): the triggering phase, the formation phase and the lock-in. The triggering phase asks for the initial situation, the options available then and decisions which turned out to become "small events" which trigger the evolvement of a path. In the formation phase these initial triggers set into motion self-reinforcing mechanisms – in particular increasing returns – which increasingly favour a single solution. The scope of choice dramatically narrows until – in the third phase – the increasingly dominating solution becomes locked, i.e. no other solution is feasible any longer. Currently this seems to be the case as the German film market is bound to dubbing. The crux of the paper is to analyse whether the lock-in to dubbing standard constitutes inefficiency in the film market, with respect to the upcoming digitalisation of theatrical distribution. The focus of the inefficiency analysis will be on in how far dubbing inhibits the distribution of small and medium sized films.

2. Theory

Path Dependence

The explanations pursued in this paper build on the theory of path dependence (Arthur, 1989; David, 1985, 1997; Arrow, 2004). In essence, an allocative process in a dynamic field is called path dependent if early events, conditions and "developments have a profound and disproportionate effect on later [developments]" (Arrow, 2000: 175). In more detail, the process of becoming path dependent can be distinguished in three stages (Sydow, Schreyögg & Koch, 2005: 9):

Phase I. The initial phase – the triggering phase – can be characterized as contingent. Different alternatives are competing in a market and it is not foreseeable which one will prevail. At the core of the first stage is a triggering event, sometimes called a “small event”. It cannot be predicted; it is only later that it can be identified as the trigger of a path-building process. According to Mahoney (2006) such critical events do not correspond to pure randomness: they are decisions taken for distinct reasons but without knowing the far-reaching consequences. The passage from phase I to phase II can be characterized as a critical juncture. “Critical junctures are characterized by the adoption of a particular institutional arrangement from among two or more alternatives. These junctures are ‘critical’ because once a particular option has been selected it becomes progressively more difficult to return to the initial point when multiple alternatives were still available.” (Mahoney, 2000: 513).

Phase II. At the core of the second phase are self-reinforcing mechanisms, in particular increasing returns (Arthur 1994). Positive feedback mechanisms multiply initial decisions’ (‘critical events’) in favour of one solution. The effect is that possible alternative standards (e.g. subtitling) are increasingly put to disadvantage over time. Major self-reinforcing mechanisms are economies of scale or learning-by-doing effects due to more experience in production. These lead to improvements of quality and cost reductions, which in turn increase a standard’s attractiveness to potential adopters (Arthur, 1989: 6; Cowan, 1990). Another important self-reinforcing mechanism are network effects and externalities which cause increasing returns to adoption and favour the domination of a single standard in a market (Katz & Shapiro, 1994; Farrell & Saloner, 1986; Shy, 2001).

Technical interrelatedness is another important self-reinforcing mechanism: The utility of a technology A depends positively on the availability of a complement B (David 1985). A lead in the market by one of two complement technologies increases the utility and the market share of the complement. So, once a standard gains a head start positive feedback tends to increase dramatically the returns and favour a single alternative (Arthur, 1989: 116).

Phase III: After a while alternatives tend to disappear; the dominant solution gets “locked-in” (David 1985). These conditions of rigidity or inertia constitute situations in which choices for alternatives to the dominating market standard become unfeasible (Sydow, Schreyögg & Koch 2005: 6) or highly unlikely. Similarly the notion of behavioural lock-in indicates sticky behaviour and “deep-seated attachments [...] due to habit, organisational learning, or culture” (Barnes et al. 2004: 372-3). Since each technology requires investments in the form of time, effort or money there are switching costs if a user abandons an

established technology for an alternative, because new investments have to be made. The required investments in the new technology (and its complements) might outweigh the benefits from the new technology. This discrepancy corresponds to the switching costs, which are at the heart of rigidity in the market.

Schreyögg, Sydow & Koch (2003: 272) emphasize that in social settings a lock-in is not an utterly determined condition but merely constitutes a relatively confined leeway for actions – comparable to a corridor from which deviation is difficult. It is not a state of full-blown determinism, rather a matter of degree. In essence, path dependency means reproduction of (a decision) behavioural pattern. Extending the classical path perspective, it is also relevant to include in the study of persistence or lock-in not only increasing returns of producers but also that of consumers. The theory of habituation may be helpful for such an extension.

Habituation

Habits can be interpreted as instrumental in that they constitute a routinized response, being beneficial to the decision maker by saving time, cognitive processing or search costs and thus enabling humans to accomplish essential tasks with minimal effort (Waller, 1988; Stigler & Becker, 1977: 81-83); Becker, 1992: 331). Following Michael and Becker (1973: 381 ff) and Stigler and Becker (1977: 77 ff) it is assumed that consumers ‘produce’ the commodity ‘film appreciation’ from different components such as purchasable market goods, time and human capital or skills under environmental conditions.

In economic analysis behaviour is defined as habitual or addictive if past and present consumption are positively correlated (see Messinis, 1999 for an overview). With ‘beneficial’ habits future marginal utility of consumption of a specific commodity is positively related to the amount of its current consumption (Becker, 1992). In the Stigler and Becker (1977) model consumption skills are the mechanism causing this correlation: Consumption of a specific good is accompanied by (incidental) acquisition and accumulation of complementary specific consumption skills that facilitate – and thus increase – consumption of this specific good in the future. In this case the basic unit of analysis is the individual consumer and his consumption of and exposure to foreign-language films.

Consumers’ habituation in the case of language-transfer methods is the becoming of a relative rigid pattern of choice, biased to a specific language-transfer format. Its repetitive and rigid nature is brought about by the accumulation of a language transfer format-specific consumption skill portfolio that increases utility from – and in turn consumption of – the

corresponding complementary specific language-transfer format.

In the case of subtitling the assumed consumption skills are foreign-language skills and subtitle-reading skills (see Koolstra & Beentjes, 1999). With respect to dubbing the consumption skills consist in the ability to tacitly ignore or tolerate the inconsistencies of lip-sync dubbing (Garncarz, 2005: 75). So increased consumption of – and exposure to – foreign-language movies in a specific language-transfer standard – may it be subtitling or dubbing – facilitates consumption of films in that very language-transfer standard in the future.

Path Dependency in Habit formation: Positive Feedback and Lock-in

Becker, (1992: 329) identifies the property of positive-feedback mechanism being inherent in habitual behaviour as “reinforcement”, i.e. circular positive feedback between increasing consumption skills resulting in consecutively increasing utilities of consumption and finally in higher levels of consumption. This property of habits corresponds to the positive-feedback mechanisms central to the path-dependence model. The reinforcement property is responsible for the market to “tip over“ (Katz & Shapiro 1994: 106) towards one alternative. This tipping over due to a positive-feedback mechanism plays a role in the addiction/habits models, too, where habitual behaviour induces individuals to consume a lot of one commodity and to neglect alternative consumption patterns. Applied to this case: The accumulated consumption skills, being specific to one language-transfer method, induce increased consumption of the associated language transfer method¹ until a behavioural lock-in is reached.

Intergenerational stability of habits comes about when older members of a population pass on a habit to the next, younger generation and when adherence to the habitual conduct is rewarded (Hayek, 1967: 79-80). Adoption of established conduct operates through learning and imitation (Hayek, 1967: 78-79). Younger generations become habituated to the language-transfer format preferred by their parents via accumulation of the respective complementary set of consumption skills.

¹E.g.: Increased consumption and exposure to subtitling leads to accumulation of subtitle-reading skills and foreign-language-related consumption skills. The latter could include increased familiarity with slang, dialects or the ability to follow faster-paced dialogues, which increases comprehension of subtitled films over time and increases utility of consuming them and in turn raises demand for subtitled films.

3. Research Questions

The empirical analysis will be guided by questions of whether dubbing in Germany has become path dependent through historical events and developments:

(1) Are conditions of path evolution given, so that dubbing's persistence can actually be explained as path dependency? The latter includes identifying (a) the proof of a triggering event in the time when sound film was introduced, (b) self-reinforcing mechanisms that propelled dubbing to dominance in the market (among the self-reinforcing mechanisms it has to be examined whether habituation plays a major role) (c) and the shift into a lock-in or strong inertia such that deviation from dubbing is infeasible.

(2) Is there evidence for inefficiency associated with dubbing so that it pays to explore whether or not dubbing represents potentially path?

4. German Film Market Industry: An Empirical Analysis

Data and Methods

The resources used in the analysis were primarily studies on film history and language transfer, consisting of monographies, academic-journal publications and industry journal articles. In addition data was gathered from current and historical film-industry statistics and surveys, current and historical consumer survey data, and journal archives. In detail:

- Volumes 1929 to 1939 of the then daily German-film-industry trade publication *Film Kurier*. The search was facilitated by the *Film Kurier Index* (CineGraph & Stiftung Deutsche Kinemathek, 1997) which provides an extensive catalogue of key words that were used to search for language-transfer-related articles. The key words used were “subtitles”, “dubbing” and “language versions”(in German, of course).
- Historical statistical data on the film industry in Germany was obtained from the film-statistical handbooks by Jason (1932, 1935). Survey data on language-transfer techniques in Europe published in the *Film Kurier* in 1930 was employed for the analysis.
- Current Industry statistics were taken from *European cinema Yearbook* (Media Salles, 2006), the European Audiovisual Observatory OBS (2006) and from the *German Film Statistical Yearbook 2006* (SPIO, 2006).
- We used data on the language-transfer techniques employed in Europe in the 1990s, Europeans' preferences over language-transfer techniques and the audiences subtitling- and dubbing-specific skills. This data was gathered by the European Institute for the Media

in the 1990s published in Luyken, Herbst, Langham-Brown, Reid & Spinhof (1991), and Dries (1995). Additionally similar data from Dutch statistics gathered by the television broadcaster NOS between 1974 and 1999 was used (Spinhof & Peeters (1999)).

