



Miika D. Blinn

Dubbed or Duped?
Path Dependence in the German Film Market

**An Inquiry into the Origins, Persistence and Effects of the Dubbing
Standard in Germany**



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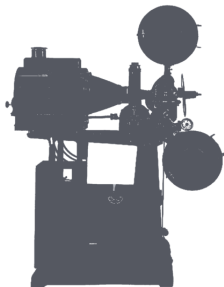
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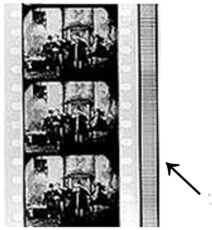
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Still shot from the first Thomas Edison sound-picture recording in recording, 1894/95.

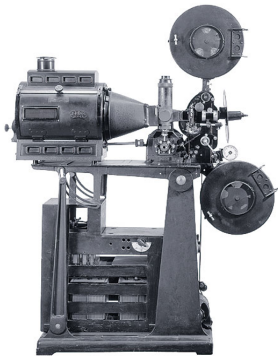
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Stripe of film with sound signal (arrow) recorded on the right side, 1933.

Source: German Museum, Munich.

<http://www.deutsches-museum.de/archiv/bestaende/av-medien/70>



TRIERGON sound film projector. Source: German Museum, Munich.

<http://www.deutsches-museum.de/sammlungen/ausgewahlte-objekte/meisterwerke-v/tonfilmprojektor/>

To my friends Andreas, Emil, Peter & Saki

“Who the hell wants to hear actors talk?”

– H. M. Warner, Warner Brothers, 1927 –

Acknowledgement

I choose the subject of this research purely out of personal interest for the movies. I feel these are fruitful preconditions for conducting committed and ambitious research if they are matched by a self-critical and self-reflecting mind, to strike the balance between personal enthusiasm and scientific detachment. I have spend roughly three years with writing this book and during that time and before I met people who – all in their own way – contributed to its completion and I would like to thank them at this point, which marks the end of an interesting, rewarding and merry period in my life. Therefore I would like to thank the following persons for their kind help, various support and assistance during the preparation of this work:

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The work of an artist and a scientist are very similar in that both rely heavily on an initial spark of inspiration; after that the rest of the work is all too often a question of mere technical skills. The ultimate reason for my inspiration for this research is my passion for the cinema which I owe to a large part to my old friends Andreas Simon, Peter Renner, Emil Franzinelli and Saki Hoffmann. We went to the movies innumerable times which evoked my passion for the subject, and our inspiring, demanding and joyous discussions decisively contributed to my humour and *Weltsicht*. I am also deeply indebted to the *Rupertia* in Heidelberg and all friends I found there for building my academic home base, coining my frame of reference and ambitions in the realm of academics.

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List of Abbreviations

GBO	Gross Box Office
MPA	Motion Picture Association of America
P&A	Print and Advertisement
M&E	Music and Effects
VoD	Video on Demand
SAP	Secondary Audio Programming

Country Abbreviations:¹

AU	Australia
AT	Austria
BY	Belarus
BE	Belgium
BA	Bosnia and Herzegovina
BR	Brazil
BG	Bulgaria
CA	Canada
HR	Croatia (local name: Hrvatska)
CY	Cyprus
CZ	Czech Republic
DK	Denmark
EE	Estonia
FI	Finland
FR	France
DE	Germany

¹ Information retrieved from the ISO Homepage in August 2007 from <http://www.iso.org/iso/fr/prods-services/iso3166ma/02iso-3166-code-lists/list-en1.html>.

List of Abbreviations

GR	Greece
HU	Hungary
IS	Iceland
IE	Ireland
IL	Israel
IT	Italy
JP	Japan
KR	Korea, Republic of
LV	Latvia
LI	Liechtenstein
LT	Lithuania
LU	Luxembourg
MK	Macedonia, The Former Yugoslav Republic of
MT	Malta
MX	Mexico
MC	Monaco
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
RU	Russian Federation
SK	Slovakia (Slovak Republic)
SI	Slovenia
ES	Spain
SE	Sweden
CH	Switzerland
TR	Turkey
UA	Ukraine
GB (UK)	United Kingdom
US	United States
YU	Yugoslavia

Interviewees

Generally sources of information that are used in the text are referred to in the text by indicating the author, year of Publication and eventually the page number or chapter on/in which the information that is referred to can be found. When information is drawn from historical journals source is referred to in a foot note indicating the name of the journal, publication date, eventually the issue number, and the title of the article. Also when the information has been taken from a internet web page that is used only once then the reference is given in a footnote.

The interviewees are referred to in abbreviated form to grant them anonymity. The interviewees were:

Film Distributors (dis):

1. dis1
2. dis2
3. dis3
4. dis4
5. dis5
6. dis6
7. dis7

Film Exhibitors (ex):

1. ex1

Subtitling Studios (sub):

1. sub1
2. sub2
3. sub3

1. Introduction

People like to see movies. More than that: the glamour of going out to movie theatres is a major social activity in modern times; in terms of annual visits per head it has surpassed the theatre and opera by a factor of 5 (compare Deutscher Bühnenverein 2008, p. 255 and OBS Focus 2008, p. 20). Watching films and television series at home is a major spare time activity. In Germany the demand for films and other audiovisual entertainment content outruns the output by the domestic audio visual industry. Foreign audiovisual works are therefore imported in large numbers: Over the last years more than 400 new films have annually been released to the cinemas in Germany, but only a fraction, less than a quarter have been German productions. The rest is imported from abroad (SPIO – Filmstatistisches Jahrbuch 2006, 2003; OBS Focus 2008). The same holds for television: In 2001 about 64 % of the TV fiction content broadcasted in Germany was of foreign origin, most of it imported from the US (OBS 2001). The situation is similar today, as it is in most other European countries, where some markets depend on imports even more.

This raises the question of how a film or television program produced in one particular language is sold and presented to an audience in another country where people speak a different language. The answer is that the dialogue is to be transferred into the target audience's language by the means of language transfer techniques such as dubbing or subtitling. Briefly, subtitling preserves the dialogue spoken by the original foreign actors. Additionally, a condensed translation of the dialogue appears at the bottom of the screen. In contrast, through dubbing the dialogue is recorded in the domestic language of the target country, if possible in a lip-synchronous way. The idea is to create the illusion that the actors on screen speak the language of the domestic audience. In Germany dubbing is the dominant technique for transferring non-German audio visual artwork into German. Since the introduction of sound film about 80 years ago, opponents and adversaries of dubbing have fiercely discussed the aesthetic-artistic merits and drawbacks of dubbing versus alternative forms of language transfer, in particular subtitling and original versions (e.g. Filmkritiker Ko-

1 Introduction

operative 1973, p. 391). This work does not aim to contribute to the aesthetic-artistic discussion on language transfer that has been going on since the 1930s. The interested reader is referred to the film/cinema studies literature on language transfer: Vöge (1977) and Pruys (1997) directly discuss the arguments of the opposing sides of the debate (see also Hesse-Quack 1969). For the sake of completeness, a short overview of the main arguments in this debate is given in Appendix A: "Dubbing versus subtitling: A fierce debate". A final evaluation of who actually wins or won this to the aesthetic-artistic debate is not my job to do, if such a decision is even possible at all. I would rather not become entangled in this discussion on the theory and practice of screen translation and language-*Gestaltung* in films. This dissertation instead puts emphasis on economically more tangible aspects of the issue and therefore the aesthetic discussion will be left aside.

Language Transfer as a National Standard

In the German film and television market dubbing is the dominating standard for transferring foreign-language film and television content into German. Subtitling only plays a minor role. A look at any German town's cinema programme or the national television guide reveals that the vast majority of foreign language productions are exhibited or broadcasted in dubbed versions. Luyken et al. (1991, p. 30) report that about 80 % of the foreign language television programmes broadcast in Germany is dubbed. In the cinema market, subtitling is confined to the niche markets of art house cinemas (*Programmkinos*). In the video segment (prior to the introduction of the DVD) the consumption of subtitling was confined film geek circles (Pruys 1997, p. 29ff). This predominance of dubbing in the audiovisual markets is not a new phenomenon: Any elderly members of the audience will confirm that dubbing has been the German film industry's language transfer standard since at least the 1940s.

What holds for Germany in terms of language transfer is not necessarily encountered in other nations. A glance at the European audio-visual landscape is revealing: Many countries – like The Netherlands – have taken the opposite direction and predominantly employ subtitles for the transfer of foreign language films and television productions. The world is actually split into two different camps: Dubbing countries where subtitling plays a minor role, and subtitling countries, where dubbing is only employed for transferring foreign language children programmes (Luyken et al. 1991, pp. 30ff).

The issue raises several obvious questions: Why – in the first place – do we in Germany use dubbing and not subtitling like our Dutch neighbours or the British? Which system is “better” in economic terms?

The origins of the language transfer standard: The common explanation for the world’s distribution of dubbing and subtitling countries is that dubbing is much more expensive than subtitling. Therefore, dubbing is only feasible in large countries where the relatively high costs of dubbing can be amortised due to the larger market volume (Luyken et al. 1991, p. 32). This is a straightforward economic explanation, predicting that large countries dub foreign language productions and small countries use subtitling. Unfortunately this rule of thumb does not properly describe the language transfer practice in real life: There are small countries like the Czech Republic and Hungary that are traditional dubbing countries and there are large countries such as Great Britain and the United States that use subtitling (European Commission 2007, p. 6).

There must be other factors besides the country or market size that are relevant to a proper explanation for why some countries use dubbing and others subtitling. Dubbing has definitely been the German industry standard since the post-war period. Maybe, at the introduction of sound films, it was not irrevocably predetermined that Germany would adopt the dubbing regime, as the market size argument predicts. This suggests that the explanations for Germany employing dubbing are to be found in the country’s history, which leads to the following question: When did dubbing become the standard for language transfer, and how did the country’s social, cultural, economic and political situation at that time influence the adoption of dubbing? Beyond the over-simplistic country size explanation such an inquiry can further the insight why Germany employs dubbing, other comparable countries do not, and why other small countries employ dubbing.

The question of dubbing’s efficiency and rigidity: Does the dubbing standard constitute a problem for the film industry? It is generally acknowledged that dubbing is more expensive than subtitling (e.g. Diaz-Cintas 2007). Actually, dubbing is 10 to 15 times more expensive than subtitling (Luyken et al. 1991, pp. 99f; Pruys 1997, pp. 92-93). Currently the average dubbing production for a 90-minute movie costs about €35.000 in the European Union’s dubbing countries. This is a substantial figure. It becomes more impressive when considering that the whole German film, video industry spend between €90m and €130m on language transfer in a single year (European Commission 2007, p. 41). The industry could save millions of Euros

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by switching from dubbing to subtitling. This raises the question why the German film industry employs so much of the relatively expensive dubbing at all instead of substituting the dubbing for the cheaper subtitling?

Since dubbing is more expensive than subtitling, the logic of profit seeking holds that firms would switch to the cheaper technique if they were free to do so. If they do not, there must be some obstacle hindering the industry from switching from dubbing to subtitling: Interestingly, the Dutch, and also audiences in other subtitling countries, seem to be perfectly happy with their subtitling standard – just as the Germans and the French predominantly prefer dubbing.¹ This is explained by Luyken et al.: “[The] audience preference is, in the first place, determined by familiarity and conditioning to either of the two main methods of Language Transfer” (1991, p. 112). So an obvious source of the industry’s inflexibility seems to be the German audience’s “familiarity and conditioning” with and to dubbing (Luyken et al. 1991, p. 112). Germans may simply be strongly habituated to dubbing and therefore reject subtitling. In subtitling countries this habituation should be vice versa. This habitual rigidity of film demand with respect to dubbing in combination with the high dubbing costs should constitute a problem for the film industry if film suppliers *have* to comply with the audience’s demand and thus employ dubbing. Recognising this rigidity it may be justified to state that for German film suppliers the dubbing imperative constitutes an inefficient market standard because it forces the industry to spend relatively more on language transfer than they would if they operated under a subtitling standard.

This cost problem extends even further into a cultural diversity problem: The dubbing imperative means that film suppliers of small films also have to use dubbing. Small film suppliers releasing small budget films to the German market might not even be able to afford the relatively high dubbing costs of €35.000 at all. So the high costs of dubbing may act as an entry barrier for lower budget films to the German market. Therefore one could ask whether dubbing puts films marketed by small film suppliers at a systematic disadvantage in the market and thus hampers the diversity of the films supplied and consumed in the market.

The foreign language aspect: Another relevant phenomenon in the comparison of the two language transfer techniques is the influence of subtitling on the audience’s foreign language skills. This educational argument stresses the positive externalities

¹ Luyken et al. (1991, p. 113) reports that in Germany 78% of the audience prefers dubbing, in France, which is a traditional dubbing country, about 70% prefer dubbing. In the Netherlands on the other hand, 84% of the population prefers subtitling and original language versions.

of subtitling in the form of improved foreign-language proficiency of consumers. This argument holds that viewers 'automatically' acquire foreign-language skills as a side effect of following subtitled films and programmes in the original foreign language. This rationale has become popular when it comes to explaining some 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 (see Koolstra et al. 2002, p. 431 for an overview). Facing increasing internationalization and globalization it is justified to ask whether the wider employment of subtitling would not be the better choice for language transfer in Germany. Wider use of subtitling might improve the foreign language communication skills of the German population which is not only beneficial on the labour market but also facilitates cross border personal communication.

So far, the discussion of the persistence of dubbing in Germany has raised a couple of interesting points that deserve further inquiry:

Why does Germany employ dubbing for transferring foreign language productions into German and not subtitling like our Dutch neighbours or the British? Where does the persistence of dubbing come from? Is the predominance of dubbing even an efficient solution for the film suppliers? For which other group in the film industry or society might it actually constitute a source of welfare losses as compared to other language transfer techniques? Does dubbing hamper the cultural diversity of films supplied and consumed in the market by acting as a barrier to entry for smaller productions? Finally, if dubbing is found to be a relatively harmful or inefficient solution to the language transfer problem the question arises whether the system can still be changed.

Prior Research in the Field and Research Gap

The body of literature specifically dealing with language transfer of foreign language films and television programmes is rather limited as compared to other topics in the motion picture and media studies. Often the topic of screen translation is approached by scientists and practitioners in the field of interpreting. Most monographies in the field deal with the practical and theoretical issues of language transfer itself (e.g. Baumgarten 2005).

The selection of academic publications in the form of journal articles, monographies and doctoral theses that focus on language transfer in Germany is even smaller. The majority of these publications deal with the theoretical and practical issues of

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screen translation. These works' references to the history of the dubbing standard in Germany are very limited. What are mostly missing are systematic, comprehensive and detailed inquiries into why dubbing is used in Germany, and how it prevailed in the market against alternative techniques, such as subtitling.

As to the origins of dubbing's prevalence Müller (2003) gives a detailed description of how dubbing was perceived in the early years of sound film and how the sentiments of audiences shifted in favour of dubbing during the 1930s. Garncarz (2003, 2005) provides a similar effort; describing how dubbing was increasingly favoured by the audience in 1930s Germany. Both authors explain the prevalence of dubbing during the later 1930s with habituation effects on the side of the audience but what induced the audience to eventually become habituated to dubbing is not thoroughly explained. Danan (1991) goes further and suggests that the prevalence of dubbing in the current dubbing countries is a result of the respective country's history of nationalist and protectionist policies. She deserves credit for broadening the inquiry for the sources of the national language transfer traditions. She supports her theory with examples from various dubbing countries, but does not draw a continuous picture of the chronological development of the prevalence of dubbing in the respective national markets. She and Bräutigam (2003) give an explanation of how dubbing became firmly established in post-war Germany due to the allied forces' film policies. The war and the immediate pre-war period are not covered in the same level of detail as the early-mid 1930s and so the authors' analysis only covers only a small time period. Also focusing on the post-war period, Pruys (1997) describes how the dubbing process was employed to censor and manipulate foreign films in Germany even since the Second World War. This procedure and the more or less intended changes to the films' plot are illustrated with detailed analysis of examples from Germany in the post-war period.

Pruys (1997) provides a historical overview of the post-war dubbing practice in Germany. Maier (1997) describes the dubbing production process and the language transfer rules in detail. He also refers to the history of dubbing in Germany but focuses on the industry practice of dubbing. In the choice of the topic it is similar to the often-cited book of Whitman-Linsen, C. (1992), who focuses solely on the dubbing practises and how dubbing changes the films content. Vöge (1977) and Hesse-Quack (1969) analyse the language transfer from an screen translation-theoretical perspective.

An interesting description of screen translation history is delivered by Wahl (2003): The historical developments and origins of the various forms of screen translation are followed by an explanatory analysis of screen translations. Although the study provides detailed descriptions of the historical developments of language transfer techniques it lacks a conclusive explanation of why dubbing prevailed in Germany and how the alleged audience's habituation took place. Luyken et al. (1991) and the European Commission (2007) study give a detailed description of the dubbing and subtitling practice in Europe and estimate the dubbing and subtitling costs.

None of these cited studies is seriously concerned with dubbing's potential inefficiencies on the economic level: a) The relatively high costs for film suppliers as opposed to the costs of subtitling and b) the logical extension of the cost problem into potentially limited cultural diversity in the film market is not at the focus of attention. c) There is no study that combines these economic efficiency considerations with a comprehensive historical analysis of the prevalence of dubbing in Germany to explain why and how dubbing rose to dominance in Germany, and why the nation adherence to dubbing is so rigid.

The available studies on the subject are piecemeal, focusing on partial aspects of the subject, which is unsatisfactory because too many aspects are left open. Above all most studies on dubbing are primarily concerned with the artistic-aesthetic aspects and technicalities of the language transfer through dubbing. The big economic picture is missing; there is no attempt to provide the reader with a comprehensive study of the socio-economic and historical dimensions of the language transfer of film in this country.

To explain the origin of dubbing's domination in Germany a detailed, satisfying, historical analysis is needed that makes more of an effort than the over-simplified country size explanation: It should first deliver a continuous historical description of how dubbing prevailed in Germany and out-crowded subtitling. Then, to explain the rigid persistence of dubbing in Germany requires going beyond the mere term 'habituation' but disclosing the mechanisms of this habituation itself. These two components should be combined with an analysis of the economic consequences of dubbing on film suppliers and the film market. A provisional overall research question that integrates these claims is tripartite:

Why and how did dubbing become the dominant language transfer technique in Germany, what explains its persistence and how does the dubbing standard compare to a subtitling standard in terms of economic efficiency?

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The Path Theoretical Approach

In Germany the phenomenon of dubbing is pervasive - a part of the country's everyday culture; hence the need for understanding the origins of dubbing's domination and the economic consequences of its persistence in the face of dubbing's potential inefficiencies. It is the historian's task to explain where such traditions as dubbing come from, to enlighten a society about its culture's origins, its roots which contributed to its identity. At the same time it is the social scientist's task to thoroughly analyse such customs to inform society about the (potential) consequences of dubbing's persistence, whether harmful or beneficial. To accomplish these tasks this research requires the combined effort of the historian and the economist.

In the tradition of the social sciences the approach of this study to its subject should be guided by theory. The theory has to allow for looking to the past to explain why and how dubbing became the dominant language transfer standard in Germany, and why it is so persistent. Therefore it is required that the theory can account for the dynamic dimension of the history of technical standards. The theoretical framework also needs to take into account a comparison of the economic efficiency implications between two technical standards, i.e. dubbing and subtitling. The factors affecting the adoption and persistence of dubbing in Germany are probably different in character and origin; consequently the theory should be applicable in a highly complex field. Thereby the theory should be economic in nature.

To satisfy all these requirements this research will approach the problem with the theoretical framework of path dependence (David 1985, Arthur 1994). This approach is used for guidance in exploring this complex field for several of reasons: It is successfully employed by economists to analyse the historical origins for the prevalence and persistence of specific technical standards. The path dependence approach also accounts for the economic mechanisms that lead to a standard's market domination. Path dependence also looks into why individual actors find it difficult to deviate from an established market standard. A central aspect is the persistence of an inferior standard's market domination, which includes the comparison of the economic desirability of alternative technical standards, i.e. an efficiency comparison. The theoretical framework is applied in complex fields; research recognises and takes into account that path dependent adoption processes are influenced by factors from various spheres: economic, political and social, on the collective or individual level.

To study path dependency it is useful to distinguish three different stages of path dependent adoption processes (Schreyögg, Sydow and Koch 2003): the triggering phase, the path formation phase and the lock-in.

The triggering phase regards the initial situation and historical circumstances, the technical options available then and decisions which turned out to become “small” or critical events” that trigger the evolvement of an adoption path. In the formation phase these initial triggers set into motion self-reinforcing mechanisms – in particular increasing returns – which increasingly favour a single technique. The scope of choice dramatically narrows until – in the third phase – no other solution is feasible. Although alternative solutions are economically more desirable the market is now locked into the dominating standard, which means that deviating from the standard is not feasible and the domination of the standard is persistent. The upshot is that the system has lost its ability to shift to a more efficient mode or alternative technique because of additional switching costs that outweigh the benefits of a system change in the short run. Therefore path dependence is characterised by rigid persistence of a potentially suboptimal standard.

Why should particularly this theory be employed in this study? The reason is that the strengths of the 3-phase path dependence framework make it particularly suitable for the analysis of the phenomenon of dubbing in its historical and economic dimension:

a) The 3-phase path dependence approach is suited for approaching complex cases. Its 3-phase structure provides guidance for classifying, integrating and putting into context a wide array of empirical phenomena. The historical development of dubbing’s prevalence in Germany has probably been influenced by factors from various spheres: the economic, political and socio-cultural dimension. These need to be integrated in a proper historical-economic analysis.

b) In business studies and economics the path dependence theory approach is used to analyse historical processes and aspects relevant to the competition between technical standards and systems. Path dependence accounts for the historical starting conditions of competing alternatives, external factors and self-reinforcing economic mechanisms that influence the competition of alternative techniques. Furthermore it provides an explanation for the dominance and persistence of one standard. This research aims to reconstruct the history of dubbing in Germany from an economic perspective. The questions are whether there was ever a noteworthy competition between dubbing and alternative language transfer techniques, e.g. subtitling,

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and why dubbing has out-crowded its competitors. Maybe historical conditions and events influenced the competition in favour of dubbing and maybe then dubbing was propelled to market domination by self-reinforcing mechanisms. A central theme to path dependence is the rigid persistence of economically undesirable or inefficient standards although alternatives are available. Such persistence has also been suspected for dubbing in Germany. Dubbing has clearly dominated the market for more than half a century and there are no obvious signs that this is going to change. If dubbing's persistence constitutes a lock-in, switching costs that prevent the wider use of subtitling must be present. If the switching costs are ascribed to the phenomenon of habituation, habituation effects must be theoretically and empirically accounted for and integrated into the path dependence framework as an explanation for dubbing's persistence. Also, the path dependence approach allows for asking whether dubbing can be termed an inefficient or economically undesired market standard as compared to subtitling. This requires specifying for whom in particular the alleged inefficiency applies. A group potentially better off under a subtitling standard are the film suppliers that are forced to pay for dubbing although subtitling is a less costly method for language transfer. Then the issue of whether dubbing hampers cultural diversity in the film market must be clarified. A last issue that could be regarded as a downside of the dubbing standard is that under a subtitling standard the audience 'automatically' acquires foreign language skills. In light of this framework the major research question can be further specified to the question:

Has the German film industry become path dependent in terms of dubbing?

This overall research question entails the whole body of conditions that characterise path dependent adoption processes: The alleged influence of historical events and conditions on the competition between dubbing and alternative language transfer techniques, an explanation of how dubbing prevailed in the market, and an explanation for dubbing's rigid persistence in spite of its alleged inefficiencies and downsides as compared to the subtitling standard. In answering this research question this study fulfills a double purpose: First it clarifies the research question itself, but as an ancillary benefit it empirically tests the application of the theory of path dependence.

For the moment this overall research question, in combination with the above ratiocinations on dubbing in Germany, is a sufficient sketch of the planned research. More detailed research questions will be outlined after the theoretical framework of this research has been set out.

The research question studies the “German film industry”. That is quite a broad term including TV broadcasters, film producers, DVD producers, cinemas, and film distributors among many others. The focus of this research will be on the cinema market. This has three reasons: a) the cinema market is historically the first film mass market; it flourished long before television and video were introduced to the market. Therefore the cinema market is historically interesting since the fate of language transfer in Germany was probably decided at a time when films were consumed only in cinemas. b) The cinema market is still important today. Although only a share of the money made in the film industry is collected from cinema box offices the performance of, and attention for, films in the theatrical market is decisive for their success in later windows of exhibition, like video/DVD and television. c) The cinema market is clearly circumscribable and therefore empirically manageable. From all audiovisual markets the published data on the cinema market is most complete and comparable across time and across markets. This would be problem for the television markets, for example, not to mention the trade of audiovisual content on the internet.

In anticipation of later findings it should be remarked at this point that the term “film suppliers” is a too unspecific expression. Films are actually released, and thereby supplied to the cinema market by so-called film distributors. Therefore the term “film suppliers” can be replaced by “film distributors”. This does not affect the logic of the above argumentations. This formulation is also taken into account when the detailed research questions are formulated below.

Research Outline

First the theoretical part circumscribes the theoretical framework within which this research is conducted. The theoretical frame is fundamental since it is used to guide this research: to order, structure, integrate and relate the various forms of empirical evidence. Here the theory of path dependence is central. It builds the core and the major guideline along which the research will be conducted. Recognising that habituation may play a role in the path dependent adoption process of dubbing, the theory of path dependence is supplemented by the economic approach to the theory of habituation. The theory of habituation is integrated into the theory of path dependence to theoretically account for the path dependence of habituation processes.

After the theoretical framework is established the methodology of the study and the data sources for the empirical research are outlined. The research will be con-

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ducted as a single case study of the German film market. This design is justified and accompanied by an explanation of how a high scientific standard is guaranteed during the work. Then the varieties of data sources employed in the empirical research are outlined.

This is followed by the central part of the research: the empirical analysis of the phenomenon of dubbing in Germany. To grant the reader access to the thematic field of the film industry, the working principles and the main actors in the international film markets are introduced. Some concepts from the realm of the film industry that are relevant to this study are also defined here. This is followed by the historical analysis of language transfer in the German film market. The actual story of dubbing begins in the late 1920s, but to ensure that the reader is aware of the historical context, the history of film from its beginnings to the introduction of sound-film is briefly outlined. Thereby a special emphasis is put on sound and language transfer. After having prepared the playing field the actual historical analysis of the supposed path dependence of dubbing in Germany can begin. In accordance with the 3-phase model the historical analysis is subdivided into three parts: The triggering phase (phase I), the formation phase (phase II) and the lock-in (phase III). For each phase it is analysed in how far the available empirical evidence supports the thesis that the adoption of dubbing in Germany has been path dependent; i.e. is there evidence for contingency and small or critical events that favoured the adoption of dubbing in phase I? Can self-reinforcing mechanisms in phase II be identified that propelled dubbing to domination? Is the German film market locked into dubbing, what are the sources of this rigidity, and when did this lock-in begin?

This part is followed by the analysis of the alleged inefficiencies of the dubbing standard as compared to the subtitling standard. The costs of dubbing and subtitling are compared and groups of film distributors in the cinema market that are particularly negatively affected by the dubbing standard are identified. This is supplemented by a calculation of the total amount of the relative cost-inefficiency of dubbing for the most affected group of film distributors. Then the consequences of this cost inefficiency for the cultural diversity in the film market are discussed. The last potential inefficiency analysed concerns the acquisition of foreign language skills foregone under the dubbing standard. This complex is briefly outlined.

After that, the study discusses the country size explanation for the world's distribution of dubbing and subtitling countries as an alternative to the path dependence explanation. This is followed by a discussion about digitised film supply and con-

sumption, particularly how digitisation opens the possibility to break away from the current dubbing standard.

The final part of this work entails a summary of the findings of this research and a conclusion in which the results of the study are evaluated.

2. Theory

2.1. Introduction

This chapter introduces the theory of path dependence and the foundations of the theory of habituation in two different parts respectively. Then it will be argued that the two theories are compatible and can be integrated into each other. The theory of path dependency serves as a guideline for explaining why and how dubbing rose to dominance in Germany. Then an economic theory of habituation is outlined to account for the German audiences' inertia with respect to dubbing. Their integration allows a theoretical explanation for the development to domination and the consequent rigidity of dubbing in Germany.

2.2. Theory of Path Dependence

The approach of this thesis builds on the 'classic' notion of path dependence in the economic debate as represented by Arthur (1989) and David (1985, 1997). One motivation for advancing the theory of path dependence in economics lies in its implicit criticism of the neoclassical paradigm that the most efficient market outcomes always prevail by competitive pressures and the assumption of reversibility of economic decisions (Sydow et al. 2005). Arthur (1989) and David (1985, 1997) emphasize small or random events that become magnified by self reinforcing mechanisms and thus shape future realities characterised by lock-in into potentially inefficient technological standards.

Technological standard: To begin with, the meaning of the important term 'technological standard' should be clarified since it is at the heart of this thesis: "Standard" refers to a norm in the design or execution of a good or service, to "conventions that require exact uniformity" (Liebowitz and Margolis 1990, p. 1). Following Arthur (1994, p. 15) the term 'technologies' refers to methods for accomplishing an economic purpose or carrying out an economic activity. Technologies that are differ-

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ent but fulfil the same economic purpose often compete with each other for market share.² So dubbing and subtitling may well be regarded as competing technologies whose economic purpose is language transfer of foreign language films.

The attributes of path dependent processes of adoptions of technical and institutional standards are looked at more closely in the following paragraphs. The basic theme in the path dependence literature is that an allocative process in a dynamic economy is path dependent if early events, conditions and “developments have profound and disproportionate effects on later [developments]” (Arrow 2000, p. 175; see also Mahoney 2000, p. 511; David 1997, p. 13 ff for similar notions).

2.2.1. History Matters and Critical Events

The basic idea common to the representatives a path dependence approach - e.g. Arthur (1989), David (1985, 1997), Mahoney (2000) and North (1990) - is that the past exerts an influence on the present. Particular circumstances or events in the past can bias a nonlinear process of technology adoption in favour of one technology so that the market evolves to the disadvantage of potentially possible alternative technologies.

The point is that these past events can influence the selection of future market equilibria depending on the character and timing of the event. This introduces contingency in path dependent processes, meaning that there are at least two possible outcomes - locally stable equilibria - that the adoption process can converge to, but it is difficult to anticipate in an early phase of the adoption process which outcome will finally be realised (Arthur 1994).³ The small, random events increase the probability of a particular equilibrium being chosen to the disadvantage of its alternatives.

The character of the small event and the contingency it adds to path dependent processes deserves to be drafted shortly. The small or critical events and the period of time in which they bias the markets' choice in favour of one of the alternative technologies are also called “critical juncture” (Mahoney 2000, p. 513). According to Mahoney (2006) contingency does not correspond to pure randomness and the critical event eludes – and is exogenous to – an explanation within the neoclassic framework that describes the self reinforcing mechanism and lock-in of the path.

² This competition may be either unguided or purposeful. The latter is the case if the respective standards are backed by competing entrepreneurial interests.

³ “But while information on preferences, endowments, and transformation possibilities allows us to locate and describe these various possible equilibria, it is usually insufficient to tell us which one will be “selected”. There is an indeterminacy of outcome” (Arthur 1994, p. 13)

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This view is also held by David (1997 pp. 13 ff) for whom the decisive criteria for path dependence is non-ergodicity: "Historical accident: it is not that such selecting events or actions were irrational, or inexplicable, or even unpredictable – simply that they proceed from causal factors that were orthogonal to the system level economic issues that we, as ex post analysts, can see were at stake." (David 1999, p. 7)

The notion of contingency in this work follows Sydow et al. (2005) and Schreyögg et al. (2003): in the early phase of adoption a path dependent process' potential equilibria's probabilities of realisation take a position in the spectrum between predetermination and randomness.⁴ Over time critical events increasingly bias the probability of becoming the finally selected market standard to one alternative technique. The degree of predetermination also increases as the probability for one of the local equilibria to become the final outcome increases due to self reinforcing mechanisms. This process is abstractly illustrated by the Polya urn process (Arthur 1994, p. 36 ff).

The timing of critical events generally is assumed to occur in an early historical phase of a path dependent process. They are located between the beginning of the 'pre-path formation phase' and the 'path formation phase' (Sydow et al. 2005, p. 9). In that sense also Mahoney (2000, p. 513) remarks: "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 difficult to return to the initial point when multiple alternatives were still available."

It must be noted here that in addition to critical junctures in an early stage of the path dependent process other external (and critical) events should be allowed to exert an influence on the developmental trajectory. These events can reinforce or counteract a trend that has been embarked upon earlier and thereby diminish or increase alternatives' chances to prevail in a market at a later stage. Arrow hints this possibility by pointing out the distinction between "arbitrary initial conditions" and "chance events which occur during the process" (Arrow 2000, p. 178). Consequently initial conditions - due to their early timing during the path dependent process - mark the beginning of the divergence of chances for prevalence of the alternatives.

In this work the distinction among initial conditions and small events will be emphasised when necessary. Initial conditions take the form of distinctions that not necessarily came about due to a single event or in short time but may be the result

⁴ "It appears that determinism in social settings is better seen as a matter of degree and will vary depending on the type of pattern reproduced." (Sydow et al. 2005 p. 11)

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from a long past (e.g. by inheritance, or nature) such that for the researcher of path dependence can taken them as given initial differences.

The logic of the dynamics of such paths becomes clear, in the following sub-section when the notion of self-enforcing mechanisms is included into the model.

2.2.2. Positive Feedback, Increasing Returns and Lock-in

In addition to historicity and contingency path dependence requires some sort of positive feedback mechanism. The general notion of a positive feedback mechanism underlying the dynamic development of a variable is that of a self-reinforcing process over time. This positive feedback mechanism transmits an increase of a variable at time t into a further increase of that variable at time $t + 1$ (Arthur 1994).