Additionally *interviews* were conducted with representatives of the film industry, primarily in Germany. In total 9 semi-structured expert interviews were conducted. A first wave for a request for an interview was sent out by mail to leading executives of all Berlin-based film distributors and a second request, to those that had not yet answered, was sent by e-mail. In total 4 Berlin-based distributors replied and were interviewed. 3 of these interviews were face-to-face and one was conducted by telephone. Additionally executives of two distributors (one Japanese and one Dutch), two subtitling studios (one of them Dutch) and one theatrical film-exhibitor chain were contacted and interviewed on telephone. The interviewees have not been sent the questions in detail before; they responded spontaneously. The interviews lasted between 20 and 120 minutes and took about 45 minutes on average. The interviewees were promised anonymity and therefore are referred to as:

Distributors: dis1, dis2, dis3, dis4, dis5, dis6

Theatrical Exhibitor: ex1

Subtitling Studios: sub1, sub2

5. Empirical Analysis

The Initial Situation

During the golden era of the silent film between 1918 and the late 1920s the film industry was surprisingly already very much internationally oriented; films were traded internationally on a large scale (Toeplitz, 1979; Jason, 1932). The only modifications required for releasing a film in foreign markets was to replace the ‘intertitles’ that provided text explanations of the plot in the language of the film-importing country, which was a low cost adaptation (Ivarsson, 2001). The situation changed fundamentally with the introduction of sound movies in the late 1920s. This rapidly accepted product innovation raised, however, a new problem for the international film business: the *language barrier* impeded international film trade much stronger than before, i.e. a film produced with actors’ dialogues in a particular language could no longer be easily transferred to the language of the target audiences who had no command over the original language. In order to keep the film business international, *language transfer methods* were developed to enable audiences to understand

foreign films. Among the language-transfer methods developed worldwide three were salient: (1) foreign-language versions, (2) dubbing and (3) subtitling.

Actors in the Film Industry

The major actors and decision makers in the film industry are producers, distributors, exhibitors (movie-theatre owner) and consumers. Film exhibition generally refers to theatrical film exhibition, i.e. cinemas, but also includes television and video. Film distributors play a critical role in the national and international film business. They acquire the right to market a film in a certain geographical area which usually comprises a national market² (Goldberg, 1991: ch. 7; Homann, 2004: 252). Film distributors launch the national promotion and publicity campaign. They are also responsible for the production of film prints, booking and distributing them to cinemas. Exhibitors hire a copy of the film for a specified period (Hartlieb, 1984: 313-17; Homann, 2004: 253). The box-office revenues (gross receipts) are shared among a distributor and an exhibitor according to a contractually pre-specified formula. Due to the contractual agreement the residuum is shared with the producers of the film (Homann, 2004: 254). An important part of the film distributors' costs are the expenses for the language transfer, i.e. subtitling and/or dubbing in the case of foreign films. It is up to the distributor to decide whether the film should be dubbed and/or subtitled and how many prints of each language-transfer format are circulated in the market. Often film distributors are also involved in financing and initiating film productions. Therefore distributors play a central role in this research field.

The Language-Transfer Techniques

Dubbing

Historically, dubbing was not the first technique used for language transfer, initially the so-called *foreign-language version* was preferred, i.e. the original version's actors' spoke dialogues in different languages. It was only later that this was replaced by dubbing or subtitling. Dubbing essentially means that the original dialogues are newly recorded with dialogues spoken by native speakers in the idiom of the film-importing country while the original music and sound-effects track (M&E track) are kept. So for the audiences in importing countries the film becomes easily comprehensible. Usually distributors contracts

² Depending on the contract certain linguistically homogenous areas can be covered, such The Netherlands and Flanders – the Dutch-speaking part of Belgium – or France and the Wallonia – the French-speaking part of Belgium.

dubbing to a specialised dubbing studio. A dubbing director develops a dubbing script in coordination with a translator and supervises professional dubbing speakers' recordings in a specially equipped dubbing studio, and the final editing³ (Luyken et al., 1991: ch. 3). The challenge is to write a dubbing script and record the dialogues in such way that the dubbing sound track is lip-synchronous with the visual acting on screen and the content of the original dialogues is transferred to the target language. The duration of the dubbing recording can take up to 20 days. On average it lasts one week for a 90-minute feature film (Pruys, 1997: 90). The whole dubbing production process lasts on average 3-4 weeks (Luyken et al., 1991: 79). After completion, the master tape is duplicated and the copies are distributed to exhibitors (cinemas, TV stations, video stores).

Subtitling

Subtitled versions of foreign-language films contain the actors' original dialogues and M&E tracks. While actors act on the screen a written line is visible simultaneously at the bottom of the screen, which represents a condensed translation of the dialogue (or text) in the target language. The audience hears the actors speaking in a foreign language and in parallel comprehends the content by reading the subtitles in their mother tongue. Subtitling, too, is generally contracted to specialised studios. A translation of the spoken dialogues is condensed into lines of text in "subtitle format" and assigned a time code that corresponds to the designated time on the film on which the subtitles shall appear (Maier, 1997; Pruys, 1997). There are two possible modern methods for producing copies for theatrical distribution: In the 'laser-etching technique' the distributor's original 35mm film negative tape is used as a master copy which is duplicated. The subtitles are then burned onto the resulting 35mm film copies individually, i.e. frame by frame onto each duplicated tape. The second method for subtitling is to burn the subtitles onto a master tape (internegative) from which copies for distribution are drawn. In most national markets one of the language-transfer formats clearly dominates the film market, as for instance, dubbing in Germany, France, Italy or Spain or subtitling in the Netherlands or Scandinavia (Luyken et al., 1991: 30 -33).

³See for example the renowned dubbing studio Berliner Synchron (http://www.berliner-synchron.de/index.php?article_id=4&clang=0) who offers these production steps in house.

Historical Path Development

Phase I: Pre-Formation and Small Events

As mentioned above, path-dependent adoption processes are characterised by contingency in their very first phase. At the beginning of the sound film era it was by no means clear which language-transfer system would prevail in the respective European markets. A 1930 survey conducted by the *Film Kurier*⁴ among European film exhibitors and industry associations revealed that the audiences in most European countries refused dubbing in general. The survey reports that in most European markets dubbed films had “no success” and that Europe’s Film exhibitors thought dubbing to be “futile”. In Germany this aversion against dubbing was shared by the majority of the audience and the critics too (Müller, 2003: 302,306). Not only did the audience refused dubbing⁵, but also the producers were particularly sceptical of that technique during 1929-1930⁶. Actually the industry professionals regarded dubbing in 1930 as a “provisional compromise” that will be abandoned soon⁷. Still in 1932 the *Film Kurier*⁸ reports that only a small fraction of dubbing work is of satisfactory quality and that dubbed films are economic failures due to poor audience reception. Garncarz (2005: 77-78, 2003: 16) and Müller (2003: 303ff) explain the audiences’ strong repudiation of dubbing with the rejection of the “synthetic human”⁹: The fusion of one man’s body with another’s voice was not accepted, perceived as strange and appalling. Optical versions¹⁰ were an attempt to overcome these perceived inconsistencies and to achieve lip-synchronicity. But these also estranged the audience because the knowledge of the impossibility of a foreign movie star speaking German fluently constituted an inconsistency for audiences, too (see Garncarz, 2005: 78, 2003: pp.16; Low, 1985: pp. 99). In Japan for the same reason, i.e. the perception of cultural inconsistencies, dubbing was rejected outright and up to now has never been widely accepted in the Japanese market. Occasionally, Japan’s traditional theatre’s

⁴ *Film Kurier*, Sondernummer, 31.5. 1930. “Antworten auf 10 Fragen über die Tonflimlage Europas“.

⁵ Only the Yugoslavian and the Dutch film exhibitors’ associations deemed dubbing to be feasible.

⁶ See *Film Kurier*, No. 36, 11.2.1930, „Sam Morris abgereist“ Sam Morris, Vice President of Warners, is sceptical of dubbing and language versions, as a means of language transfer in the future.

⁷ *Film Kurier*, No. 185, 7.8.1930., “das Internationale Problem: Die Version – der deutsch-amerikanische Producer-Regisseur Friedrich Zelnik” Dubbing is regarded as a provisional compromise while the multiple language versions are thought to be more rewarding.

⁸ *Film Kurier*, No. 27, 1.2.1932, “Tagesschau, Berlin 1. Februar – Nachsynchronisierte Versionen“, *Film Kurier*, No. 68, 19.3.1932, „Wochenschau Nr. 11 - Gedubbt oder düpiert“

⁹ See *Reichsfilmblatt*, No. 50, 14.12.1929, “Mitteldeutschland lehnt den Tonfilm ab”

¹⁰ In optical versions the actors speak their text by heart in different languages. These optical versions can be dubbed more easily, since the actors’ lip movements match the lip movements of the target language.

narrators (*benshi*) did live voice-over in the cinemas which was later completely substituted by subtitling (Tosaka, 2003:pp. 176; Toeplitz, 1979: pp. 322; Interview dis6).

In Germany the preferences differed somewhat according to the regional background: In 1930, city audiences preferred original/subtitled versions. In rural areas the audience rejected dubbing, too. But in the provinces the people insisted on watching German-dialogue films, and therefore preferred German-language versions of foreign films¹¹. In 1933 the audience in the cities preferred subtitling while in the provinces only German-language versions¹² or dubbing was accepted¹³. Since about 2/5 of the theatre capacity was located in larger cities subtitling was demanded by a significant part of the audience (Jason, 1935: 140). Also the opening- and second-tier cinemas, i.e. those yielding the highest profits, were located in the cities, which preferred subtitling.

From this one can conclude that the situation in Germany was open during the first years of sound film. Dubbing, subtitling and other techniques competed. The situation was actually contingent. Stronger even, dubbing was utterly rejected, so that it is even more surprising, that it became the standard in Germany.

Change through technical development

Until 1933 dubbing was of low quality. The dubbing method employed was the unsophisticated and unnatural-sounding *Rhythmographie*. This intricate technique caused severe audio-visual asynchronies that disturbed and upset Europe's audiences (Low, 1985: 99; Dibbets, 1993: 104; Maier, 1997: 69). In reaction, in 1930 anti-dubbing revolts and hostile reactions occurred in Europe's cinemas¹⁴ (Müller, 2003: 293). To overcome the language barriers and win audiences with films in their respective mother tongue optical versions, and above all multiple language versions were produced – most of them between 1929 and 1933 (Toeplitz, 1979: 295). But language versions, too, were burdened by similar obvious drawbacks.

¹¹ The audience in rural areas rejects dubbing, but demands sound films: *Film Kurier*, No. 62, 13.3.1930, „Publikum verlangt Dialogfilme – lehnt aber Synchronisierung ab.“; *Film Kurier*, No.111, 10.5.1930, Briefe aus der Praxis. Tonfilmenttäuschungen – Warum?“, reports that dubbing is rejected in the provinces due to low quality of the dubbing.

¹² In language versions (or ‘double shooting’) a film is shot with one technical team, set and scenario but casts from different countries, such that a couple of films are shot in parallel, each version acted by native speakers (Danan, 1991: 607). Most language versions were produced for the German, French and English/US markets but also for Spain, Poland, Czechoslovakia, Hungary, the Netherlands and others (Toeplitz, 1979: 295)

¹³ *Film Kurier*, No.1, 1.1.1933, „Probleme des Tonfilmexports“

¹⁴ *Film Kurier*, No. 191, 14.8.1930, “Das Publikum wird kritischer - Proteste gegen schlechte Filme auch im Reiche“

If dubbing, optical versions and even multiple foreign-language versions were rejected by the German audience – then why did not subtitling succeed in becoming the standard? One reason is that subtitling was preferred by the city audiences only. And until the mid-1930s subtitling suffered from strong drawbacks, too: Until the end of 1932 subtitles were often generated via the so-called optical or photographic copying technique. The result was “hardly satisfying” (Dibbets, 1993: 100) for the subtitles were often unreadable in the lighter parts of the picture. Additionally the film’s picture and sound-track quality severely suffered from the production process (Dibbets, 1993; 101). Already in 1930 an improved technique was introduced that is based on stamping the subtitles into the film emulsion layer although the “results [were] often erratic, with poorly defined letters” (Ivarsson, 2001: 3). Only in 1933 a new high-quality etching technique for subtitle generation was introduced. These ‘chemical’ subtitles were cheaper to generate and did not affect the picture’s quality and were used until the 1990s (Dibbets, 1993: 101, Low, 1985: 100). Had chemical subtitles been available earlier, it might well have been possible that larger parts of the population would have been in favour of subtitling. At the time when language versions were dropped, subtitling could have become the major standard if the timely order of technical development was different.

Müller (2003: 312) argues that as late as 1933 there was no “silver bullet” to overcome the language barrier. By that time neither dubbing nor subtitling showed signs of prevailing and dominating the market.

Triggering events, non-technical factors and habituation to dubbing

The situation was undecided, contingent, or even to the disadvantage of dubbing until 1933. But during the 1930s some critical circumstances and events occurred in the market, which discouraged the use of subtitling in Germany.

The situation had already changed dramatically by the mid-1930s: The *Film Kurier*¹⁵ reports in 1935 that 90% of the German theatres played dubbed versions. Wahl (2005: 54) reports that by 1937 up until the War nearly all US films were dubbed. Müller (2003: 312) provides evidence that dubbing became the market standard between 1933 and 1939. Which events have induced this shift of preferences?

An important critical event was the adoption of the so-called language versions between 1929 and the early 1930s. This technique habituated the audience to watching films in their own idiom. Despite the fact that the production of “language versions” faded out only

¹⁵ *Film Kurier*, No. 100, 30.4.1935, Helmuth Brandis: “Original oder Nachsynchronisierung”

after 2-3 years in 1932/33 (Toeplitz (1979: 295) their effect on the cinematic history was nevertheless strong and lasting because it influenced the competition among the different language transfer formats in favour of dubbing. The introduction of “language versions” constitutes a critical small event. Its effect over time was to tip the balance of the audience’s choice between revoicing techniques and subtitling towards the former, i.e. when “language versions” were on the decline habituation led consumers demand dubbing instead of subtitling¹⁶. The audience preferences shifted despite the fact that the subtitling techniques had been strongly improved in quality by the years after 1933.

A second event was important: A change of the political regime towards extreme nationalism. Nationalistic film policies and censorship encouraged the use of dubbing as a means to manipulate foreign films’ content and obtain favourable ratings by the *Reichsfilmkammer*¹⁷: The “choice in favour of dubbing [was] influenced by nationalist considerations in many countries” (Dibbets, 1996). Nationalism perceives foreign-language films as offensive and threatening national identity and culture, which can be remedied by dubbing (Danan, 1991: 611-612). In 1929-1930 Mussolini prohibited all films with non-Italian dialogue tracks to foster Italian national unity; Franco pursued similar policies in Spain (Danan, 1991: 611)

Germany released import restrictions in terms of quotas or contingents. The “contingent law” of 1930 restricted the import of foreign full-length fictional sound films to 210 (Jason, 1932: 35ff). The contingent law from 1932 reduced the import quota to 105. This law also decreed that dubbing of foreign films to be exhibited in Germany had to be undertaken by Germans in Germany. This regulation spurred the emergence of a large and increasingly professional and efficient dubbing industry in/around Berlin. The major Hollywood studios (whose production capacities before were concentrated on Joinville, near Paris) were forced to establish dubbing studios in Berlin¹⁸. Also the large German Ufa expanded her dubbing activity.

Dubbing provided a platform of manipulating the content of foreign films, i.e. to “adapt it to the German mentality” – an often used euphemism for pleasing Nazi censorship. Often the German-dubbed versions of foreign films got a more favourable film rating from

¹⁶ In 1935 there was only a small audience drawn to subtitling, but the masses are drawn to dubbing (*Film Kurier*, No. 80, 4.4.1935, „Original oder Synchronisierung – Amerikaner In Westdeutschland“). In that year subtitled versions did not „do good business“ at the box office on a nationwide basis, compared to dubbed versions (see *Film Kurier*, No. 228, 10.12.1935, „Zu einer Deutsch-Fassung: „Es geschah in einer Nacht““).

¹⁷ Favourable ratings could lead to tax breaks.

¹⁸ *Film Kurier*, No. 208, 3.9.1932, „Paramount dubbt in Deutschland“

the censorship authority (*Filmprüfstelle*) than the foreign-subtitled version. Favourable Ratings from the *Filmprüfstelle* granted like “*künstlerisch wertvoll*” (artistically valuable) or “*staatspolitisch wertvoll*” (statepolitically valuable) granted a lower tax burden to those exploiting the film and was therefore strived for by film distributors. With dubbing it was more easy and inconspicuous as compared to subtitling to “adapted a film to the German mentality” as understood by the Nazi-authorities. Therefore the Nazi film ratings policies policies which provided further direct financial incentive to adopt dubbing¹⁹.

By contrast – exemplarily for the subtitling countries – The Netherlands did not pursue active import restricting policies as in the dubbing countries Germany, France, Spain, Italy, Czechoslovakia or Hungary (Dibbets, 1993: 104). Although there seems to be a relation between nationalism and nationalist policies and the use of dubbing there is no generally valid necessary causality among them, e.g. Japan serves as a counter example: In the mid-1930s debates on film imports took a virulent anti-Western, anti-modern extreme nationalistic form that found its way into film policies, too (e.g. Import ban on Hollywood films) (Tosaka, 2003: 236 ff.), but never led to the adoption of dubbing.

A third critical event that tipped the balance in favour of dubbing was an UFA decision to use dubbing as a systematic effort to create jobs for unemployed Ufa actors (Vöge, 1977: 120). During the world economic crisis of the early 1930s demand for films fell and actors became unemployed. The Ufa was the dominating film company in Germany, basically a state-controlled conglomerate, enjoying de-facto control over the German cinema market (Kreimeier, 1992). Also, foreign demand for German films dropped after the Nazis took power and actors were underemployed. The Ufa wanted to compensate these effects by the large scale use of dubbing. Had the Ufa decided on another way out of the dilemma, the German film history may have taken a different path.

The critical events mentioned in this section that favoured dubbing and discouraged the use and consumption of subtitling. In the following it will be analysed how dubbing was propelled to market domination.

¹⁹ Compare: *Film Kurier*, No.100, 30.4.1935, Helmuth Brandis: “Original oder Nachsynchronisierung”, *Film Kurier*, No. 201, 29.8.1935, „Kurt Bleines schlägt vor: Fremdsprachige Versionen deutscher Filme – nutzt die Erfahrungen der Eindeutschungsarbeit!“, *Film Kurier*, No. 204, 2.9.1935, „Filme im Werden – Chorgesang und Hörerklang“.

Phase II: Path formation and Self-reinforcement of the dubbing standard

This section addresses self-reinforcing mechanisms of language-transfer techniques explaining how dubbing crowded out competing standards once it gained a head start.

Positive-feedback loop: subtitle reading & foreign-language acquisition

Garncarz (2005: 79-80, 2003: 18) reports that up till about 1933 – in a process of “cultural learning” – the audiences got habituated to ignore the inconsistencies of dubbing in countries that employed dubbing or language versions (see also Wahl, 2005: 54). German audience must have been largely habituated to dubbing by the mid-late 1930s (Maier, 1997: 67). How did this habituation occur? In the following the process of habituation to a language-transfer technique will be described in more detail. D’Ydewalle and Rensbergen, (1989: 238) show that in subtitling countries children’s habituation to subtitling occurs between grade 4 and 6. In grade 4 59% of the children prefer dubbing over subtitles while in grade 6 only 13% of the children still prefer dubbing. Subtitle-specific consumption skills must evolve during these 2 years. Evidence from eye-movement-tracking experiments show that automated subtitle reading – e.g. the ability to switch effortlessly from the visual image to subtitles and back – of children at grade 4 and 6 does not principally differ from adults. But for the 4th graders “attention switching still requires some effort”, hence their preference for dubbing (ibid: 244). Over time exposure to subtitling leads to an effort-less “automatically elicited tendency to read the subtitles” (ibid: 245), but this has to be trained (Danan, 2004: 72, ff). Koolstra et al. (2002) provide an overview of the experimental findings of different researchers on language-transfer related consumption skills: Consumption of subtitled movies/programmes increases foreign-language comprehension and subtitle-reading skills as compared to consumption of dubbed content. This constitutes a positive-feedback loop: Increased subtitle-reading skills and foreign-language competence naturally increase appreciation of subtitled foreign-language films (Garncarz, 2005: 82), which in turn increases consumption. Data collected between 1974 and 1999 (Spinhof & Peeters, 1999; Fig.1-4) reveals that the Dutch’ consumption skills increased over time through exposure and that the audience became increasingly habituated to subtitling. In the 1930s and 1940s Germany habituation happened the other way round: Small events caused that the audience was more exposed to dubbing than subtitling. Consequently a self-reinforcing habituation to dubbing set in. It was propelled through the accumulation of dubbing-related consumption skills. Dubbing-related consumption skills seem to be relatively well developed, they consist primarily in the ability of the viewer to ignore the inconsistencies that are inherent in dubbing.

These inconsistencies are the often necessarily lip-asynchrony between picture and dialogues and the dissonance between the cultural context of the plot and figures and the language spoken. (Vöge, 1977; Garncarz, 2005: 79f., 2003: 18). To illustrate: Only 46% of the Germans think that the dubbing soundtrack does not always match the actors' lip movements while 81% of the Dutch do so (Luyken et al., 1991, p. 119). In accumulating these consumption skills the German audience became habituated to dubbing over the course of the 1930s and during the following decades this habituation was cemented (Garncarz, 2003: 18; 2005: 79f). Thereby the accumulation of subtitle-related consumption skills was neglected: The Germans find it difficult to follow subtitles and merely 61% think that subtitles ensure satisfactory understanding (ibid.).