Since positive feedback is a conceptually quite broad mechanism it will be broken down into more specific mechanisms. This specificity ensures that the mechanisms can explain the particular case that is analysed (Mayntz 2005).⁵ Increasing returns is the most noted mechanism in path dependence theory; conceptually it is a specification of positive feedback. Increasing returns can take different forms like network effects or economies of scale or learning effects. These will be elaborated on in more detail below. Also Schreyögg et al. (2003, p. 272) point out that increasing returns are a special case of positive feedback. They suggest that positive feedback mechanisms in general are a necessary condition for path dependence:

Within the context of the theory of path dependence positive feedbacks in general - and increasing returns to adoption as a strong form positive feedback in particular - magnify initial conditions' and critical events' influence on the chances of a standard to prevail in the market. The effect is that possible alternative standards are increasingly put to disadvantage over time. So, once a standard gains a head start in the market through small events positive feedback leads to increases of its market share over time until the market of potential adopters is "cornered" (Arthur 1989, p. 116) or "locked-in" (David 1985). These conditions of rigidity or "inertia" (Mahoney 2000, p. 511) constitute situations in which choices for alternatives to the dominating market standard become unfeasible (Sydow et al. 2005, p. 6) or highly unlikely. Different authors emphasise different positive feedback mechanisms that lead

⁵ At a discussion session organised by the Doctoral Program Research on Organisational Path, at the Freie Universität Berlin on February 7, 2007 Renate Mayntz elaborated on the hierarchy of mechanisms. Feedback mechanisms can be ranked from general (positive feedback) to specific (The 1st level below positive feedback could be increasing returns; the level below would be economies of scale and network effects, for example).

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to a lock-in. Apart from increasing returns some authors insist on additional conditions that should be present as a necessary condition for path dependence. These conditions include irreversibility of investment and technical complementarities (see David 1985). Some even deny the necessity of increasing returns and insist that any phenomena that can create a lock-in are a necessary and sufficient condition for path dependence (see Arrow 2000, 2004). This will be elaborated on now.

Increasing returns to adoption is a phenomenon recognised by economists since the times of Cournot, Walras and at least Marshall's influential writing (see Arrow (2000) for a survey of economists' occupation with the subject). The most important increasing returns in the context of this work are listed here:

Through scale economies or increasing returns to scale a good (say A) that is produced in larger quantities than competitor (say B) enjoys reduced average production or distribution costs relative to those of the competitor. Thus the lower average costs c_A are transferred into lowering the price p_A which further increases market share of A by making A more attractive for (potential) buyers. Common reasons for economies of scale could be to high fixed costs and low variable costs (Arthur 1994, p. 113).

Also Arthur (1989, p. 116) points to increasing returns to adoption in the case of complex technologies: they can take the form of learning-by-doing effects on the part of producers. This leads to product or process improvements and increases the relative attractiveness of the technology for potential adopters or may lower A's production cost and therefore the price of A. Cowan's (1990) paper on the case of lock-in into light water nuclear power reactors illuminates how competition among complex technology can be strongly influenced by learning-by-doing effects.

In the literature on network competition the commonly observed phenomena of "tipping [...] is the tendency of one system to pull away from its rivals in popularity once it has gained an initial edge" in the market (Katz and Shapiro 1994, p 106). Here network effects and network externalities⁶ cause increasing returns to adoption and the domination of a single system in a market. These occur when users' utility of participating in a specific (e.g. communication) network increases with the number of adopters of the technology (see Katz and Shapiro 1994; Farell and Saloner 1986; and Shy 2001). Here "These direct and indirect network externalities are complemented by indirect network effects when the system is compatible with others" (Sydow et al.

⁶ The difference between network effect and network externalities is that the latter are "not internalised in any market transaction" (Katz and Shapiro 1994, p. 112)

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2005, p. 7). The difference between direct and indirect network effects is that with direct network effects the sheer number of adopters in the network increases the utility of being a member of the network (i.e. in a communication network), while “indirect network effects arise when the benefit from using a product increases with the use of a complementary set of compatible goods” (Nair et al. 2004, p. 23, see also see Katz and Shapiro 1994, pp. 97 ff). The external effects of an adoption decision of a single consumer come about indirectly through his decision’s influences on the future component prices or variety (see Katz and Shapiro 1994, pp. 97 ff).

Economies of scale and scope, network externalities and learning of increasing returns, are classified by Sydow et al (2005, p. 7) as increasing returns in the realm of technological path dependence. They distinguish these from causes for institutional path dependence: Learning, expectations (of expectations) and complementary effects.

The forces underlying the increasing returns also lead to rigidity or lock-in of a market where the choice for deviating from the dominating standard is unfeasible due to high switching costs. A lock-in due to switching costs can be due to coordination problems: A lock-in occurs if a market is dominated by a technology characterised by network externalities, or economies of scale and all (or most) market participants were actually better off when they were using an alternative technology, but in the short run a switch is not profitable for the individual; therefore no one will switch and all market participants remain locked-in the inefficient market standard. Thus one can speak of a coordination problem. The switching costs take the form of additional costs incurred by the individual if the alternative technology is chosen. In the short run the alternative technology can not benefit from economies of scale or network size as the incumbent because of its smaller user base. Here the lock-in comes about, because of the difficulty to coordinate a switch by all users – or a large enough number i.e. threshold amount of users – from the established technology to the alternative. If all users or a significant part would switch to the alternative simultaneously all users would be better off by adopting the alternative. In addition to the coordination problem comes the problem of uncertainty, since the new technology has not had the chance to prove its merits in the market (Cowan 1991).

2.2.3. Quasi-Irreversibility of Investment, Complementary Technologies and Lock-In

David (1985) exemplifies the case of the QWERTY keyboard. The QWERTY keyboard became the market standard although other keyboard designs were more efficient from a fast-typing perspective. He identifies a) scale economies, b) technical interrelatedness and c) quasi-irreversibility of investment as decisive factors for stabilisation of path dependent technology (ibid. p. 336). The latter two phenomena will be looked at more closely in the following paragraphs.

Technical interrelatedness is a mechanism that at the one hand reinforces a standards' domination and at the same time acts as a stabilising mechanism. The premise is that utility of a technology A depends positively on the availability of a compatible technology B. A and B are technical complements while A's competitor X is no compliment to B but to Y - all else equal. Then a significant lead in the market of one of the directly competing technologies (A versus X or B versus Y) will result in "tipping" the market in the favour of its complement, too - all else equal. An example is a set of software compatible to an operating system or hardware (Shy 2001, Ch. 2 and Katz and Shapiro 1994). In the QWERTY example David (1985) refers to technical interrelatedness as the complementarities between typists' specific training and the typewriters specific design, because different typewriter designs require a different training than others. A lead in the market by one of two complementary technologies (say typewriters of type A) increases the utility and in turn the market share of the complement (typists' being trained on A) which in turn increases A's market share. Consequently, technical interrelatedness among two goods or services can translate into increasing returns to adoption that propel two complementary technologies to market domination.

If two technologies (A and B) dominate their respective markets and are technically interrelated among each other, but not compatible to technologies that compete with their respective complements (X and Y respectively) it becomes difficult to replace one of the incumbent technologies by a competitor. This also holds if the alternative technology is superior to the incumbent. The cause for this inflexibility is preventively high switching costs because a technological switch requires investments not only in one technology, but also in its complement. As an example, to replace the QWERTY keyboard by a more efficient alternative design one not only has to replace the keyboards, which in itself is a major investment. Additionally one

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faces the costs of replacing the users old set of QWERTY- specific typing skills by training the typists to use the alternative key arrangement at least as fast and 'automatically' as the QWERTY keyboard. This is an example of how, relatively inflexible and specific human skills that are complementary to an incumbent technology prevent the replacement of an incumbent by a more efficient alternative technology. The root of the inflexibility is the rigidity of human skills and the relatively high cost of replacing an existing set of skills that are complementary to the incumbent by a new set of skills that would be complementary to an alternative technology.

If the both technologies – the incumbent and the challenger- under consideration are governed by network externalities the switching costs are even higher, due to the threatening utility loss inflicted by membership in a new smaller network after a switch. The same holds for economies of scale or indirect network effects: switching to a technology produced on a smaller scale could raise the price in addition to the disutility of leaving the larger network. Both switching costs could outweigh the benefits of changing to an alternative superior technology.

David's (1985) notion of the irreversibility of investment refers to the timely order of specific investments in technologies. The term irreversibility of investment means that the timely order of specific investments in alternative and competing technologies can not be altered. The irreversible timely order biases the chances of becoming a market standard to the technology in which investment has begun at an earlier point in time:

To carry through an economic purpose with a technology one has to invest in producing or acquiring this technology or in its complement in the form of time, effort or money. The concrete character of these investments may be capital investments. E.g. a form of hardware, like production facilities that can be used for one the production of one of the alternative technologies only. Also investments into knowledge and skills of humans that are specific to one technology fall in this category (Arrow 2004, p. 28). Once these investments have been undertaken it is more attractive for an actor to adopt the associated technology instead of an alternative technology for which comparable investments do not yet exist.

If these investments are of an accumulative nature, through learning-effects for example, the value of the investments increases the longer the technology is in use. If a user switched from the incumbent technology to an alternative technology that requires new investments from scratch he loses the prior investments in established technologies and its complements (sunk costs problem). The burden of the required

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investments in the new technology, its complements and the sunk costs incurred might outweigh the perceived benefits from the new technology. This depends on the individuals' discount rate for future income. Individuals are particularly averse to abandon the incumbent technology for a superior alternative, if the required investments are high, the benefits from the new technology do not materialise at once, but are spread over future time periods and the discount rate is high. The discrepancy between the costs of abandoning the incumbent technology and the discounted benefits corresponds to the switching costs. If these are high individual actors in the market have a strong incentive to adopt the incumbent technology.

For both, Arthur (1989) and David (1985) increasing returns are a central aspect of path dependency since the increasing returns, e.g. in the form of learning effects or economies of scale, are responsible for propelling one competing standard to market domination once it got a head start. David (1985) additionally draws on quasi-irreversibility of investment and technical interrelatedness as mechanisms for propelling a standard to domination and cementing its lead. Economists widely go along the lines of Arthur and David seeing increasing returns as a necessary condition for path dependence (See Puffert 1999 and Beyer 2005 for an overview); however this view is not shared by all authors in the field. Arrow (2000, 2004) illustrates that in prominent cases of the path theory literature⁷ merely quasi-irreversibility of capital investments is a necessary condition for path dependence. This notion contrasts to the general assumption by authors in the field that "path dependence is intrinsically linked with increasing returns" (ibid, p. 28). He presents a model in which path dependence can occur under constant returns to scale if invested capital is durable (i.e. quasi-irreversible) and finds that in the exemplary cases path dependence occurs simply due to the timing of quasi-irreversible of capital investments. The durability of capital refers not only to physical or financial capital but also explicitly to human capital (like the skill of humans to type fast on a specific typewriter keyboard) (Arrow 2004, p. 28). For David (1985, p. 336) the rigidity and durability of human skills is also due to habituation. This aspect will be elaborated on below.

Arrow (2000, p. 175) also points to the close relationship between quasi-irreversibility of investments and complementarities of two investments or technologies and their interplay resulting in inert path dependent outcomes. Both phenomena reinforce

⁷ The examples he refers to are the dissemination of the mechanical reaper and the QWERTY case, both introduced in the discussion by Paul A. David and the influence of railway gauges on the industrialisation process in Germany versus Great Britain as treated by Thorstein Veblen. For detailed references see Arrow (2003).

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each other, since the switching costs of introducing a new technology increase when capital is both, durable and complementary to another 'installed base'. Even if the dominating technology and its complement have to be completely replaced on regular intervals the market will not necessarily replace the incumbent technique by a superior alternative. This holds when the replacement of the two complements occurs regularly but out of phase at different points in time. Since then - if one wants to switch the technologies - in one fell swoop the investment burden is multiplied due to replacing the whole system instead of only the part of it that has to be scrapped anyway. This rigidity also occurs in intergenerational models where new users successively arrive in a market and gradually replace older generations of users. The new arrivals will adopt the technology that is complementary with the prevalent market standard instead of a different standard. By this the incumbent technology will be passed from one generation of users to the next, because the old generation of users is not replaced abruptly, but gradually, such that their installed base always dominates the potential alternative technologies that new arrivals could adopt (Arrow 2004, p. 32-33).

Arrow identifies switching costs as the focal point of all path dependent processes since they are the effective reason for rigidity while increasing returns take a supplementary role in path dependence: The outcome of a path dependent process is determined by "arbitrary initial conditions [...] but also by chance events which occur during the process" (ibid)" although "multiple equilibria do not require increasing returns [...] It may be that multiplicity is more likely under increasing returns, but this has not been shown" (Arrow 2000, p. 178).

From the above discussion on the sources of path dependence one can identify three main elements of path dependent processes: There are small events and initial conditions that exert a disproportionate influence on future developments; by being reinforced by positive feedback loops over time. The path dependent process settles to a locally stable equilibrium that is rigid in nature, due to switching costs; but which equilibrium is selected can not be predicted *ex ante*, but only after the process evolved towards the clear advantage of one alternative. The possibilities of leaving a locally stable equilibrium - i.e. dissolving a lock-in that the market settled for - will be briefly discussed in the following section.

2.2.4. Lock-In and De-Locking

In the discussion above it became clear that it is characteristic of path dependent adoption process that once one competitor dominates the market, the process has settled to a locally stable equilibrium and deviation from this arrangement is difficult. The reason for this persistency is that for individual actors the switching costs of changing to a superior technology might outweigh the (perceived) benefits of such a switch (in the short run). Consequently for each actor deciding on which technology to employ the adoption of the incumbent standard is associated with lower short term costs than the alternative technology. The negative cost balance for the alternative technology might be termed switching costs. The underlying sources for switching costs are economies of scale and positive (direct and indirect) network externalities that raise the value of the incumbent but not of the alternative technology. Other factors causing rigidity are quasi-irreversibility of investment and technologies' complementarities. Additionally, coordination problems impede a switch if an alternative technology's superiority becomes effective only after a certain threshold of users – i.e. an installed user base of a certain size – has been exceeded.

At the core of path dependence is the reproduction of a pattern of behaviour, thought or technology adoption whose *raison d'être* ceased to exist, but whose market position became strong and inflexible through the abovementioned mechanisms. Nonetheless, it is a pretty bold claim to assert that a condition such as a (technical) lock-in is bound to stay for the time being. Naturally all man-made social condition or phenomena are potentially threatened to vanish or transform at one point in time; whether this is a matter of a short-, medium- or long run time horizon depends on the case at hand. This vanishing or transformation effects will naturally be stronger when the conditions under which it came to exist (or that promote its reproduction over time) change profoundly. This insight is what drives the considerations in the path dependence literature that are concerned with de-locking, i.e. the breaking up or softening of a lock-in: The incumbent technology will be flanked or even finally become replaced by alternative technologies when the external conditions change and the alternatives' pay-offs increase or new alternatives emerge. Consequently the individual actors' incentive structures change to the disadvantage of the incumbent technology, which will become abandoned. In this sense Schreyögg et al. (2003, p. 272) emphasise that a lock-in is no utterly determined condition but that it merely constitutes a relatively confined leeway for actions - comparable to a corridor. The corridor analogy holds that within this corridor the individual's choice is likely to

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take place in the centre of the corridor, i.e. the actors are *likely* to choose the standard technology. However the individual's choice of technology might deviate from the centre of the corridor and actors theoretically can choose alternative solutions at the margins. Over time the adoption behaviour might shift and an incumbent technology becomes increasingly replaced by alternatives. Here a lock-in denotes the very high likelihood that the central solution is chosen, as for example the QWERTY keyboard or a Microsoft operating system, although deviating alternatives are theoretically and practically available and chosen only by few. This conception of lock-in as constricted leeway of action leaves room to manoeuvre, which particularly relevant from a management science and organisation theory position that the authors take. Emphasising entrepreneurship and (powerful) actors in organisations allows the authors to embrace the potential for de-locking of a path.

The suggestion of David's (1985) paper is that superior efficiency of an alternative over the incumbent technology is not sufficient to induce users to leave the established technical trajectory. Cowan and Hultén (1996, p. 5) note that "To overcome lock-in it is necessary that some extraordinary events occur". This "extraordinary events" are to be imagined to take effect in two similar ways: As an impulse or shock that causes the adopters to realise that existing benefits outweigh the costs and thus induces a market to switch. Or the "extraordinary event" causes the balance of costs and benefits to tip over to the favour of the alternative, thus inducing the switch.

Cowan and Hultén (1996) discuss the impact of six possible factors that could help un-locking a market that is locked in a technology. Although in their paper Cowan and Hultén (1996) analyse the un-locking of the automobile sector from the gasoline-run car technology, the points they list are universally applicable with respect to locked-in technologies. Thus following Cowan and Hultén (1996, p. 6 ff) a de-locking of a market becomes facilitated by:

1. **Crisis in the existing technology.** If the negative externalities or inefficiency of an incumbent technology become obvious and overwhelming it might be abandoned⁸
2. **Regulation.** There is always the theoretical possibility that a (governmental) authority obligates market participants by decree to adopt new technologies or forbids usage of existing technologies. Instead of direct prohibition or precept an

⁸ Here Cowan and Hultén (1996, p. 6) mentions the case of conventional pesticides is mentioned that in some cases fail to control pests in agriculture (see Cowan and Gunby 1996)

authority may influence incentives by subsidies or taxes on new respectively old technologies⁹

3. **Technological break-through producing a (real or imagined) cost breakthrough.** This may occur if the alternative to the incumbent technology soars relatively in terms of technological improvement. Consequently this relative shift of technical potency may cause a change in the production costs to the benefit of the alternative technology. The cost shift may be sufficiently strong to the alternative's favour to induce market participants to adopt it. Alternatively there may be relatively strong quality improvements of the alternative technologies. This point is logically related to the first; both emphasise the market challenger's relative gain in strength and the incumbent's loss of attraction
4. **Changes in taste.** If consumers' preferences change to the disadvantage of an incumbent technology so will their willingness to pay shift relatively in favour of alternative technologies¹⁰
5. **Niche market.** Early adopters with a relatively high willingness to pay in niche markets may initiate the reduction of switching costs of an emerging technology for other potential adopters and thus constitute a positive externality for other potential adopters. The demand shift due to early adopters may facilitate larger scale production and consequently economies of scale but also direct positive consumption externalities, (particularly in the case of network technologies) and thus attract more adopters. Early adopters reduce the uncertainty associated with an emerging technology by pushing its learning curve outwards. They also help overcoming the coordination problem¹¹
6. Cowan makes the point that **Scientific results** may reveal until now hidden external effects of an incumbent technology. Also new scientific results may provide the basis for the development of new marketable technologies exploited by entrepreneurs. Consequently scientific results may reveal knowledge about alternative technologies efficiency and their future potential. In its effect this point is quite similar to the third, since advanced knowledge about alternatives can tip

⁹ Liebowitz and Margolis (1995) note this possibility to overcome a lock-in in an inferior standard in footnote 3 on page 207.

¹⁰ Cowan and Hultén (1996, p. 6) give the example of "the growing awareness of the environmental effects of some products [that] has created mass markets for environmentally adapted products."

¹¹ The coordination problem postulates that users have no incentives to adopt a new technology if there are too few adopters to realise economies of scale or generate enough positive consumption externalities, thus all will stick to the incumbent technology (Cowan 1991).

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the balance of costs and benefits of a technological change to the benefit of the alternative and put the incumbent technology under pressure

Although there is some degree of redundancy and overlap in some of the six facilitators for a de-locking they are all listed here because they emphasise different sources for the same phenomenon, namely a reduction of the net or effective switching costs. So point one (*crisis in existing technology*) and six (*new scientific results*) both deal with the real or perceived diminishing benefits or higher costs of the incumbent technology. Point six can also be conceived wider including real or perceived increase in benefits from alternative technologies, which is also suggested in point three (*technological break-through producing a (real or imagined) cost breakthrough*). So the difference between these points is the emphasis either on the incumbent or the challenging technology. The point *regulation* and *change in taste* speak for themselves. Regulation constitutes an exogenous influence on the market demand by manipulation of the participants' costs and benefits.

2.2.5. Efficiency Considerations

The paradox with phenomena of path dependence is that the rational individual's action over time leads to an undesired outcome at the collective level, which feeds back to the level of the individual in the form of 'a degree of determinism': Once the market is locked-in in an inefficient technology the individual's range of choice is likely to be confined to a limited range.

Until now the notion of efficiency of competition among technologies has not been discussed in detail. These efficiency considerations lie at the heart of the stir that has been caused by the David's (1985) publication on the QWERTY case and similar papers on case studies that followed up (see e.g. Cowan (1990, 1991)). Their general notion is that the sole force of market mechanisms not necessary selects the most efficient solution to an economic problem to prevail in the market: On the contrary in path dependent adoption processes a technology that turns out to be suboptimal solution to a problem, can squeeze superior competing technologies out of the market. Naturally this criticism constituted an element of disturbance to neoclassical standard economics by attacking its fundamental core of self-conception, which holds that (under the neoclassical standard assumptions) any inefficiency will be eliminated by market forces (sooner or later). The advancement of the view that this is not necessarily the case, but that bygone historically small or chance events play a

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major role in determining our present day conduct was developed out of the neo-classical theory and its economic assumptions. This view was not only represented by its pioneers Paul David and Brian Arthur during the 1980s but gained weight by being picked up by the notable economist Kenneth Arrow (2000), for example.

Below the main arguments of the debate among advocates and opponents of the path theoretic approach to economic history that unfolded in the beginning 1990s will be outlined. But before turning to this point the term inefficiency deserves some clarification after its implicit used until now.

Economic efficiency generally describes a relation between means and ends. Inefficiency of an arrangement means that the same result could be achieved with less means, or that the given resources employed in a different way could achieve a higher output. The means-ends comparison refers to the relative value of the means and the ends of different allocations that are compared, e.g. the relation of the inputs (costs) and the outputs (return or benefit) of different technologies that can be employed to produce a certain good.

Whether an economic arrangement is more or less efficient than an alternative depends on the perspective that the beholder takes. Economic efficiency in welfare economics implies Pareto efficiency¹². The economists' approach usually takes the perspective of a holistic or comprehensive beholder and attempts to include in the analysis the gains and losses in welfare of all parties affected by a potential change of the situation. For example a rearrangement of the economic allocation as a consequence of a policy is regarded desirable if the overall or net welfare increases. That is if a change of the allocation can be made such that some can be made better off and that these winners' gains can compensate for the losers' losses¹³ (see Buchanan 1959, pp. 124ff and Varian 1991, pp. 472ff, and Stanford Encyclopedia of Philosophy: "Economics and Economics of Justice"). Evidently the judgement about the relative efficiency of two allocations depends on the groups whose changes in welfare are included in the analysis.¹⁴ An efficiency evaluation whose coverage is narrower or

¹² This conception of efficiency became prevalent in economics during the midst of the 20th century and distinguishes itself from the previous utilitarian conception based on Jeremy Bentham by holding that interpersonal comparisons of utility are not possible due to the lack of measurement tools (1959, pp. 125 ff) and Ekelund, and Hébert, (1997).

¹³ The standard groups that are generally included into such an analysis in textbooks are the producers and consumers. Still some ambiguity remains with respect to the conception of an individual "being better off" under situation A compared to B. see Buchanan (1959, pp. 125 ff) and Ekelund, and Hébert, (1997).

¹⁴ E.g. an evaluation of the desirability of a government's policy may vary greatly if one does not only take into account domestic consumer surplus and producers profits but additionally foreign producers and consumers.

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socially less comprehensive than the economists' Pareto efficiency approach is appropriate if the focus of analysis is on the development of the welfare of a special group, or a set of closely related subgroups. This perspective is more suited to business studies where the research is conducted from the point of view of a single entity (e.g. an industry or company) and where the consequences of an (collective) actor's strategy are of interest. Here the basic means-end approach to efficiency is an adequate tool to compare two situations as to their relative efficiency only from the perspective of the subject of analysis. To leave aside all other (marginal) potential stakeholders' interests makes sense in the realm of business studies and path dependence: What is of interest to the researcher is whether – from the perspective of one clearly defined economic group – one technology constitutes a more efficient solution to a problem than an other technology. In the case of path dependence the two technologies, whose efficiency is compared are the persistent dominant incumbent technology and alternative technologies that are not – or only marginally – employed.

The students of path dependence tend to follow such an approach to evaluate the efficiency of a certain technology: In well known cases, such as QWERTY (David 1985) or the nuclear power reactors (Cowan 1990) the efficiency of a technology is put under scrutiny and evaluated in its productivity with regard to its use (such as the typing speed affecting the companies who employ typists, or convenience and externalities of nuclear reactors).

2.2.6. 3-Phase Model of Path Dependence

The topic of path dependent adoption processes covers a range of concepts and includes a wide array of theories. To make the theoretical complex field of path dependence more accessible and graspable Sydow, Schreyögg and Koch (2005, p. 9) and Schreyögg, Sydow and Koch, (2003) distinguish path dependent adoption processes into three stages.

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 is only later that the event 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

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It 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, p. 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, p. 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 and Shapiro 1994; Farrell and 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, p. 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 and Koch 2005, p. 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, p. 372-3). Each technology requires investments in the form of time, effort or money. Therefore there are switching costs if a user abandons an established technology for an alternative because new investments have to be made. The required investments (i.e. switching costs) 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 and Koch (2003, p. 272) emphasize the possibility of path break or path dissolution, since in social settings a

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lock-in is not an utterly determined condition but merely constitutes a relatively confined leeway for actions. 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.

This 3-phase notion of path dependence allows to structure empirical-historical analysis clearly into three phases. The benefit of this model is that the core characteristics of path dependence, contingency, critical events, self reinforcing mechanisms and lock-in are associated with three different phases, and the analysis of historical processes can be structured accordingly in a straight-forward way. This 3-phase model will be the guideline for the empirical analysis in this research, as well.

2.2.7. Criticism of the Concept of Path Dependence and Debate

Criticism

Fierce criticism of the concept of path dependence from within the economic discipline has been brought forward prominently by Liebowitz and Margolis (1990). By attacking Arthur (1998) and David's (1985) conception of path dependency they kicked off a debate that highlights the challenges that the theory of path dependence posed to neoclassic economic theory: The contrast of rational behaviour (as it is assumed in the models of Arthur (1994) and David (1985)) and sub-optimal outcomes at the collective level is at odds with the neoclassic economics' assumption of rationality and perfect information of all actors in a market that should lead to an optimal equilibrium (Liebowitz and Margolis 1990, 1994, 1995).

Liebowitz and Margolis' (1990, 1994, 1995) argument is that an inefficient market outcome offers profit opportunities for actors in the market such that "the greater the gap in performance between two standards, the greater are these profit opportunities and the more likely [it is] that a move to the efficient standard will take place." (Liebowitz and Margolis 1990, p. 4) The reproduction or use of the inferior standard is interpreted as a negative externality of each adopter to all other adopters and "the creator of a standard is a natural candidate to internalize the externality" (ibid). Consequently if the benefits from changing to an allegedly superior standard outweigh the (switching) costs of doing so, a switch will be initialised by an actor that profits enough from the switch, particularly in the case that appropriation of a standard (e.g. by patents) is possible. If the costs of a switch do not outweigh its benefits, the alternative standard's performance is not superior enough, and thus one can hardly

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speak of market failure. Another argument refers to the technology selection phase, when alternative standards compete with each other: Rational agents foreseeing that a possible final equilibrium based on a superior standard is more efficient and thus more profitable than alternatives have an incentive to tactically direct the allocation process towards the superior standard (Liebowitz and Margolis 1990, 1995). So appropriation and sponsoring of technologies in combination with rational behaviour cause "Observable instances in which a dramatically inferior standard prevails are likely to be short-lived, imposed by authority or fiction." (Liebowitz and Margolis 1990, p. 4)

In their 1995 paper Liebowitz and Margolis introduce a distinction among three degrees of path dependence. Under path dependence of the first degree a development (of a market or technology) is sensitive to initial decisions but the outcome is the most efficient, because the long term effects of the decision were taken fully into account. Path dependence of the second degree can occur under imperfect information. Here initial conditions can cause a market to embark on a path that is inefficient in retrospect and costly to leave in favour of a superior alternative. Still, the authors hold that on this level the term inefficiency is misplaced or does not make sense, since the standards' inferiority was not foreseeable to decision makers at the outset, due to the limited information assumption. The outcome is not remediable in the sense that no feasible alternative exists: The benefits from a switch to an alternative allocation do not outweigh the total costs of such a policy or action. Path dependence of the third degree occurs if initial conditions lead to an allocation that is inefficient, but also remediable i.e. if an alternative superior arrangement is or was feasible but not obtained (Liebowitz and Margolis 1995, pp. 206-208). The arguments of the three degrees of path dependence are progressively demanding. So the authors note that the first degree is a common phenomenon, while the second poses no meaningful example of inefficiency. In both cases a deviation to a superior alternative is not possible or desirable. Only the third degree path dependence supposes in principle the possibility of improvements but is in conflict with the neoclassical model of rational behaviour, i.e. efficient outcomes due to foreseeable (long term) consequences of actions (ibid, p. 207).

Debate

These arguments have been responded to by David (1997, 1999) and treated by others (e.g. Puffert 1999) who insist that multiple equilibria are compatible with rational

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behaviour and foresight under the conditions of increasing returns, when random and small events are accredited a role in defining the initial conditions.

Puffert (1999, p. 4) holds that a sharp distinction between the three degrees of path dependence is hardly possible, since rationality and foresight, and appropriation are matters of degree. Thus entrepreneurship and appropriation offer a role for path creation in that rational vested interests can use strategies to push through inferior standards on the market level if foresight differs among market participants. On the other hand the concept of actors that are not fully rational in the sense that they have full foresight dates back to Herbert Simon's (1955, 1956, 1959) concept of bounded rationality. It postulates the guidance of human decisions by mental models (heuristics) aiming at satisficing instead of optimising utility. As Sydow et al. (2005, p. 10) note in this context the strict assumption of the fully rational homo economicus in neoclassic economic models is indeed a problematic concept for path dependence, particularly in the early phase of the process of adoption (at the critical event or juncture) when still two or more technologies compete and it is not determined which one will prevail in the market. The authors argue that in this early phase the principle of full rationality (and thus foresight) does not apply. Consequently choices are not unconstrained and open in the neoclassical sense: Choice becomes bounded because history matters and consequently "behaviour occurs in a specific historical setting and is influenced by it" (Sydow et al. 2005, p. 10) This connection between the structure of the environment on the evolving search path of individuals and the resulting payoff is also reflected in Herbert Simon's work, particularly in model-form in Simon (1956). Still, the presumption of contingency holds in the case that the choices are limited by environmental circumstances since there are alternatives technologies competing but one can not anticipate which one of them will finally prevail.

Furthermore, if a technological trajectory develops towards a sub optimal equilibrium appropriation not always provides enough incentives for correcting market failures: even if the total benefit of such a shift outweighs its costs a sponsor of a shift to a superior standard might reap only a fraction of the benefits e.g. being excluded of some form of benefit.¹⁵ Puffert (1999, p. 5) denies the acclaimed meaninglessness of second degree path dependence, noting that "outcomes that are demonstrably less efficient than possible alternatives are of interest for our understanding of the economy even if the inefficiency is due simply to the impossibility of foresight and not

¹⁵ Puffert does not go into the consequent possibility of government intervention that could internalise the costs even if a good deal of the benefits accrued from increases of consumer surplus, a point that Liebowitz and Margolis (1995, p. 207) discuss in footnote 3.

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to entrepreneurial or market failure.” Also studying an allocation mechanism that differs from the standard neoclassic model is of interest in itself even if allocative efficiency issues are not the focus of attention i.e. even if market failure does not occur (David 1999, p. 9). David (ibid.) argues that from a welfare economics perspective if positive feedbacks occur that rest upon “positive (network) externalities, or non-convexities such as learning effects and habituation” it is no longer guaranteed that the most efficient option will be selected by market mechanism (see also Varian 1991, pp. 471-479). Liebowitz’ and Margolis’ argument that market failures can not occur, since if they emerged, they would be corrected by market mechanisms is rejected by David (1999, p. 6) as tautological argumentation (see also Puffert (1999, p. 4). In this work, the Liebowitz and Margolis arguments are taken as an incitation to conduct proper economic analysis and to live up to the standards of scientific economic analysis. But in the light of the listed counterarguments their fundamental theoretical rejection and denial of the essence of path dependence theory the Liebowitz and Margolis critique are considered to be unproductive. In addition to the mentioned arguments the outward rejection of path dependence impede the economic historians’ work by excluding a framework that is theoretically well justified and a valuable tool for approaching historical cases of technology adoption.

In sum the above paragraphs dealt with the most important aspects of the theory of path dependence from an economics perspective. The rest of this work largely builds on the authors whose conceptions of path dependence commonly emphasise positive feedback mechanisms and increasing returns to adoption (network externalities, and economies of scale, learning-by-doing) such as Arthur and David. David and Arrow’s highlight of the notion of technical interrelatedness and quasi irreversibility of investment leading to strong rigidities and reproduction of a technique over time will be applied as well. In regards to de-locking this work will draw on the works of Schreyögg et al. (2003) and Cowan and Hultén (1996). The 3-phase model approach to path dependence (Sydow et al. 2005) will be used as a guideline of this research. This notion of path dependence will be combined at the end of the theoretical part with the concept of habituation which will be outlined in the following section.

2.3. Habits in Economics

2.3.1. Introduction

The reason for the introduction of the theory on habits into the analysis is a preliminary inquiry into the film market's rigidity with respect to dubbing: As the literature on language transfer holds a main source for the German film market being rigidly bound to dubbing is the audience's "familiarity and conditioning" to dubbing (Luyken et al. 1991, p. 112). Plainly spoken, this denotes habituation, i.e. a majority of the audience seems to be used to dubbing and therefore do not like to see subtitled films. Since this alleged rigidity is a major element of path dependence this work has to deal with the potential audiences' habits with regard to the consumption of language transfer of foreign language films and other audiovisual programmes.

In the above paragraphs on path dependence it was illustrated that learning takes a prominent role when increasing return mechanisms are concerned, particularly learning-by-doing (Arthur 1989, see also David's (1985) QWERTY example). Habituation is a sub form of learning and merely hinted in the path dependence literature as a phenomenon that can be responsible for increasing returns to adoption. Arthur (1994, p. 5) notes that "people became used" to a particular design of clocks which then prevailed, while for David (1985, p. 336) lock-ins into relatively inefficient technologies "[...] seems only too possible in the presence of strong technical interrelatedness, scale economies and irreversibilities due to learning and habituation." North (1990, p. 6) notes customs and traditions as carriers of informal rules over time. These excerpts hint that noted authors in the field closely associate human habitual action with path dependence. For these authors habitual behaviour constitutes a preservative or recurrent pattern of consumption that has gained acceptance over time on the individual and the collective level.¹⁶ But habitual behaviour is hardly specified and not looked at closely in the path dependence literature. This study shall overcome this negligence and introduce a thorough conception of habits to the body of the path dependence literature. Therefore this section focuses on habituation and its conception in the economics literature.