Learning-by-doing

Positive feedbacks on the supply and technical side can take the form of learning-by-doing (Arthur, 1989: 116). Learning-by-doing improves the efficiency of the production process and/or the quality of the language transfer. As outlined above, the contingent laws in the 1930s led to an increasing concentration of the dubbing activity around Berlin. As a result the German dubbing industry moved quickly down the learning curve, improving dubbing's quality remarkably. Because of the concentration of dubbing professionals and studio capacities dubbing for foreign markets such as Italy and Spain was also done in Berlin²⁰, where the dubbing productions were of the highest quality in Europe²¹. Consequently its high quality increased dubbing's popular acceptance during the 1930s²². An example is the changeover from *Rythmographie* to 'normal' dubbing. With *Rythmographie* the dubbing text and instructions for intonations were projected on a screen. The dubbing speaker's voice was recorded in long sequences as he read the text from the screen, often without seeing the corresponding film (Müller, 2003, 310). Problematic with this method was that the speaker could hardly keep up a natural rhythm of pronunciation resulting in a snatchy, non-fluent intonation. The experience collected in the dubbing studios by dubbing actors' and directors' during the 1930s led to the emergence of professional dubbing speakers reciting shorter text lines lip-synchronously by heart (Maier, 1997: 69). From 1935 on, the dubbing process has

²⁰ *Film Kurier*, No. 68, 19.3.1932, „Wichtiges Dubbingereignis - Rom ist sehr zufrieden mit gedubhten Filmen“

²¹ *Film Kurier*, No. 99, 27.4.1932, „Berlin – Zentrum für Versionen“

²² *Film Kurier*, No. 80, 4.4.1935, „Original oder Synchronisierung – Amerikaner In Westdeutschland“.

been technically strongly improved delivering high-quality, natural and fluently sounding, lip-synchronic language transfers that generally satisfied the audience²³.

Subtitling on the other hand did not have the chance to gain learning effects in Germany. All the important developments of the subtitling technique took place outside of Germany and there is no sign hinting to learning-by-doing effects as comparable to dubbing. After WWII German film distributors used to outsource a great part of the subtitling jobs to one of the various Dutch or Swiss subtitling studios, which are cheaper and pioneered new techniques. According to the interview partners of this study there is currently only one traditional large subtitling-only studio in Germany.

Complementary technologies

The dubbing dominance was reinforced after the Second World War by the interplay between technical complementarities between the dubbing technique and the introduction of broadcasted television on a broad basis. Then, the German audience was already habituated to dubbing (Garncarz, 2005: 80) – i.e. had already accumulated a stock of dubbing-specific consumption skills through previous cinema film consumption. Consequently TV employed the format that was technically complimentary to the film industries cinema standard²⁴ The introduction of television has led to substitution of cinema consumption by television (Kreimeier, 1992: 448) and increased consumption of (foreign) films/programmes in general (Bessler, 1980: 112- 115), but it stuck closely to the prevailing dubbing standard. The adoption of the habitually established dubbing format thus has reinforced the existing habitual consumption patterns of the audiences. The same argumentation applies to the introduction of video in the 1970s. Here, too dubbing was chosen because it was compatible with the previously established formats in the cinema and TV market and the consumers' skills. In Germany both, the introduction of TV and video, reinforced dubbing's domination, by expanding the media of habituation.

Transaction costs and scale economies

In the video sector the following argument applies until the wide diffusion of the DVD in the beginning of the 2000s. In the cinema market it still applies. The supply of subtitled or original version films is/was limited to the larger urban centres. This implies that (a) that

²³ *Film Kurier*, No. 228, 10.12.1935, „Zu einer Deutsch-Fassung: „Es geschah in einer Nacht““

²⁴ Additionally the stock of foreign films in film distributors' and traders' archives that could have been broadcasted were dubbed as they were recent US films. This installed base of quasi-irreversible investment was technically compatible to the consumers' skills.

German consumers with preferences for subtitled/original version films were facing a limited range of choice of subtitled/original version films as compared to dubbed versions. (b) Consumers that wanted to watch subtitled/original version films in the cinema or rent/buy videos in a video store had to travel longer distances to the cinema or the video store respectively. (c) Original version films often had to be individually ordered from abroad on special request of the customer (Maier, 1997 S. 28ff.). In sum that means that the consumption of subtitled/original version films is associated with higher transaction costs (transportation costs, timely effort) and a lower variety of films to choose from as compared to dubbed films. This difference constitutes an incentive for consumers to substitute the consumption of subtitled/original version films by the consumption of dubbed films. The result of such substitution effects is that scale economies in film reproduction and distribution enlarge the cost differences between subtitled/original version films and dubbing even further because the user base of dubbing grows while that of subtitled/original version films shrinks. This in turn makes the substitution of subtitled/original version films by dubbing even more attractive for consumers. The result is a positive feedback-loop that led to the market domination of dubbing in Germany. The exception is a small niche audience with strong preferences in favour of subtitled/original version films.

Phase III: Shift into Lock-in

The point of time in which the German audience became locked into dubbing can not be pinpointed to an exact date: the strong habituation, i.e. the lock-in most likely occurred at the end of the 1930s. If the audience had not become habituated to dubbing during the 3rd Reich it definitely became in the post-War years. After the Second World War control over the German film industry lay in the hands of the allied forces. The Second World War represented a fundamental disruption on all social levels. The dubbing-path could have been broken by the allies. In particular the Britons and Americans could have been interested in reversing the language-transfer format into subtitling in order to get the German audience more receptive of foreign (Anglo-American) cultures. However, the opposite occurred because of economic reasons. Since 1941 Hollywood had not had access to the German market (Bräutigam, 2003: 20). Film – as during the War – provided a popular forum for escapism for the population and at the same time a tool for “re-education” and cultural propaganda for the allied countries (Kreimeier, 1992: 435). German film demand was high but the backlog of 2500 US films (Danan, 1991: 608) produced during the war could not simply be exhibited since many were strongly anti-German. Dubbing provided once again a convenient tool for manipulating the films to fit the German market: potentially offensive

scenes were cut out, anti-German dialogues were dubbed artfully to inconspicuously twist the plot and character of whole films to please the audience (see Pruys, 1997: 153ff; Maier, 1997). Consequently dubbing became the US language-transfer method of choice in post-War Germany. This practice reinforced the previous habituation of the audience and strengthened the path in favour of dubbing. Similar effects resulted from the usage of dubbing in television and video upon their respective introduction. By the early 1970s subtitling was confined to a small niche (Filmkritiker Kooperative, 1973). Meanwhile the market share of dubbing grew. As a result the transaction costs for consumption of subtitling were higher than those for dubbing. This discouraged subtitling consumption. Because film production and distribution is subject to economies of scale this reinforced dubbing domination.

Rigidity

Suppliers' Limited Room to Manoeuvre

Since the post war era one can speak of a lock-in to dubbing in Germany. This entails that film distributors promoting and distributing a foreign-language film in Germany have to comply with the audience's preferences for dubbing when they release a film to the theatres. This dubbing standard applies as well to the video or television exhibition. In a survey conducted in 1987 the German audiences' preferences for the respective language-transfer formats are as follows: 78% of the population prefers dubbing, 4% prefers original versions, 4% subtitling, 9% are undecided (Luyken et al., 1991: 113). Although the 1987 survey is not up to date there is reason to believe that the figures still apply today: Film distributors in Germany are still eager to comply with the majority of the dubbing-loving audience in that films are released to the cinemas in a dubbed version in general: At least 95% of the 35mm prints in circulation are dubbed versions while the subtitled or original versions of a film constitute at most 5% of the copies in circulation (dis2, dis3, ex1). These 5% serve a niche audience, primarily visiting art-house cinemas, mostly located in large cities (dis2). All interviewed film distributors and exhibitors converged in the same conviction that the German audience in general is strongly habituated to dubbing and quite inflexible with respect to any new language-transfer formats. They have become used to dubbing over a long period of time. They strongly believe that violating the preferences of the majority of the audience by releasing a film in subtitled version would result in a significant drop in the number of tickets sold at the box office. So the film distributors and exhibitors perceive no scope for manoeuvre with respect to language-transfer formats. In analogy to Nelson (1994) and Burgelman (2002)

the film distributors' situation can be understood in a wide sense as one of being quasi-co-evolutionary tied to the development of consumers' preferences.

Demand Rigidity

The German audience's strong and rigid preference for dubbing can be explained by habituation to dubbing. The Germans' stock of dubbing-related consumption skills seems reasonably developed, i.e. the audience is tolerant towards the inconsistencies inherent in the dubbing technique: Only 25% think that dubbing lessens their enjoyment (55% in NL) and only 46% of the German audience recognises inconsistencies between the dubbing soundtrack and actor's lip movements (82% in NL). On the other hand, the German audience is not habituated to watching subtitled/original version films has problems in comprehending these: Luyken et al. (1992: 119) report that for 32% of the German population subtitles do not ensure satisfactory understanding of foreign language films. This applies only to 9% in the Netherlands where subtitling has a market share of 94 % in television (Ibid: 33.). Equally 63% of the German population finds subtitles difficult to read (14% in NL).

These figures reflect the Germans' habituation to dubbing and their low level of accumulated subtitle-related consumption skills – particularly subtitle reading skills. Consequently a majority of the German audience would be negatively affected by a general switch to subtitling in that this would impair the comprehension and required more effort and concentration when following original languages and subtitles. This loss in utility constitutes switching costs that the broad audience is not willing to bear.

Switching costs in Television

In television the broadcasting both dubbed and subtitled/original version films is technically possible for decades with secondary audio programming²⁵. However in German television subtitled/original versions are rarely broadcasted. The reason is that the German television stations buy the licenses to broadcast a film over a certain period of time, in which the station is allowed to broadcast the films a specified number of times, within a specific license area (Hartlieb and Schwarz, 2004: 312, Homann, 2001). This license area may be confined to a national market or alternatively may limit the commercial exploitation of a film

²⁵ “Second[ary] audio program[ming] (SAP) is an auxiliary audio channel for television that can be broadcast or transmitted both over the air and by cable TV.”(compare Wikipedia, information retrieved in February 2008 from http://en.wikipedia.org/wiki/Second_audio_program). With SAP the television stereo signal is split and two alternate language formats – dubbing and subtitling – can be transmitted. The user chooses on teletext menu which language version to watch.

to one language area, such as Germany, Austria and the German speaking part of Switzerland. However, many German channels – public and private – can be received in the rest of Europe and are offered by satellite or cable television providers in many European countries. It is assumed that beyond the German speaking countries films broadcasted by these stations are primarily watched by citizens of these German speaking countries staying abroad. The rationale is that hardly anyone else is habituated to watching films dubbed in German. Therefore the broadcasting beyond the German speaking license area is not regarded as violating the license agreement. However, if foreign language films - which are mostly English language films - were offered in subtitled/original versions on German television foreign European audiences could receive and understand these films. Because these non-German households are not covered by the license fee, this constitutes a violation of the license agreement. The German station would serve neighbouring countries where other – domestic - stations may have obtained an exclusive license. So the German station would probably be compelled to obtain the right for exploiting the films inside the German license area *and* for the territories abroad where it can be received freely. As a consequence the license fee German stations pay had to be drastically increased or which is the logical alternative the German stations must encode their broadcasting signal. Both measures constitute switching costs that the stations had to bear. To switching over to encode the broadcasted signal entails high switching costs for the technical changeover and the necessary decoding devices for the audience. But probably more importantly the public German television broadcasters see their role as promoting German culture, also abroad, which is impeded by encoding the program. To prevent these switching costs in form of legal complications, potential fee increases and encoding the signal German stations generally sticks to broadcasting foreign language films in dubbed versions, which are generally not appreciated by non-German audiences. As television stations stick to dubbing this in turn cements the audience's habituation to dubbing.

Is dubbing an Inefficient Solution to bridge the language barrier?

Cost Efficiency

At first glance subtitling seems to be much cheaper than dubbing. This raises the question of why dubbing is employed so widely in Germany. A closer look at the costs of dubbing and subtitling reveals a somewhat more complex picture.

According to film distributors dubbing costs range from €20,000 for low-cost dubbing up to €100,000 for the more elaborated dubbing productions for major blockbusters. For small

and medium sized films (distributed with 20-70 copies per film) total distribution budgets range approximately between €100,000 and €250,000 per film. These figures correspond to older figures given in the literature²⁶. If dubbing speakers are popular stars, the total dubbing costs rise significantly and range from €60,000 upwards to €100,000²⁷. The quality of the dubbing with respect to the way dialogues are written and the consequent lip synchronicity increases with the budget devoted to dubbing (Forschungsinstitut für Soziologie der Universität zu Köln 1963). After the first copy or master (fixed costs) has been completed, every additional copy (variable costs) of a film costs about €1000²⁸.

According to the interview partners the costs for subtitling are on average €2,500 per film. The reproduction (variable) costs in the case of laser subtitling are €1000 copy costs plus an average of €725 for the laser subtitling per 35mm film copy. The internegative method however involves fixed production costs for the master internegative of about €25,000. From the master copies for distribution are made for €1000 per print. Due to low acceptance of subtitling, in Germany the internegative method is not used since fixed costs of producing an internegative tape are relatively high and the number of copies needed for amortisation can usually not be reached.

Generally it can be said that dubbing is clearly more costly than subtitling – the fixed costs ratio can amount up to the factor of 10 (Luyken et al., 1991: ch.4; Pruys, 1997: 92-93). However, when taking the variable (copy) costs into consideration, due to the fixed cost degression effect the cost difference between dubbing and subtitling shrinks as the number of copies increases. For films circulating in the cinema with more than with more than 33 copies laser subtitling is even more expensive than low-budget dubbing (priced at €25,000).

Cost efficiency for distributors of small and medium-sized films

For subtitling the laser method is cheaper than the internegative method when only few subtitled copies are produced. When including internegative subtitling in the calculation,

²⁶Luyken et al. (1991, p. 106) assess the costs for *one hour* of quality lip-sync dubbing for *television* to ECU25,000 – ECU29,000. When converted into Euros these amount to approximately €35,000 and €41,000 in 2006. Assuming an average feature film play time of 90 minutes these figures translate to approximately €46,500 and €55,500 per film. Foreman (1997: 7) estimates that dubbing a 90-minute feature film in Germany costs DM50,000 – DM100,000 (\$29,000 - \$60,000).

²⁷German known actors or celebrities who lend their voice to a popular foreign actor earn wages of €1000 or more per day (sub1). With dubbing recording lasting for a week, in a film with two famous dubbing speakers their wages amount to €14,000 alone.

²⁸A rule of thumb says that copying a 35mm film costs about €1,000 per copy (dis1, dis2 dis3, dis4). These costs are the same in The Netherlands (dis5). In the US copying costs are about \$1000 (Wasko, 2003: 93)

subtitling is always cheaper than dubbing in terms of fixed costs. In terms of average cost per film print the difference shrinks however with increasing numbers of prints in circulation.

The economic benefits from having a subtitling regime are more salient for small and medium film distributors where the language-transfer costs take a relative large share of the whole distribution budget and the potential savings from using only subtitling instead of dubbing are relatively large.

The potential cost inefficiency of the dubbing regime is the more marginal the larger the number of copies. For a distributor of a blockbuster running in Germany with 600 copies the cost difference between dubbing and subtitling is negligible.

For distributors of smaller films the cost difference between dubbing and subtitling, however, is significant. When German small and medium-sized distributors are asked to compare their own situation with that of their counterparts in subtitling countries a typical statement of a small and medium-sized distributors is “Naturally, the costs [in subtitling countries] are much lower; the effort for dubbing is not small either, in so far this is a reason to become jealous” of distributors in subtitling countries (dis2).

[Insert Table 1 approximately here]

Under the forthcoming digitalisation of theatrical distribution the cost difference between an exclusive use of dubbing and subtitling becomes more emphasised: Table 1 shows the distribution of the size of films released to cinemas in Germany between 2000 and 2005. The films are categorised by the number of the prints released for theatrical distribution. Small and medium-sized films that are released with up to 100 copies per film (i.e. the lowest of the three copy classes) constitute 65% of all foreign films releases in Germany²⁹.

With wider spread digitalisation of distribution and exhibition of cinema films (Rüggenberg, 2007, FDA, 2007) copy costs for cinema distribution are projected to drop by 90% to 95%³⁰ to approximately €50-€100/copy. However the approximate fixed costs of

²⁹ The dubbing costs are assumed to be €25,000 for the two lowest copy class, 30.000 for the second copy class and then increasing by €10,000 per copy class up to a maximum of €70,000. This reflects the increased wages for dubbing actors as the number of foreign movie stars that a movie features increases. Also the expenditure devoted increase the quality of dubbing increase with the “size” of a movie. The estimation for number of foreign films released per year is derived from the total number of films released per copy class. It was assumed that the share of foreign films, which is about 75% during between 2000 and 2005 for the market, is the same in all copy classes. I am well aware that this might not be the case but it is the best estimation one can get.

³⁰ These numbers were given in the conference presentation “D-Cinema in den USA: Was lernen wir daraus für Europa?” by Dr. Winfried Hammacher (W2 GmbH, Berlin and Managing Director DCV Digital Cinema Venture LLC, Los Angeles) hold at the 2006 industry conference “Kino mit Zukunft – D.Cinema vor dem Roll-out” in Berlin on September 7, 2006. See also <http://www.m->

€2,500 for subtitling and €25,000 to €70,000 for dubbing remain constant. So the cost disadvantage of dubbing becomes more pronounced and the distribution of films exclusively in subtitled format becomes relatively more attractive for distributors. The rationale is that with digitalised cinema distribution the dramatically fallen in copy costs for subtitled films make it relatively more profitable to distribute films exclusively in a subtitled format as compared to the celluloid standard. Because the copy costs for dubbed and subtitled films are quasi identical subtitling could take full advantage of its lower fixed costs. The costs of adding subtitles to a celluloid copy used are on average of €725. These costs become marginal under digitalisation once the subtitles have been produced once. So the copy costs for all formats are reduced to approximately €50 to €100/print. Only the fixed costs of the language-transfer formats make a difference in the costs between dubbing and subtitling.

The small and medium-sized films' distributors³¹, that release approximately 65% of the total foreign films supplied in the market. These small and medium distributors alone would save €5.3m per year if they operated under a subtitling standard (in that calculation the children films that have to release in a dubbed form are already accounted for). These calculations can be traced in table 1 and appendix 1. Assuming an average total distribution budget of €250,000 per film released by small and medium-sized distributors' this potential savings corresponds to the distribution budget of more than 21 films. Therefore the potential cost saving by a switch to subtitling enabled film distributors to release additionally approximately 11% more small and medium-sized films in a year. In other words, subtitling constitutes a smaller barrier to entry than dubbing and provided smaller film distributors a better chance to release more films. Alternatively these firms could use the budget savings due to subtitling and utilise the money to beef up the marketing for the previous existing number of films, and thereby increase the box office per film.

In summary it can be said that the cost inefficiency caused by dubbing is not a severe problem for large film distributors. However, for small and medium-sized film distributors the dubbing standard constitutes a severe inefficiency. Dubbing's cost inefficiency is more pronounced for all distributors under the forthcoming digitalisation of theatrical film exhibition. If one looks at these figures from a cultural diversity point of view, the dubbing standard amounts to a problem.

mba.de/showfile.php?sid=12&fref=seminarflyer&s=pdf&PHPSESSID=e1b7f11030b98466d50eb3cce9f957a0
(information retrieved in October 2007)

³¹ Small and medium-sized film distributors refers to distributors distributing small and medium-sized films which are defined here as films with up to 100 prints in circulation.

Cultural Diversity

EU gross box-office revenues in 2004 were about €5,363bn. European feature films produced that year numbered 761, while the US produced 611 motion pictures (OBS, 2006: 15; Media Salles, 2006). When considering the market share (between 1995 and 2005) the proportion shift dramatically. On average in the respective EU markets national films claimed a market share of 13%; other European films reached about 11%, while US and US-dominated productions secured a 73% market share (ibid.). To counter this US domination of the EU film market the European Union launched a € 755 million subsidy programme called MEDIA in 2007. Its objectives are: *“to preserve and enhance European cultural diversity and its cinematographic and audiovisual heritage, guarantee accessibility to this for Europeans and promote intercultural dialogue”* and *“to increase the circulation [...] of European audiovisual works inside and outside the European Union”* (EU, 2006: Ch.1, art. 1)

Thus cultural diversity with respect to consumption of films can be seen as a goal of EU policy. Promotion of cultural diversity is therefore an angle for evaluating economic arrangements in the film sector (Moreau & Peltier, 2004).

The high costs of dubbing impede the distribution and consumption of lower-budget films: The smaller the distributor's budget, the larger becomes the share of the budget that is spent on dubbing and the less resources can be devoted to publicity and advertising, which is vital for increasing the potential audience's awareness (Wasko, 2003: 59ff; FDA, 2007). Distributors of small and medium sized films have to strongly economise on their dubbing budget to keep down the relatively high proportion of dubbing costs in the total distribution budget. This entails additional problems: To economise on the dubbing budget, however in turn reduces the dubbing quality which in turn lowers the audience's film appreciation and the potential market share of the film (Forschungsinstitut für Soziologie der Universität zu Köln, 1963).