Habits are discussed in the realm of economic institutionalism since its origins in the late 19th beginning 20th century. To illustrate the treatment of the concept of habits in economics and place it into the context of this work it is useful to briefly pic-

¹⁶ Further below 'habit' is defined more encompassing. This preliminary definition only aims at demonstrating that habituation is a common, but neglected theme in the literature on path dependence.

ture how it was treated there and how it was adopted into neoclassical mainstream economics. The connection among habits and the works by David (1985) and Arthur (1989) is established by applying the neoclassic models of habits to their conception of path dependency. This section in connection with the previous on path dependence lays the ground for the combination of the economic theory of habituation and path dependence. Both theoretical complexes are shown to be compatible in the ensuing section.

2.3.2. Instrumental versus Ceremonial Habits and Stability

Basic Conceptions of Habits

Although it is widely noticed that institutions often involve habitual behaviour (Hodgson 1988; Veblen 1899), both are distinct from each other, with habits being rather routed in persons. Habits encompass different types of routinised and retained patterns of behaviour and thought which the Encyclopaedia Britannica defines as *“any regularly repeated behaviour that requires little or no thought and is learned rather than innate”*.¹⁷

As a starting point this section will use this common sense notion of habit as a repetitive action or pattern of consumption or thought being based on the individual but also manifested on the organisational and social level that needs not to be carried out fully deliberate. I.e. habits include behavioural pattern that has been internalised and is executed at different degrees of deliberation.

Habits can be interpreted in two ways that are often theoretically in conflict with each other but that are also astonishingly compatible in some cases:

On the one hand habits can be largely regarded as ceremonial in character. This aspect emphasises their past-oriented, conservative nature, retention of archaic traits and resistance to change of behaviour even if a new course of action or thought would be beneficial in the presence of environmental changes. Generally a negative connotation is associated with this aspect of habits, which - on the social level - is colourfully illustrated by Veblen (1899).

¹⁷ See: <http://britannica.com/EBchecked/topic/250806/habit>. Similarly the Enzyklopädie Philosophie und Wissenschaftstheorie (p. 772) defines habit as “philosophical-anthropological and psychological-sociological term for the individual- (‘attitude’, ‘character’) and group-, class-, culture-specific (‘custom’, ‘convention’) result of learned conduct that is practised and automated through repetition and resembles instinctive-reflective behaviour if observed from outside” Translated from German to English by the author.

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The other side of the habituation medal is the instrumental aspect of habits. It recognises that habits save intellectual effort when humans are confronted with similar situations recurrently. If a choice is made on the basis of a habit, i.e. a routinised response, this can be beneficial to the decision maker in that it saves time, cognitive processing- or search-costs and thus enabling humans to accomplish essential tasks with minimal effort. Thereby a habit increases efficiency and effectiveness of human activity by allowing concentrating cognitive and timely effort on unique, new challenges which propels progress. This instrumental aspect of habits is commonly understood as positive, usefully contributing routine serving a practical end (Waller 1988). The instrumental aspect of habitual behaviour bears conciliation with orthodox or neoclassical models' in economics, with its stress on the assumption that it is rational to follow a habit as long as it is beneficial to do so (as in Stigler and Becker 1977, pp. 81-83; Becker 1992, p. 331). Waller (1988, p. 121 ff) sees a possibility to combine neoclassic economics and habitual action: Unreflective habitual behaviour is not necessary irrational, (which would pose a severe problem for orthodox economics' theory and models) but merely "behaviour patterns that occur in the absence of conscious decision or choice." (ibid. p. 121)

Veblen Dichotomy

Habits can be instrumental and ceremonial at the same time. This split in the character of habits has been termed Veblen dichotomy (Ekelund and Herbert 1997, p. 415ff).

The contradiction of instrumental and ceremonial aspects inherent in habits troubles institutionalists since the concept found wide attention in the social sciences. For example Peirce, who puts a strong emphasis on the concept of habit (see Waller, 1988, pp. 113-114), had a quite simple but therefore also general idea of habit as an established "rule of action" (Peirce 1878, Chapter II).¹⁸ Peirce (1877, Chapter V, last paragraph) recognised the duality of the ceremonial and instrumental aspect of habits in that "The force of habit will sometimes cause a man to hold on to old beliefs, after he is in a condition to see that they have no sound basis." but at the same time Peirce thought that habits could increase efficiency of action, and individuals should rationally reconsider and -in the instrumental sense - adjust their habitual action over time in response to the changes in external circumstances: "reflection upon

¹⁸ It is not possible to indicate the exact page, of this citation since the Peirce's (1878) text *How to Make Our Ideas Clear* was retrieved in html form, without page numbers indicated from <http://www.peirce.org/writings/p119.html> in March 2007.

the state of the case will overcome these habits, and he ought to allow reflection its full weight." Peirce (1877, Chapter V, last paragraph)¹⁹ Peirce's theoretical proximity to path dependence (which can be constructed by the researcher from his writings, ex post from a current perspective) is hinted to in the sticking to old practises against better knowledge. The same duality was explicitly noted by John Dewey (1922) who referred to institutions as habits embodied in social structures (ibid, p. 108). For Dewey (1922, p 172) habits on the one hand were the conditions for intellectual efficiency while on the other they confined though.²⁰

Thorstein Veblen (1857-1929) was one of the early economists emphasising the concept of habits which still is a core theme in current economic institutionalism (Hodgson 1998, p 168). A fierce critic of his contemporary economic orthodoxy, he asserts that evolution of the continually men-constructed environment (culture in all its aspects and human's conduct as a part of it) is a constant self-propelling and accumulative change, a "cumulative sequence of habituation" and variation (Veblen, 1909, p. 628). At the same time culture and habits are recognised as a steady element of human nature which "remain essentially unchanged" (ibid. p. 628) in the form of institutions which influence individual action by giving incentives to and constraining the individuals' action and aspirations.

On the individual level (paralleling the neoclassic theory assuming exogenously given constant preferences) there is also a steady element in Veblen's conception of men, namely "the underlying traits of human nature (propensities, aptitudes, and what not) by force of which the response [to the environmental changes] takes place, and on the ground of which the habituation takes effect [...]" (ibid. p. 628).²¹

This institutional explanation of human action partly in terms of the environment and partly in terms of aspired individuals' means and ends can be found back in the economic institutionalism by Hodgson (1988, p. 12) who notes that "external

¹⁹ It is not possible to indicate the exact page, of this citation since the Pierce's (1877) text *The Fixation of Belief* was retrieved in html form, without page numbers indicated from <http://www.peirce.org/writings/p107.html> in March 2007.

²⁰ Dewey (1922, p. 172) writes that "Habits are conditions of intellectual efficiency. They operate in two ways upon intellect. Obviously, they restrict its reach, they fix its boundaries. They are blinders that confine the eyes of mind to the road ahead. They prevent thought from straying away from its imminent occupation to a landscape more varied and picturesque but irrelevant to practice. Outside the scope of habits, thought works gropingly, fumbling in confused uncertainty; and yet habit made complete in routine shuts in thought so effectually that it is no longer needed or possible."

²¹ But Veblen insists that the sole occupation with these steady elements or underlying traits of human nature anchored in the individual are not useful alone, since "human conduct takes place under institutional norms and only under stimuli that have an institutional bearing; for the situation that provokes and inhibits action in any given case is itself in great part of institutional, cultural derivation." (Veblen 1909, pp. 628-629).

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influences [are] moulding the purposes and actions of individuals, but that action is not entirely determined by them”.

Veblenian thinking adopted from a Marxian tradition the examination of humans’ economic conduct from a historical perspective, which is also vital for researchers of path dependence phenomena. In Veblen’s terms, institutions -the focal point of his writings- are relatively stable, *historically* grown social orders or structures that define human conduct via norms and values:

“As a matter of course, men order their lives by these principles and, practically, entertain no question of their stability and finality. That is what is meant by calling them institutions; they are settled habits of thought common to the generality of men.”

Veblen (1909, p. 626)

The universality of this notion of institutions as habits comes about because of the ceremonial character Veblen attaches to habits. The conduct these ceremonial habits prescribe (in the form of norms and values) has the social function of signalling status, wealth and power to other members of society. The conception of institutions as “settled habits of thought” shall be beard in mind in this work when it comes to describing the habits of film audiences and their ideas and preferences about language transfer of foreign language films.

Veblen (1899) building on the preceding work of Charles Peirce (Waller 1988; Ekelund and Herbert 1997) picked up Peirce’s theme of habits’ stability and analysed these in the social realm in terms of norms and values which are conceived as habits of thought. “In general, the longer the habituation, the more unbroken the habit and the more it nearly coincides with previous habitual forms of the life process, the more persistently will the given habit assert itself” Veblen (1899, p. 66).

In sum, according to the instrumental interpretation Habits can be past own – or institutionalised collective – experience the individual can fall back on to prevent engaging in self-harming action and facilitating a communities life in the forms of norms and code of conduct Bowles (1998). Habitual behaviour can be in accordance with utility maximisation. This is the case as habits save information acquisition costs when decisions have to be taken at regular intervals and the opportunity costs of a wrong decision are low; so instrumental habits save cognitive processing costs (Stigler and Becker (1977)).

The other, ceremonial aspect of habits can be described as ritualised component of habit (Waller 1988, p. 119. Ceremonial habits' negative connotation prevails prominently since Veblen's time: They are considered to be archaic traits and habits whose original instrumental aspect has ceased to exist but they are still followed.²² Waller (1988, p. 119) describes them as rituals that are "ordained from authority and repeated mechanically" in contrast to instrumental habits, which are rationally legitimised. The advantage of analysing habits from an instrumental perspective in this work lies in its potential for linking it with the economics' branch of the theory of path dependence as introduced above.

Nonetheless both, the ceremonial and instrumental aspects of habits, build on one similar assumption: The individual in principle *attempts* to act in a rational for its own benefit. In the following 'habit' primarily denotes a retained pattern of consumption and thought which is primarily instrumental but may also bears traits of ceremonial character.

2.3.3. The Influence of Society on Acquisition and Internalisation of Habits

What is interesting for this study is why habits are stabilised over Generations. This aspect of intergenerational stability of habits is relevant in later parts of this study. An explanation for Intergenerational stability of habits can be an explanation for a lock-in: Intergenerational stability of habits tells us why a habit is not abandoned by one Generation, even if it is not regarded as being beneficial, a ceremonial habit so to say that is rigid in nature over long time periods.

Just as actions and mental skills are (partially) learned from others so are ideas and thus finally patterns of preferences, i.e. potential habitual choice processes, too.²³

²² Habits contain ceremonial and instrumental aspects at the same time: When the instrumental retained pattern of action or thought, by being internalised, becomes an end in itself in the form of 'hardwired' aesthetic concepts and preferences. Because even if ceremonial habits' function is above all one of social signalling (as Veblen holds) the distinction between instrumental and ceremonial blurs because such behaviour can be imagined to save cognitive costs as well, by facilitating communication among members of a society.

²³ Habitual patterns of consumption that are somehow influenced by others' choices (excluding their influence on relative prices of goods such as network effects or economies of scale) evoke the notion of endogenous preferences. Endogeneity of preferences means that preferences are not exogenously given and inalterable which is problematic in the neoclassic theory. With preference endogeneity the forces underlying the final choice -the revealed preferences- are not solely determined by an individual's evaluation of his own personal commodity bundle independently of the social, psychological, economic environment (see Sen 1997; Gintis and Romer 1998; Bowles 1998 for an overview of preference endogeneity). In contrast, people are and influenced in their own choice by the consumption patterns and opinion of others (see the inter-temporal models on preference interdependence and its implications for welfare analysis in Pollak (1976, pp. 374 ff, 1978, pp. 309 ff, 2002, pp. 10-16). This notion of preferences breaks with the strict homo

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The (learning) processes, through which habits and finally preferences are acquired involves - above all in the beginning - some degree of intentionality: The actions or thoughts the individual has no experience with have to be carried out consciously-focused (Hodgson, 1994, 1988). At a later stage after having 'internalised' an action or thought through focused repetition and turned it into an acquired habit its execution need not be fully deliberate any more. Then, instead of the need to be explicitly or focally known and consciously carried out the process of its execution can be embodied in tacit knowledge. Consequently the habitual action or thought can be carried out non-reflectively as actions, skills or characteristics that its execution requires become increasingly refined, coined and executed automatically (Polanyi 1969²⁴, Hodgson 1988, 1994).

Generally the stability of habits over generations can come about when currently 'established' (older) members of a population pass on a habit to the next, younger generation and when adherence to the habitual conduct is somehow enforced (Hayek 1967, pp. 79-80).

The transmission of the rules of conduct from one generation to the next happens on the individuals' level (while the "natural selection" of rules (making up culture) that prevail operates through the efficiency of the resulting groups order (Hayek 1967, p. 67)). This adoption of institutionally established conduct from social peers operates through learning and imitation of rules of conduct by the individual to conform to the general social order (Hayek 1967 pp. 78-79). Hodgson (1993 pp. 124-126) extends this transmission to the social level by noting that information entailed in habit and conduct (i.e. in institutions) transmits and modifies through imitation and learning of individuals but also through whole institutions (see also Veblen 1909).²⁵

Stability of habits that constitute a social order comes about by punishment of deviant behaviour resulting in exclusion from the group (Hayek 1967).²⁶ While economic reward or punishment may affects individuals' adoption and learning of cul-

economicus' "methodological individualism" (Rabin 1996, p. 2) with its implied independence of other peoples' quasi self-sustained fixed preferences.

²⁴ Since the document is an html document there are no page numbers indicated. This Lack of oversight is not too much of a problem, since the whole text encompasses merely 8 pages when converted into a standard text document.

²⁵ The habits that describe the social order of a group may change due to environmental and group-internal pressures and in turn require modification of individual behaviour, the modifications of which are learned and transmitted to the current and following generation. So the individual conduct brought about by learned rules defines the group's social order which in turn feeds back to individual conduct (Veblen 1909, p. 629).

²⁶ For Hayek (1967) the pivotal punishment is the threat of exclusion from the group, thus disregard of habits will result in deprivation of the habitual known securing institutional and social order.

tural traits and their replication Bowles (1998, p. 80) doubts the pure intentional-rational adoption of habits as response to some form of coercion since “most preferences are not chosen in the usual sense of intentional action toward given ends. Rather preferences are learned as an accent or taste for a national cuisine is acquired that is by processes which may but need not be intentional.” This view implies that members of younger generations adopt their parents’ habits by socialisation, acquire them from ‘role models’ by exposure and emulation. Neither side of this adoption process has to be consciously aware of this reproduction of habits: “The forces of acculturation seem natural, and may be inevitable. Values supportive of dominant institutions are taught, and learned and internalised by teacher and pupil alike. Power can then be held to be strongest when no coercion is apparent at all.” (Bartlett 1994, p. 173) Adherence to canons of conduct and taste can be excited and ‘enforced’ in a very subtle form of reference/peer-group pressure that is exerted on the individual. Such a – (apparently) non-coercive but subtle and non-reflective – preference adoption could serve the reduction of dissonance between oneself and the environment (Festinger 1959, § 1, 2; 1957).²⁷ It is conducted to reduce psychological tension and conflict, meaning that an individual – maybe opportunistically in the beginning – accepts and internalises opinions from outside and undergoes ideological changes: “The human cognition tries to establish internal harmony, consistency or congruity among his opinions, attitudes, knowledge and values. [...] there is a drive toward consonance among cognitions.” (Festinger 1957, p. 26).²⁸

To have explanatory power across time and situations endogenously changed preferences with respect to habits are to be distinguished from simple (institutionally) induced incentives (such as changes in relative prices) where the underlying preferences stayed constant. “Thus, however acquired, preferences must be internalised, taking on the status of general motives or constraints on behaviour” (Bowles 1998, p. 79)

2.3.4. **The Household Production Function and Commodities**

As a reminder, the working definition of habits that has been given in the outset of the previous section holds that habits are a ‘repetitive action or pattern of con-

²⁷ Festinger, L. (1957). *A theory of cognitive dissonance*; Stanford, CA: Stanford University Press. This reference is taken over from Bowles (1998, p. 81).

²⁸ See footnote above.

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sumption or thought being based on the individual executed at different degrees of deliberation' in the instrumental sense.

All consumption decisions involve a choice. Choice has a connotation of ratiocination and deliberation in the standard economics literature by being termed 'rational'. In how far choices are rational or not will not be discussed here. The interested reader is referred to the rich body of literature on the topic, e.g. Ekelund and Hérbert (1997), Varian (1982, 1991, pp 31ff), Mirowski (2002), Dow (2002), Hodgson (1993, 1988). When the topic of choice and rationality are touched in the economic literature the concept of preferences is unavoidable: "Preferences are reasons for behaviour that is, attributes of individuals that (along with their beliefs and capacities) account for the actions they take in given situations" (Bowles 1998, p. 78). For the moment I will stick to this simple definition of Bowles and not dig the discussion of what preferences actually are.

Stigler and Becker (1977, p. 77) develop their commodity approach from the conception from the neoclassical theory: Commodities are actually 'produced' by households and composed of different components such as purchasable market goods (x_i), time (t_i) and human capital (S_i) under environmental conditions (E) (such as state of technology) and combined under the 'household production function' (HPF)²⁹ to a commodity (Z_i) from whose consumption utility is finally derived. In Michael and Becker (1973, p. 382) the human capital factor is not considered in the HPF, while in Stigler and Becker (1977, p. 77) the Y in the HPF stands for 'other inputs'.

So the final demand for market goods is derived from the demand for commodities that are produced according to the HPF in analogy to the firms demand for factors of production.³⁰ Individuals maximise their overall utility by taking into account all factors that enter the HPF and purchase goods in the market accordingly. Michael and Becker (1973, p. 382, footnote 2) note that the basic unit of their model is the household, but that there is no reason not to break the model down to the individual human being.

In the context of this work the notion of preferences over commodities in the sense of Michael and Becker (1973, pp. 381 ff) and Stigler and Becker (1977, p. 77) will be

²⁹ In Michael and Becker (1973, p. 382) the human capital factor is not considered, so the HPF is $Z_i = z_i(x_i, t_i, E)$, while in Stigler and Becker (1977, p. 77) the HPF is $Z_i = f_i(x_i, t_i, S_i, Y_i)$ where Y stands for 'other inputs'.

³⁰ The HPF of Michael and Becker (1973) can be seen parallel to state-dependent commodities, (see HET 'The State-Preference Approach' for an overview) meaning that the same movie is perceived as a different good in different states of the world (Hirschleifer 1965, pp. 523ff). With respect to films these states may depend e.g. on whom one watches the movie with, the medium of consumption (TV, PC, and cinema) and the time (the hour of the day, the season in the year or one's age) and one's mood (Eliashberg and Sawhney 1994).

central to the analysis of audience's behaviour. A consumed film is a composite commodity. The rationale for this is that films may be perceived and valued differently depending on the conditions and the skills of the individual consumers and on variable circumstances concerning the mode of consumption: The story, the actors, the cinema or Home entertainment equipment, the prior knowledge of the viewer and finally the language of language transfer presentation (e.g. subtitling or dubbing).

Stigler and Becker base their 1977 model on the three fundamental assumptions of the economic approach: "maximising behaviour, market equilibrium, and stable preferences [...] that do not change rapidly over time, and that the behaviour of different individuals is coordinated by explicit and implicit markets." (Pollack 2002, p. 5 referring to Becker 1976, 1981) But actually "Becker no longer regards stable preferences as a fundamental assumption of the economic approach" (Pollak 2002, p. 5; see also Becker and Murphy, 1988). Indeed Becker (1992, p. 340) – referring to Stigler and Becker (1977) – notes that "the evolution of preferences out of past experiences seems far more intuitive, even when extended to institutions and culture". He holds that the basic assumption of his theory of habits/addiction is that consumers maximise utility from underlying *meta preferences* over fundamental aspects of life which are stable but not from current preferences alone. Meta preferences refer to preferences over health, prestige, or music appreciation instead of specific market goods which are just means to an end defined by the meta preferences. For example: preferences over particular styles or composers of music. In the case at hand the meta preferences of consumers would correspondingly refer to "appreciation of film i" to which the mode of language transfer would be component. This, reformulation allows for changes in individuals consumption patterns and is founded in the conception of commodities as being composites of different market goods, time and skills.

Criticism

Standard neoclassical consumer theory is not unchallenged in its applicability to actual human behaviour; so the theory got amended by economists (e.g. see Hodgson 1988; and Dow 2002). For example expected utility theory supposes an agent to perform several demanding tasks (with respect to foresight and the calculation of probabilities) that humans can not live up to (Giloba and Schmeidler 2004): "It seems unlikely that decision makers can answer [the] questions [posed by the Expected Utility theory, which] does not describe the way people "really" think about such problems." (ibid, p. 661) Particularly adjustments and concessions relating to

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the conception of rationality of individuals (and firms) are helpful for those who aim at incorporating habitual behaviour into standard economic analysis. Instrumental habits still require decisions to be *approximately* and *'as if'* rational as Friedman (1953) demands, but be non-reflectively-habitual at the same time. Waller (1988, p. 121) holds that choice need not be fully deliberate but can be non-reflective and still needs not be irrational but being most beneficial to the chooser. This notion found entry in to the economists community by the works of Simon (1955, 1956, 1959): He illustrates that humans can cope with their 'bounded' cognitive information processing capabilities by using heuristics as decision guideline so that humans rather seem to satisfice instead of optimise their utility. To reconcile Simon's notion of bounded rationality with the theory of revealed preferences, Sen (1997) introduces a corresponding axiomatically adjusted framework of (local) maximisation, as distinct from (global) optimisation.

2.3.5. Theory of Habitual Behaviour and the Role of Consumption Skills

In order to concretise the - still quite general - concept of habits and to make it applicable to audiences' viewing habits in regards to language transfer of foreign films the following paragraphs draw on the basic mechanisms at work in the Stigler and Becker (1977) model of habitual behaviour. To start with: In economic analysis behaviour is defined as habitual or addictive if past and present or future consumption are positively correlated (see Messinis 1999, p. 418 ff for an over view of habituation and addiction models).

The Model

The basic model of Stigler and Becker (1977) starts out with the assumption that households or individuals³¹ derive utility from consuming commodities (Z_i) with utility $U = u(Z_1, Z_2, \dots, Z_m)$. Z_i is 'produced' by the individuals according to a household production function (HPF) (Michael and Becker 1973, p. 382). The utility derived from the produced commodities is determined by the consumers' set of meta preferences, in the case at hand Z represents "appreciation of film i " (compare Stigler and Becker 1977, p. 78). If film i is a foreign language film, this notion entails

³¹ The model is conceived for households but Michael and Becker (1973, p. 382, footnote 2) hold that it is applicable just as well to individuals, as done in Stigler and Becker (1977).

that “appreciation of film i ” depends partly on how the specific language transfer mode, corresponds with the other factors entering the HPF: In Stigler and Becker (1977, p. 77) the HPF that determines the consumers’ production of Z_i is denoted as $Z_i = f_i(x_i, t_i, s_i, Y_i)$ ³², with $i = 1 \dots m$, while x_i , t_i and Y_i are vectors of market goods, time and other inputs respectively. The factor that is of the most interest for this research is s_i , the vector of consumption skills or human capital that the consumer employs in the production of the film enjoyment Z_i . s_i is related to the consumption of a specific good and facilitate its consumption and/or increase the utility derived from its consumption.

To illustrate this utility function, at the moment it is assumed that in the case of preferences over language transfer, the s_i represents foreign language skills and subtitling reading skills that positively enter the HPF in the case of subtitling. In the case of dubbing the relevant skills that contribute to increase the utility of film consumption are assumed to denote tacit ignoring of the inconsistencies of lip-sync-dubbing.³³ These skills are assumed to increase the utility derived from movie consumption in the specific language transfer mode they refer to. They will do so the more if the stock of skills is accumulated in larger amounts within a single consumer. The relative and absolute amount of skills determines the relative utility derived from consuming foreign language films in the respective language transfer mode. In how far these or other skills are relevant in practice is a matter of concern in later chapters; at the moment they serve as an illustration of the concept.

In economic analysis behaviour is defined as habitual or addictive if past and present or future consumption are positively correlated (see Messinis 1999, p. 418 ff). In the class of so-called habit stock accumulation models good habits or addictions are distinguished from harmful ones. They have in common that consumption of a commodity influences the human capital or skills stock which in turn affects utility from consumption in the future. But how the future stock is affected depends on the nature of the habit. In the case of harmful habits (such as cocaine consumption) past consumption has a negative effect on the current marginal utility of consumption of that good (and of utility in general), which is known as tolerance (see Grossman et

³² The models in Michael and Becker (1973) and Stigler and Becker (1977, p. 77) are nearly identical. They are distinguished primarily by the HPF. In Michael and Becker (1973, p. 382) the human capital factor is not considered, so the HPF is $Z_i = z_i(x_i, t_i; E)$, with E denoting “environmental variables reflecting the state of the art of production, or the level of technology of the production process”.

³³ These inconsistencies are on the one hand the non-synchronicity of spoken words and lip-movements and on the other the contrariness of characters speaking the domestic language in an obviously non-domestic context, e.g. Chinese farmers talking German to each other in their native village.

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al. 1998, p. 631-632 and Becker and Murphy 1988, p. 682). Tolerance arises because current consumption erodes the consumption skills stock of the individual. Consequently the individual has to increase its consumption in the future to achieve the same level of utility, *ceteris paribus*. An example would be that a body's tolerance to a drug increases with usage, such that the drug has to be consumed in ever larger amounts in consecutive to achieve the same effect of satisfaction from its consumption. Another example would be the acclimatisation to a standard of living, such that consumption expenditure has to increase over time to achieve the same level of utility.³⁴ With beneficial habits the effects work vice versa. Here future marginal utility of consumption of a specific commodity is positively related to the amount of its current consumption, because consumption and exposure positively contribute to the accumulated stock of specific consumption skills. (see Becker and Murphy 1988, pp. 680 ff; Becker 1992). Examples for beneficial addictions are playing tennis or 'music appreciation' as outlined by Stigler and Becker (1977, pp. 77-79). It is important to note that in the economic literature on habits the notations 'beneficial' and 'harmful' bear no judgement relating to connotations of social desirability, health or wealth effects of the habitual behaviour.

To this moment the argument on habitual behaviour was constructed using merely the basic building blocks of the Stigler Becker model: Utility generating Commodities produced according to the HPF with consumption skill accumulation through past consumption being responsible for habitual behaviour. What was left out of the picture is the implication of the Stigler-Becker assumption of rationality combined with foresight. Rationality and foresight means a consumer takes current and future effects of consumption into account (see Grossman et al. 1998, p. 632). This turns individuals' habits and addictions into fully consciously calculated and intended behaviours aiming at maximising inter temporal utility, without regrets. Although it may not be the centre of the later analysis this aspect of the model is outlined here for completion:

Criticism on this rational character of the actors of their habitual and addictive behaviour refers to the intentionality and the lack of regret (e.g. of drug addicts) and the lack of policy options in the realm of pre-emptive education to prevent habits

³⁴ The literature on habits, as it investigates demand functions of particular goods, is primarily concerned with harmful addictions in the common sense of the word (Becker, 1992, p. 328) such as cigarette smoking (e.g. Chaloupka 1991) alcohol and drug usage (see Grossman et al. (1998, p. 3) for an overview of the empirical applications of addiction models). Another field in economics that employs the notion of habits is research on the lifecycle permanent income model of consumption (for an overview see Messinis, 1999, p. 418ff).

2.4. Path Dependence in Habit Formation

(Messines 1999, p. 424). Myopia can be incorporated in the Becker and Murphy (1988) model: As the consumers' time preference for the present utility gets larger, they become more myopic. The strict assumptions of the BM model have also been moderated by Orphanides and Zervos (1995). They modify the BM model to account for rational but unintended addiction with learning from past consumption experience and regret due to imperfect foresight of the costs and uncertainty of own propensity to addiction (compare Orphanides and Zervos 1995, p. 740-741). Consumers are myopic in that they do not take the effect of their current consumption on future utility in account when they determine their utility maximising consumption bundle (Muellbauer 1988, pp. 49-50, for an overview of myopic habit models see Messinis 1999, p. 427 ff).

However, such a complication of the matter is not required for the purpose of this study: The basic building blocks of the stock accumulation models of habitual behaviour are regarded as sufficient to describe and explain the habitual preferences over language transfer formats as path dependent processes in this research: utility generating commodities produced according to the HPF with consumption skill accumulation through past consumption being responsible for habitual behaviour. The habituation model on which this research draws is based on the notion of consumption skills lying at the heart of habitual behaviour. The basic unit of analysis is the individual consumer and his consumption and exposure to of foreign language films. Habits - perceived as such - can take the role of positive feedback mechanisms and cause lock-in which allows their incorporation into the models of path dependence. This positive feedback function of habits works first at the demand side of the market causing rigidity, and secondly it influences the interplay between demand and supply in reinforcing the rigidity. The following section will integrate path dependency and habituation and theorise how habituation leads to path dependence in the case of dubbing of foreign language films in Germany.

2.4. Path Dependence in Habit Formation: An Integration of the Theories of Path Dependence and Habituation

In the section on path dependence above it was argued that once the path dependent process settles to a locally stable equilibrium a deviation from this arrangement is difficult. The reason for this rigidity is that individually perceived switching costs of changing to a superior technology might outweigh its perceived benefits. The under-

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lying reasons for switching costs raise the value of the more established technology in relation to competitors. In this section it will be first examined in how far most of the core characteristics of path dependence - positive feedback mechanisms, switching costs and lock-in - can be theoretically deduced from the concepts of habitual consumption discussed so far.³⁵ The goal is to integrate the theory of path dependence and the theory of habituation. Then it will be theorised how this model of path dependent habitual consumption can be applied to the language transfer of foreign language films as this is the centre of this study. This application serves the purpose to illustrate the theory itself at the case of an abstract still hypothetical case. Another purpose of this – still hypothetical – example is to see in how far the integrated theories can describe the relevant aspects (phase I-III) of a country's hypothetical path dependent adoption of a language transfer technique.

2.4.1. Path Dependence and Positive Feedback in Habituation Models

Becker (1992, p. 329) identifies the property of positive feedback mechanism being inherent in habitual behaviour in the form of 'reinforcement'. This property of habits corresponds to the positive feedback (or self-reinforcing) mechanisms central to the path dependence models in Arthur (e.g. 1994) and David (e.g. 1985). In the realm of path dependence the reinforcement property is responsible for the market to "tip over" (Katz and Shapiro 1994: 106) towards one alternative. This tipping over due to a positive feedback-mechanism plays a central role in the addiction/habits models, too, where habitual behaviour induces consumers to consume a lot of one commodity and thereby neglect alternative consumption patterns.³⁶ The terms 'habits' and 'addictions' are treated as synonyms in the economics literature (Grossman et al. 1998, p. 632) but Becker (1992, p. 329) specifies that addictions are *strong* habits; while the "demand for addictive goods tends to be bifurcated: people either consume a lot, or they abstain". Strongly habitual or addictive behaviour is characterised by two possible steady states that the consumer can realise: one is characterised by a high level of consumption of the addictive good in question and the other by abstinence (see Becker and Murphy 1988, p 683). In models based on a concept of strong ha-

³⁵ This leaves the (potential) inefficiency of the lock in aside, which is a matter of the case that is examined.

³⁶ That habits induce a shift in consumption towards one specific commodity can also result from the increase of consumption of one commodity while the budget constraint is assumed to remain constant.

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bituation the positive feedback mechanism of habituation results in the settling to a locally stable equilibrium- just like in path dependent processes.

With path dependence it can not be predicted *ex ante* which equilibrium will be selected. This is only possible after the process evolved towards the clear advantage of one alternative. This property of uncertainty can be found in habituation processes on the micro level, as well: Which steady state is reached depends on the initial stock of specific consumption skills: the more specific skills of one sort are accumulated the larger is the likelihood that consumption of the corresponding specific good settles on a high level due to habituation (see Gavrilă et al. 2005, section 5). Which sort of skills are initially accumulated or present in the individual is dependent on critical events. The point of bifurcation of the individual's path of consumption is reached as a certain threshold level of specific consumption skills is accumulated within the individual. If the accumulated specific consumption skills exceed the threshold level, the consumption of the good that is positively associated with these specific skills will increase strongly. The reason for that is the circular positive feedback between increasing specific consumption skills resulting in consecutively increasing utilities of consumption and finally in higher levels of consumption of the corresponding good. That self-reinforcement leads the individual to shift consumption to one alternative and neglect other goods. Thus, once one alternative has gained an advantage in terms of accumulated consumption skills, *ceteris paribus* its chances to crowd out the competitor increase. But the individuals' initial endowment of accumulated consumption skills is not predictable. In that the habituation models bear resemblance to the path dependence models.

2.4.2. Rigidity of Habits: Switching Costs and Quasi-Irreversibility of Investment, Complementary Technologies

Research on path dependence is concerned with economic arrangements being rigid in nature, due to switching costs that the involved economic actors bear if they change to an alternative technology (that may even be superior).

Following Arrow (2000, 2004) merely quasi-irreversibility of durable capital investments is a necessary condition for path dependence. Quasi irreversibility of investment means that the timely order of investment in alternative technologies is irreversible and biases chances of becoming a market standard to the technology in

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which capital investment has begun at an earlier point in time (see David, 1985 and Arrow 2000). 'Capital' refers to durable physical capital but also explicitly to durable human capital (see Arrow 2004, p. 28). Consumption skills can be conceived as a form of durable human capital in which investments can be undertaken. The result of such investments is the accumulation of (consumption) skills. It is easy to adopt the concept of quasi-irreversibility to the case at hand. David (1985, pp. 335-336) explicitly mentions the investments in the workforce's typewriting skills as being quasi-irreversible as a decisive contributor for path dependence in the QWERTY case. David (1985, p. 334) also emphasises technical interrelatedness or compatibility among different technologies as a source of rigidity of a standard. In the following paragraphs it will be discussed in how far these aspects are theoretically compatible with the concept of habitual preferences over language transfer formats.