So for several reasons the prevalence of the dubbing standard puts small- and medium-budgeted films at a systematic disadvantage compared to major distributors' films: Small and medium sized films are likely to be dubbed in a low-quality way, and the high fixed costs of dubbing channel a relatively high proportion of the total distribution budget away from advertisement and film promotion.

With respect to the EU policy goal of promoting European films it has to be mentioned, that these disadvantages for small and medium-sized films over proportionately affect European films in the European market. The reason is that European films tend on

average to have a lower production and distribution budget than their American counterparts that reach the European markets; in 2005 the average cost of US feature film was \$60m while it cost on average \$13,3m, \$6,2m, \$2,9m in the UK, France, and Italy respectively (OBS, 2006, p.7). The dubbing standard reinforces these differences in that it puts the smaller European films systematically at a disadvantage. In contrast, under a subtitling regime the quality differences of the language-transfer between large (i.e. US) and small (i.e. EU) films are smaller, since the fixed costs of subtitling are relatively low and easily affordable even for small film distributors. Under a subtitling standard small and medium sized film distributors could realise cost savings that allowed them to release 11% more films a year. Consequently from an EU policy perspective dubbing constitutes a potential inefficiency compared to subtitling, in terms of cultural inefficiency.

Language Skill Efficiency

Apart from increasing cultural diversity in the film market, an EU Commission's objective is that *"Every European citizen should have meaningful communicative competence in at least two other languages in addition to his or her mother tongue"* (EU Commission, 2003: 4). The means to the ends of both EU policy goals mentioned here ((a) promotion of cultural diversity in film supply and (b) enhanced foreign language proficiency among Europeans) converge: the EU Commission (2003: 19) wants to *"analyse the potential for greater use of subtitles in film and television programmes to promote language learning"*. The potential of subtitles to promote foreign-language proficiency is broadly accepted. For instance, de Bock³² finds that *"More than one-third of Dutch adolescent viewers are convinced that watching subtitled television programmes is indeed beneficial to learning foreign languages"*. Experimental studies confirm this tendency in that they find that consumption of subtitling enhances foreign-language comprehension as compared to dubbing (for an overview see Koolstra et al., 2002). Koolstra et al. (1999: 58) find that watching subtitled English programmes induces vocabulary acquisition and word recognition among Dutch children. D'Ydewalle and Van de Poel (1999) report similar results for other languages. So while subtitling enhances children and adults' foreign language skills watching dubbed foreign films and programs does not. The foreign language skills acquired passively through film consumption are mostly probably English since English language films and television series constitute a majority of the films and programmes consumed in Europe.

³²cited in Koolstra et al. (2002 p.431). Original Reference: De Bock, H., 1977, "Ondertitelen of Nasynchroniseren?" ["Subtitling or Dubbing?"], Report No. B77-090. Hilversum: NOS.

Consequently the wider use of subtitling instead of dubbing is desirable from a policy point of view that aims at increasing the population's foreign language competencies.

In sum, dubbing constitutes an inefficient solution compared to subtitling with respect to the language skills acquisition of the population and in that it puts small and medium-sized films at a disadvantage thereby hampering cultural diversity in the cinema market.

6. Discussion

Summary

This paper analyses in how far the adoption of dubbing in Germany is a path-dependent process: In the beginning the situation was completely open. Critical events favoured dubbing in the 1930s: "Language versions" habituated audiences to watching all films the domestic idiom, the order of technical development, protectionism and nationalist policies, the Ufa decision to use dubbing as a tool to create employment for actors. In post-WWII Germany allied film policies cemented the audience's habituation to dubbing. History could have taken an opposite course if (some of) these events happened in another direction. Dubbings' head start was amplified by self-reinforcing mechanisms: Learning-by-doing effects, self-reinforcing habituation, economies of scale and transaction costs. The wide introduction of TV in the 1950s and video in the 1970s further reinforced the habituation to dubbing.

The market is locked into dubbing because changing the language-transfer format implies switching costs for consumers. For large film distributors there is no pressing argument to change the current dubbing regime. Distributors of "small" films are, however, negatively affected by the higher costs of dubbing. This inefficiency will become more accentuated under the forthcoming regime of digital theatrical distribution. The inefficiency becomes however striking when new arguments are considered: Under a subtitling regime the cultural diversity in the film market would be increased. Also dubbing is inefficient with respect population's foreign-language skills.

Path Dependence and contingency

This paper's proposition and conclusion is that the adoption of dubbing in Germany became path dependent, which requires contingency in the beginning of the adoption process. An alternative explanation for the worlds' distribution of dubbing and subtitling countries is

the market size argument: large countries such as Germany, France, Spain and Italy dub. Smaller countries such as The Netherlands and the Scandinavians use subtitles because dubbing's high expenses cannot be recouped in their small markets (Luyken, 1991: 32). If this was the case then the country size effect would be the dominant explaining factor and there was no contingency and thus no path dependence worth speaking of. The argument that market size per se determines the predominant language-transfer method can, however, be easily refuted (Danan, 1991: 606-607; Dibbets, 1996, 1993: 104). Counterexamples to this 'rule of thumb' are too prominent to be overseen. On the one hand, small countries use dubbing too: For instance, in the 1990s in the Czech Republic 64% and in the Slovak Republic 94% of the films are dubbed. Small countries also dub programmes for broadcasting on television: In the Czech Republic 45%, Hungary 80%, Slovak Republic 94%, Bulgaria 70% (Dries, 1995). On the other hand, large countries do not necessarily use dubbing: in the large Russian Federation voice-over dominates the market (ibid.) and – as already mentioned – in Japan's cinemas about 75% of the circulating copies are subtitled (dis6)³³. These examples show that country size and the language-transfer technique vary considerably. Actually in the early 1930s *dubbing* was seen as a solution to market films *particularly* in *smaller countries* for which multiple "language versions "were too expensive"³⁴ (Dibbets 1993: 104). The country-size cost argument merely applies to the production of *language versions*. Their expensiveness was an incentive to concentrate language version production on larger markets and only to smaller markets where the audience and regulations forced distributors to exhibit films in the national language. In these markets language versions tended to habituate the audience to watching films in the domestic idiom (e.g. Bulgaria).

Digitalisation and Path dissolution

Whether the introduction of DVDs, digital cinema and television is leading to a path-dissolution is largely a matter of future developments. The digitalisation of the home entertainment video segment with the wide diffusion of the DVD during the 2000's resulted in the equalisation of transaction costs for consumers in the home video entertaining segment for dubbed and subtitled films. Consequently there is no more transaction cost disadvantage for dubbing in that segment as it as that provides an incentive for consumers to shun subtitling

³³ For comparison of the relative market sizes of these countries the MEDIA Salles European Statistical Yearbook 2006 gives the yearly cinema admission figures (I.e. No. of tickets sold) for 2005: Mexico: 161m, Germany: 127m, Italy: 102m, Russia: 92m, The Netherlands: 20m, Hungary: 12m, Czech Republic: 9,5m, Slovakia: 2m

³⁴ *Film Kurier*, No. 52, 1.3.1932, „„Dubben“ – Die große Mode“ In the long term, the article holds that dubbing is the only possible solution for smaller linguistic areas.

as it was common between the 1970s and 2000s. The result is that subtitling's attractiveness relatively to dubbing increases. As a result thereof one can expect subtitling consumption to increase. Consequently the audience- or parts of the audience – should become increasingly habituated to subtitling. There is evidence that hints towards such a development:

For 28% of the German DVD/video consumers an “important” or even “very important” reason for DVD/video consumption is to be able to “watch films in other languages or in subtitled original version” (FFA, 2006: 28ff). 70% of the German population belongs to the group of DVD/Video users; thus the group of original version/subtitling-inclined DVD/video users constitutes approximately 20% of the total population. This is a clear increase since the beginning of the 1990s. Then only 13% of the German population preferred watching films in subtitled/original version (Luyken et al. (1991), p.113). The group of DVD/video users, from which 28% are inclined to watching films in original version /subtitled format, consists predominately of “active cinema goers” (FFA 2006, p. 29). Therefore the preferences of this original version /subtitling-appreciating group are especially relevant for distributors of cinema films. Also over time further habituation effects are likely to reinforce this group's preference further in favour of original version /subtitling and/or cause this group to grow. The audience's preference in favour of original version /subtitling tends to become stronger. This opens the possibility that films released exclusively in subtitled format have the potential to reach a larger audience in the future. At the same time for film distributors in the cinema segment digitalisation of the cinematic distribution and exhibition increases the relative financial attractiveness of an exclusively subtitled version distribution, particularly of small and medium sized films. Because the preferences of a part of the population seem to shift in favour of original version /subtitling the release of foreign language films exclusively in subtitled format has the potential to become a real option for small and medium sized film distributors in the future, i.e. the release of small foreign language films has the potential to become more feasible. If such a development would realise it constituted dissolution of the dubbing path.

7. References

- Arrow, K.J. 2000 Increasing returns: Historiographic Issues and Path Dependence. *European Journal of the History of Economic Thought*, 7 (2):171-180.
- Arrow, K.J. 2004 Path Dependence and Competitive Equilibrium, in Guinnane, T.W., Sundstrom, W.A. and Stanford, W.(Eds.), *History Matters: Essays on Economic*

Growth, Technology, and Demographic Change. Stanford: Stanford University Press, 2004.

- Arthur, W. B. 1994 ***Increasing Returns and Path Dependence in the Economy***, Ann Arbor: University of Michigan Press.
- Arthur, W.B. 1989 Competing Technologies, Increasing Returns, and Lock-In by Historical Events. ***The Economic Journal***, 99 (394): 116-131.
- Barnes, W., Gartland, M. & Stack, M. 2004 Old Habits Die Hard: Path Dependency and Behavioral Lock-in. ***Journal of Economic Issues***; 38 (2): 371-377.
- Becker, G. S, 1992 Habits, Addictions, and Traditions. ***Kyklos***, Vol. 45(3): 327-45.
- Bessler, H. 1980 ***Hörer- und Zuschauerforschung***. Munich, Deutscher Taschenbuch Verlag.
- Bräutigam, T. 2003 Dialoge für Deutsche – Filmsynchronisation in der Nachkriegszeit. ***Schnitt - Das Filmmagazin***, 29: 20-22.
- Burgelman, R. A. 2002 Strategy as Vector and the Inertia of Coevolutionary Lock-in. ***Administrative Science Quarterly***, 47 (2) 325-357.
- CineGraph und Stiftung Deutsche Kinemathek (Eds.) 1997 ***Film-Kurier.Index. Volume 1919-1945***, Hamburg and Berlin: CineGraph und Stiftung Deutsche Kinemathek.
- Cowan, R. 1990 Nuclear Power Reactors: A Study in Technological Lock-in. ***The Journal of Economic History***. 50(3): 541-567.
- d'Ydewalle, G. & Van de Poel, M. 1999 Incidental Foreign-Language Acquisition by Children Watching Subtitled Television Programs. ***Journal of Psycholinguistic Research***. 28(3): 227-244.
- d'Ydewalle, G. & Van Rensbergen, J. 1989 Developmental Studies of text-picture interactions in the perception of animated cartoons with text. In H. Mandl & J.R. Levin (Eds.), ***Knowledge acquisition from text and pictures***: 223-248, Amsterdam, Elsevier Science (North Holland).
- Danan, M. 1991 Dubbing as an Expression of Nationalism. ***Meta: Translator's Journal***. 36(4): 606–614.

- Danan, M. 2004 Captioning and subtitling: undervalued Language learning Strategies. *Meta: Translator's Journal*. 49(1): 67-77.
- David, P.A. 1985 Clio and the Economics of QWERTY. *American Economic Review*. 75(2), Papers and Proceedings of the Ninety-Seventh Annual Meeting of the American Economic Association, (May, 1985): 332-337.
- David, P.A. 1997 *Path dependence and the quest for historical economics: one more chorus of the ballad of QWERTY*. Discussion Papers in Economic and Social History, No. 20, November 1997, University of Oxford.
- Dibbets, K. 1993 *Sprekende Films. De Komst van de geluidsfilm in Nederland*. (*Talking Movies. The Birth Sound Film in The Netherlands*), Amsterdam: Cramwinckel.
- Dibbets, K. 1996 The introduction of Sound. in Nowell-Smith, G., (Ed.) *The Oxford History of World Cinema*. Oxford Univ. Press.
- Dries, J. 1995 Breaking Eastern European Barriers. *Sequentia*, II (4) June/July/August, 1995, p.6.
- EU 2006 Decision No 1718/2006/EC of the European Parliament and of the Council of 15 November 2006 concerning the implementation of a programme of support for the European audiovisual sector (MEDIA 2007). *Official Journal of the European Union*, L 327, Vol. 49, 24 November 2006: 12-29.
- EU Commission 2003 *Promoting Language Learning and Linguistic Diversity - An Action Plan 2004 – 2006*. Communication from the Commission to the Council, The European Parliament, the Economic and Social Committee and the Committee of the Regions, COM (2003) 449 final, Brussels, 24.07.2003, retrieved from http://ec.europa.eu/education/doc/official/keydoc/actlang/act_lang_en.pdf in March 2007.
- Farrell, J. & Saloner, G. 1986 Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation. *The American Economic Review*. 76 (5): 940-955.
- FDA - Film Distributors Association 2007 *Guide to UK Film Distribution 2007*. retrieved from http://www.launchingfilms.tv/pdf/distribution_guide.pdf in April 2007.
- FFA-Filmförderungsanstalt 2006 *Motivations-Studie Kino 2006*, document retrieved in March 2008 from

http://www.filmfoerderungsanstalt.de/downloads/publikationen/motivationsstudie_kino.pdf.

- Filmkritiker Kooperative 1973 Offener Brief an den Intendanten des Bayrischen Rundfunks. *Filmkritik*, 73 (9): 391.
- Foreman, L. 1997 Deutschland Dubbing Tradition Lives on. In Variety Global Media Report: A Week in the Live of German Showbiz, Special Supplement to *Variety*, 367 (4), May 26 – June 1, 1997: 1-12.
- Forschungsinstitut für Soziologie der Universität zu Köln 1963 *Das Phänomen der Veränderung von Filmen durch Synchronisation*. Research report published by Universität Köln.
- Garncarz, J. 2003 Die Etablierung der Synchronisation in den 30er Jahren. *Schnitt – das Filmmagazin*, 29: 16-19.
- Garncarz, J. 2005 Die Etablierung der Synchronisation fremdsprachiger Filme: Eine vergleichende europäische Studie. In Segeberg, H. & Schätzlein, F. (Edts.) *Sound: Zur Technologie und Ästhetik des Akustischen in den Medien*: 74-82. Marburg, Germany: Schüren Verlag.
- Goldberg, F. 1991 *Motion Picture Marketing and Distribution: Getting Movies into a Theatre near You*. Stoneham, US: Butterworth-Heinemann.
- Hartlieb, H. von & Schwarz, M. 1984 *Handbuch des Film-, Fernseh- und Videorechts*. 2nd Ed.. Munich: C. H. Beck.
- Hartlieb, H. von, Schwarz, M. 1984 *Handbuch des Film-, Fernseh- und Videorecht*, 2nd Ed., C. H. Beck.
- Hayek, F. A. 1967 *New Studies in Philosophy, Politics and Economics*. Chicago: Chicago University Press. Excerpt (Chapter 4: 66-81) reprinted in Witt, Ulrich (Edt.), *Evolutionary Economics*; in Blaug, M. (Edt.), *The International Library of Critical Writings in Economics*; Vol. 25, Cambridge: University Press, 1993.
- Homann, H.-J. 2004 *Praxishandbuch Filmrecht. Ein Leitfaden für Film-, Fernseh- und Medienschaffende*, Berlin: Springer.
- Homann, H.-J. 2004 *Praxishandbuch Filmrecht. Ein Leitfaden für Film-, Fernseh- und Medienschaffende*, Springer, Berlin, 2001.

- Ivarsson, J. 2001 *A Short Technical History of Subtitle in Europe*. Contribution to the International Conference on Dubbing and Subtitling in a World Context, held in Hong Kong in 2001. retrieved in November 2007 from <http://www.transedit.se/history.htm>
- Jason, Alexander 1932 *Handbuch der Filmwirtschaft - Band III – Die erste Tonfilmperiode*. Berlin, Verlag für Presse, Wirtschaft und Politik.
- Jason, Alexander 1935 *Handbuch des Films 1935/36*. Berlin: Hoppenstedt & CO.
- Katz, M. L. & Shapiro, C 1994 Systems Competition and Network Effects. *The Journal of Economic Perspectives*, 8 (2): 93-115.
- Koolstra, C.M. & Beentjes, W.J. 1999 Children's vocabulary acquisition in a foreign language through watching subtitled television programs at home. *Educational Technology Research and Development*, 47(1): 51-60.
- Koolstra, C.M., Peeters, A.L. & Spinhof, H. 2002 The Pros and Cons of Dubbing and Subtitling. *European Journal of Communication*, 17 (3): 325-354.
- Kreimeier, K. 1992 *Die Ufa-Story – Geschichte eines Filmkonzerns*. Munich, Vienna: Carl Hanser Verlag.
- Low, R. 1985 *Film making in 1930s Britain*. London: George Allan & Unwin.
- Luyken, G., Herbst, T., Langham-Brown, J., Reid, H., & Spinhof, H. (1991) *Overcoming Language Barriers in Television. Dubbing and Subtitling for the European Audience*. Manchester: European Institute for the Media.
- Mahoney, J. 2000 Path Dependence in Historical Sociology. *Theory and Society* 29 507-548.
- Mahoney, J. 2006 *Path Dependence and the Study of Causal Complexity*. Presentation given at the Workshop on Organising paths – Path of Organising, held by the European Institute for Advanced Studies in Management, Berlin, Nov. 2006
- Maier 1997 *Spielfilmsynchronisation*. Forum Anglicum, 23., Frankfurt an Main: Peter Lang.
- Media Salles 2006 *European Cinema Yearbook - 2006 advance edition*. Retrieved in April 2007 from http://www.mediasalles.it/yearbook06_adv.pdf.

- Messinis, G. 1999 Habit Formation and the Theory of Addiction. *Journal of Economic Surveys*, 13 (4): 417 – 442.
- Michael, R.T. & Becker, G.S. 1973 On the New Theory of Consumer Behavior. *The Swedish Journal of Economics*, 75 (4): 378-396.
- Moreau, F. & Peltier, S. 2004 Cultural Diversity in the Movie Industry: A Cross-National Study. *The Journal of Media Economics*, 17 (2): 123–143.
- Müller, C. 2003 *Vom Stummfilm zum Tonfilm*. München: Wilhelm Fink Verlag.
- Nelson, R.R. 1994 The Co-evolution of Technology, Industrial Structure, and Supporting Institutions. *Industrial and Corporate Change*, 3 (1): 47-63
- OBS (European Audiovisual Observatory) 2006 *Focus 2006 – World Film Market Trends*, retrieved in April 2007 from http://www.obs.coe.int/online_publication/reports/focus2006.pdf
- Pruys, M. G. 1997 *Die Rethorik der Filmsynchronisation – Wie ausländische Spielfilme in Deutschland zensiert, verändert und gesehen werden*. Tübingen, Germany: Gunter Narr Verlag.
- Rüggenberg, D. 2007 *Digitales Kino 2006 - Eine Aktuelle Betrachtung*. Published by Filmförderungsanstalt (FAA), Berlin; retrieved in May 2007 from http://www.filmfoerderungsanstalt.de/downloads/digitales_kino_2006.pdf.
- Schreyögg, G., Sydow, J., & Koch, J. 2003 Organisatorische Pfade -Von der Pfadabhängigkeit zur Pfadkreation?. In Schreyögg, G. & Sydow, J. (Eds.) *Strategische Prozesse und Pfade*: 257-293., Wiesbaden Germany: Gabler.
- Shy, O. 2001 *The Economics of Network Industries*. Cambridge University Press.
- Spinhof, H. & Peeters, A. 1999 *Opinies over Nasynchroniseren en Ondertitelen* (Opinions on Dubbing and Subtitling), NOS Rapport, P99-160. Hilversum, Holland.
- SPIO (Spitzenorganisation der Filmwirtschaft) 2006 *Filmstatistisches Jahrbuch 2006*. 15. Baden-Baden: Nomos.
- Stigler, G. J. and Becker, G. S. 1977 De Gustibus Non Est Disputandum. *The American Economic Review*. 67 (2): 76-90.