2.4.3. Application of the Theory of Path Dependence, Habituation and their Integration in the Case of Language Transfer

Language Transfer and Consumption Skills: A Self-Reinforcing Phenomenon

By employing a parallel argumentation Stigler and Becker's (1977, pp. 77-79) model of habitual music consumption and music appreciation can be applied to the phenomenon of "appreciation if film i", Whereby the habitual consumption of films in a specific language transfer mode constitutes a 'beneficial habit' in the sense that the language transfer specific consumption skills stock is accumulated and consumption is facilitated in the future. For the purpose of explaining the development of the language transfer formats the main argument of the rational addiction model (Becker and Murphy 1988) is sufficient: Consumption is accompanied by (incidental) acquisition and accumulation of specific consumption skills that facilitate and thus increase consumption of this specific good in the future.

Applied to the case at hand this means that consumption of - and exposure to - foreign language movies in a specific language transfer technology (be it subtitling or dubbing) facilitates consumption of foreign language films in the respective language transfer method in the future. In the context of the model this assumes that current consumption of a specific language transfer method induces accumulation of specific consumption skills which has a positive effect on future utility of consumption of the same language transfer method. This increase in marginal utility should

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naturally serve as an incentive to consume more foreign films in the same specific language transfer format in the future. It shall be noted that this dynamic depicts a positive feedback mechanism, which is important as it is a central character of path dependent processes.

In the case of subtitling the preliminary assumed consumption skills that positively influence the utility derived from watching subtitled foreign language films are (a) foreign language skills and (b) subtitling reading skills. The more subtitled programs the viewer consumes the more he gets acquainted to listening actors talking in a foreign language (assume English for simplicity) and the larger will be the comprehension of the foreign language dialogue in the future, which increases the utility from watching subtitled films. In turn more subtitled films will be watched and more subtitling specific consumption skills will be accumulated.

The relevance of foreign language skills for the case at hand illustrates that consumption skills are not only accumulated through exposure to and consumption of the commodity whose consumption-utility they elevate, but through consumption of other not film-related commodities that are denoted Y_i in the HPF above (e.g. such as schooling improving language skills which feed positively into the stock of consumption skills relevant for consumption of subtitled foreign language films). The majority of the foreign films consumed in the EU are produced with original English dialogue (Media Salles 2006).³⁷ Since English is studied by a vast majority of pupils in schools throughout Europe (Eurydice 2001 pp. 95 ff) basic English skills can be assumed to be present in the population. In how far the English taught in school is sufficient to comprehend dialogue that are pronounced fast and possibly in slang or dialects is not guaranteed, though. However, subtitle related-consumption skill improvements in terms of increased comprehension of spoken foreign language and subtitle reading skills do well result from consumption of subtitled foreign films and television programs (see Koolstra et al. 2002).

With respect to dubbing the consumption skills are less obvious. The presumed skills are actually rather subtle. As a preliminary assumption they consist in the ability to tacitly ignore or 'getting used to' the inconsistencies of dubbing. The longer consumers are exposed to dubbed foreign language films, the more they accumulate the skill to ignore the inconsistencies that are inherent of dubbing and the more they

³⁷ The European Cinema Yearbook (Media Salles 2006) states that US productions alone account for roughly 79% of the total German cinema market share between 1998 and 2004, the figure is even higher for the Netherlands (85,8 %). For the rest of the EU the figures look similar. And these figures exclude British and other English-dialogue productions.

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appreciate dubbing. In turn the consumption of dubbing will increase. An alternative explanation would be that the stock of subtitling specific consumption skills depletes as more dubbing is consumed. This implied that habituation to dubbing is a 'negative' habit in terms of the Stigler Becker model, but the implications for this research are unchanged.

Thus the decisive question seems to be to which language transfer format the individual is exposed first. The format to which one is exposed to first and over a significant length of time (i.e. long enough to accumulate a sufficient stock of consumption skills) should be the format to which one becomes habituated in the first place. So when the initial exposure is seen as a critical event - or rather critical phase in this example - the individual's path of habituation can be seen as showing important elements of path dependence. This example of an individual can be transferred to the collective level of a whole population, or rather audience: It is possible that with the introduction of sound film, the audience has been exposed to a specific language transfer format for a long enough time to accumulate the corresponding consumption skills and habituate to this format. When the choice for the language transfer format has been decisively influenced by small events then this early phase could be regarded as the phase I - the triggering phase - of the path dependence model. As the exposure to the specific language transfer format is ongoing the audience consequently continues to accumulate the corresponding language transfer skills. This in turn fosters the habituation to this language transfer format. This development of reinforcement of the habituation could be regarded as the second phase of path dependency. So in the case of Germany the adoption of dubbing could originate in small events that favoured the use of dubbing at the time when sound film has been introduced (Phase I). The theory holds that after this initial exposure to dubbing the German audience got increasingly habituated to dubbing (phase II).

Further below, in the empirical part of the work the consumption skills will be elaborated on in more detail. The impatient reader can infer the basis for the above presumptions from Koolstra et al. (2002).

For clarity and to facilitate the further argumentation a definition of the concept of habitual behaviour in the case of language transfer techniques shall be given:

Definition: 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 method. Its repetitive and rigid nature is brought about by the accumulation of a language transfer method-specific consumption skill portfolio

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that increases utility from consumption of the corresponding specific language transfer method.

Rigid Habitual Behaviour with Respect to Language Transfer Formats

Above the self-reinforcing character of the consumption skill accumulation associated with the consumption of dubbing or subtitling was sketched. As a basis to advance the discussion it will be illustrated how rigidity of preferences over language transfer formats can be rooted in the individuals' consumption skills. In the language transfer case rigidity on the micro level (i.e. on the level of the individual consumer) occurs as it is expensive to put to scrap the established stock of accumulated skills as a whole and replace it by a new set of skills. Take the example of subtitling-related consumption skills: It is reasonable to assume a rate of deterioration of the accumulated stock of skills over time (this argument has been given by Stigler and Becker 1977, pp. 77-79). This deterioration is balanced by the accumulation of skills – let's say language comprehension skills – as a side product of consumption.³⁸ I.e. there is a constant investment in new skills to counterbalance the rate of deterioration of the existing stock of skills and restock the skill portfolio. The crux of the matter is that the restocking as well as the deterioration of the skill portfolio occurs in an incremental fashion. So once a stock of consumption skills is accumulated that is sufficiently large to ensure comprehension of subtitled films (and consumption is on a level such that the accumulation rate is at least as large as the rate of deterioration) the individual does not have to undertake a painful effort to restock the whole skill portfolio at once. This incremental reinvestment in a specific consumption skill portfolio represents the situation of an adult film consumer in a subtitling country, where consumers are widely habituated to watching subtitled foreign language films. If one assumes that consumption of dubbed movies is facilitated by an accumulated dubbing-related consumption skill portfolio, the same logic holds for the adult consumer in Germany.

How does this consideration of habituation fit into the established path dependence theory and how can it explain the audience rigidity with respect to language transfer formats? The reason for an audience being strongly habituated and cling-

³⁸ The rates of deterioration or accumulation may well vary during a lifetime with age (see Stigler and Becker 1977). The net effect to the stock of consumption skills is determined by the relative strength of the two rates. Stigler and Becker (1977) the rate of accumulation of skills decreases with old age since the discounted benefit of the investment in new skills from future periods decreases, as the expected remaining life time decreases.

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ing to a language transfer format is that there are costs of transition for switching from that format to another. Similarly switching costs are responsible for the typewriter market's lock-in into QWERTY: David (1985, p. 336) calls these costs "the high costs of software conversion and the resulting quasi-irreversibility of investments in specific typing skills".

In the QWERTY case the typist skills fulfil a similar function as consumption skills in the language transfer case. David (1985, p. 334) argues that "technical relatedness, or the need for system compatibility between keyboard "hardware" and "software"[determine] "the expected present value of a typewriter as an instrument of production" In the case of habits over language transfer formats consumption skills can be conceived as specific "software", as well. In analogy "hardware" represents a language transfer technique, i.e. either subtitling or dubbing. Here, too the degree of compatibility of hardware (language transfer format) and software (specific consumption skills) should determine the value, i.e. the utility from consumption, i.e. 'film appreciation'. This utility increases with the degree of complementariness of consumption skills and the consumed language transfer format. At the same time the accumulation of specific consumption skills can be pictured constituting a quasi-irreversible investment in a set of specific consumption skills.

The rigidity inherent in habitual consumption is best illustrated when it is imagined that the individual is forced to change his habitual pattern of consumption drastically, such that the consumers 'must' consume an alternative language transfer format. If people consume a language transfer format for which they have not yet accumulated a compatible sufficiently high stock of consumption skills they should experience this switch as costly. These costs are psychological and hardly quantifiable in monetary terms. These costs should be twofold:

First: The consumers lack the consumption skills complementary to the new language transfer technique and consequently the utility from consuming the commodity "film" should fall abruptly. If the individual anticipates the fall in utility that is brought about a change of the language transfer format it will resist such a change and refuse the consumption of an alternative language transfer format beforehand. An example would be a sudden switch of the German language transfer regime from dubbing to subtitling. Consequently the German general audience who should lack a sufficient and adequate set of subtitle-related specific consumption skills would experience an abrupt fall in utility derived from consuming the commodity film.

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Second: if the language transfer format was changed for good “costs of software conversion” accrue in the form of time, effort, and disutility: When an audience has to change the language transfer format so that the old stock of language transfer-specific consumption skills becomes obsolete it therefore has to be replaced by a new stock of skills. These “costs of software conversion” cause a drop in consumption utility. So, if the German audience had to undergo a switch from dubbing to subtitling this implies “high costs of software conversion”, since the subtitling specific set of consumption skills has to be accumulated from scratch. These switching costs can explain the rigidity inherent in Germany’s habitual dubbing consumption and the audiences’ resistance against a switch to watching subtitled films.

Arrow (2000, p. 175), points to the close relationship between quasi-irreversibility of investments and complementarities of two technologies. He holds that both reinforce each other which can result in inert path dependent outcomes. The reason is that the switching costs of introducing a new technology increase when capital is not only durable but also complementary to another ‘installed base’ technology: Switching to a new technology requires replacing the established durable capital and in addition the complementary installed base becomes obsolete. In their application to consumer habituation to a language transfer format the concepts of complementary technologies and quasi-irreversibility to investment tend to be strongly intertwined. This is because consumers *invest* in a particular set of consumption skills that is *complementary* or *compatible* only to a specific language transfer format. The concept of quasi-irreversibility of investments emphasises the difficulty and cost of accumulating a new set of consumption skills, i.e. the cost of changing from dubbing to subtitling and vice versa. The emphasis of technical compatibility lies on the question in how far a stock of consumption skills matches or is compatible to one of the two language transfer formats, dubbing and subtitling.

As a result of this section it can be said that the alleged rigidity of the German audience with respect to dubbing can be theoretically explained by the theoretical concepts of dubbing-related consumption skills. These skills constitute a specific investment complementary to dubbing and they do not ensure the comprehension of subtitled foreign language films. Therefore a switch from dubbing to subtitling should be costly in psychological terms. The audience - anticipating these costs - resists a change of the language transfer formats. The resulting rigidity displays the characteristic inflexibility of the lock-in phase of path dependence (phase III) where a change to another language transfer technique is impeded.

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Another complementary theoretical explanation for the German audience's rigid holding on to dubbing could come from the research on myopic search. There individuals economise on search costs when they decide on consumption alternatives (similar as in Simon 1956). Hoeffler et al. (2006) describe the role of myopic search resulting from a trade off between short run costs of selecting an inferior outcome and the long run benefit from experimenting and learning and finding superior alternatives: "If people are overly focused on extracting immediate utility, they should be more likely to select an experience that is similar to the favourable one they recently enjoyed." Thus "The starting point may heavily influence which particular region people select from and myopic search constitutes the mechanisms that limits their search to that particular region." (Ibid. p. 218)

It is easily possible to transfer this concept to the case of design in Germany: The German individual is habituated to dubbing from young ages on and dubbing consumption constitutes a positive experience. If the environment does not provide individuals with strong incentives to consume alternatives formats, such as subtitling, then their search space will be likely limited to dubbing and subtitling will be neglected.

In this section it was illustrated how the theory of path dependence and habituation can be integrated. It was also attempted to theoretically apply the theory of path dependence to the case of dubbing in Germany and explain its rise to domination as a result of the self-reinforcing character of language transfer specific consumption skills. Also, these skills can theoretically help explaining the rigid adherence of the German film market to the dubbing standard. The focus of the theoretical explanation was on the individual consumer. The following sub-section theorises on why the adherence to dubbing is incessant in Germany over generations. It thereby provides a theoretical explanation for a potential lock-in to dubbing.

Intergenerational Habit Persistency

This paragraph follows Arrow (2004, p. 32-33) and Hayek (1967) and delivers a theoretical explanation for why habits on films' language transfer formats are continuous over generations. This provides another approach to theoretically illuminate the path dependent character of habitually acquired tastes over language transfer techniques. The aspect of intergenerational habit persistency focuses on the third phase of path dependence- the lock-in. The alleged lock-in of the German film market into dubbing will be regarded particularly.

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Older, established generations can be regarded as representing an installed base in terms of their habitual consumption pattern. Through its past consumption pattern and other investments (e.g. education) the established base has accumulated a corresponding specific set of consumption skills. As new consumers (children) enter the market they will become "socialised" (Denhardt and Jeffress 1971, p. 115ff) by older generations. Individual's aesthetic concepts and perception seem to develop rather in the process of socialisation that humans undergo from childhood on. I.e. the aesthetic evaluation criteria, which the economist may term 'preferences over art' in general and 'preferences over language transfer' in particular are contextually, culturally bound constructs. They are the consequence of social "prescription and proscription" (Eaton 1998, p. 58) experienced during a life time. Consequently the longer and intensive a specific culture exerts influence on a member's aesthetic concepts the stronger should this be reflected in the individual's tastes. Socialisation into a specific culture includes the imitation and adoption of consumption patterns from older generations. This should include the accumulation of a specific set of consumption skills similar to the one of the older generations.

When films are distributed by mass media (i.e. as they are consumed by multiple generations of the population) the incumbent language transfer format is passed from one generation to the next: Suppliers of films comply with the older generations' habits to satisfy their demand and thereby the younger generations of the audience are exposed and habituated to the dominating language transfer format. Because old generations of the audience are not replaced abruptly, but incrementally by newly habituated younger generations the installed base (i.e. the older generations' habitual incumbent consumption) continuously dominates the market.

Thus the rigidity and persistence of habitually acquired preferences over language transfer regimes across generations is due to socialisation of the young: They acquire habitual consumption patterns of the old and accumulate a corresponding stock of specific consumption skills which impedes deviations to other patterns of consumption for which no sufficient consumption skills have been accumulated. Adult men will demand the language transfer format they have become habituated to in childhood and thereby 'force' following young generations through the same process of socialisation, so that the habit is passed on to the next generation. Deviating from societies' norm may involve extra transaction costs to the individual, which practically is a sort of punishment for non-compliance. Therefore the individual has an incen-

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tive not to deviate from the societies' standard language transfer technique (Hayek 1967).

This logic explains why successive generations of German film audiences seem to prefer dubbing of foreign films and television programs over subtitling: The accumulation of subtitle-related consumption skills is neglected from young ages on since children are merely exposed to the dubbing. Consequently, given the choice between subtitling and dubbing chances are that they will rather opt for the latter during their later lives and thereby pass on this habit to following generations.

The above sections deliver an integration of the theory of path dependence and the theory of habituation. Both are found to be compatible, particularly the concept of consumption skills and their accumulative character is a vital theoretical construct in that respect: Consumption skills serve as the basis of the explanation of the self-reinforcing character of the habituation process that is also essential to path dependent processes. At the same time consumption skills are responsible for the rigidity of habits: They are not easily accumulated, but costly to acquire over time through effort. Therefore, once they are accumulated the consumption pattern that is supported by a specific set of consumption skills is not easily abandoned. In fact it is perceived to be costly to abandon that pattern. This rigidity bears close resemblance to the concept of a lock-in caused by switching costs. This integration of both concepts was accompanied by theorising specifically on the habituation of an audience to a language transfer technique: For each of the three phases in the path dependent adoption process it was attempted to illustrate how it could look like in the light of the theoretical constructs of path dependence and habituation. This serves the purpose to see if the integration of both theories - habituation and path dependence - is potentially fit to describe the phenomenon "adoption of dubbing in Germany". Also, this exercise serves as an illustration, and hypothetical exemplification of the theory itself.

2.5. Summary: Theory of Path Dependence, Habituation and their Integration

To clarify which theoretical concepts discussed so far will be central to the analysis during this study the theoretical approach is briefly summarised on the following pages. These are the Theory of path dependence, the theory of habituation and their integration.

2.5.1. 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, p. 175). In more detail, the process of becoming path dependent can be distinguished in three stages (Sydow, Schreyögg and Koch 2005, p. 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 are triggering events, sometimes called a “small event”. 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. “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, p. 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. Possible alternative standards (e.g. subtitling) are increasingly put to disadvantage over time. These self-reinforcements lead to improvements of quality and cost reductions, which in turn increase a standard’s attractiveness to potential adopters (Arthur 1989, p. 6; Cowan 1990). Self-reinforcing mechanisms favour the domination of a single standard in a market (Katz and Shapiro 1994; Farrell and Saloner 1986; Shy 2001). So, once a standard gains a head start positive feedback tends to increase the returns dramatically and favour a single alternative (Arthur 1989, p. 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 and Koch 2005, p. 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, p. 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

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technology 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 and Koch (2003, p. 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. A lock-in is not characterised by a state of full-blown determinism. It is 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.

2.5.2. Habituation

Following Michael and Becker (1973, p. 381 ff) and Stigler and Becker (1977: 77 ff) it is assumed that consumers ‘produce’ the commodity ‘appreciation of film i’ 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 if past and present consumption are positively correlated (see Messinis 1999 for an overview). 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 and Beentjes 1999). With respect to dubbing the consumption skills consist in the ability to tacitly ignore or tolerate the incon-

2.5. Summary: Theory of Path Dependence, Habituation and their Integration

sistencies of lip-sync dubbing (Garncarz 2005, p. 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.

2.5.3. Path Dependency in Habit Formation: Positive Feedback and Lock-In and the Adoption of Language Transfer Technique

Becker (1992, p. 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 and Shapiro 1994: 106) towards one alternative. This tipping over due to a positive-feedback mechanism plays a role in the habit models, too, where habitual behaviour is self-reinforcing in that it induces individuals to consume a lot of one commodity and to neglect alternative consumption patterns. A market becomes locked in if a technique dominates the market and the individuals are strongly habituated to this technique by applying a specific set of consumption skills in the process of consuming/using this technique. If an alternative technique requires a different set of consumption skills that the individuals have not accumulated then abandoning the incumbent technique and adopting the alternative is associated with switching costs. These switching costs induce the actors to stick with the incumbent technique and the market is locked in.

Intergenerational stability of habits comes about when older members of a population pass on a habit to the next, younger generation (Hayek 1967, p. 79–80). Younger generations become habituated to the language-transfer format preferred by their parents via accumulation of the respective complementary set of consumption skills.

2.5.4. The Theoretical Path Adoption Process as a Whole

The theoretical considerations on the adoption of language transfer formats are summarised in the Figure 1.

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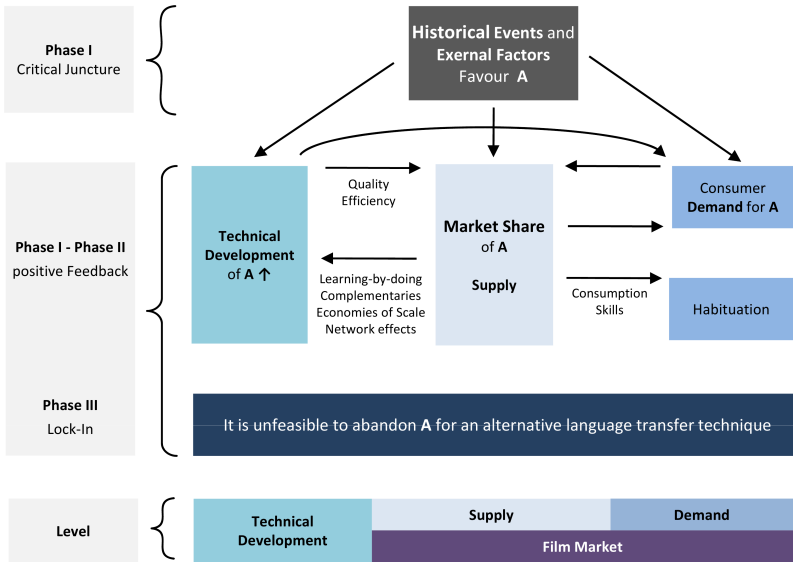


Fig. 1.: Dynamics of the Adoption process of a language transfer technique

The specific form of language transfer technique A (say dubbing) is competing with an alternative language transfer technique B (say subtitling). Here only the development of A is depicted.

In the Begin of the adoption process – Phase I – there are different alternative language transfer formats available in the market. The influence of critical events or circumstances has an impact on (a) the technical development, (b) the market share and (c) consumer preferences over different alternative language transfer formats. Through these historical influences the specific language transfer format A is given an advantage or head start over competing alternative techniques. From that point on self reinforcing mechanism take effect in Phase II. One of the possible positive feedback loops characterises the interplay between demand and supply (right part of the figure). As historical events have favoured A the market share of A increases stronger than that of alternatives which increases the audience’s accumulation of A-specific consumption skills, which in turn increases the audience’s demand for A

2.5. Summary: Theory of Path Dependence, Habituation and their Integration

which again increases the relative market share of A, i.e. the relative quantity of A supplied.

The left hand side of the Figure shows a feedback loop depicting the interplay between technical development of the language transfer production process and the supply and demand side of the market: An increased market share of A leads to increased technical development of the production technique of A due to learning-by-doing effects. This increases the efficiency of A's production process and improves the quality of A, which in turn increases A's market share and enhances A's value for consumers. The upshot is that the positive feedback cycles – the interplay between market shares, habituation and consumers' demand, and technical development – lead to a situation in which A dominates the market. This domination expresses itself in consumers' rigidity with respect to the language transfer format to such a degree that deviation from A is not feasible for suppliers (Phase III). When Phase II fades over into Phase III it is very unlikely or unfeasible that suppliers of films switch from the language transfer format A (say dubbing) to an alternative language transfer format B (say subtitling) because it would result in a profit loss. The reason is that in Phase III the consumers are so strongly habituated to language transfer format A that they refuse to consume B.

3. Research Questions

3.1. Main Research Questions

This section outlines the main research questions that can be derived from the theoretical framework. Some aspects of these research questions have already been treated superficially which is why they are still included in the further proceeding of this study; a more thorough examination will follow in the empirical part below. The main research questions of this study are:

1. Why is and has been the majority of the films released to the market in most media outlets dubbed:

Is the German film market fixated to dubbing? Is there a lock-in to dubbing?

2. Why is dubbing regarded as inefficient solution to the language transfer problem of foreign films:

In how far does the language transfer system established in Germany (and other dubbing countries) constitute a potential inefficiency with respect to the

- *Distributors' costs and the costs' consequences for cultural diversity in the market*
- *Language skills of the consumers*

3. How did dubbing emerge to the dominant language transfer technique employed in Germany and why did other techniques like subtitling became pushed aside:

Can the persistence of dubbing in Germany be explained by path dependency?

- *What was the initial historical situation? What options were available? Is there a small event which triggered the adoption of the dubbing system?*
- *Can increasing returns be identified which set a self-reinforcing process towards dubbing into motion?*

3.2. Research Sub-Questions

The empirical analysis will be guided by the main question that was derived from the discussion in the introduction. In more detail the main research question is a two-split question: The first part entails the justification for the study in that it asks for its practical relevance:

1. **Is there evidence for inefficiency and inertia in the German film market with respect to dubbing so that it pays to explore whether or not dubbing represents the outcome of a path dependent adoption process (explanandum).**

This question must be supplemented by an attempt to offer a scientific explanation of the origin of the supposed inefficiency and inertia.

2. **Are conditions of path evolvement given, so that dubbing's persistence can actually be explained as path dependency (explanans).**

The latter must include the identification of (a) the proof of a triggering event, (b) self-reinforcing mechanisms (c) and the shift into a lock-in.

These two main research questions can be split up further into research sub-questions. In the light of the considerations in the introduction and the theoretical framework of path dependence that has been laid out these sub-research questions are split up in correspondence to the structure of the 3-phase path dependence model:

Path dependency as a historical process and Rigidity:

- Were there *triggering events* that favoured dubbing when it was competing with other formats?
- Were there *self-reinforcing mechanisms* propelling the establishment of dubbing? If they occurred how did these mechanisms manifest dubbings majority?
- Is the German film market currently characterised by *rigidity* or *locked-in* into dubbing and when did this lock-in occur?

Inefficiency:

- Does dubbing currently constitute an inefficient market standard from the perspective of *film distributors' costs* in the film market?
- Does dubbing currently constitute an inefficient market standard with respect to *cultural diversity* in the film market?
- Does dubbing inhibit the development of *foreign-language skills* compared to subtitling?

3.3. Hypotheses

The Hypotheses that guide the analysis are directly derived from the research sub-questions. Hypotheses on Path dependency as a historical process:

- H1:** In the beginning of the sound film era there was *contingency* in the market with respect to the language transfer techniques.
- H2:** *Triggering events* favoured dubbing when it was competing with other formats.
- H3:** *Self-reinforcing mechanisms* propelled dubbing to market domination. Hypothesis on rigidity:
- H4:** The German film market is characterised by *rigidity*, or *locked-in* into dubbing. Hypotheses on inefficiency:
- H5:** Compared to subtitling dubbing currently constitutes an inefficient market standard from the perspective of *film distributors'* costs in the film market.
- H6:** Compared to subtitling dubbing currently constitutes an inefficient market standard with respect to *cultural diversity* in the film market.
- H7:** Compared to subtitling dubbing currently inhibits the development of *foreign-language skills* compared to subtitling.

The empirical part of this research will pick up these hypotheses and test them against the evidence that can be extracted from the analysis of historical-archival records, academic publications and available statistical data.

4. Method and Data

4.1. Method of Research

The Research design comprises a study on the historical development of the alleged path of the dubbing standard and its consolidation and potential inefficiency in Germany. The focus is on Germany, but for reasons of illustration and putting the German situation into perspective references are made to other markets and nations, as well. This section largely builds on the contributions to case study research by Yin (1994, 2003)

4.1.1. What Is the Appropriate Research Strategy for Conducting This Research?

This research is drawn as a case study. Case studies are just one method that is available to the researcher in the social sciences. Others that could be relevant for this study are the experiment and the historical analysis. In the following it will be outlined why the case study design is an appropriate approach to this research:

According to Yin (1994, p. 1) *“In general, case studies are preferred when “how” or “why” questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context. Such “explanatory” case studies also can be complemented by two other types – “exploratory” and “descriptive” case studies.”* Case studies are used widely in the social sciences. They are also employed in economics, where they serve to enhance the understanding of the structure of a specific industry. Generally *“The distinctive need for case studies arises out of the desire to understand complex social phenomena”*. (Yin 1994, p. 3)

This research concerns the film industry in Germany. It entails the analysis of the historical development of the supposed path of the dubbing standard and its consolidation and potential inefficiency in Germany. The thematic field of this research entails several components that call for the employment of a case study analysis:

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First of all the historical phenomena that led to the adoption of dubbing are expected to be the result of complex social phenomena. The historical analysis attempts to shed light on how various small events favoured the adoption of dubbing in Germany. Therefore an in-depth look will have to be taken at the time period following the introduction of sound film, i.e. the 1930s. The small events may have their origin in the economic, cultural, political and technical realm and also be intertwined among each other. Similarly the influences of one or more self-reinforcing mechanisms on the prevalence of dubbing need to be incorporated into the analysis. These may again depend on each other and they may be each individually strongly related to one or more of the small events. The upshot of this is that according to Yin (1994, p. 3) the format of a case study is strongly recommended in order “to understand [the] complex social phenomena” involved in the adoption of dubbing. In other words: The case study method of scientific empirical inquiry is appropriate when “the boundaries between context and phenomenon are not clear” (Yin 1994, p. 13) as it is in this case so far: This research – the attempt to trace the development trajectory of dubbing and other langue transfer techniques in Germany – is burdened with insecurity at the outset: It is by no means clear which social, political, cultural and economic factors played a role in the adoption of dubbing in Germany.

Also, this research aims to clarify if the German market is locked into dubbing and why this is the case. This part of the analysis concerns the current audience’s preferences and the film distributors’ film release strategy. This is a critical part of the analysis which concerns a “contemporary phenomenon within some real-life context”, an indication for the employment of a case study according to Yin (1994, p. 1).

Also the character of the research questions hints the applicability of case study research. Yin (1994, p. 6) provides a table with the help of which one can conclude from the character of the subject of research to a recommendable research strategy.

According to Yin (1994, p. 1, 3) the posing of *how* and *why* questions are an indicator that the study has an explanatory character and that case studies are an appropriate strategy to tackle this research, but also to historical analysis and experiments. In the introduction the opening puzzling question that triggered this research in the first place was summarised as *Why and how did dubbing become the dominant language transfer technique in Germany, what explains its persistence and how does the dubbing standard compare economically to a subtitling standard? As this question has the form of a how*

4.1. Method of Research

and why question, so all three, experiment, historical analysis, and case study are to be considered.³⁹

In addition to the *how* and *why* question criterion there are two important characteristics of the research topic for identifying the appropriate research strategy: The “Extent of control over behavioural events and [...] and degree of focus on contemporary as opposed to historical events” (Yin 1994, p. 8, italics in original). If a researcher has a “limited control over and access to actual behavioural events” he wants to study, the implementation of the research as an experiment is unfeasible. In this study it is not possible to control for the historical events in Germany and the resulting alleged habitation process of the population. Also it is not possible to control perfectly for the current film supply in terms of dubbing and subtitling. Consequently the experiment is unsuitable for this research and the historical method and the case study design remain as design options for this study. The timely focus of this research is twofold: On the one hand the research closely looks into the history of sound films, in the late 1920s and 1930s in Germany in an attempt to identify the effect of small events on the adoption of the language transfer technique in Germany. Therefore the historical method seems appropriate, because “no relevant persons are alive to report, even retrospectively, what occurred and when[...].” therefore the “[...]investigator must rely on primary documents, secondary documents, and cultural and physical artefacts the main sources of evidence.” Yin (1994, p. 6). On the other hand the research attempts to identify whether and why the film industry is currently locked in to dubbing and in how far this situation constitutes an inefficiency. This is a clear focus on contemporary events that allows for the same sources of evidence as are employed in the historical method, but in addition this opens the possibility to systematically conduct interviews and to observe directly (some) relevant events.

In sum, this study is open to incorporate two different strategies, the historical method and a case study. This is the result of the concept of path dependence, which has a contemporary and a historical component: The sources and triggers of the path lie in the far past and are only to be reconstructed by the historians’ repertoire. Via the self-reinforcing mechanisms these past events reach into the present where they manifest their influence in the form of a lock-in. This contemporary lock-in is accessible with the tools that are available to the case study researcher. Accordingly, in the case of Germany’s supposed dubbing path the data sources that provide ev-

³⁹ Nonetheless the final sub-research questions do not have a *how* and *why* form, as they are more specified.

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idence to test the hypotheses are mixed: A historical analysis on small events and self reinforcing mechanisms will be conducted in the form of a retrospective analysis drawing on primary and secondary documents: monographs, articles from film industry publications and academic journals. The analysis of potential sub optimality of the language transfer standard dubbing in Germany is based on data that is collected from expert interviews and problem centred interviews with film industry executives and current market statistics.

4.1.2. The Case Study

Case studies are often subject to one or both of the following criticisms (Yin 1994, 10f). The first concern is that the case study lacks rigor, i.e. that the researcher is not assiduous, taking a biased view and more or less consciously suppresses or overstates equivocal evidence to manipulate the findings. First it must be remarked that this problem – the bias towards verification – arises in other methods as well and is a general trait of scientific research (Flyvbjerg 2006, 234f): “Every case study researcher must work hard to report all evidence fairly” (ibid.). A second concern is that scientific generalisation is not possible from case studies (Yin 1994, p. 11). Flyvbjerg (2006, p. 224) draws a parallel between case studies and experiments in holding that “case studies, like experiments, are generalisable to theoretical propositions and not to populations or universes.” This case study explores in how far the concept of path dependence applies to the adoption of the language transfer technique in Germany. So there will be no fundamental generalisations drawn from this research, it is conceived as a test of the theory of path dependence in the context of the German film market’s dubbing practise. Flyvbjerg (2006) elaborates on these and further points of criticism that case study research faces. He concludes that – when carefully carried out – case studies greatly contribute to the advancement of knowledge in the social sciences in that they are a complement to research based on large random samples. They help developing the sciences by systematically providing examples which give flesh and bones to science in the first place (Flyvbjerg 2006, pp. 241f).

Unit of Analysis

In case studies it has to be defined what the “case” actually is. This question is closely related to the unit of analysis (Yin 1994, p. 21ff). The case of this case study is the prevailing of dubbing in the German film market since the introduction of sound

film until the present. The unit of analysis is the German film market embodied by the sub units German “film consumers” and “film distributors”, because they are the central actors in the film market, respectively demanding and providing films in a specific language transfer format.

The Case Study Design

Case study designs can be distinguished into single- and multiple-case designs. With multiple case studies one study contains more than one case, which allows comparison among the cases (compare Eisenhardt 1989, p. 534; Yin 1994, p. 38ff, 2003, p. 5). This study is a *single* case study, since the main unit of analysis is the German film market. However sometimes there are references and comparisons drawn to historical and contemporary events and phenomena in other film markets. These serve as illustrations and comparisons with the main unit of analysis, the German film market. These short explorations do not go into a depth that would justify calling them a case of their own. To conduct a comprehensive multiple case study is not possible due to the lack the time and readily available resources (such as archives and other material published in English). Therefore the term *single* case study is appropriate. However in the future this work may serve as a basis for other studies that include Germany and compare its developments in detail to the developments in other film markets, such as the Netherlands, Czechoslovakia, France and Japan to test in how far their path of development compares to the German one.