- Sydow, J. Schreyögg, G. & Koch, J. 2005 *Organizational Paths: Path Dependency and Beyond*. Paper presented at the 21st EGOS Colloquium, Berlin, June 30 – July 2, 2005.
- Toeplitz, J. 1979 *Geschichte des Films, Bd. 2, 1928-1933*. Berlin: Henschel Verlag.
- Tosaka, Y. 2003 *Hollywood goes to Tokyo: American Cultural Expansion and Imperial Japan, 1918-1941*. Dissertation Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of *The Ohio State University*. Document retrieved in December 2007 from http://www.ohiolink.edu/etd/send-pdf.cgi?acc_num=osu1060967792.
- Vöge, H. 1977 The Translation of Films: Sub-Titling Versus Dubbing. *Babel*, 23 (3): 120-125.
- Wahl, C. 2005 Synchronisation-Nation Deutschland. *FilmGeschichte*, 20: 53-56., Dec. 2005.
- Waller, W. T. 1988 The Concept of Habit in Economic Analysis. *Journal of Economic Issues*, 22 (1): 113-126.
- Wasko, J. 2003 *How Hollywood Works*. Sage Publications, London.

8. Appendix and Tables

Table 1

Copy class: No. of copies per year,	Average No. of foreign long films released yearly to German cinema market 2000-2005, per copy class.			average number circulating copies per copy class	Estimated dubbing costs in Euro	costs with celluloid copies		
	absolute, including children films	absolute, without children films	in %			Total dubbing costs per copy class in € (No. of films * Dubbing Cost) + No. of copies *1000 *no. Of films	Total subtitling costs per copy class in € (No. of films * cost of Subtitling of €2.500) + No. Copies * 1725 *no. Of films	Differences between subtitling and dubbing costs in €
						in Euro	in Euro	In Euro
1-10	89	84,2	29,9	5,5	25000	2.568.016	1.009.315	1.558.702
10-50	71	67,4	23,9	30	35000	4.381.592	3.707.501	674.091
50 - 100	33	30,8	10,9	75	45000	3.691.969	3.076.641	615.328
100 - 200	26	24,6	8,7	150	55000	5.036.769	4.299.681	737.088
200 - 300	20	18,8	6,7	250	65000	5.921.258	5.169.352	751.906
300 - 500	29	27,6	9,8	400	75000	13.092.602	11.714.434	1.378.169
500+	30	28,4	10,1	600	75000	19.184.455	17.763.384	1.421.071
total	298	282				53.876.662	46.740.307	7.136.354

Copy class: No. of copies per year,	Total dubbing costs per copy class in € (No. of films * Dubbing Cost) +No. Of films*average Numer of copies*copy costs (75€)	Total subtitling costs per copy class in € (No. of films * cost of Subtitling of €2.500) + No. of films*average No. Of copies*75	Differences between subtitling and dubbing costs in €	sum of cost difference	No of films that could be distributed additionally with the savings from a switch to subtitling: sum of cost difference /estimated average distribution budget of 250.000 Euro
	in Euro	in Euro	in Euro	in Euro	No. of films in %
1-10	2139663	245224	1894438	1894438	7,58
10-50	2510989	320193	2190796	4085234	16,34 10,78
50 - 100	1557550	249977	1307573	5392807	21,57 11,83
100 - 200	1627736	337832	1289904		
200 - 300	1574303	399450	1174853		
300 - 500	2894154	895810	1998345		
500+	3410570	1350017	2060553		
total	15714964	3798504	11916461		

Source for copy classes: SPIO film statistical Yearbooks 2001-2006

Appendix: Explication of Table 1

The copy classes denote the films that are distributed with a certain number of circulating copies. This research considers small and medium sized films as films that are distributed with a maximum number of 100 copies circulating in the theatrical market. This categorisation corresponds to the self-evaluation that interviewed representatives of film distributors gave of themselves. From the SPIO film statistical yearbooks 2001-2006 (SPIO, 2003, 2006) for each year between 2000 and 2005 the number of foreign long films released to German cinema market per copy class was calculated. For this calculation the respective yearly number total films that were released per copy class was multiplied by the share of foreign films that were released to German market that year. E.g. in 2005, in the copy class of 1-10 films 126 films were released to the German market. About 65% of all films released to the German market were small and medium sized films with up to 100 copies in circulation. In that year 72,3% of all films released to the German market were of foreign origin. Therefore it is estimated, that there were 91,1 foreign films, belonging to copy class 1-10 were released in 2005. In that manner for each year for each copy class the number of foreign films released was estimated in absolute numbers and percentage terms. The average of the years 2000-2005 of the yearly estimation of foreign films released per copy class was calculated in absolute and percentage terms.

As far as it is known to the author, in all countries where subtitling is the dominating standard method for transferring foreign language films and programmes in to the domestic language, films for children are generally subtitled and dubbed, to take into account the limited reading and foreign language skills of the young audience. This calculation so far does not take into account that even under subtitling standard children's films have to be dubbed. Therefore, to compare the situation of a dubbing and a subtitling standard the children films have to be excluded, since they will be dubbed under both regimes and therefore cancel out. The film statistical Yearbooks 2001-2006 (SPIO, 2006, p. 27 2003, p. 28) publish data on the distribution of long films film releases in Germany by Genre. A simple calculation of the average of these figures between the years 2000 and 2005 was undertaken: In that time period children films account for 5,45% of all long film releases in Germany. (This figure seems small, but the children films score relatively well at the box office: Between 2002 and 2005 children films accounted for 12,5% of all tickets sold at the box office.). The number of yearly film releases copy class without the children films was estimated by multiplying the average

number of yearly films releases in each copy class by 0.9455 (1-0.545). Basically this calculation means that the average number of film releases per copy class was reduced by 5.45%. The relation of the number of film releases stayed constant.

The next column depicts estimations for the average number of circulating copies per film in each copy class. The idea is that there are some films in each copy class whose number of copies in circulation is close to the upper bound and for others it is close to the lower bound. The average is simply the average of the upper and the lower bound of each copy class. For the largest copy class, the “blockbuster class” for films with 500 or more copies in circulation such a average calculation is not possible and therefore it is assumed that the average number of copies in that class is 600³⁵.

The next column shows an estimation of the dubbing costs that are to be paid for the dubbing of one film in each copy class. They start with €25,000 for the lowest copy class and increase by €10,000 per copy class up to a maximum of €75,000. This increase reflects the increased wages for dubbing actors, directors, technicians, studio capacities and generally the higher effort and sophistication that enters the dubbing production as the distribution budget increases: The larger a distribution budget is the larger is the number of circulating copies that are produced and distributors have more resources at their disposal to increase the quality of the dubbing process.

The next two columns show the total costs for the respective language transfer techniques per copy class under the current celluloid standard. The calculus was done according to the simple formula for each copy class respectively:

*Average number of yearly film releases * dubbing costs/subtitling costs + Number of films released * Average number of circulating copies * copy costs.* The dubbing costs are the estimation of the dubbing costs for each copy class (€25,000, €35,000, etc.). The subtitling costs are €25,000 for the internegative subtitling. The copy costs for dubbed and a subtitled film are both €1,000. The only exception is the lowest copy class (1-10 circulating copies) under the subtitling standard; here the number of copies is so low, that it was uneconomic to employ the relative expensive internegative method. Here – as it is currently done in by the firms – the laser subtitling method is employed. Therefore the cell was calculated as follows: the subtitling costs of €2,500 are multiplied with the average number of films in that copy

³⁵ it is common, that blockbusters released by major US distributors are released with 800 or more copies in Germany. Therefore the assumption of an average of 600 copies for this copy class is realistic.

class and added to the product of the average number of circulating copies, the average number of film releases and then copy costs of €1,725.

Then the difference between the total costs of dubbing and subtitling were calculated. The cost difference between a dubbing and a subtitling standard is about €7m if one takes into account all copy classes. For small and medium sized film distributors (the first three copy classes) the cost difference between a dubbing and a subtitling standard makes up slightly €3m. So for film distributors dubbing constitutes an inefficient standard as compared to subtitling, but the extent of the inefficiency is rather small.

The more interesting and relevant results are revealed if one considers the cost structures under the forthcoming digitalisation of theatrical distribution. The last columns of the table show the relative costs for copying and dubbing and subtitling are listed against each other under the conditions of digital cinema: The total costs for the respective language transfer techniques per copy class under the forthcoming digital cinema standard, assuming that all films were either dubbed respectively subtitled. The calculus was done according to the simple formula for each copy class respectively:

*Average number of yearly film releases * dubbing costs/subtitling costs + Number of films released * Average number of circulating copies * copy costs.*

Again, as dubbing costs the estimation of the dubbing costs for each copy class is taken (€25,000, €35,000, etc.). The subtitling costs are €2,500. The copy costs for dubbed and a subtitled film are both €75 (the average of €50 and €100). The column “Differences between subtitling and dubbing costs” shows the cost differences for film distributors operating under a dubbing and a subtitling standard with digital cinema. For all cinema distributors in total the cost difference between a dubbing and a subtitling standard is €12m. This results in the actual amount that the film industry would save in terms of language transfer costs under a subtitling standard as compared to a dubbing standard.

Actually this calculation is in two ways distorted. First it underestimates the savings of a subtitling standard in relation to a dubbing standard: Under the current dubbing standard most films are released in a subtitled version to the cinemas as well. Therefore, regardless of the fact that most German consumers watch a dubbed version the costs for subtitling are incurred by distributors in addition to the dubbing costs. These costs drive up the costs that prevail under the current dubbing standard, but are not considered in this calculation. Therefore the relative benefits of a subtitling standard as compared to the currently prevailing dubbing standard are underestimated. Secondly, imported foreign language children films

tend to be relatively large productions. Children films therefore over account proportionately for relatively large copy classes. This fact has not been considered in this calculation. The disregard of this fact is due to the lack of data that specifies the share of children films in each copy class. This matter is important, because the conclusions derived from this data with respect to the damage that the dubbing standard does to small and medium sized films and film distributors is underestimated. In fact the dubbing standard should hurt small and medium sized films stronger than this data suggests.

The potential savings that distributors could benefit from if they worked under a dubbing standard are depicted in the column “Differences between subtitling and dubbing”. It can be seen, that the potential cost savings that a subtitling standard offers when compared to a dubbing standard increases for all copy classes under digitalisation when compared to the current celluloid standard. This is because under digital cinema the variable copy costs for dubbing and subtitling are the same and subtitling can fully exploit the advantage that it has much lower fixed costs.

For small and medium sized film distributors (distributing films with up to 100 circulating copies) the potential savings under a subtitling standard as compared to the current dubbing standard amounts to €5.4m. In the interviews that were conducted for this research small and medium sized film distributors declared, that on average the distribution budgets of their films was approximately €250,000. So in fact the potential savings of €5.4m that small and medium sized film distributors could realise under a subtitling standard amounts to the distribution budgets of 21.6 long films. This number of films could be distributed in addition to the number of films that they distribute currently under the dubbing standard. This potential increase corresponds to an increase in annual film releases of about 12% in the segment of small and medium sized films.