In the single-case study on the development of the language transfer format in the German film market the major unit of analysis is the German film market. However this case study entails two sub units of analysis: film consumers and film distributors. Therefore this case study employs more than one level of analysis. Such case studies with the unit of analysis being sub divided into more than one sub unit are called a single case *embedded design* (Eisenhardt 1989, p. 534) as opposed to a *holistic* design (Yin 1994, p. 42). In the case at hand the audience and the film distributors can be regarded as being embedded into the film market, which enables an enhanced insight into dubbing’s development to prevalence in Germany. Analysing the film market therefore requires analysing these two sub units. Embedded designs have the advantage that they concretise the units of analysis, which facilitates a focused data collection, or generally helps to focus the researcher’s attention (Yin 1994, p. 42).

Yin (1994, 38ff) distinguishes three rationales for single case study designs: (a) *Extreme or unique cases*, which does not apply to the research at hand, since there are

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other countries except of Germany where dubbing is employed extensively (e.g. Italy, Spain, France). (b) *Revelatory cases* study new phenomena that were not accessible or observed previously. This study however is a (c) *critical case*. The purpose of a *single critical case study* is to test a previously well formulated theory (compare Eisenhardt 1989, p. 535). Thereby the theory will be confirmed, extended or challenged (Yin 1994, p. 38ff). Eisenhardt (1989) also emphasises the case studies' potential for theory generation (Compare Gerorge and Bennett (2005, p. 75) who use a different formulation for the same concepts as Yin and Eisenhardt). This research attempts to explain the prevalence of dubbing in the German film market by the help of the theory of path dependence, i.e. this research constitutes a case of theory testing. For this purpose the theory of path dependence is extended by the theory of habituation to explain rigid patterns of consumer behaviour. This theory extension could also be regarded as little contribution to theory generation, in that it aims to combine the theory of path dependence with an in depth habituation theory. During the study the theory of path dependence is critically applied to the case. Also it must be examined whether path dependency can describe the story of dubbing's emerging prevalence better than alternative theories. Therefore the three elements of theory-extension, challenge, and confirmation are met in this study. An alternative theory for explaining the language transfer format being applied in national markets (namely the country size explanation) is compared to the path dependence theory in her ability to explain the phenomena of the prevalence of dubbing and subtitling in different countries.

Furthermore Yin (2003, p. 5) distinguishes exploratory, descriptive and explanatory case studies. *Exploratory* case studies serve as pilot studies for further studies. *Descriptive* case studies "present a complete description of a phenomenon within its context. An *explanatory* case study presents data bearing on cause-effect relationships – explaining how events happened." This research is rather to be placed in the realm of the explanatory case study, since it aims to explain the prevalence of dubbing in Germany out of its historical context. It also has descriptive attributes since it touches a wide array of aspects that are related to dubbing, but the main theoretical line of reasoning will be circling around an explanation of dubbing's prevalence.

Eisenhardt (1989, p. 534) notes that case studies can combine various forms of data. The nature of the data that is employed in this study varies (quantitative data, qualitative data, i.e. market statistics, surveys, interviews, academic publications, trade journal publications).

Quality of the Case Studies

The quality of research in the social sciences is generally evaluated by four criteria: construct validity, internal validity, external validity, reliability. These criteria are also applicable to case study-based research.

Construct validity means that the operational measures are constructed in a way that they correctly capture the concepts that are studied. This can be ensured by employing multiple data sources during the data collection so that evidence can be logically derived from various sources (Yin 1994, p. 33). The following section on the data sources outlines that data on the contemporary inefficiency problem stems from interview partners working in different areas of the film industry, academic publications and trade journals. Similarly the data sources for reconstructing the historical trajectory include academic journal publications, monographies and primary data from contemporary film industry journals.

Internal validity relates to the establishment of a causal relationship in explanatory studies during the data analysis, by the means of pattern matching, explanation building or time series analysis (ibid). George and Bennett (2005, p. 92) note the “problem of competing explanations” which is a familiar challenge to the case study method. This problem will be met by careful argumentation and the consideration and discussion of alternative explanations (e.g. an alternative explanation for dubbing having developed into the dominant language transfer standard in Germany).

External validity means to clearly define the domain in which the findings of this study can be generalised. With case studies this works via analytical generalisation: “the investigator is striving to generalise a particular set of results to some broader theory.” (Yin 1994, p. 36) In the case at hand this means that the theory of path dependence can be used to identify similar cases to which the theory of path dependence is applicable. This means that if the theory of path dependence is found to be applicable to the case of Germany it has to be tested in how far it can explain the prevalence of the language transfer formats in other countries, such as Spain, Italy or the Netherlands

The reliability of a study refers to the repeatability of a study. I.e. it must be demonstrated that the study (including the data collection) can be repeated and the

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same results are reached. For this purpose the data collection has to be documented carefully so that other researchers in principal have the opportunity to repeat the study. Also the collected data will be stored and made available on request. Generally references are given to all data that is used in the argumentation. The interview records are stored. Although the interview protocols are not reproduced in detail in this study the interview guide is included in the appendix.

Proving Path Dependence

There is no scientific standard tool that could be applied to directly prove the existence of path dependence. Path dependence is a complex phenomenon. It is actually a composite phenomenon that entails various sub-phenomena, such as contingency, small events, self-reinforcing mechanisms and lock-in. To show that the adoption process of a certain technique is path dependent it has to be shown that these sub-phenomena exist and that in their interplay results in path dependence. Therefore this research attempts to identify these phenomena that are the constituting building blocks of path dependence one by one, explain how they are historically linked together and see in how far the whole adoption process can be justly termed path dependent. To prove the existence of these individual phenomena is in itself not a trivial task. As in the case of dubbing in Germany the path-constituting phenomena are largely historical phenomena. The difficulty they provide for the researcher is that it is hard to come by specific data. To pinpoint certain variables in the past and to prove that certain factors were at work may be hard. Even harder, though is it to come by data that allows proving of the direction in which these variables worked and it will be even more difficult to quantify the magnitude of these effects.

These data problems lure behind many curtains that the student of historical phenomena pushes aside. Therefore it might be necessary that at some points rather indirect evidence, supported by a well-founded argumentation has to suffice to identify the path-constituting phenomena indirectly. One specific problem that I have in mind is the proving and quantification of self-reinforcing mechanisms, which has yet troubled many students of path dependence. In the case that this study comes across this problem it will be seen in how far I have to fall back on rather indirect evidence.

The following section provides an overview of the data that is used and how it is collected. In that this section contributes to the fulfilment of the *reliability* criterion.

4.2. Data

Eisenhardt (1989, p. 534) notes that case studies can combine various forms of data: In accordance the nature of the data that is employed in this study and its sources vary. Table 1 shows an overview of the main concepts employed in this work and the corresponding main data sources which were used in their analysis.

Table 1.: The core concepts and the main data sources

		Main Data Source			
		Historical and Current Film Trade Journals	(Historical) Film Handbooks/ Statistical Yearbooks	Academic Publications	Interviews
Main Concept	Contingency	x		x	
	Small events/triggering events	x	x	x	
	Self reinforcing mechanisms	x		x	
	Market share of dubbing/subtitling	x		x	x
	Habituation of the audience	x		x	x
	Rigidity of the dubbing standard	x		x	x
	Potential inefficiency of dubbing	x	x	x	x

The resources used in the historical analysis and the reconstruction of the development of language transfer techniques are often studies on film history and language transfer and primary sources. These publications consist primarily of monographies, academic-journal publications and articles in film industry's trade press. Since the focus of this research is on Germany the majority of the trade press journals used are German. Statistical data was largely obtained from publications of European or national institutions specialized in the gathering and processing of such data. Online publications by noted institutions were used as supplementary information sources (Such "noted Institutions" include for example the *Deutsches Filminstitut – DIF – e.V.*, Frankfurt a. M. (homepage: www.filmportal.de). In addition this research draws on semi-structured expert interviews that were conducted with business executives in key positions of various companies in the film industry.

So in total this research employs data of different nature: market statistics, consumer surveys, interviews, academic publications, trade journal publications. This variety of data sources employed increases this study's *construct validity* and *reliability*.

Apart from the general body of academic publications some key information sources on which this research draws deserve closer attention. In the following they are elaborated on in more detail.

Historical Film Journal Publications, Market Surveys and Industry Statistics

The time period after the introduction of sound films and the following years is of particular interest to this study. This is because this period probably entails small events that might have influenced the competition among several language transfer techniques. To reconstruct the trajectory along which the German film market evolved attention is paid to the developments on the film market, the film industry and the political and technical developments during these years that exerted a critical influence on the adoption of the different competing language transfer formats. This end is accomplished by an in-depth exploration of the contemporary film industry trade press of these years. The primary contemporary source that was employed in that respect is the *Film Kurier*. The *Film Kurier* became first published in 1919 as a daily journal and covered film-, theatre-, sport-, fashion- and stock-market related topics. Soon it developed into an industry paper with a major focus on film and theatre. By the time sound film was introduced in the late 1920s the *Film Kurier* has developed into one of Germany's leading film industry publications. The *Film Kurier* also became the official trade newspaper of the *Reichsverband deutscher Filmtheater e. V.* (Association of Film theatres in the German Reich.⁴⁰) The advantage of using the *Film Kurier* for the purpose of historical research is fourfold:

1st the *Film Kurier* was a daily newspaper. Therefore – in contrast to weekly or monthly publications – researching topics in a daily newspaper allows to identify and follow also short term developments of specific events. During the time span of observation The *Film Kurier* was published without interruption which ensures a continuous coverage.

2nd the articles in the *Film Kurier* range from the smallest daily notes from distant provincial towns in the German Reich, announcements of the authorities, playing schedules, sensational news from the show business, reports on technical developments, film- releases and critiques and in depth reports on specific topics covering several pages. Therefore this paper provides a general overview *and* specific details of the daily practice in the film industry and the film market in the whole of Germany. Particularly many of the smaller news may seem irrelevant at the first glance but in their mass provide valuable information in that they convey a picture of the time.

⁴⁰ Compare the description of historical film trade publication on the homepage of the *Deutsches Filminstitut* (www.deutsches-filminstitut.de/dframe12.htm, information retrieved in March, 2008)

3rd the *Film Kurier* also covered extensively film related issues from foreign markets. Special attention was naturally paid to the US market and Hollywood in particular. (parts of the paper were even published in English). Following the US the French film market is extensively covered. Then the Italy, England, Eastern Europe (particularly Czechoslovakia and Hungary), and the Rest of Northern Europe receive attention, but also Russia and Japan. The rest of the world receives less attention due to its minor role for the film industry. The extensive coverage of international markets, particular in Europe and the US allows for cross country comparisons of certain aspects.

4th *Film Kurier* is available on microfilm. The *CineGraph – Hamburgisches Centrum für Filmforschung e. V.* (www.cinegraph.de) and the *Stiftung Deutsche Kinemathek* (www.kinemathek.de) published an index of the *Film Kurier*: The 24 volume *Film Kurier Index* (CineGraph and Stiftung Deutsche Kinemathek, 1997). The *Film Kurier Index* catalogues the major articles of each issue of the *Film Kurier*. It also provides an extensive catalogue of key words for each volume. Therefore the *Film Kurier Index* constitutes a valuable research tool that turns the *Film Kurier* into an easily accessible historical source for the researcher.

Other historical film trade journals that are used include daily publication *Lichtbild – Bühne*, and the *Reichsfilmblatt*. Both were among the leading newspapers in the film industry, but were used to a lesser extend than the *Film Kurier*. For the sake of overview and clarity for the reader articles from these historic trade journals are referred to in the footnotes.

The Volumes 1929 to 1939 of the then daily German film industry trade publication *Film Kurier* were searched systematically for language transfer-related articles. The search was facilitated by the *Film Kurier Index* (CineGraph and Stiftung Deutsche Kinemathek, 1997) key word catalogue. In each volume three index key words were used to identify articles that dealt with the topic of language transfer in any way. These key words were “subtitles”, “dubbing” and “language versions” (in German “*Untertitel*”, “*Nachsynchrisation*” and “*Version*” respectively). Then the corresponding articles were looked up on microfilm. These were and printed out if they were considered to contain information that could be relevant in the later data analysis (most of these articles were printed out though).

In addition to the articles identified by the help of the *Film Kurier Index* 5 volumes of the *Film Kurier* were searched on microfilm to identify articles that were relevant to the research but not listed by the index under the respective key words. To be

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clear: over these five volumes every published *Film Kurier* was scanned over manually, actually visually. This search included the *Film Kurier* issues from September 1929 onwards until the end of the year 1933. This search produced a surprising abundance of additional articles. These articles either directly or indirectly mentioned the various language transfer formats or were found to cover related issues (e.g. trade barriers and film contingency regulations, import and export figures, film reviews with explicit mentioning of the language transfer).

To facilitate the search for and the analysis of this data the articles were gathered and ordered according to one of the categories below (if an article fitted into two or more categories it was tagged correspondingly to identify its content):

1. Audience perception and demand for various language transfer formats in Germany
2. Audience perception and demand for various language transfer formats abroad
3. Production of various language transfer formats in Germany
4. Production of various language transfer formats abroad
5. Technical development of language transfer techniques in Germany and abroad
6. Nationalism and its consequence for film demand/import/export in Germany
7. Nationalism and its consequence for film demand/import/export in abroad
8. Legal barriers to film trade in Germany
9. Legal barriers to film trade abroad
10. Reception and diffusion of sound film in general in Germany and abroad

This categorisation was largely derived from logical reasoning and the existing literature on the field. E.g. the points 1-4 entail the relative quantity of the respective language transfer techniques demanded and supplied in the market. The data contained in these categories is basic to describe the relative market positions of competing language transfer techniques. It should allow the identification two important aspects that determine the alleged path: 1st the point in time when one language transfer technique gains a head start over its competitors. 2nd In how far the audience is habituated to one of the language transfer techniques and the when the habituation got so strong that the market can be considered as being locked in.

Category 5 helps to identify in how far the competing language transfer formats' technical advancement differed. This is relevant as a technical head start of one technique might favour the adoption of this technique by the market participants via learning-by-doing for example (on the supply- and demand side).

The points 6 through 9 were derived from the literature on the history of language transfer techniques (such as Dibbets 1993, 1996 and Danan 1991). There it was asserted that nationalist and protectionist policies exerted an influence on the adoption of the respective national language transfer standards. The last category contains articles on the upcoming of the sound film itself. This is relevant as without sound film there had been no need for language transfer techniques like dubbing and subtitling in the first place.

The *Film Kurier* and the other historical film journals employed the largest single primary source for historical film market data. This data is vital for reconstructing the historical case. Therefore the above description of the data is quite detailed. In addition, data from current and historical film-industry statistics as well as current and historical consumer survey data is used.

Historical statistical data on the film industry and market in Germany is obtained from the film- statistical handbooks by Jason (1932, 1935). These statistical handbooks constitute the largest and most noted collection of film statistical data on the German film market and industry in the 1920s and 1930s.

A survey on language-transfer techniques among the European film exhibitor associations in Europe published in the *Film Kurier* in 1930 contains vital data on the audience reception of various language transfer techniques.

Industry and film market statistics covering the last two decades are taken from the *European cinema Yearbook* (Media Salles 2006). Other film statistical data is obtained from the *European Audiovisual Observatory* (OBS) (2006). The OBS is run by 36 European member states and the European community. The OBS' task is "to create transparency in the European audiovisual sector" and "to provide information services for audiovisual experts" and therefore it collects film statistical data from the EU member countries and other nations.⁴¹

Detailed current data on the German film market is obtained from the *German Film Statistical Yearbook* (*Filmstatistisches Jahrbuch*) (SPIO 2006). The Film Statistical Yearbook is issued by the SPIO, the *Spitzenorganisation der Filmwirtschaft e. V.* The SPIO is the head organisation of the German Film Industry⁴² and collects and publishes film market and film industry data every year in form of a yearbook.

This research uses data on the language-transfer techniques employed in Europe in the 1990s, Europeans' preferences over language-transfer techniques and the audi-

⁴¹ See homepage of the OBS <http://www.obs.coe.int/about/oea/org/mission.html>, Information retrieved in March, 2008.

⁴² See homepage of the SPIO <http://www.spio.de>, Information retrieved in March, 2008.

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ences subtitling- and dubbing-specific consumption skills. This data was gathered by the *European Institute for the Media* in the 1990s and is partly published in Luyken, Herbst, Langham-Brown, Reid and Spinhof (1991), and Dries (1995). Additionally data is used that has been collected in surveys for the Dutch public television broadcaster NOS between 1974 and 1999 (Spinhof and Peeters 1999). This data is comparable to the data collected by the *European Institute for the Media*, since the same questionnaire was used.

Interviews

Additionally, interviews were conducted with representatives of the film industry, primarily in Germany. The data gathered from these interviews covers general questions on film market, dubbing and subtitling practises and the question of a potential inefficiency of the dubbing- versus subtitling-standard. One major goal of the interviews was to find out what constitutes the relative costs of dubbing and subtitling for film distributors and whether dubbing constitutes an inefficient standard as compared to subtitling.

In the preparation phase a major information source for detecting potential interview partners was the homepage of the German Association of Film Distributors (*Verband der Filmverleiher e. V.*, see <http://www.vdfkino.de/>). It was employed to identify film distributors in the Berlin area. A first wave for a request for an interview was sent out by e-mail to leading executives of all Berlin-based film distributors. This first attempt to establishing contact included all (14) film distributors which were located in Berlin. These 14 distributors included distributors of all sizes and (from US major film distributors to the small specialised niche film distributor) and one international film agent. Three of these responded to the email. The non-respondents were contacted by a letter 10 days later. One distributor reacted positively to this letter and an appointment for an interview was agreed on. To give a complete picture of the industry leading managers of two leading German subtitling firms were contacted (one by mail and one by phone), both of which agreed to give an interview. The Berlin based dubbing studios contacted by email in Berlin declined the request for an interview.

To supplement the interviews with German companies and to confirm the price figures that were mentioned, one face-to-face interview was conducted with the head of a German film distributors association, two Dutch companies (a leading Dutch distributor and Dutch subtitling studio) were contacted by phone and a phone inter-

view was conducted to confirm particularly the cost data with respect to subtitling.⁴³ One executive of a major cinema multiplex chains operating in the German market was contacted and interviewed in the same way to reconfirm the data gathered from film distributors. Finally, US major film distributor's Japan branch was contacted and interviewed to inquire particularly about the market shares of dubbing and subtitling in the Japanese cinema market. This was necessary, as the Japanese market is important and because in the film literature data on the Japanese market with respect to dubbing and subtitling is sparse.

Table 2 gives an overview of the interviews conducted.

Table 2.: Interview Overview

Interview partner	Company characteristics	Interview partner	Type of Interview	Date of Interview	Duration	
Distributors	<i>dis 1</i>	Small film distributor	CEO	telephone interview	02.07.2006	21min
	<i>dis 2</i>	Medium sized Film Distributor	CEO and Founder	Face to face interview	12.07.2006	32min
	<i>dis 3</i>	Medium sized-large Film Distributor	Head of cinema distribution	Face to face interview	01.08.2006	43min
	<i>dis 4</i>	Medium-large sized film distributor and international film trader	CEO	Face to face interview	11.08.2006	45min
	<i>dis 5</i>	Large film distributor	Head of acquisition	telephone interview	31.08.2006	12min
	<i>dis 6</i>	Large film distributor	Manager marketing	telephone interview	14.04.2007	9min
	<i>dis 7</i>	Film distributors association	Representative of the Film distributors association	Face to face interview	26.06.2008	70min
Theatrical Exhibitor	<i>ex 1</i>	Large cinema Chain	Manager acquisition and disposition	telephone interview	18.04.2007	16min
Subtitling studios	<i>sub 1</i>	Large subtitling studio	CEO and founder	telephone interview	23.08.2006	58min
	<i>sub 2</i>	Medium sized subtitling studio	Manager acquisition	telephone interview	29.08.2006	11min
	<i>sub 3</i>	Large subtitling studio	Managing director	Face to face interview	01.10.2008	60min

In total 11 semi-structured expert interviews were conducted. Five of all these interviews were face-to-face and six were conducted over the telephone. In total four Berlin-based film distributors that replied to the first and second wave of establish-

⁴³ The Dutch subtitling studio is one of the better known Dutch subtitling studios and it was selected because it was named during the interviews with a German film distributors.

4 Method and Data

ing contact were interviewed face-to-face or on the telephone (1 case). Additionally executives of two distributors (one Japanese and one Dutch), one chief executive of a German film distributors association, three subtitling studios (two of them based in the Berlin area, one in the Netherlands) and one theatrical film-exhibitor chain were contacted by telephone. These agreed to a telephone interview which was conducted hereupon. The interviewees have not been sent the questions in detail before; they responded spontaneously to a set of questions that they were asked. The interviews lasted between 20 and 120 minutes and took about 40 minutes on average. The aim of the interviews was mainly to learn about why distributors choose to distribute film in a certain language transfer format. It was also asked in which relation the different language transfer formats are represented in the market (i.e. how many copies of a film in circulation are dubbed and how many are subtitled). Of particular interest for this research were the expenditures that distributors have to incur when bringing a film to market in dubbed and/or subtitled form. Another goal was to find out in how far German film distributors experienced it as an advantage or a disadvantage to operate in a market where dubbing standards is the dominant language transfer standard instead of a subtitling standard. An exemplary interview structure that was used in the interviews can be found in the Appendix. Three of the face to face interviews were recorded and the essential facts were transcribed later. In the other interviews notes of the essential facts were taken by the interviewer during the interview and transcribed later.

The interviewees were promised anonymity and therefore are referred to as:

Distributors: dis1, dis2, dis3, dis4, dis5, dis6, dis7

Theatrical Exhibitor: ex1

Subtitling Studios: sub1, sub2, sub3

The focus of attention during the interviews was the film distributor's cost structures with respect to dubbing and subtitling. After the interviews were conducted the film distributors' statements on the costs were compared with each other and with cost structures indicated in the literature on language transfer and the film industry to increase the external validity of the data. Calculations on the inefficiency and efficiency of dubbing respective subtitling are based on the data collected during the interviews. Therefore average values of the data gathered in the interviews is used.

4.3. Overview: Method and Data

This section outlined the methodology and the data sources employed in this study. In summary this research is conceived as a case study: The “case” actually is “The prevalence and domination of dubbing in the German film market”. The unit of analysis is the German film market embodied by the main sub-units German “film consumers” and “film distributors”. The purpose is to explain the prevalence of dubbing in Germany by the use of the theory of path dependence. The theory of path dependence is extended by the theory of habituation and then applied to the case. Thereby the theory of path dependence is tested, i.e. confirmed, extended or challenged. During the process the theory serves as a guideline for the design of the study and facilitates a focused data collection and analysis. Therefore this case study can be more precisely termed: An *embedded, rather explanatory single-case study with a strong historical component*. This approach – a mix between a case study and a historical analysis – is chosen because the case of this research extends from the historical time period around the introduction of sound film until the present. The justification for conducting this study in the form of a case study lies in the nature of the main research questions and the supposed complexity of the case.

The data employed is drawn from a variety of sources: monographies, academic-journal publications, the film industry’s trade press, European or national institutions and expert interviews. Also the data itself varies in nature from qualitative to quantitative data: market statistics, consumer surveys, interviews, academic publications, trade journal publications. Correspondingly the methods to analyse the data vary. This variety increases the construct validity of this research.

This part is followed by the empirical analysis. Guided by the 3-phase model of path dependence, I will attempt to answer the research questions.

5. Empirical Analysis

5.1. Introduction

The empirical analysis strives for finding answers to the research questions being formulated before. To achieve this goal the empirical analysis is subdivided in three major parts: (a) the film market and the film Industry, (b) historical analysis, (c) inefficiency analysis.

The first part has the purpose to introduce the reader into the film market and the film industry. Some basic concepts of the film market are defined and explained. Such as: How do the European and the German film market look like? The core interest is how foreign films are actually released onto the domestic market. Therefore some basic actors in the international film market are introduced; the focus is on film distributors, whose role is illuminated more closely. Film distributors' costs and marketing activities are of particular interest. An important topic is the language transfer of foreign language films itself: The most common language transfer techniques – dubbing and subtitling – and the principles of their production processes are described. Then the use of language transfer techniques in Europe and beyond is surveyed, followed by a short overview of the upcoming digitalisation of the cinema market.

The second part consists of a historical analysis. First, as an introduction, a short technical history of early film is given, with emphasis on sound in films, up to the wide introduction of sound film in the late 1920s early 1930s. In the following the three-phase model of path dependence by Schreyögg et al. (2003) is applied to the history of language transfer in Germany: The early sound film market is examined with respect to contingency of various language transfer techniques. Critical events and circumstances are identified mostly in the 1930s. Self reinforcing mechanisms that propelled dubbing to domination on various levels are described. Finally the market's shift into the lock-in is identified.

The last thematic complex concerns the alleged inefficiency of dubbing compared to subtitling, a vital element of path dependency. On this part hinges the point of whether the German film market and the film industry are locked into an *inefficient* market standard, which is the interesting and disturbing element of path dependence: The film distributors' costs of dubbing are compared to the costs of subtitling. This cost comparison is done under two scenarios: the current celluloid technology and the emerging digitalised theatrical film distribution. This cost comparison of dubbing and subtitling allows a statement on the relative cost efficiency of the two techniques. This relative cost efficiency is estimated for the whole German cinema market. Building on this cost comparison follows a discussion in how far the dubbing standard inhibits the cultural diversity in the film market. Finally it will be regarded whether the dubbing standard constitutes an inefficiency with respect to the populations foreign language skills.

The focus of this research is on the theatrical segment of the film market. This is because theatrical exhibition is the key market in predetermining a films' success and therefore its market value in all other windows of distribution (e.g. video/DVD sale and rental, pay TV, and broadcasted television). When relevant, these media outlets are incorporated into the discussion. Another reason to focus on the cinema market lies in its historical importance. The theatrical exhibition of films was a popular entertainment and art form long before the wide diffusion of television or even video. Therefore the early cinema markets (after the introduction of sound films) exerted a formative influence on the latter film market, particularly with respect to the traditions of language transfer of foreign films.

5.2. The Film Market in Europe and Germany and the Provision of Films

This section provides an overview of the film market in Europe in general. The focus is on the production chain of the film industry with respect to the international trade in films. An overview of the European film market is given, and the German market is compared to other European and international key markets. This is followed by a sketch of the principal actors and principles of international film distribution. Then the film distributors' task of marketing a film in a national market will be looked at more closely, since this involves the language transfer of a movie - the focal issue of this research. Consequently the different language transfer techniques and their

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use in various national markets themselves will be outlined. This is followed by an overview on the upcoming digitalisation of the film exhibition and distribution in the cinema segment.

5.2.1. **Overview: The European Theatrical Film Market**

This section provides an overview on the European theatrical film market in general and the German market in particular. The macro market data that is presented covers approximately the past 15 years reaching back until the end of the 1980s and the beginning of the 1990s. The first task is to define the term 'market size' with respect to the national film markets.

Market Size: Europe and the World

The concept of 'market size' of national film markets appears in some important contexts during this research. Therefore will be discussed and defined right in the beginning of the empirical analysis, so that it is at hand when needed. A film market's size can be measured in different ways. One method is to take the theatrical admissions as an indicator for market size. The admissions are the "total number of tickets sold, referring to all films screened during the year (not only new releases)" (Media Salles 2006, p. 65). Another frequently used measurement is the gross box office revenue (GBO) over a year.

Market Size in terms of Gross Box Office: The GBO is defined as the sum from all revenue from theatrical cinema ticket sales (including taxes) (ibid.). GBO is a direct indicator of the market size in economic terms since it represents the total monetary value spent directly by consumers to gain admission to all theatrically exhibited films within a year. However, the problem with GBO is that it is difficult to compare the market sizes across countries when exchange rates fluctuate (ibid., p. 44-45). Even if adjusted by purchasing power parity or GDP GBO can be misleading when it comes to compare the markets' value across borders. As one can see in Media Salles (2007, p. 111 and 171) the market size varies greatly in Western Europe.⁴⁴ In 2005 the leading group consists of the countries UK, France, Germany, Spain and Italy who display the largest GBO revenue of approximately € 1.12bn, € 1.02bn, € 749m,

⁴⁴ Following the definition of Media Salles (2006) statistics Western Europe includes the following countries: A, B, CH, D, DK, E, F, FIN, GR, I, IRL, IS, L, LI, N, NL, P, S, UK. Eastern Europe and the Mediterranean Rim include BG, CS, CY, CZ, EE, HR, HU, LT, LV, MT, PL, RO, SI, SK, TR, for definitions of the country abbreviations see the References section at the end of this work.

5 Empirical Analysis

€634m, and €588m, respectively. The group of small/medium sized countries includes Austria (€104m), Belgium(€128m), Switzerland (€137m), The Netherlands (€135m) and Sweden (€119m). They are followed by the relatively small countries Denmark, Finland, Ireland, Norway, and Portugal, with Market sizes between €44m and €98m. Between 1989 and 2005 the total GBO revenue of all Western European markets has more than doubled from €2.37bn to €5.1bn. In Central and Eastern Europe GBO is much smaller on average than in the West of the continent: Poland is the largest market with a GBO of approximately €91m in 2005, followed by Hungary (€38m) and the Czech Republic (€29m) while the rest of the Central and Eastern European markets are small, ranging between €3m and €10m. The relative smallness of the Eastern European markets in terms of GBO owes to the relatively small populations and to relatively low GDP/head and price levels in these countries. These translate to relatively small GBOs when expressed in Euros.

Market Size in terms of Admissions: If market size is measured in terms of admissions or tickets sold France takes the leading position in Western Europe (cf. Media Salles, 2007, pp. 116f) with approximately 174 m admissions. The UK with 164 m admissions dropped to the second place followed by Germany and Spain with 127 m admissions each and Italy (102 m). Then the small and medium sized countries follow with Belgium (21 m) and the Netherlands (20 m). Austria, Switzerland, Ireland, Portugal and Sweden reach between 14 m and 17 m admissions. The other countries range below that market size. Between 1989 and 2005 the total number of yearly admissions of all Western European markets has increased from 622 m to 862 m.

In Central and Eastern Europe the Polish market (with 24 m tickets sold) is the largest in terms of admissions: It is followed by Hungary with 12m, and the Czech Republic with 9 m admissions in 2005.

It is remarkable, how the relative market sizes of countries change when the unit of measurement are changed. E.g. The Spanish and German market are about equally large in terms of admissions, while the GBO in Germany is about 18 % larger than in Spain. Although the above figures refer to 2005, they give a good impression of the relative market sizes. (The relative size differences between the markets did not change extremely over the observed 15 years as one can see from the development of the admission figures over the last 10 years in OBS (2007, p. 15)).

A comparison with other markets worldwide reveals the relative size of the European markets: Turkey's market size corresponds to a small/medium sized Western European market with 27m admissions in 2005 and a GBO of €114m (see Media

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Salles *European Cinema Yearbook* 2006, pp. 171, 174). Russia's market showed a strong growth between 1999 and 2005 in terms of admissions which rose from 24m to 91m in that 6 year period. In the same period GBO increased by more than the factor 16 reaching €260m in 2005, which places the Russian market somewhere between the large and the medium/small Western European markets (ibid. p. 258). Brazil takes a similar position with 114m admissions and a GBO of €197m in 2005 (ibid: 266). Mexico is even larger with 161m admissions and €451m GBO revenue (ibid: 262). Canada's market is of the size of the large European markets with 120m admissions and €613m GBO (ibid: 255). Japan has a large market, too, comparable to the UK or France with 160m admissions and a GBO of €1,2bn (ibid: 254). The largest market – not surprisingly – is to be found in the US. With 1.4bn admissions in 2005 and a GBO revenue of €7.5bn (ibid p. 252) the US market is roughly 10 times as large as the German market. The US domestic market is even larger than all Western European markets combined in terms of GBO: The 400m Europeans generate a GBO of merely €5.1bn while the US population of approximately 300m is considerably smaller than that of Western Europe but spends €7.5bn on the box office.

Definition: Large and Small Markets: The above paragraphs made clear that there are considerable differences in the size of the worlds' film markets. For this work it makes sense to classify the film markets according to their size. The classification shall be drawn along the lines demarked by convention among authors in the field. Luyken (1991: 32) defines large television markets as markets exceeding 20 million Households, but confines his analysis to Western Europe. Here the UK, France, Italy, Germany and Spain are regarded as large markets. In this definition the Nordic countries, the Netherlands, Belgium and Portugal are regarded as small markets. To use the population size as a criteria may work in the television market where most of the population acts as consumers. However, in the cinema market this is not necessarily the case as the number of cinema admissions may not be so directly reflected by the population size as the television consumption. This is because market size in terms of admissions and GBO depends not only on the population size but also on the annual frequency of cinema consumption per capita and the admission prices.

As can be seen in the Media Salles *European Cinema Yearbook* 2006 (p. 104 and p. 176) the yearly theatrical film consumption per capita varies greatly among the European countries. In Western European countries the average annual frequency per capita is 2.15 ranging from below one to more than four visits per capita. In

Eastern Europe the annual average frequency is much lower at 0.76, ranging from 0.13 to 1.22 yearly cinema visits per capita. Also, European Cinema Yearbook 2006 (p. 107) reports large variations in Western European ticket prices across the national markets with price differences among national markets of 20% or more occurring frequently.⁴⁵ So the relative market size should be defined by total admissions and GBO.

It is not trivial to derive a clear cut definition for distinguishing between a large and a small market from current market data: The so-called large markets (UK, France, Germany, Italy, Spain) in 2005 had at least a GBO of €588m (Italy) and admissions of at least 102m (Italy). On the other hand the largest market of the relatively small markets in terms of admissions in 2005 had 21m tickets sold (Belgium) or in terms of GBO a size of €135m (Netherlands).⁴⁶ Consequently there is a definition gap for market size for markets falling between these groups. I.e. There is definition gap for markets in which $102m > \text{Number of admissions} > 21m$ on the one hand. In terms of GBO there is a definition gap for markets if $€588m > \text{GBO} > €135m$. As a working definition for this research the border that separates large from small markets will be drawn in the middle of the gap: The average of the gap is approximately €360m (GBO) or 60m admissions. Due to the artificial nature of this separation it must be noted that this is not a strict definition and that a proper separation line between larger and smaller markets may be drawn on a different position, as well. So this separation line should be allowed to be handled flexible and not regarded as an axiomatic strict definition.

5.2.2. Foreign Films in Germany and Europe

In Germany foreign films dominate the Film market. Figure 2 shows that at the box office about $\frac{3}{4}$ of all cinema tickets were bought for foreign films. I.e. the market share of foreign films was about 75%. This illustrates the need for language transfer in the first place, since most of these imported films are not filmed in German.

In Germany, the European Union and most of the other world's countries the national film markets are characterised by a strong presence of imported US films.

⁴⁵ For comparability the ticket prices in the European Cinema Yearbook 2006 are reported not only uncorrected, but also adjusted for purchasing power parity and corrected for GDP per capita.

⁴⁶ Austria, Ireland and Switzerland are not included here in this selection, since they are sometimes treated as being part of the larger Neighbouring markets where the population speaks the same mother tongue. I.e. Ireland is sometimes regarded as part of the UK and Austria as a part of the German Market.

5.2. The Film Market in Europe and Germany and the Provision of Films

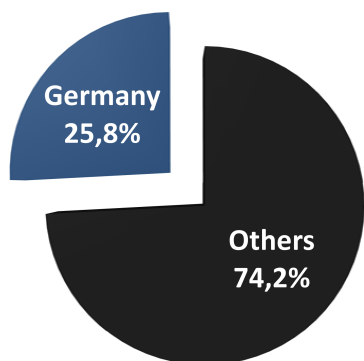


Fig. 2: Market Shares of Foreign and Domestic Films in Germany, 2006 (Measured in admissions)
Source: OBS (2007) Focus 2007 – World Film Market trends (p. 22)

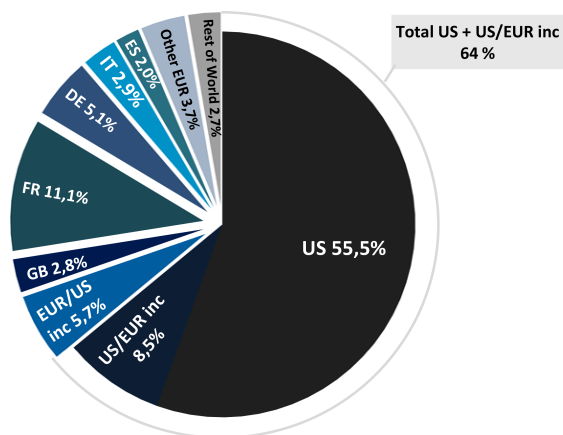


Fig. 3: Breakdown of European Union admissions by the origin of films, 2005–2006
Source: OBS (2007), Focus 2007 – World Film Market trends (p. 15)
Note: “US/EUR inc” denotes US films considered as inward investment films in Europe.

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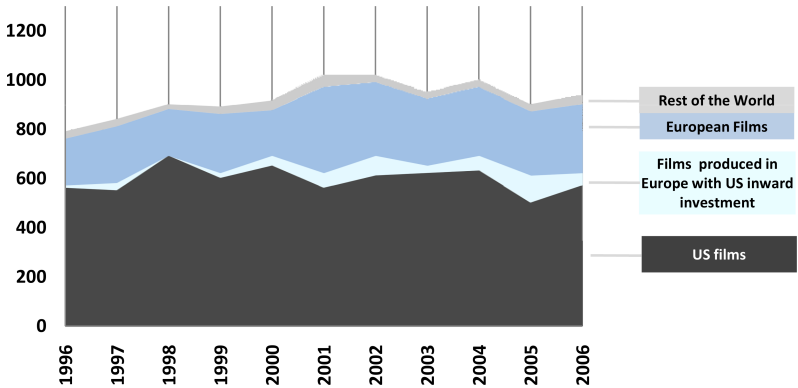


Fig. 4.: Admissions in the European Union, 1996–2006 (In Million €)
Source: OBS (2007), Focus 2007 – World Film Market trends (p. 15)

Figure 3 shows the breakdown of admissions in the EU by the origin of films in 2005. Clearly US films dominate the European market: They claim a 64% share of the EU admissions in 2006. Between 1996 and 2006 this market share was on average 69% of the EU admissions.⁴⁷ European films on the other hand obtain a share of 27.6% of the admissions in the European market in 2006. EU-US co-productions that are produced in Europe achieve a market share of 5.7% of the admissions. Figure 4 illustrates the development of these figures over the past 10 years. It shows that the US Films have a market share of roughly 60%–70% in terms of admissions, although there are yearly fluctuations.

If market share is measured in percentages of the GBO the situation is even more biased to the US' advantage: From the table on page 156 in Media Salles (2007) European Cinema Yearbook 2006 (p. 156) one can calculate that US films had a market share of 73% of the Western European GBO on average between 1989 and 2005.⁴⁸ There are remarkable differences between individual European markets: For the period from 1989 until 2005 France and Italy display a relatively low market share of US films (55% and 61% respectively) while the average market share of US Films

⁴⁷ This average was calculated from the US Films' EU market share figured published in the *OBS Focus – World Film Market Trends* published yearly between 1998 and 2007. These reports were retrieved online from http://www.obs.coe.int/oea_publ/market/focus.html in August 2007.

⁴⁸ The Western European yearly average market share of US Films was calculated as an unweighted average from the respective national market shares in that year. The yearly unweighted market shares of US Films were then averaged over the whole 1989–2005 period.

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was 76 % in Portugal, 79 % in Germany, 83 % in The Netherlands. This is paralleled by data on the market share of domestic films. From the European Cinema Yearbook 2006 (p. 150) one can infer that the market share of domestic films – including co-productions – in Western Europe was on average⁴⁹ 13.5 % between 1995 and 2005. For example in Germany the domestic market share was on average 12.37 % over the period 1989-2005. In France it was 33 % over the same period.

Another figure that indicates the level of film exchange among European national markets is the market share (in terms of GBO) of European films excluding the domestic films as it is given in the table on page 153 of the European Cinema Yearbook 2006: Between 1995 and 2005 the average market share of European films in Western European markets was 12,3%.⁵⁰ To give some examples the market share of non-domestic European films in that period was 15,3 % in Belgium, 14,3 % in Italy, 13,3 % in Spain, 10,8 % in Sweden, 9,9 % in Denmark, 8,3 % in France and 7,3 % in Germany. Although the data on the UK is sparse, the market share of non-domestic European films in the UK is hardly above 1 % of the GBO. In The US the share of European films in 2006 was 3.3 % of the GBO. One reason for these low rates in the UK and the US is the large number of English language films – most of them produced in the US – readily available to consumers.

The US domination of European markets is paralleled by an even greater domination of the US market by US films on. In the US the US films account for 90.7 % of the GBO while European films are restricted to a 5 % market share in 2006 (OBS 2007: 36). The result is a European trade deficit with respect to films. The development of the US-European film trade between 1988 and 2000 is depicted in Figure 5. The European net-imports are continually increasing over this period and reached \$8bn in 2000. At the same time there are more films produced in the EU than in the US: Total US film production in 2005 was 699 while the EU 25 produced 862 films in 2005 (OBS 2007: 7).

The discrepancy between the US dominating the European film markets in terms of admission and GBO and the European leadership in terms of the quantity of films released to the European markets means that on average US films attract much more viewers than European films. This can be explained by the popular conception –

⁴⁹ First for each market the average market share of domestic films were calculated for the period 1995–2005. Then an unweighted average over all Western European markets was calculated. National markets were only included if they had market share data was available for at least six out of eleven years.

⁵⁰ First the average market shares of non-domestic films were calculated for the period 1995-2005. Then an unweighted average over all Western European markets was calculated. National markets were only included if they had market share data was available for at least six out of eleven years.

5 Empirical Analysis

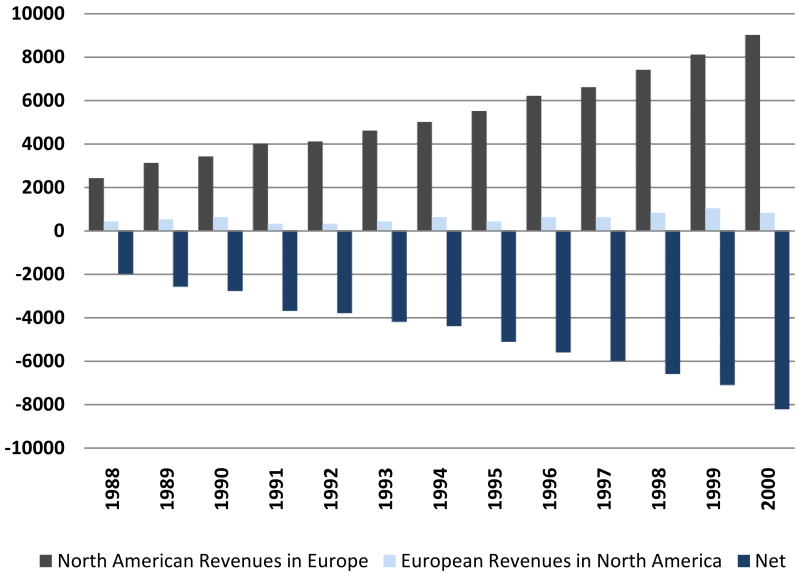


Fig. 5.: The Imbalance of Trade in Films and Television Programmes between North America and Europe, 1988–2000 (in Million \$)
Source: OBS (2002)

i.e. blockbuster qualities – of US major productions and the corresponding marketing strategies pursued by the US major film distributors. US films are often first released in the large US home market so that a good part of the films production costs are amortised *before* they are released in foreign markets (Waterman and Lee 2005: 15). Then US films benefit from economies of scale since they are distributed on a world wide basis. They also benefit from the international distribution system of the economically powerful major US film distributors and from the successful political lobbying of the American Motion Picture Association MPAA (www.mpa.org) contributing to the international success of US Films' (Wasko 2003, pp. 176-181).

A summary of this section is straight-forward. In the respective European markets the market share of domestic and other European films is relatively small compared to the market share of US films. The US films' market share is about 70%, both in terms of admissions and GBO. Between 1995 and 2005 the average market

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share of European, non-domestic films in Western European markets was 12.3 % of GBO while domestic films achieved on average a market share of 13.5 % in Western Europe. Foreign films make up a market share of more than 80 % in the European markets on average. Also the German market is dominated by foreign films: Between 1989 and 2005 the market share of non-domestic films in terms of GBO was more than 87 %. The majority of these films in Germany are foreign language films, notably US Productions, which had a market share of 83 % of the box office between 1995 and 2005. Production levels in the other noteworthy German speaking countries (Austria and German-speaking Switzerland) are relatively small and so their influence on the German market is negligible.⁵¹ These figures illustrate the extent to which foreign language films dominate the German market. As a result it becomes clear that language transfer of foreign language films is a pervasive phenomenon in Germany. Because this research is concerned with foreign language films the next section will give an overview of how films are distributed in foreign markets and identify the main actors in that business.

5.2.3. **The International Film Industry Production Chain: Production, Distribution, Exhibition**

This section attempts to shed light on the international film industry: How does the international film production chain look like, who are the major actors and how are they related? A principal goal is to identify the relevant actors in the international film production- and distribution chain that are relevant film suppliers in the sense of the research questions asked. These will receive special attention in this research.

Contractual agreements in the film industry are complex and there is hardly any industry wide standard contractual agreement that is not modified for each individual deal. The contractually agreed details concerning revenue sharing, licenses and modes of financing vary from film to film and from business partner to business partner, depending on the relative power of the involved parties. This makes it difficult, even impossible, to give a short concise *and* complete overview of the business relations in the industry. Even works that devote much more space to this subject

⁵¹ On average between 1996 and 2006 21 films per year were produced in Austria and 32.8 films were produced in Switzerland. It has to be remarked that only a share of the yearly produced 32.8 Swiss films is filmed in German language (Compare: OBS Focus 2007 – World Film Market Trends, p. 30). Of these Austrian and Swiss films only a share is released in Germany, anyway. So the market share of foreign films that are released in Germany and which are filmed in the German language originally (i.e. does not need to be transferred to the German language) can be considered to be very low. Above all, the German-Swiss and German-Austrian co-productions are often counted as German films.

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than this one are therefore bound to be limited and therefore incomplete (compare Wasko 2003, p. 5). Nevertheless this section attempts provide the reader with a short overview of the field and of the main players constituting the production chain in the film industry and their relations. As an overview and orientation the principle elements of the cinematic production chain are reproduced in Figure 6:

The Film producer organises and realises the actual production (i.e. conceptualisation, shooting and post production) of a film until the master print. If the film is to be released to foreign countries the producers of a film can transfer the rights to market the finished film abroad to an international film sales agent. The international film sales agent then licenses the film distribution rights to film distributors in the various international markets. The license specifies the geographical market⁵², the windows of distribution (cinema, video, DVD, TV) which the distributor may exploit and the license period (which is usually 5–10 years, sometimes up to 15 years) (Durie et al. 2000, pp. 33-36; Goldberg 1991, Ch. 7; Homann 2001: 252). As a matter of course the sharing of the flow of revenues and/or a fixed license fee among the involved parties is contractually fixed. The film producer can also license a film's distribution rights directly to a film distributor, which is often done for domestic distributions, although this is cumbersome and difficult to negotiate for the producer on an international level (Durie et al. 2000: 37).

If the distribution deal is settled, the film distributor in the respective licensed market receives a master copy of the film and is responsible for the development, supervision and realisation of the national advertising and marketing campaign, the budget, the reproduction of the film in the form of prints, and its distribution to the cinemas (Goldberg 1991, p. 1; Hartlieb and Schwarz 2004, pp. 312; Homann 2001: 253). These tasks are generally called 'print and advertisement' (P&A) and consume a large part of the distributor's budget. The distributor books slots in cinemas where the film is exhibited and collects a share of the cinema box-office revenue from the cinema owners. Distributors often acquire not only the licences to exploit a film in the theatrical market, but also for the ancillary markets: 1. TV outlets (pay TV, free TV) and rental or sales-DVD/Video market. Distributors generally prefer to acquire these ancillary markets licences since these markets are more valuable and profitable than the cinema market. The distributor may sell through the license rights to a specialised DVD/video distributor or take care of the distribution himself.

⁵² Depending on the contract the geographical market can cover national markets or linguistic homogenous areas, such The Netherlands and the Dutch-speaking part of Belgium, Flanders, or France and the French speaking part of Belgium, Wallonia.

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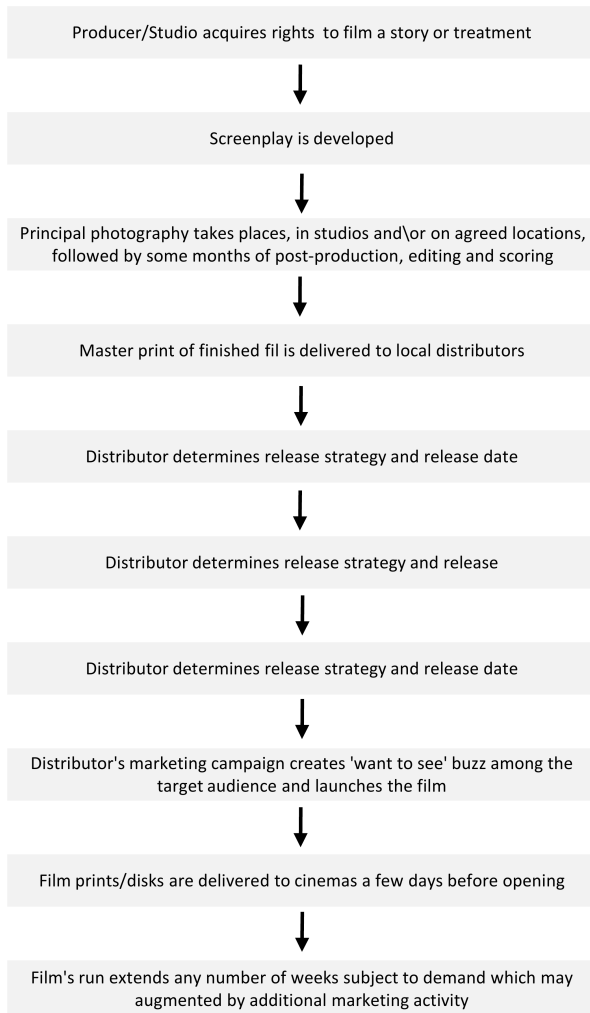


Fig. 6: Summary of Theatrical Distribution Cycle
Source: FDA "Guide to UK Film Distribution 2007" (2007, p. 34)

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'Exhibitors' in the cinema market are "owners or operators of movie theatres or the actual theatres which exhibit feature films" (Cones 1992, p. 175). The exhibitor rents or licenses the film from the distributor. When the exhibitor receives a film from the distributors it is contractually fixed how long (at least one week up to a couple of weeks) and in which slots the film is to be exhibited. The more powerful the distributor and the higher the expected revenue from the film (i.e. the closer the slots are to the opening weekend and the more visitors the film is expected to draw to the theatres) the higher is the negotiating power of the distributor. The distributor receives the so-called *film rental* from the exhibitor. This is a percentage of the box-office revenue after the exhibitor deducted his operating expenses (called 'nut'). An often cited film rental is the so-called *90/10 Deal* where, in the first week in which the film is exhibited, the distributor receives 90 % of the box office revenue after the 'nut' (exhibitors' expenses) has been deducted. In the consecutive weeks the distributor's share is reduced by 10 percentage points each week until a minimum agreed upon distributor percentage is reached, e.g. 35 % (see Cones 1992, p. 151: 329 and Wasko 2003, p. 88-89). Goldberg, (1991: 3) notes that the distributor's "film rental generally amounts to about 40 % of the final box-office gross", which is an indication for the average film rental during a film's run. Similarly Cones (1992: XXVI) locates the theatrical film rental on average between 25 % and 60 % of the total box office receipts.

These authors mostly refer to international or North American film market. These prices can vary between national markets. To clarify the German market prices it is helpful to regard authors studying the German market in particular. Hartlieb and Schwarz (2004: 442, 478, 489) - referring to the German market - report that the film rental is on average 45 % of the box office gross *after* the exhibitor deducted his costs (ibid.: 511). However in larger cities the film rental can rise to 53 % in the case of major blockbusters. The film rental generally is reduced with increasing playing time. After approximately nine weeks the minimum film rental is reached, which is often 38 % (ibid: 442, 511). Similarly Mossig (2006: 172) reports that in Germany the film rental is about 50 % to 55 % from the box office revenue, which is reduced with increasing playing time to just below 40 %.

From the film rental the distributor keeps about 40 % as a *distribution fee* in non-US markets and 30-35 % in the US and Canada (Goldberg 1991: 197). Cones (1992: 149) notes that the distribution fee can vary between 15 % and 40 % and averages at about 30 % of the gross film rentals (ibid. p. XXVI). In accordance with these figures

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Hartlieb and Schwarz (2004: 442) report for Germany a distribution fee of 35 % from the gross film rental (ibid: 442).

The distribution fee shall cover the distributor's overhead, i.e. the maintenance of his offices and compensate him for his selling efforts. Vogel (1994: 108) notes that for larger distributors the expenses that ought to be covered by the distribution fee are actually on average only between 8 % and 15 % of the distribution fee. The remaining profit margin earned by the distributor compensates him for the risk that the film might not earn the costs of its release.

After having deducted the distribution fee, the distributor deducts his expenses from the remaining film rental. These expenses are directly related to the distribution of the movie. These distribution expenses include above all P&A (FDA 2007, pp. 28-31) but also include "other versions" of the film, market research transportation, taxes, insurance, copyright, collections of rentals from the exhibitors, among others (Cones 1992: 149). These "other versions" are unspecified by Cones, but relate to the production foreign language versions of the film, i.e. dubbing and subtitling.

After the distributor deducted his distribution fee and recouped the distribution expenses usually other parties that financed the production of the film recover their investments plus interest (Cones 1992: XXVII). If the distributor also financed the production of the film he recoups these expenses from the film rental, too (Goldberg 1991: 3).

The rest of the receipts – if there is any – is regarded as the producer's gross proceeds. When they cover the producer's production costs the film broke even. Any money that is left is net profit. These are shared among the net-profit participants (i.e. producer and investors, which often can be a distributor) as predefined by contractual agreement. (Vogel 1994: 99)

High Risk Business and Sources of Revenue

The film business and particular film production is a high risk business. "No one knows anything" is a famous quote on box office success predictability.⁵³ It expresses the industry's uncertainty considering that an individual films' financial success is not predictable (Gaitanides 2001, Ch. 2 and Ch. 3: 79; Houcken 1999: 70) and most films are not even profitable for the producers. A part of this low profitability for the producers is owed to the strong intermediary position of the major distributors and

⁵³ the quote is attributed to screenwriter and industry expert W. Goldman, quoted in Gaitanides (1999, p. 9)

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the established practice of contractual agreements that puts them into a privileged position when it comes to sharing films' revenues (compare Wasko 2003: 87ff). The production cost for a film are due before the film is marketed and are thus sunk costs (compare Gaitanides 2001: 9). As a rule of thumb, only every tenth film is profitable in its theatrical run (Houcken 1999: 71-72). The films' revenues -in contrast- flow in over a couple of years via the license fees in the theatrical and – more importantly – in the ancillary markets after the initial theatrical release (Houcken 1999: 74; Gaitanides 2001: 78). This distribution pattern is called *sequencing*, "That is, films are normally first distributed to the market that generates the highest marginal revenue over the least amount of time. Then they "cascade" in order of marginal-revenue contribution down to markets that return the lowest revenues per unit time" (Vogel 1994: 71). While the first window of release (cinema) in domestic and foreign theatres is about 18 month the consecutive windows of release in the ancillary markets can stretch over 6 or more years in the following order: world wide home video (may begin in the 6th month after the initial release), pay TV (10th until 22nd month) and foreign free TV releases starting about 2 years after the initial release. The television licensing lasts - theoretically - until the copyright of the film expires (These figures are taken from Vogel (1994: 72)).⁵⁴ Accordingly the distribution of the stream of revenue from these windows of distribution is stretched over a longer time period, with the theatrical revenue coming in first, followed by the pay TV, Video and Free TV licenses. Some of these licenses are already sold at the beginning of a theatrical run. In 1997 the box-office rentals (i.e. cinema) generated merely about 25 % of the worldwide film industry revenue, while home video, pay TV and free TV generated approximately 50 %, 10 % and 10 % of the industry's revenue respectively (Houcken 1999: 72).

On a worldwide scale, however, most of the money in the industry is earned in the DVD/Video sale and rental market. Pay- and free TV licenses are important to break even, as well. That is why distributors are eager to acquire not only the theatrical license for a market, but also the licenses for the later windows of distribution. However, the theatrical performance is important for the financial success of film, because it serves as an indicator for the films' value in the ancillary markets (Gabler Lexikon der Medienwirtschaft 2004: 213), and thus influences the license fees for video/DVD and TV markets. Even if including the revenue from ancillary markets, 40 %-50 % of

⁵⁴ Other authors give slightly diverging figures with respect to the starting time and duration of the respective windows of release, although the principle pattern of sequencing is uncontested, see Gaitanides (2001, p. 78)).

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the released films remain unprofitable, while 10% break even and merely 30%-40% of the films generate a profit (Houcken 1999: 71, 75-76). Therefore film production and distribution is afflicted with high risk and a few profitable films have to generate enough profit to finance the production and distribution of others.

5.2.4. **Major and Independent Distributors in Hollywood and Germany**

Film distributors take a central position in the international film production and distribution chain. Since film distributors are also responsible for the language transfer of films in the national markets this research focuses on this group and how it is affected by the language transfer regime. Therefore the distributors receive special attention at this point.

The Hollywood film industry dominates the world markets. And Hollywood itself is dominated by the major studios (Wasko, 2003). These are major film distributors (also often denoted just *majors*, the term *studios* is due to their historically strong involvement in film production and their ownership of large film studios in Los Angeles). The majors are organised in the trade organisation Motion Picture Association of America which represents their interest with respect to legislation and administers the US film rating system. The major studios are Paramount, Twentieth Century Fox, Warner, Universal, Disney, Columbia, Metro Goldwyn Meyer/United Artists (MGM/UA) and Dreamworks. Due to a series of Mergers and Acquisitions in the 1980s and 1990s the majors are generally part of larger business conglomerates and owned by international parent corporations. (see Wasko 2003: 61ff). A major studio is characterised by a widely dispersed own distribution system including subsidiaries in foreign markets that distribute the company's or affiliates' films. Another characteristic is the strong financial power that allows the majors to finance expensive and large-scale film productions, advertisement campaigns and wide film releases. E.g. The MPAA reports that the average production costs per feature film rose from around \$5m in 1975 to over \$20m in 1987, to over \$36m in 1995 to more than \$58m in 2002 (Wasko 2003, pp. 33-34). Such production costs generally require the involvement of a major and his financial resources. The average marketing costs rose over time approximately proportionately with the production costs and amount to about 50% of the average *negative costs*⁵⁵ (see Wasko 2003: 33; Houcken 1999: 77).

⁵⁵ Negative costs are the costs of producing the final film master negative. They include production costs, studio overhead (office costs) and capitalised interest.

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Independent film distributors ('indies'), in principal, do the same job as majors but on a smaller scale, particularly with respect to financing productions. Also the independent distributors in the US as well as in Germany command over a much smaller distribution budget. Therefore they can generally afford only to buy distribution licenses to relatively "small" films and their P&A budgets are much smaller than the budgets of the majors. However, every US major partly or wholly owns as a subsidiary a middle or small-sized 'independent' distributor. These distribute and finance the smaller and art house films while the major itself handles the large-scale projects of wider appeal (Wasko 2003, pp. 61-76).

Producers are dependent on distributors not only when it comes to the expertise and financial power with respect to distribution itself but also often with respect to financing a production. When distributors are involved in financing they thereby usually attain influence in important decisions; these can concern the script, director, cast, post production, marketing and release strategy. It also gives the distributor a stronger position when it comes to the sharing of revenues. (see Vogel 1994: 97; Durie et al. 2000, pp. 30ff; Cones 1992: 386).

In Germany there are domestic and US majors and independent distributors active in the market. The US majors clearly dominate the German film market. Individually and collectively they usually lead the statistics: In September 2008 the *Blickpunkt:Film* (2008, no. 39,) reports the distribution of the German box-office shares among film distributors: The US majors Warner (22%), Universal (20.5%), Sony Pictures (9.2%), Fox (9.1%) and Walt Disney (8.5%) have a combined box office share of 69.3%. Then the German large distributors Constantin (7.9%), Universum (4.5%), and Tobis (4.4%) have a total box office share of 16.8%. The rest of the box office goes to medium and small sized German distributors. Although these figures only cover the first three quarters of 2008 they are characteristic for the German market in general. So there is a clear domination of the market by US major film distributors who generate the lion share of the box office, followed by few large German distributors. The small and medium sized distributors each have a very small share of the total market.

5.2.5. **Film Distribution of Foreign Films And Costs of the Distributor**

Until now the principles of international film distribution have been outlined. Film distributors are identified as taking a central position in the international film production and distribution chain also with respect to the language transfer of films in the respective national markets. Therefore the distributors' P&A activity and the language transfer receive more attention at this point. The detailed costs of the language transfer are not addressed here. They are analysed in detail in the section on the language transfer's inefficiency below, where their structure becomes more relevant. This section aims at illuminating how the distribution of foreign films in a national market works in detail to understand the economic actions and ratiocination of film distributors.

General Costs

Film distributors acquire the right to market a (foreign) film in a certain geographical area which usually comprises a national market (Goldberg 1991, Ch. 7; Homann 2001: 252). Often film distributors also acquire the distribution rights for further windows of release (DVD/video, pay TV, free TV) (Wasko 2003, pp. 105ff).

As a film distributor acquires the license to exploit a foreign language film in a specified market the party from which he acquired the license (e.g. the producer) is contractually obliged to deliver some material that the distributor requires to accomplish the distribution. These include first of all a negative master copy of the film (called a 'dupnegaitve' or 'internegative'), the music and effects sound track (M&E track) and the dialogue sound track.⁵⁶ Among others the distributor also receives, a list of the music included in the film's soundtrack, a copy of the final version of the script, a dialogue script and advertisement material (e.g. still shots from the set, a tape with interviews with the cast, directors or other involved creative personnel templates to create an advertisement campaign) (Hartlieb and Schwarz 2004: 461).

⁵⁶ The M&E track is the part of the sound track of a film that contains the sound effects and the film music that is audible during the film. On a separate sound track the original actors' dialogue is recorded. (Luyken et al. 1991, p. 73)

Print and Advertising

When the theatrical license is acquired the film distributor develops, supervises and realises the national advertising and marketing campaign. The distributor books slots in cinemas. These are contractually obliged to exhibit the film over a certain period and in return the cinemas receive a copy of the film (compare Goldberg 1991: 1; Hartlieb and Schwarz 2004, pp. 312; Homann 2001). Usually the distributor finances the nation-wide advertisement campaign in the form of TV spots and advertisements in magazines. Often exhibitors are responsible for advertising in local print media or local television and bear the costs of these local campaigns that aim at attracting the audience in their catchment area to *their* cinema. To this purpose the distributor provides advertisement templates to the exhibitor into which the individual cinema's name and playtimes can be inserted. The exhibitors also may be contractually obliged to show trailers in their cinemas (these will be provided by the distributor) to advertise upcoming films.

To exhibit a movie in various cinemas copies of the film have to be drawn from the distributor's internegative copy of the film.⁵⁷ The reproduction of the film in the form of prints on celluloid film rolls is generally contracted to a specialised film copying studio that is equipped accordingly. Upon completion the distributor insures the prints and ships them to the cinemas. After the agreed upon play time at an exhibitor ends the copy of the film is shipped to other cinemas at which the distributor scheduled slots of playtime. The distributor bears all these P&A costs except the local advertisement that is initiated by the exhibitor. Advertisement and the prints make up the major part of the distributors' costs.

The advertisement costs can be substantial for larger productions with wide openings. Figure 7 – although only relating to the US market - illustrates that film distributors' average P&A costs rose significantly over time along with the increasing production costs of films. This trend applies to the German market as well. For the majors average P&A costs amount to approximately \$30m or 53 % of the average negative costs for the period 1996 – 2006 (see also Wasko 2003: 33; Houcken 1999:

⁵⁷ Since the technical term "internegative" plays a prominent role below it makes sense to clarify its meaning. The *Photonotes.org – online dictionary of film and digital Photography* gives a concise definition of "internegative" that corresponded with all conceptions that the interviewees (Interview: dis1, dis2, dis5, sub1, and sub2): An internegative is "An intermediary image formed from a positive original image. Such internegatives are then used to create another positive." The latter "other positive" refers to the copies of a film that are distributed to the exhibitors. So the internegative serves as a master for the prints that are circulated in the market. (Information retrieved in October 2007 from <http://photonotes.org/cgi-bin/entry.pl?id=Internegative>) So the internegative serves as a master for the prints that are circulated in the market.

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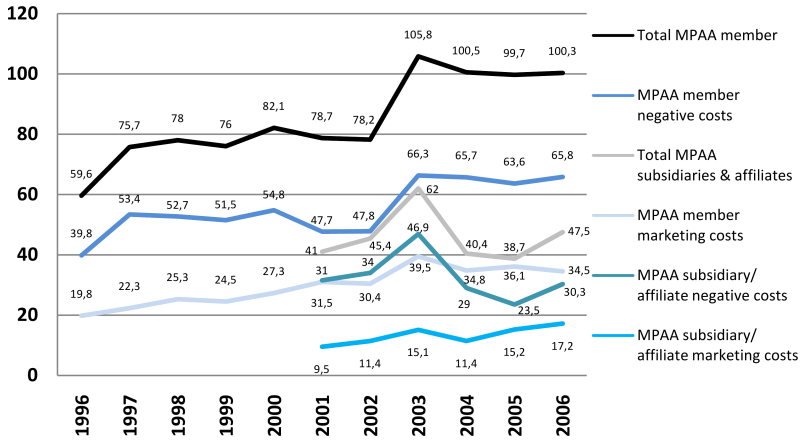


Fig. 7.: MPAA members' average theatrical costs, 1996–2006, in USD million
Source: OBS 2007, Focus 2007 – World Film Market Trends (p. 39)

77).⁵⁸ The marketing costs of MPAA subsidiaries and affiliates are much lower. Between 2001 and 2006 the average P&A costs of the MPAA subsidiaries and affiliates amount on average to \$13.3m or 42 % of the negative costs. That the P&A costs are lower in absolute and in relative terms (compared to the negative costs) can be explained by the different marketing strategy of the majors: majors are in the financial position to make relatively more use of the relatively expensive “wide release” strategies (see the end of this paragraph). Also the smaller sub ordinary film distributors’ films are more likely to distribute productions with smaller budgets. Because these films’ profit expectations are limited the P&A budgets are adjusted downward accordingly in comparison to the expected blockbusters.

The majors have the resources to finance and market larger movies according to the blockbuster strategy that involves high production budgets and wide releases. I.e. the film opens on a high number of screens, nation- and world wide, e.g. In the US a wide release means that films are sometimes booked with more than 3000 play dates (Wasko 2003: 106-107). In Germany a wide release can involve more than 1000

⁵⁸ The negative costs of a studio relate to studio financed films. They include production costs, post production costs, studio overhead, and capitalized interest. The marketing costs are comprised of prints and advertisement (compare Wasko 2003, p. 33).

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copies.⁵⁹ The smaller distributors such as the MPAA subsidiaries and affiliates lack the financial resources to finance films and their releases on the same budget level as the majors.⁶⁰ Correspondingly small distributors pursue another release strategy with openings in fewer theatres, since the wide releases require a high number of expensive copies and an expensive nationwide advertisement campaign.

Language Transfer

The film distributor not only carries the costs and responsibility for launching the national promotion and publicity campaign, the production of film prints, booking and distributing them to exhibitors (Hartlieb 1984, pp. 313-317; Homann 2001, p. 253): In Europe distributors are responsible for the language transfer of a foreign language film according to the film's characteristics and the respective markets' requirements (European Commission 2007: 47): This holds for Germany, as well. Generally in the German cinema market the final decision which language transfer format is employed rests with the film distributor who has acquired the right to exploit the film (interview: dis2, dis3).

Consequently a part of the Film distributors' costs are the expenses for the language transfer (Wasko 2003: 88), i.e. dubbing and/or subtitling in the case of most European markets. The distributor decides for example on whether the film is dubbed and/or subtitled and how many prints of each language transfer method are to be produced and distributed to the cinemas. But also the cinemas have a saying on the language transfer format of the copy they receive. E.g. Some German art house cinemas insist on being supplied with subtitled original language version copies since their core audience insists on consuming this format (Interview: dis 2; European Commission, 2007: 48).

Language transfer formats such as dubbing and subtitling have been named already in this research without having been explained in detail. This negligence will be made up for in the following paragraphs. At this point it is necessary to explain

⁵⁹ E.g. the web page of *Inside Kino* reports that 1184 copies of George Lucas' *Star Wars: Episode III – Revenge of the Sith* (2005), circulated initially in the German market and *Harry Potter and the Goblet of Fire* (2005) was distributed with 1256 copies in Germany (compare: <http://www.insidekino.com/DJahr/D2005.htm>; information retrieved in January 2008).

⁶⁰ The data that is available on the marketing expenditures refers to MPAA members and MPAA members' subsidiaries and affiliates. Although it does not explicitly refer to independent smaller distributors the data indicates that smaller productions, distributed by smaller film distributors (i.e. subsidiaries and affiliates) operate on a much lower financial scale than the majors.

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the available language transfer methods and to point out the differences of their production processes.

To understand the cost structures of the respective language transfers it is necessary to clarify what the different possible language transfer techniques actually entail and to give an account of their respective production processes. These insights allow an understanding of the respective language transfers' cost structures and their economic implications for film distributors which are a focal point of this research.

5.2.6. The Language Transfer Techniques

Dubbing

Dubbing is a so-called revoicing technique: with dubbing the original language version's actors' dialogue is replaced with newly recorded dialogue spoken by native speakers in the idiom of the film importing country ('target language'). Thereby the original music and sound effects track is kept intact. So for the audience in the film importing country the film is comprehensible since the actors on screen seem to speak the domestic language.

Usually dubbing is contracted to a dubbing studio.⁶¹ A dubbing director develops a dubbing script in cooperation with a translator. They use the original script and the film in the original language version to write a dubbing script that entails a translation of all the dialogue.⁶² The dubbing director also supervises professional dubbing speakers during the recording of the dubbing dialogue in a specially equipped dubbing studio. The dubbing actors or dubbing speakers speak the translated dialogue lines in the domestic language while they see the respective scene on screen. The recording process goes line by line - usually no more than a sentence or two or a short dialogue involving more than one speaker is recorded at a time. A team of sound technicians and engineers supports the dubbing director and is in charge of the recording itself. The director also supervises the final editing of the dubbing soundtrack with the M&E track to create a final dubbed sound track (compare Luyken et al. 1991, Ch. 3; Filmecho/Filmwoche 1996; Blickpunkt:Film 2008, no. 14: 13).

⁶¹ See for example the renowned dubbing studio *Berliner Synchron* (http://www.berliner-synchron.de/index.php?article_id=4&nc_lang=0, information retrieved in December 2007).

⁶² Sometimes there is text in some form is shown in films, e.g some objects like signs or newspaper headlines. This text is sometimes translated, as well. The respective translations can be shown in the form of subtitles.

The major challenge of dubbing is to write a dubbing script and record the dialogue in such a way that the final dubbing sound track is as lip-synchronous as possible and at the same time an adequate translation of the original dialogue. The dialogue in the dubbing script have to be written in such a way that the visual acting on screen - in particular the clearly visual lip movements of the actors - match the audible dubbed dialogue. (Minor corrections of lip-asynchronous recordings can be done by a sound engineer during the final editing (Blickpunkt:Film 2008, no. 14, p. 13)) Dubbing requires that the character of the dubbing speaker's voice matches the actor's appearance on screen. Also content and meaning of the original dialogue is to be transferred into the target language. Both, visual lip-synchronicity and the accurate translation of the original dialogue into the target language are often conflicting, in the sense that it is often required to deviate from an accurate translation of the dialogue in order to make the actors lip movements match the audible dubbing dialogue as good as possible (for a more detailed account on various aspects on lip synchronicity see Maier (1997, pp. 94 ff)). An often cited remark on dubbing is dubbing actor Heinz Giese's note: "Our work is good if nobody notices it." (Blickpunkt:Film 2008, no. 14: 12). This means that with (hypothetical) perfect dubbing the dialogue is so lip synchronous and fitting content-wise that the dubbing is perceived as natural by the audience and not recognised as imposed translated dialogue.

In some cases also the M&E track is changed for the dubbed version, e.g. to edit another music to the sound track (Maier 1997: 14). Then the M&E track is mixed with the dubbed dialogue track resulting in the final sound track.

The duration of the dubbing recording alone can take up to 20 days and lasts on average one week for a 90 minute feature film (Pruys, 1997: 90) while the total dubbing process (including script writing) lasts 3-4 weeks on average (Luyken et al. 1991, p. 79). Finally the film internegative is duplicated with the final dubbed soundtrack and shipped to the theatres.

The dubbing speakers themselves are worth some remarks. Usually a foreign actor is always dubbed by the same dubbing actor in different roles; that is particularly true for popular actors and film stars. This has the advantage that the speaker gets used to the idiosyncrasies of the actors articulation and acting style which improves the lip synchronicity.⁶³ Even more important, over time the audience associates the dubbing voice with the corresponding foreign actor. Consequently the

⁶³ See for example the interview with dubbing speaker, dubbing actor and author Gerrit Schmidt-Foss on dubbing internet portal www.synchroworld.de (Information retrieved in August 2007 from <http://www.synchroworld.de/webseite/media/inhalte/interviews/interviews/gerritschmidt-foss.php>)

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dubbing speaker grows into a monopoly position, since his voice will be perceived as the “natural” German voice of a particular actor. This monopoly position becomes stronger for the dubbing speaker with the ‘star power’ of the foreign actor he is dubbing regularly and the audience’s habituation to his voice as the actor’s dubbing voice. Consequently sometimes great financial effort is put into engaging specific dubbing speakers to speak particular roles (Filmecho/Filmwoche 1996, 57-58).

Sometimes dubbing denotes actors re-recording their own dialogue during post production. This may be necessary when the originally recorded dialogue during the shooting of the picture are not usable due to quality deficiencies (e.g. caused by outdoor shootings). In the context of this study refers clearly to its use as a language transfer technique.

The costs for dubbing an average length feature film in Germany are about € 35,000, starting from about 25.000€ up to more than 60.000€ as reported by the interviewees (dis1, dis 2, dis 3, dis 4) and the European Commission (2007: 41). The costs depend on the quality of the final dubbing result that is desired. The elaborate translation work, the studio costs and the actors’ wages contribute to this amount. The costs of dubbing will be elaborated on in more detail below.

Subtitling

Subtitled versions of foreign language films contain the original actors’ dialogue⁶⁴ and M&E tracks (see Maier 1997: 13-14; Pruys 1997, pp. 43ff). While the actors on screen articulate a line of dialogue (or some written text in the original version’s language is visible) a condensed translation of the dialogue (or text) in the target language is provided usually on the bottom of the screen: the so-called subtitles. The audience hears the actors speaking in the (original) foreign language and in parallel can follow the plot by reading the subtitles in their mother tongue (Maier 1997: 93 ff; Luyken et al. 1991, Ch. 2).

Film distributors generally contract the subtitling job to specialised studios. A translation of the spoken dialogue is condensed into lines of text (in a specific subtitle-format style) and assigned a time code that corresponds to the designated time on film on which the respective subtitles shall appear. The job of translation, typing the subtitles and assigning them time codes can in principle be done by one person only:

⁶⁴ ‘Original dialogue’ refers to the dialogue as they were recorded during production or post production and spoken by the actors themselves. For problems with the definition of the term ‘original version’ see Pruys (1997, pp. 11ff) and Sudendorff (1988).

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the subtitling director/translator.⁶⁵ Other studio also personnel include technicians and engineers.

The different stages of the subtitling process are described in detail in Luyken et al. (1991, pp. 50ff). One of the cornerstones of the whole process is the translation of the dialogue from the final script and the dialogue list which are provided to the subtitling studio by the distributor. (It is also possible to do a direct transcription of the spoken dialogue, i.e. the transposition from the spoken language into text). This process is called adaptation. It is followed by the condensation of the translation into short lines of subtitles (the so-called subtitle composition) and the time coding of the subtitles and their spotting frame by frame (spotting denotes determining the points at which the subtitles appear and disappear). Today these steps of the subtitle creation process are largely digitalised and executed with the help of a specialised subtitling program.

The format of subtitles is important for it influences the readers' attention and perception of the subtitles: "The aim is to allow a full reading of the text yet avoid the instinctive rereading which will occur if the subtitle remains exposed for longer than necessary" (Luyken et al. 1991: 44). It is recommended (Ibid, Koolstra et al. 2002, p. 328) to adhere to the so-called "6-second rule" that specifies that a two lines of subtitles, containing at most 64 characters (including spaces) should be visible for 6 seconds. Accordingly a single lined subtitle containing a maximum of 32 characters should be visible for 4 seconds. These specifications were agreed upon by the *European Broadcasters Union*⁶⁶ in 1987 (Luyken et al. 1991: 44) and are reflected in the "Code of Good Subtitling Practice" (Ivarsson and Carroll 1998) that serves as a guideline for *European Association for Studies in Screen Translation*.

There are two traditional methods for producing subtitled copies for distribution on traditional celluloid film rolls:

- (a) With the 'laser-etching technique' the original internegative that the distributor received is used as a master from whom the distribution copies for the exhibitors are drawn. The subtitles are burned onto each duplicated 35mm tape copy individually – frame by frame with a laser beam. This process is time intensive with an average duration for a feature film of approximately 7 hours (interview: dis5).

⁶⁵ Germany largest subtitling studio the Potsdam-Babelsberg based *Film und Video Untertitelung Gerhard Lehmann AG* notes on its web page that in terms of accuracy of the final subtitles "optimal results can be achieved only when the translators themselves also handle the timing (spotting) of the subtitles" (information retrieved in October 2007 from http://www.untertitel-ag.de/untertitelung_e.html)

⁶⁶ The homepage of the *European Broadcasters Union* is <http://www.ebu.ch> (information retrieved in November, 2007)

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- (b) The second method for subtitling is the internegative method. From the original negative that has been delivered by the producer the distributor produces a new internegative of the film that already contains the subtitles. From this new internegative the copies for distribution are drawn (interviews: sub1, dis2, dis3, dis5). In Germany the internegative method is not used since fixed costs are relatively high and the number of copies needed for amortisation is not reached.
- (c) The subtitles are generated digitally by the subtitling studio (which is common practice currently), stored in files on discs or hard discs. These files can be delivered at low cost to the cinema and projected onto the screen. When the film copy is also digital and the rights are acquired the cinema can choose to play the film in an original language version and project the subtitles from a extra disc onto screen (interview: ex1)

At film festivals films are often exhibited in subtitled original versions. These versions are often original versions with English subtitles (if the film is not an English language production) that are provided by the international sales agent of the film (European Commission 2007: 25f).

The costs for subtitling an average length feature film are on average about 2.500€ but can go up to more than 4.000€ as reported by the interviewees (sub1, sub2, sub3, and dis2). These costs do not include the costs for copying a film. The costs of dubbing will be elaborated on in more detail below.

Original Version, Captioning, Voice Over

Apart from dubbing and subtitling other language transfer techniques may be employed to release films to the cinemas. In German cinemas it can occur that an unaltered original version is shown. Here no form of language transfer is applied and the audience follows the film in the original version in the original language without any additional language transfer.⁶⁷ The exhibition of plain original versions of films requires that the audience has a sufficient command over the original language. Therefore it is not surprising that films exhibited in original version mostly feature English language dialogue.

Captioning depicts subtitles that are no translation of dialogue but transcriptions of the dialogue in the original language of the film or programme. Captioning can

⁶⁷ An example is the multiplex cinema *Cinestar* in the *Sony Center* in Berlin. The multiplex cinema shows only original versions, without subtitles. This information is retrieved in August 2007 from <http://www.cinestar.de/de/kinos-lokal/berlin-cinestar-original-im-sony-center/Startseite/> (Homepage of the Exhibitor).

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also include written descriptions of the sound effects. The main purpose is to enable deaf or hearing-impaired viewers to follow the action on the screen.⁶⁸ The European Captioning Institute holds that captioning actually extends this purpose: “[Hard-of-Hearing] Subtitles are also increasingly used by second language learners, and it has been proven that literacy levels improve with the use of [Hard-of-Hearing] subtitles.”⁶⁹ Captioning is mainly used in television where the signal for captioning is transmitted via teletext. The viewer can activate the captioning via a specific teletext site. The use of captioning in the cinemas has started to be spread as well, particularly in the UK (interview sub3). Captioning is also included in many DVDs in the subtitle menu and viewers can activate it upon demand.

Like dubbing, voice-over is a language transfer method based on revoicing. This means that the original spoken dialogue sound track is altered for the purpose of language transfer. In contrast to dubbing, with voice-over the original dialogue is not completely replaced by translated dialogue: The audibility of the original dialogue sound track reduced to a low volume and a translated speech in the domestic language is laid over the original sound track. Consequently the original sound can be heard in the background and the louder translation dominates the acoustic foreground.

This technique is often used to transfer monologues in documentaries and interviews (Luyken et al. 1991: 80). As a method for language transfer of feature films this technique is not practised in Western Europe but is common in Poland and Russia (Dries 1995, p. 6). The difference to dubbing is that voice-over requires a much less elaborate production process. According to Luyken (ibid) voice over is characterised by “The faithful translation of original speech” which has to be delivered *approximately* synchronously with the picture. Compared to dubbing lip synchronicity is not required. Therefore much less effort is needed in terms of translation and script editing but also in terms of studio recording technique and time.⁷⁰

⁶⁸ See for example the *US National Captioning Institute* (NCI) on <http://www.ncicap.org/howitworks.asp> or its subsidiary the *European Captioning Institute* (<http://www.ecisubtitling.com> (information retrieved in August 2007).

⁶⁹ Information retrieved from the *European Captioning Institute* Homepage http://www.ecisubtitling.com/hard_of_hear_subtitles.html (information retrieved in August 2007).

⁷⁰ Luyken et al. (1991, p. 81) gives four main stages in the production process of voice-over language transfers “where the relaxation of the lip-sync constraint alters the procedure. There is:

- no requirement to adapt the translation as long as the length of the translated enunciations is consistent with the length of the original enunciations These points underline the relative simple nature of voice over, both technically and probably also in terms of artistic effort that is put into the voice-over production of feature films.
- less emphasis on artistic interpretations during recording

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Although different methods for language transfer were introduced in this section this research will largely focus on dubbing and subtitling. One of these formats dominates most markets, above all in Western Europe (see Luyken et al. 1991, pp. 30 and 33). Captioning is mostly used in television and on DVDs. Its target group is chiefly the hearing impaired and maybe foreign language learners. Voice over is a phenomenon that is widely used in interviews, news reports and documentaries. However, its usage in the language transfer of feature films is confined mostly to Poland and Russia.

5.2.7. **The Practice of Language Transfer in National Markets**

At this point it is appropriate to give an overview of the use of the language transfer techniques in different national markets. The purpose of this overview is to provide a basis for the classification ‘dubbing country’ and ‘subtitling country’. These two terms often appear in discussions on dubbing and subtitling. This work attempts to establish this classification by drawing on the (sparse) data on the use of dubbing and subtitling that is available. This classification also serves as a basis for the discussion of the validity of the market size argument below.⁷¹

In most national markets one of the possible techniques dominates the market so that one can speak of “subtitling countries” or “dubbing countries” (Luyken et al. 1991, pp. 30 and 33) or - in the case of Poland and Russia - of a “voice-over country”. The available data stems from two surveys. The first one was conducted by the *European Institute for the Media*. The results of this study for Western Europe are published in Luyken et al (1991, pp. 30 and 33) and the results for Eastern Europe are published in Dries (1995, p. 6). These are the only two sources in which the results are published and it is not possible to get access to the record of the study itself, since the *European Institute for the Media* has been closed down and its archives are not readily accessible. Here the results of the study are summarised in Table 3. As the classic Western European dubbing countries Luyken et al (1991, pp. 30) identifies those with high dubbing market shares France (90 %), Italy (100 %), Germany (80 %), Spain (80 %) and Austria (97 %) in television. In the literature these ‘classic’ dub-

-
- no need for multi-track recording
 - less mixing and editing”

With dubbing each actor on screen is dubbed by a single dubbing speaker. With voice over this is not the case: sometimes there is just one speaker narrating the dialogue, or there are two speakers – male and female – that record translations of all male and female actors respectively.

⁷¹ This argument holds that small countries always use subtitling while large countries always use dubbing.

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bilingual countries are also abbreviated FIGS (compare Szarkowska 2005). The Subtitling countries on the contrary display high market shares of subtitling in the TV market: Belgium (53 %), Cyprus (70 %), Denmark (77 %), Greece (90 %), Norway (85 %), the Netherlands (94 %), Portugal (70 %), and Sweden (71 %). This categorisation of dubbing and subtitling countries for Western Europe is congruent with the grouping of Szarkowska (2005) who bases her categorisation on the *Routledge Encyclopaedia of Translation Studies* 1997.

Table 3.: Share of language Transfer Techniques in National Markets (early 1990s)

Source: Dries (1995, p. 6), Luyken et al. (1991, pp. 30 and 33). If the percentages in one line do not match up to 100 % this inconsistency is taken over from the authors as reported.

Country	Lip-Sync. (in %)	Voice-over (in %)	Subtitling (in %)
BE Belgium	11*	9*	53*
CZ Czech Republic	4*, 64 [†]		
DK Denmark*	0*	23*	77*
DE Germany*	80*	10*	10*
EE Estonia		95*	85 [†]
EL Greece	5*	5*	90*
ES Spain	80*	20*	0*
FR France	90*	2*	8*
IE Ireland			
IT Italy	100*	0*	0*
CY Cyprus	0*	10*	70*
LV Latvia		95*	85 [†]
LT Lithuania		78*	71 [†]
LU Luxembourg*			
HU Hungary	80*		60 [†]
MT Malta			
NL Netherlands	1*	5*	94*
AT Austria	97*	3*	0*
PL Poland		100*	100 [†]
PT Portugal	10*	20*	70*
SI Slovenia	62*, 100 [†]		
SK Slovak Republic	94*, 94 [†]		
FI Finland*			
SE Sweden	0*	29*	71*
UK United Kingdom			
BG Bulgaria	70*		
HR Croatia			
RO Romania			90*, 100*

* in the Television market

[†] in the cinema market

In Eastern Europe the countries with high market shares of dubbing in the TV markets are the Czech Republic (45 %), Bulgaria (70 %), Hungary (80 %) and Slovak Republic (94 %). These countries can be labelled as 'dubbing countries'. The Eastern European countries displaying a high market share of subtitling in the TV market are

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only Romania (90%) and Slovenia (62%) (Dries 1995: 6). Voice-over is much more popular on TV in Poland (100%), Russia (100%), Latvia (95%), Estonia (95%) and Lithuania (78%). From this one can say that in the TV market dubbing and voice-over are about equally important, and both outrank subtitling. But in the Eastern European *cinema* markets subtitling is quite important in Poland (100%), Romania (100%), Slovenia (100%), Latvia (85%), Estonia (85%), Lithuania (71%) and Hungary (60%). In the cinema market only two retain high shares of dubbing namely the Czech Republic (64%) and the Slovak Republic (94%) (ibid.).

The US and UK are markets where the share of foreign films in the cinema market are traditionally low, due to the high number of English language films available.

For the European Commission *MEDIA 2007 Programme* a study on dubbing and subtitling in the European audiovisual industry has been conducted recently (European Commission 2007). Unfortunately the quantitative results of this study are not directly comparable to the earlier study of the *European Institute for the Media*. This study reports the market share of the respective language transfer techniques in the TV and cinema markets. In contrast the *Media 2007* study merely reports for the cinema market whether films are dubbed, subtitled or both, but does not provide data on the frequency of use, i.e. the market share of both techniques in the respective markets. Both forms of data can not be compared directly.

Nonetheless, the *MEDIA 2007* study provides a valuable illustration of the current state of the dubbing and subtitling landscape in Western and Eastern Europe. Interestingly the study provides a classification of the European countries in dubbing and subtitling countries (European Commission 2007, Annex III, p. 67f).

By and large the classification corresponds to the one in the older study. There are two notable points. The researchers found that the Czech Republic and Hungary – two traditional dubbing countries – are increasingly employing subtitling; this trend is particularly visible in the cinema market while in television both countries employ dubbing. The UK that could not be classified in the late 1980s – early 1990s study due to the lack of data is now considered to be a subtitling country.

Country Classifications (based on the Cinema Market)

1. Dubbing countries:

- The FIGS Group (France, Italy, Germany, Spain)
- Austria

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2. Transition countries (Traditional dubbing countries that are in the transition from dubbing to subtitling):

- Hungary
- Czech Republic

3. Subtitling countries:

- Benelux (Belgium, the Netherlands, Luxembourg)
- Bulgaria
- Cyprus
- Scandinavian Countries (Denmark, Finland, Iceland, Norway, Sweden)
- Baltic Countries (Estonia, Latvia, Lithuania)
- Greece
- Ireland
- Lichtenstein
- Malta
- Poland
- Portugal
- Romania
- Great Britain
- Slovenia
- Slovakia
- Switzerland

These markets only cover European Markets. Data on language transfer practises outside Europe are hardly available. The Markets where data is available and that are not covered in this study are Brazil, Mexico and Japan. In the Japanese cinema market for non-children's films approximately 70 % of the copies of in circulation are subtitled while in the segment of films aimed at children half of the circulating copies of a film are dubbed while the other half is subtitled (interview dis6). In Brazil foreign films are generally released in a subtitled version to the cinema with children's films being released in a dubbed version, as well. Mexico had introduced a "Prohibition of dubbing of all films apart from those classified for children and educational documentaries, under the Mexican Film Law of 1949" (Solon Consultants 1998, p. 4). This naturally makes Mexico a subtitling country, at least until 1999 when the film law was revised albeit restrictions on dubbing remain (U.S. Trade Representative 2001: 311f.).

A result of this part is that indeed the world can be separated into dubbing countries and subtitling countries. This is possible because in most countries one of the language transfer techniques dominates the market (or traditionally used to dominate the market). This classification will gain major importance in combination with

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the definitions on the market size that was undertaken above at the beginning of the empirical part of this work. The combination of these two parts will be the basis of the discussion on the validity of the country size argument below. This discussion will involve the comparison of the congruence of dubbing countries and large markets and subtitling countries and small markets which allows conclusions on the validity of the country size argument.

The Language Transfer Industry Practice in Germany

The purpose of this short section is to provide a more in depth insight into the practice of dubbing and subtitling in Germany from the film distributors perspective.

When films are released to the cinema, the film distributor is responsible for the decisions over the language transfer (interview: dis1, dis2, dis3, dis4). Then the language transfer is outsourced to a specialised studio. If a film is broadcasted, the television station either takes over the language transfer version that has been produced for cinema or DVD exhibition, or the station may choose to do produce a new version. In principle broadcasters also outsource the language transfer. However, the large public television stations may decide to do the language transfer in-house, or they closely monitor the production process to ensure that the language transfer satisfies their quality standards (European Commission 2007: 53ff).

What are the criteria that induce a film distributor to order a dubbed and/or subtitled version of a film? According to the European Commission (2007: 47) the film distributor takes into the following considerations into account:

(a) the commercial potential of the film: The larger a films' potential audience, the more likely it is to be become dubbed in Germany. This is because dubbing is more expensive than subtitling, which is why smaller films are often released in a subtitled version only. (b) Film genre: Children's films are dubbed in general (this is even common practice in subtitling countries). In documentaries and news reports dubbing and voice over are often employed. (c) The audience's preferences. I.e. in the traditional dubbing countries such as Germany films are very likely to be released in a dubbed version. Subtitled versions are also produced of nearly every foreign language feature film released to the cinema and/or on DVD (Interview: sub3).

In Europe the total turnover of the dubbing and subtitling industry combined is estimated to be between €372m and €465.4m (European Commission 2007, 41).⁷²

⁷² Unfortunately this estimate is not broken down into dubbing and subtitling.

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The study also provides a current estimation of the costs of dubbing and subtitling. The study found that in Europe the average costs for dubbing a 90 minute foreign language film are €34,900 in Germany and the other dubbing countries (European Commission 2007: 41). Based on the data in Media Salles (2006) and the OBS (2006) this research estimates that there are approximately 300 foreign films released to the German cinema market each year.⁷³ So the total turnover of the cinema related dubbing activity is about €10.5m. Since very small films are either released only in a subtitled version or their dubbing is at the lower end of the costs in the realm of €25,000 (dis1, dis2). Taking the average costs of €2,500 for the production of the subtitles and considering that most films released to the cinema are also released in a subtitled version (interview sub3) the total amount spent on subtitling by film distributors in the cinema segment in German is about €750,000. Nonetheless dubbing clearly dominates the German cinema market with more than 95 % of the circulating copies being dubbed versions and less than 5 % of the circulating copies are subtitled versions (dis2, dis3, dis7).

The main purpose of this session was to provide an overview of the language transfer practises of film distributors in Germany. What is remarkable is that although Germany is widely and rightly considered as a dubbing country nearly every foreign language film released to the cinemas is also released in a subtitled version. So from the perspective of the researcher path dependence this implies that the lock-in of the German market into dubbing can hardly originate from the German film distributors, since these generally release both a dubbed and a subtitled version to the cinema. Furthermore, since dubbing seems to be much more expensive than subtitling film distributors actually should have an incentive to release more films only in a subtitled version. Therefore the underlying reason for the market shares of dubbing being so large and that of subtitling confined to niche markets must originate from the audience's preferences. But this complex will be elaborated on below.

5.2.8. Digitalisation

The above described techniques for the production and reproduction of cinema prints relate to essentially non-digital technologies, i.e. the handling and distribution of films on (35mm) celluloid prints.

⁷³ Further detail on the number of language transfer and its estimated total costs in Germany is given below in the chapter on "Inefficiency", in the sub-section "Cost comparison and effects of cost efficiency on small and large Distributors".

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The digitalisation of cinema refers to the digitalisation of distribution and exhibition. In recent years the popularity of the digital home entertainment increased strongly. In response film distributors and exhibitors in the film industry aspire to undertake a common effort to improve the attractiveness of cinema going. The main angle is to beef up the audience's audio-visual experience by digitalisation of the theatrical exhibition and possibly extend this effort to include 3-D film performances (www.ffa.de).

As outlined by the *Filmförderungsanstalt* the current stage of the technical development of the digitalisation of cinema technology principally allows the whole film production chain to be realised in digital format, this includes the production, postproduction, distribution and theatrical exhibition of films.⁷⁴ The digitalisation of film projection challenges the use of the traditional celluloid film prints. Under digital cinema films are copied digitally and distributed on hard drives, via digital discs or even satellite and shown in the theatres where they run on digitalised projection equipment. Both – the media of transportation and the projectors – are specially designed to prevent copyright theft and to ensure high quality of sound and picture.

When a film has been dubbed and subtitled and both soundtracks have been made available to the exhibitor by the distributor, the exhibitor can freely choose which soundtrack is to be combined with the visual projection (interview: ex1; compare also the home page of the digital cinema technology provider DTS⁷⁵).

However, only a small fraction of the German cinema screens is currently endowed with all-digital projection equipment. Also the old and the new digital systems are often run in parallel. Often a part of the cinema equipment is digitalised (e.g. the sound system) while other components are based on the traditional technology. Notwithstanding that the available data is not very reliable the *Filmförderungsanstalt*⁷⁶ estimates that in 2007 200 cinemas in Germany are digitally equipped. Considering that the Media Salles European Statistical Yearbook (2006: 136) counts 1854 cinemas in Germany in 2005 the digitally equipped cinemas account approximately for merely 10.8%.

⁷⁴ cf. the study *Digitales Kino 2007* of the *Filmförderungsanstalt*: http://www.ffa.de/content_sdk2006/sdk2006_druckversion.phtml?file=sdk2006_technik_produktion (Information retrieved in August 2007)

⁷⁵ For the free combinability of subtitles, soundtrack and visual information see <http://www.dts.com/digitalcinema/dtsaccess/dtscss.php>. For the principle configuration of a dts cinema media network see http://www.dts.com/digitalcinema/theatresystems/dts_cmn.swf (information retrieved in August, 2007).

⁷⁶ cf. the study *Digitales Kino 2007* of the *Filmförderungsanstalt*: http://www.ffa.de/content_sdk2006/sdk2006_druckversion.phtml?file=sdk2006_links (information retrieved in August, 2007).

The effect of this relative cost change already affects the cinema market, particularly the lower market segment of small films. The digitalisation is estimated to lead to a drop of the distributors' film print copy of 90%. This cost cut enables small film distributors to release small films to the market which could not be afforded before. That also affects the balance of subtitling and dubbing in the German film market: In that respect the language transfer study of the European Commission (2007: 67) reports an interesting trend towards subtitling in Germany: "The increase in the number of small budget films in circulation has led to a significant increase in the number of subtitled works being screened in Germany." As a result one might regard digitalisation as a driver for change in the cinema market because digitalisation enables small films to enter the market which was unfeasible before. Thereby it might challenge the traditional balance of the dubbing and subtitling market shares, as well. This potential consequence of the digitalisation will be discussed below in the context of the efficiency analysis of the dubbing standard.

5.2.9. Summary and Conclusion

This section presented an overview on how feature films are distributed internationally. A definition was given on what national markets are to be considered as large or small markets and the market shares of foreign films in the last years in Europe and Germany were presented. It was outlined what role distributors play in bringing foreign films to national cinema markets. Their role in acquiring foreign licenses to exploit films in national markets, their responsibility for the advertising and promotion campaign to support a film's box-office record, and their responsibility for the language transfer were described. Film distributors were identified as the central actors in the international film industry. Their responsibility in releasing films to the national markets and deciding over the language transfer makes film distributors the central figures of this study. The character and the production process of language transfer techniques (particularly dubbing and subtitling) is described and a short overview was given of which language transfer method is used in which national markets. The cost structure of the language transfer techniques dubbing and subtitling was sketched briefly. In the section below on the potential inefficiencies of the language transfer techniques the cost structures of dubbing and subtitling and the economic and cultural implications are analysed in more detail.

Before that this study will reconstruct how dubbing emerged to the dominant language transfer technique in Germany. This will be done in the following part that constitutes an application of the 3-Phase path dependency model.

5.3. Historical Analysis

5.3.1. Introduction And Guidelines For Historical Analysis

In the following sections the adoption process of dubbing in Germany will be addressed according to the 3-Phase model of path dependence. The main points of the 3-Phase model as outlined in the theoretical part above are outlined: Path dependent adoption processes are characterised by contingency in the 'pre-path formation phase (Phase I) (Sydow, Schreyögg and Koch 2005: 9). In that phase, critical or small events and critical conditions or circumstances exert "a profound and disproportionate effect on later [developments]" (Arrow 2000: 175). The consecutive Phase II - the path formation phase - is characterised by self-reinforcing mechanisms that perpetuate and amplify the effects of small events. The last Phase (Phase III) is characterised by a condition of lock-in or strong rigidity.

From this theoretical base the guidelines for the economic historian are straightforward: The adoption of the dubbing regime in Germany can be regarded as a path dependent development if three elements are established:

Phase I: Contingency must be found to characterise a pre-path formation phase.

This entails that other language transfer techniques than dubbing were feasible alternatives. Theoretically these could have prevailed in the market. It is necessary to show that critical events or critical circumstances favoured the adoption of dubbing. Thus the final choice was not predetermined when sound film was introduced

Phase II: In the consecutive phase self-reinforcing mechanisms have to be identified that caused dubbing to become increasingly dominant during a path formation phase.

Phase III: Finally the film market or the film industry must be diagnosed as being locked-in or strongly rigid such that deviation from the dubbing standard is unfeasible.

These three phases will be dealt with in detail. A short history of the film up to the introduction of sound film is given beforehand. This serves as an introduction into this chapter and provides the reader with the historical-technical context of the main part of the historical period that is of interest to this study.

5.3.2. The Initial Situation: A Concise History of the Film Industry 1895–1930 with Special Consideration of Language Transfer and Sound in Film

This part provides the reader with a general illustration of how the film industry evolved until the introduction of sound film and how sound became an integral part of the movies. The following pages do not claim to give an all encompassing history of film between 1895 and 1930, the focus of this introduction is the technical-economic development of sound in films. The aim is to enable the reader to understand where the need for language transfer of films came from and how it was solved during the era of the silent film between 1895 and 1929. This section prepares the stage for the core of the historical analysis of path dependence as outlined above. The Phase I of the path dependence will start at the end of the silent film era.

When reference is made to particular entities, such as inventors, films, techniques or enterprises, this is for illustrative reasons and illustrations. The reader should keep in mind that these are merely examples and that there were often a plethora of alternative, “competing”, activities, persons, companies, and technical solutions on the market. The reader with a deeper interest in the techno-economical, artistic or social aspects of film history is referred to the abundance of film encyclopaedias and literature that can be found in any well-equipped public library (e.g. the film history by Jerzy Toeplitz (1972)).

The Early Years of Film

The beginning of the modern film era at the end of the 19th, beginning of the 20th century is marked by an array of illustrious figures of whom just a few shall be mentioned here. 1895 is regarded as the birth year of modern cinema. In November the brothers Skladanowsky presented their *Bioskop* with public film presentations in Berlin's *Wintergarten* (Hanisch 1991: 26ff). The French Lumière brothers are often credited as the inventors of cinema, but they actually combined and improved

technical approaches of others, and they had the financial means to develop a commercially exploitable apparatus (“Cinématographe”) (Toeplitz 1972: 16).

The creation of fictional film is generally attributed to Georges Méliès, who set up the first film studio in 1897, near Paris. He realised his illusionist films with special effects (Toeplitz 1972: 22-26). In 1903 Méliès began staging film scenes with actors according to a fixed script, a novelty, at that time.

Until about 1908 (Toeplitz 1972: 36) film exhibitions mainly took place as shows on fairs run by wandering exhibitors. Then the film was but one attraction among many, although one rising strongly in popularity during the first two decades of the 20th century. Toeplitz (1972: 48) locates the number of films released yearly worldwide in the 10s of thousands during the first years of the 20th century (it has to be noticed that the running times of films were much shorter than they are today).

During the first decade of the century the film industry underwent an important change, it became industrialised. In the pioneers’ small enterprises (like Méliès’), production, direction, scriptwriting, editing and sales lay more or less in the hand of one person. Pathé in France spearheaded a new development: An increasing division of labour set in and the profitable industry attracted major capital investors’ attention. (Toeplitz 1972: 48) Pathé also heralded a new mode of distributing films in 1907. Before, film producers *sold* film copies to small exhibitors who showed them (very profitably) until they physically dissolved. The exhibitions took place in migrating tents on amusement fairs and vaudevilles (Hanisch 1991: 81; Toeplitz 1972). Pathé stopped selling the films, but started to *rent* out the copies. Pathé thereby maintained ownership and control of the films, which enabled it to license the film exclusively in different territories. This mode of business was soon emulated by other film producers (Toeplitz 1972: 48). Pathé also established its own tents on amusement fairs where the company’s films were exhibited exclusively, and with better equipment and interiors than the independent competition. These developments led to both the elimination of small scale film production and the establishment of fixed cinemas as we know them today.

Sound and Language Transfer in Film During the Silent Film Era

The word ‘silent film era’ is actually a misleading term in that it suggests that before the introduction of “sound film” the experience of films in the cinemas and its predecessors was a silent matter. Actually, silent films have hardly ever been silent.

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First of all, the audiences were quite lively, much more so than we are used to today.⁷⁷ In the Weimar Republic, but in other countries as well, it was common that members of the audiences gave ironic comments on the onscreen action (Ross 2006, p. 170). These comments were regarded as an integral part of the whole cinema-going experience (actually as an add-on). It was commonplace to chat with the other guests, and the audience may at best be characterised as “untamed” (Ross 2006, p. 171). A part of the lively atmosphere in the cinemas was generated because it was quite common to enter or leave a cinematic show any time, creating a constant stream of people arriving and leaving. These customs, one must say, were above all common in working- and middle-class cinemas. In the first-run theatres the atmosphere was certainly more reserved (*ibid*).

Music There were various methods to accompany films with a sound track. A common practice was to engage musicians who performed music in accordance to the action on the screen. The number of musicians and the degree of professionalism of the performance varied widely. In the luxuriously equipped, exclusive first-run theatres large orchestras did the job. These consisted of well-trained professionals under the supervision of a conductor. Notable is the introduction of the theatre organ especially developed to accompany films (Kelzenberg 2007, Ch.1).

In the cheaper suburb cinemas that the lower middle or working class attended, the musical performance was of a much lower quality, sometimes consisting of a single musician. Naturally, considering the audience’s lively behaviour and the fact that there was no technique for amplifying the musical instruments’ sound the musical performance did not dominate the cinema hall as we are used to today (*cf.* Ross 2006, p. 171).

Intertitles During the silent film era, dialogue and descriptive or narrative elements in relation to the film were conveyed through so-called intertitles. Intertitles were used as early as 1903 (Ivarsson 2001, p. 1, according to Pruys (1997, p. 60) the first subtitles were used in 1907). They showed text that was filmed or printed on celluloid and edited into or between scenes of the filmed action. This allowed the audience to make sense of the depicted action. Intertitles had to be read by the audience, so the length of their appearance depended on the amount of text being shown.

⁷⁷ The liveliness of the then audience then is probably comparable to the current audiences of Bollywood films in the Indian theatres today.

Thus longer dialogue needed longer intertitles that a short reference to a date or location (cf. Ivarsson 2001, p. 1; Wahl 2003, p. 88ff).

When a film was shot the inserted intertitles were in the language of the producing country. If the film was to be exported (and shown to audiences of a distinct mother tongue) the audience could have difficulties following the action if they did not understand the meaning of the intertitles' text. The solution was fairly straightforward and in expensive: A new set of intertitles was produced that translated the original intertitles into the target language. The original intertitles in the film were replaced by the new set of translated intertitles, and the film was ready to be exhibited in the film-importing country. This process is generally described as fast and easy to perform. The era of silent films is often referred to as the period where film was international (compare Garncarz 2003, p. 16, 1996, p. 127); this internationality of silent film refers to the convenience with which films could be translated and the amount of international film trade that took place (Ivarsson 2001, p. 1).

Film Interpreters Before the arrival of sound film, live interpretations, explanations and moral conclusions of films were given in some cinemas by so-called film narrators. A film narrator commented on the onscreen action. A film-narrator could perform the dialogue during film scenes more or less synchronously with the action on the screen, basically performing a live voice-over act. He also gave interpretations and explanations of the action when the plot or elements of the action were difficult to comprehend. This was particularly true in the early years of film; during the 1910s film narrators became obsolete: with "the establishing of the narrative feature-length film the films became increasingly self-explanatory" (Wahl 2003, p. 84). Toeplitz (1972, p. 40) similarly relates the disappearance of the film narrator to the upcoming of intertitles and the "musical illustration of films". Although they became rare there are reports that later in the 1920s narrators were still used for translating the intertitles of films for linguistic minorities (Wahl 2003, p. 83). Tosaka (2003, p. 150ff) reports that film narrators in Japan (*benshi*) translated intertitles of imported films and – through their art of narration and interpretation - explained the culturally distinct films to the Japanese audience.

A cinema ticket did not only promise one feature film, but a couple of films. Generally the show entailed a sort of documentary, a short, and the feature. It also often occurred that more than one "main" feature was shown, this way most second-

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third-run cinemas⁷⁸ increased the attractiveness of their programme for the audience. Most also introduced a film with live-show elements that were part of the whole cinema experience (Ross 2006, p. 176).

The Appearance of Modern Sound Film Systems

Although silent film is largely associated with live music performance to supplement the film presentations, inventors worked on various solutions to record and replay sound. The development of a technical solution to record sound and film synchronously is about as old as the history of film itself. Already in the late 19th and the first years of the 20th century there were exhibitions of “talking photographs”. The earliest attempts date back to Thomas Alva Edison in 1894/95 (Wedel 2005, p. 11): The sound of a violin player was recorded via a large cone on a wax cylinder, while two men are dancing to the music. Only the technical inadequacies that hampered a harmonious sound-picture quality delayed the further development of sound films for two decades. The break-through of sound film had to wait until the late 1920s (Traub 1943; Wollenberg, 1930, p. 3).

Oskar Messter, a Berlin-based developer and technician of optical instruments, film projectors and cameras, but also a film director, producer and exhibitor showed ‘sound’ films as early as 1903 in the local vaudeville *Apollo Theater*. Famous revue and operetta stars performed highlights of their popular plays in front of his camera. Messter showed the film and in parallel played a record with the corresponding music. This “predecessor of sound film” (Hanisch 1991, p. 81) was very successful and soon Messter’s sound films were shown in other cities (Ibid). His “Biophone” system consisted of a film projector whose motor was coupled with the motor of a gramophone player to achieve a synchronicity of sound and picture. However, owing to the lack of proper speakers and amplifiers the sound quality was bad. Five gramophones were set up to increase the volume of the soundtrack, each one equipped with a two meter long cone, which sadly also amplified the scratches on the gramophone discs (Hanisch 1991, p. 82).

⁷⁸ The rental fee that exhibitors have to pay to the distributor depended then – and still does today – on the time slot in which the film is booked for exhibition. The earlier a film is shown in a cinema the higher is the rental fee. The initial release or premieres are the most expensive slots. The cinemas where the film is initially released are called first-run theatres. After the film was exploited in the first-run cinemas the second- and then the third-run cinemas received the film. With each tier the rental rate decreased and consequently the cinemas could charge a lower entry fee. The first-run theatres were located in the centres of larger cities, while the second- and third-run theatres served the audience in the districts, suburbs and the provinces. The hierarchy of these classes of cinemas is also reflected in the class affiliation of the corresponding cinema audiences. (cf. Ross 2006, p. 164ff)

But the break-through of “true” sound film technology came in the late 1920s. October 6, 1929 saw the New York premiere of *The Jazz Singer* (produced in 1927⁷⁹). The film is recognised as the first true sound film, popularising the new medium and heralding a new era. In the film the vaudeville star Al Jolson spoke the legendary first audible words on screen: “You ain’t heard nothin’ yet!”. Although most of the sound tracks consisted of music sound films were called “talkies” (Deutsches Filminstitut 2007).

Basically two techniques came on the market during the 1920s: Sound-on-disc and sound-on-film (finally sound-on-film prevailed).

With sound-on-disc the sound was recorded on a disk in parallel to the filming of the picture. When the film was shown the film projector was coupled to a gramophone to synchronise sound and picture. The problem with sound on disc was to synchronise picture and sound. Another problem that arose was that the length of the films grew longer but the recording capacity of discs did not (so the discs containing the musical sound track had a much shorter play time than the film). Therefore the discs had to be changed by the film projectionist or an assistant without interrupting the sound or causing asynchrony. This technique was at the roots of the sound-on-disc patent of Western Electric on which the *Warner Brothers Vitaphone* system is based. Warner issued the *The Jazz Singer* on *Vitaphone* (Traub 1943, p. 80).

But the sound-on-disc system was not unchallenged: Its competitor, the sound-on-film technique enabled the synchronous recording of sound and film on one tape (Maier 1997, p. 64). This technique was based on the transformation of a sound recording into an optical signal that was recorded on the film tape in a stripe next to the image frame. In 1919 three German inventors (Engl, Massolle, and Vogt) started to develop the sound-on-film (*Lichtton*) technique. Their *Tri-Ergon* system was presented to the public in 1922, and was enthusiastically received by the audience but was refused by the press and the film industry (Kreimeier 1992, p. 210-1). The three inventors were forced to sell their patents to a Swiss company but then developed new sound-on-film systems for the *Ufa (Universum Film AG)*. In 1925 the first *Ufa* sound film was released, but the sound technique and quality at the premiere was a disaster. This “disaster” and the looming world economic crisis let the *Ufa* to abandon all sound film endeavours temporarily (Kreimeier 1992, p. 210).

Finally, though, sound-on-film prevailed in the market (Traub 1943, p. 80). The *William Fox Company* bought the *Tri-Ergon* patents from Switzerland and devel-

⁷⁹ cf. with *The Internet Movie Data Bank*, www.imdb.de

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oped it into the *Movietone*-System (Traub 1943, p. 81). The first *Movietone* film *What Price Glory* premiered in 1927 (Kreimeier 1992, p. 212). As late as 1928, under the pressure of American sound films threatening to conquer European markets the *Ufa* had to give up its reluctant position towards sound film (Kreimeier, 1992, p. 213). Sound-on-film prevailed, however there were many different patents and the larger film corporations of the USA and Europe engaged in a fierce patent war. On the German side the *Tobis-Klangfilm* consortium held a significant portion of the European patents and managed to gain monopolistic control over most European markets. The US-European patent war lasted until the so-called “Paris sound film accord” of June 1930⁸⁰ which basically split the world into two exclusive rights territories: The *Tobis-Klangfilm* cartel was granted exclusive selling rights for projection and filming equipment over Germany, Switzerland, the Netherlands, Scandinavia, and the Balkan states. The US firms received a monopoly over the US, Canada, India, Australia and the Soviet Union. The rest of the world’s markets were left to free competition and “interchangability” (i.e. compatibility of film and equipment, regardless of producer) was agreed on (cf. Toeplitz 1979; Kreimeier 1992). A result of the patent wars was a strong concentration in national film markets, so Germany was dominated by the *Tobis-Klangfilm*.) Although there were other companies involved in distribution and production of films, the dominating producer and distributor of films was the all-dominating state-supported and government-loyal, nationalistic-conservative *Ufa*.

Sound Film, the Language Barrier and a Shrinking Film Market

During the golden era of silent film between 1918 and the late 1920s the film industry was very internationally oriented, and films were traded on a large scale (Toeplitz 1979; Jason 1932). With the help of translated intertitles, films were easily transferred to foreign target languages and film trade was truly international.⁸¹

In 1929/30 the final *Ufa*-changeover to sound film occurred (Traub 1943, p. 88). The consequent wider releases of sound films based on the modern sound-on-disc

⁸⁰ *Film Kurier*, no. 102, 29.4.1930 “Zum Tonfilmfrieden”

⁸¹ Jesse Lasky, then president of Paramount Pictures – describes the film’s “loss of internationality” due to sound film in *Reichsfilmblatt*, Nr.23, 7. 7. 1930, Jesse Lasky: “In allen Sprachen erhältlich”.

and sound-on-film systems from 1929 onwards were instant successes and popular audiences embraced sound films enthusiastically.⁸²

The film industry was entangled in a fierce transatlantic patent war over film and projection equipment that hampered the endowment of cinemas with sound-film equipment.⁸³ Nevertheless the conversion from silent- to sound film was irresistible and rather quick. In September 1929 only one sound film was released in Germany; it accounted for 3% of the film releases in that month. The share of sound film rose constantly, so that one year later – in September 1930 – sound films accounted for 84% of the monthly film releases.⁸⁴ After 1930 the larger film distributors stopped distributing silent films (Traub 1943, p. 93). Still the conversion to sound did not proceed as smoothly as this data implies. Particularly smaller cinemas, the audiences of which consisted primarily of members of the lower classes, could hardly afford the sound equipment. Distributors also demanded higher film rentals from the theatre owners for sound films than for silent films. Traub (1943, p. 93) reports that the film rentals for sound films increased by 40% above the rentals for silent films. Both factors explain why small theatres took much longer to convert to sound film than the “better off” city centre cinemas (Ross 2006, p. 176). In 1930, 5,267 cinemas existed in Germany; 1,450 of these were converted to sound film. In 1935 practically all of 4,782 German theatres possessed sound film projection equipment (Jason 1935, p. 144).

The audience embraced these early sound films, no matter the language of the dialogue. This indifference towards the language of the very early sound films is due to the novelty of sound film. Because of the fascination and sensation of sound film itself people were much less critical of the language, but absorbed by the technical possibility.⁸⁵ In addition, dialogue made up only a relative small part of the sound track of films while much more emphasis was placed upon music performances.

This leniency towards foreign dialogue on part of the audience changed soon as the dialogue scenes lengthened and gained importance: The audiences demanded to comprehend the dialogue.⁸⁶ Suddenly the rapidly accepted product innovation raised a new problem for the international film business: the *language barrier* im-

⁸² E.g. In early 1930, some months after sound films were introduced in Germany a theatre owner in Cologne surveyed the cinema audience and found that 86% were in favour of sound films (*Film Kurier*, no. 77, 29.3.1930, “Der Schaumann – Tonfilm – Abstimmung”).

⁸³ *LichtBildBühne*, no. 276, 18.11.1930, “Ufa-Bericht 1930”.

⁸⁴ *LichtBildBühne*, no. 286, 29.11.1930, “Wirtschaftsspiegel des Films – Die Entwicklung des Tonfilms”

⁸⁵ *Film Kurier*, no. 111, 10.5.1930, “Briefe aus der Praxis. Tonfilmenttäuschungen – Warum?” reports that in the first successes of sound films was due to the audience’s sensationalism for the novelty “sound film”.

⁸⁶ *Film Kurier*, no. 62, 13.3.1930, “Publikum verlangt Dialogfilme – lehnt aber Synchronisierung ab.”

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peded international film trade much stronger than before, i.e. a film produced with actors' dialogue in a particular language could no longer be easily shown to a target audience who had no sufficient command over the original language. The result was a sudden drop in the market share of foreign sound films. This occurred in all countries, although here only the figures for Germany are quickly reviewed.

Table 4 illustrates two important phenomena related to the conversion of sound film. First the overall film supply fell from an average of 491 feature film releases per year in the silent film period covered by the data (1923-1929) to an average of 258 film releases per year between 1929 and 1933, thus the supply of feature films roughly halved after the introduction of sound film. The immediate drop of film supply related to the conversion of sound film is due to the increase in production costs. Apart from being much more elaborate and time consuming the production of a sound film is much more expensive than the production of a silent film (Jason 1935, p. 108; Traub 1943, p. 89) Additionally, the film producers had to install sound film studios and sound editing facilities, and the number of cinemas converted to sound film was limited. With the conversion to sound film the number and share of foreign film releases dropped from 55 % in the sound film period to 45 % in the period 1930-1932 due to the language barrier.

Table 4.: Supply of Full Length Feature Films on the German Market, by Origin
Source: Jason (1935, p.106)

	Total	German	% German	Foreign	% Foreign	
Silent Film	1923	417	253	61%	164	39%
	1924	560	220	39%	340	61%
	1925	518	212	41%	306	59%
	1926	487	185	38%	302	62%
	1927	525	242	46%	283	54%
	1928	517	224	43%	293	57%
	1929	416	183	44%	233	56%
	average	491	217	45%	274	55%
Sound Film	1930	284	146	51%	138	49%
	1931	278	144	52%	134	48%
	1932	213	132	62%	81	38%
	average	258	141	55%	118	45%
Third Reich	1933	206	114	55%	92	45%
	1934	211	129	61%	82	39%
	average	209	122	58%	87	42%

With begin of the Nazi rule in early 1933 the number of foreign films dropped further due to Nazi film policies (see further below in this chapter). These figures fell further during the course of the Third Reich.

During the era of silent film the only modifications required for releasing a film in foreign markets was to replace the ‘intertitles’ in the language of the film-importing country – a relatively cheap endeavour. The situation changed fundamentally with the introduction of sound films in the late 1920s and the language barrier was recognised as a problem, hampering the international exploitation of films. In order to keep the film business international, *language transfer methods* were developed to enable audiences to understand foreign films. Several technical solutions for language transfer were used and proposed:

1. One method employed the principle of **intertitles**: The foreign sound film was shown with original dialogue, but in intervals, between dialogue translations of the just spoken dialogue were shown in the form of intertitles. This method was employed during the very early 1930s
2. Related to that is the **subtitling** technique, whose basic principles have not changed until today. Subtitles were used from 1929 onwards⁸⁷
3. **Dubbing** was used in Germany as early as September 1929⁸⁸
4. In **optical versions** the actors speak their text by heart in different languages, although they do not necessarily understand what they actually utter. Optical versions offered two different solutions for language transfer. Either the foreign actors pronounced their lines of dialogue sufficiently accurately, so that no further language transfer was needed. However, this was not generally the case, and mostly the dialogue were dubbed. Optical versions offered the advantage that they could be dubbed more easily, since the actors’ lip movements already match and the lip movements of the target language
5. In **language versions** (or ‘double shooting’) a film is shot with one technical team, a single set and scenario but casts of different nationalities. The purpose is to produce different versions for different countries “in parallel”, with each version enacted by native speaking actors (Danan 1991, p. 607)

⁸⁷ Ivarsson (2002, p. 2) reports that the first sound film exhibited with subtitles was *The Jazz Singer* opening in Paris in original version with French subtitles January 1929, similarly *The Singing Fool* opened in August of the same year in Copenhagen with Danish subtitles (ibid.)

⁸⁸ *Film Kurier*, Nr. 227, 25.9.1930, “Ein Jahr Synchronisierungs- Erfahrungen. Raumgehalt des Tons bedingt Tonwirkung”

6. The probably most eccentric method proposed to overcome the language barrier was to shoot films in **Esperanto**. It is mentioned here briefly to illustrate how urgent and pressing the problem of the language barrier was perceived to be: The logic was that all films should be shot in Esperanto instead of any national language, so that a film would be equally understandable in all countries. By some authors Esperanto was considered “the only way to make sound film profitable” and to make film an internationally tradable product again.⁸⁹ This was no singular occurrence, and Dibbets (1993, p. 93ff) reports that also in the Netherlands people seriously argued for this endeavour. The *Reichsfilmblatt*⁹⁰ reports that *Metro-Goldwyn-Meyer* (MGM) reported that it produced a film in Esperanto. Besides the occasional use of Esperanto in films for artistic or dramatic reasons it never took off during the 20th century. In addition to the *MGM* film I only found references to four films with dialogue recorded entirely in Esperanto.⁹¹

Among the language-transfer methods developed worldwide, three were salient: (1) foreign-language versions, (2) dubbing and (3) subtitling. The following sections reconstruct the historical development of dubbing’s market domination. This effort uses the 3-phase model of path dependence as guideline.

5.3.3. Phase I: Pre-Formation and Small Events

Contingency: Various Language Transfer Techniques Competing in the Market

As outlined above, if analysed according to the 3-phase model path dependent adoption processes are characterised by contingency phase I. Application of the model to the case at hand this requires showing that various language transfer techniques were feasible alternatives when sound film was introduced. To be feasible means that theoretically either one of the competing alternatives (dubbing, subtitling, voice-over, etc) could have prevailed in the market, but during this early phase it was not foreseeable which of the alternative language transfer techniques (dubbing or subtitling) would finally prevail in the market. Thus the final choice was not predetermined when sound film was introduced. In the ideal situation, the alternative techniques’ competitive positions should be relatively equal during the path formation

⁸⁹ *Film Kurier*, Nr. 182, 4.8. 1930. “Die Debatte: Esperanto”, by Walter Dempwolff.

⁹⁰ *Reichsfilmblatt*, Nr. 46, 16.11. 1929, “Die Filmkrise in Amerika und England – Blick in die Welt”

⁹¹ cf. the Wikipedia entry “Esperanto film”, Information retrieved on January, 15 2008 from: http://en.wikipedia.org/wiki/Esperanto_film.

phase. However, during the pre path-formation phase the later domination of dubbing increasingly begins to show. Phase I is characterised by an increase in critical events and circumstances that favour dubbing and put subtitling at a disadvantage. Therefore a set of small or critical events, critical junctures, circumstances or conditions have to be identified that biased the technology selection process towards dubbing, giving it a lead in the market, or an advantage over possible alternative language transfer techniques. The key to the path dependency argument is that, had the small event favoured another direction, this could have given subtitling a lead in the market. In turn the development of the adoption process could have taken a totally different direction and Germany could have become a subtitling country instead of a dubbing country. The 'ideal' or most clear cut case for a critical or small event is when it is a decision enacted by a single actor or institution as an act of will, a decision that could have just as well been the other way. These critical events or circumstances will be identified on several levels of the economy and the institutional surroundings of the German film market in the early 1930s. When data is available comparisons will be made with the situation and events in other countries to illustrate the point made. The contingency is established using various accounts and surveys of the population's reactions and preferences over various language transfer techniques in the early-mid 1930s. Thus the education of the audiences' preference and habituation to dubbing or subtitling will be traced over time.

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*⁹² 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 critics (Müller 2003, pp. 302, 306). Not only did the audience refuse dubbing⁹³, but the producers were also particularly sceptical of that technique during the period 1929–1930.⁹⁴ Actually the industry professionals regarded dubbing in 1930 as

⁹² *Film Kurier*, Sondernummer, 31.5. 1930. "Antworten auf 10 Fragen über die Tonfilmage Europas".

⁹³ Only the Yugoslavian and the Dutch film exhibitors' associations deemed dubbing to be feasible.

⁹⁴ See *Film Kurier*, no. 36, 11.2.1930, "Sam Morris abgereist". Sam Morris, Vice President of Warners, was sceptical of dubbing and language versions, as a means of language transfer in the future.

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a “provisional compromise” that would be abandoned soon.⁹⁵ Still in 1932 the *Film Kurier*⁹⁶ 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.

Garnarcz (2005, pp. 77-78, 2003, p. 16) and Müller (2003, pp. 303ff) explain the audiences’ strong repudiation of dubbing with the rejection of the “synthetic human”⁹⁷: The fusion of one man’s body with another’s voice was not accepted, perceived as strange and appalling. Optical versions 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 a highly visible inconsistency for audiences, as well (see Garnarcz 2005, p. 78, 2003, p. 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. Occasionally, Japan’s traditional theatre’s narrators did live voice-over in the cinemas, though this was later completely substituted by subtitling (Tosaka 2003, pp. 176ff; Toeplitz, 1979, p. pp. 322; Interview: dis6).

In Germany the preferences differed somewhat according to the regional background of the audience: In 1930, city audiences preferred original/subtitled versions. In rural areas the audience rejected dubbing as well. But in the rural areas the people insisted on watching German-dialogue films, and therefore preferred double-shot German-language versions of foreign films.⁹⁸ In 1933 city audiences still preferred subtitling while in the provinces the situation had changed and only double-shot German-language versions⁹⁹ or dubbing was accepted.¹⁰⁰ Since about 2/5 of the theatre capacity was located in larger cities subtitling was still demanded by a sig-

⁹⁵ *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.

⁹⁶ *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”.

⁹⁷ See *Reichsfilmblatt*, no. 50, 14.12.1929, “Mitteldeutschland lehnt den Tonfilm ab”.

⁹⁸ 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, p. 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, p. 295)

⁹⁹ 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. Tonfilmtäuschungen – Warum?” reports that dubbing is rejected in the provinces due to low quality of the dubbing.

¹⁰⁰ *Film Kurier*, no. 1, 1.1.1933, “Probleme des Tonfilmexports”.

nificant part of the audience (Jason 1935, p. 140). Also the opening- and second-tier cinemas, i.e. those yielding the highest profits per film copy, were located in the cities, where audiences preferred subtitling. This gave subtitling extra weight, as the performance of a film in the opening theatres critically decided the success of a film in the lower tier cinemas: The audiences' reception of a film in the first tier- or premiere-cinemas was extensively covered by the media. If the audience received a film positively this was reported by the press, favourably influencing the consecutive runs of a film in other cinemas. Cinema-goers often base their decision on which film to watch on the decisions and opinions of previous cinema-goers and the newspaper reports of previous audiences' reception of films. Audience behaviour is characterised by bandwagon effects (Walls 1997, 1998; Kretschmer et al. 1999).¹⁰¹ Therefore the importance of subtitling for the market success of a film was likely to be stronger than the percentage of the population that explicitly preferred subbing suggests.

From this it can be concluded that the language transfer competition situation in Germany was quite open during the first years of sound film. Indeed, Müller (2003, p. 312) argues that as late as 1933 there was no "silver bullet" to pierce the language barrier. Between 1930 and 1933 neither dubbing nor subtitling showed signs of dominating the market. Dubbing, subtitling and language versions competed in the market. The situation was actually contingent. Stronger even, dubbing was utterly rejected by a majority of the population in the period 1930-1933. This rejection of dubbing makes it even more surprising that dubbing subsequently become the language-transfer standard in Germany.

The Period 1930-1933 approximates Phase I of the 3-phases path dependence model. The critical events phenomena in Phase I and stretching over to Phase II in the following paragraphs will explain how dubbing prevailed against the odds.

Critical Circumstances: Timely Order of Technical Development Favours Dubbing

There are a number of critical events, circumstances and conditions that influenced the selection language transfer technique and biased the choice in favour of dubbing. First of all, until 1933 dubbing was of low quality. The dubbing method em-

¹⁰¹ When consumption of a film is subject to bandwagon effects the decision and opinions of the first consumers – i.e. the audience in the first-tier cinemas – have strong effects upon later consumption decisions i.e. upon the audience in the second- and third-tier cinemas (Bikhchandani, Hirshleifer, Welch 1992).

ployed was the unsophisticated and unnatural-sounding *Rhythmographie*. This intricate technique caused severe audio-visual asynchronies that disturbed and upset Europe's audiences (Low 1985, p. 99; Dibbets 1993, p. 104; Maier 1997, p. 69). In reaction, in 1930 anti-dubbing revolts and hostile reactions occurred in Europe's cinemas¹⁰² (Müller 2003, p. 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, p. 295). But language versions, too, were burdened by similarly obvious drawbacks. Dibbets (1996) notes the problem that language versions' inconsistencies in terms of "cultural specificity could not be repressed". The problem was that the audience recognised the discrepancy between films' foreign settings, implying that the acting figures are foreign while they speak German fluently. Toeplitz (1979, p. 295) characterises language versions as "catastrophic" on artistic and technical levels to explain why they were sometimes boycotted and booed by the audience. This unfavourable reception of language versions by parts of the urban public and the critics was probably due to their hasty production, without sufficiently adapting the story line and individual scenes to national tastes and cultures (Müller 2003). Above all, language versions were uneconomical: Each version was at least half as expensive as an original film and therefore their production was gradually given up from 1931/32 onwards.¹⁰³

If dubbing, optical versions and even multiple foreign-language versions were rejected by the German audience in the early 1930s – then why did subtitling not succeed in becoming the standard? One reason is that after 1932/33 subtitling was only preferred by the city audiences. Though an important part of the audience, it was not sufficient to tip the balance towards subtitling for the whole market. And until the mid-1930s subtitling suffered from strong drawbacks, as well: 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, p. 100) for the subtitles were often unreadable in front of lighter background pictures. Additionally the film's picture and sound track quality severely suffered from the production process (Dibbets 1993, p. 101) because of the copying required for adding the subtitles. In 1930 an

¹⁰² *Film Kurier*, no. 191, 14.8.1930, "Das Publikum wird kritischer – Proteste gegen schlechte Filme auch im Reiche".

¹⁰³ *Film Kurier*, no. 147, 26.6.1931, "Die Versionen – Radio Pictures geben auf" and "Joe Friedmann sagt: 'In Deutschland sind Versionen unrentabel.'" It has to be noted that some language versions were still produced after WWII. AN example is *Barbarella* (1968). The film was shot in two languages simultaneously, French and English, with Jane Fonda performing her lines in both languages.

improved technique was introduced based on stamping the subtitles into the film emulsion layer, although the “results [were] often erratic, with poorly defined letters” (Ivarsson 2001, p. 3).

Only in 1933 a new high-quality etching technique for subtitle generation was introduced, although it took some years until it was widely implemented. These ‘chemical’ subtitles were cheaper to generate and did not affect the picture’s quality and were used until the 1990s (Dibbets 1993, p. 101; Low 1985, p. 100). At the same time from 1935 on, there are numerous records that suggest that the dubbing process was technically strongly improved, delivering high-quality lip-synchronic language transfers that generally satisfied the audience.¹⁰⁴

Had the high quality chemical subtitles been available earlier, it might well have been possible that larger parts of the population would have been in favour of subtitling during the critical years 1930-33. At the time when language versions were dropped, subtitling could have become the major standard if its technical development had been quicker. To term the order of technical advancement of dubbing and subtitling a critical event might be regarded as misplaced by some readers because an event is generally associated with a singular point in time, rather than a process. However, the term “critical circumstances” might be generally accepted as appropriate to denote the influence of the technical maturity of both technologies.

In Summary: In the early 1930s the situation was open: The audience rejected the revoicing techniques (above all dubbing) while subtitling’s prevalence was hampered by low picture and sound quality. Although expensive, and not too well appreciated, either language versions filled this vacuum. They enjoyed an advantage in terms of sound-picture consistency and quality compared to other techniques (although they suffered from these problems as well). Audiences and the industry regarded language versions as an acceptable compromise to overcome the drawbacks of dubbing and optical versions on one hand and subtitling on the other. Did other non-technical factors shift the audience’s preferences in favour of dubbing?

Triggering Events, Non-Technical Factors, Nationalism, Protectionism

With respect to language transfer the situation in the German film market was undecided, contingent, even disadvantageous dubbing until 1933. But during the 1930s

¹⁰⁴ *Film Kurier*, no. 228, 10.12.1935, “Zu einer Deutsch-Fassung: ‘Es geschah in einer Nacht.’ ” In the chapter on Phase II, in the paragraphs on Learning-by-doing below the technical aspects of Rhythmographie are described in more detail.

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critical circumstances and events occurred in the market that discouraged the use of subtitling in Germany. The situation had already changed dramatically by the mid-1930s: The *Film Kurier* reports in 1935 that 90 % of the German theatres played dubbed versions. Wahl (2005, p. 54) reports that from 1937 until the War American films were mostly played in dubbed versions in German cinemas. Müller (2003, p. 312) provides evidence that dubbing became the market standard between 1933 and 1939. Which events induced this shift of preferences?

Language Versions An important critical event was the wide adoption of the language versions or double-shooting between 1929 and the early 1930s. In spring 1930, Paramount set up major studio capacities in Joinville near Paris to produce foreign language versions for various European markets.¹⁰⁵ The production of “language versions” faded out after only 2-3 years in 1932/33 (Toeplitz 1979, p. 295).¹⁰⁶ One of the reasons was that language versions were quite expensive to produce and therefore often unprofitable.¹⁰⁷ Despite the relatively short period in which they appeared on the film market 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: Language versions habituated the audience to watching films in their own idiom. The introduction of “language versions” constitutes a critical 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 to demand dubbing instead of subtitling.¹⁰⁸ The audience preferences shifted in favour of dubbing despite the fact that the subtitling techniques had been strongly improved after 1933 and despite the fact that dubbing had generally been refused by the German audience before.

Nationalism: Censorship and Film Ratings A second event was to be even more important: A change of the political regime towards extreme nationalism. National-

¹⁰⁵ The *LichtBildBühne*, (no. 247, 27.10.1930, “Hochbetrieb bei Paramount-Paris”) reports that between spring and November 1930 the Paramount-Studio in Joinville completed more than 100 language version pictures.

¹⁰⁶ Paramount ceased the production of language versions in Joinville after 2 $\frac{1}{2}$ years of operation in February 1933. (*Film Kurier*, no. 38, 13.2.1933, “Joinville wird stillgelegt”).

¹⁰⁷ *Film Kurier*, no. 218, 15.9.1932, “B.L.P. gibt Auslandsversionen auf”. The article reports that the British International Pictures stopped production of language versions since their profit margins were too low.

¹⁰⁸ In 1935 only a small audience prefers 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 nation wide basis, compared to dubbed versions (see *Film Kurier*, no. 228, 10.12.1935, “Zu einer Deutsch-Fassung: “Es geschah in einer Nacht!”).

istic film policies and censorship encouraged the use of dubbing as a means to manipulate foreign films' content. The "choice in favour of dubbing [was] influenced by nationalist considerations in many countries" (Dibbets 1996). To stimulate and preserve the unity of the national language is central to nationalistic language policies. Therefore nationalism perceives foreign-language films as offensive and threatening to national identity and culture; a threat that can be remedied by dubbing (Danan 1991, pp. 611-612). The argument is that dubbing "hide[s] the foreign nature of a film by creating the illusion that the actors are speaking the viewer's language" and therefore "become, in a way, local productions" (Danan 1991, p. 611). Hesse-Quack (1969, p. 55) notes that stereotypes, attitudes and patterns of behaviour depicted in foreign films can threaten the target audiences' central norms and value systems. Dubbing can be employed to transform the foreign film and adapt it to the target audiences' norms and values. Therefore dubbing "plays the role of an institution of social control in that it eliminates or alters [those elements] of foreign films that could threaten the social consensus" (Hesse-Quack 1969, p. 56).

From the way dubbing fits into the nationalistic language policies of fascist Germany, Italy and Spain, Danan (1991, p. 611) concludes that dubbing represented "an assertion of the supremacy of the national language and its unchallenged political, economic and cultural power within the nation's boundaries". Subtitling, on the other hand, reminded the audience "of the foreignness of a film". Subtitling is seen by extreme nationalism as a threat to the national language's supremacy and therefore national unity. Danan (1991, p. 611) notes that: "Subtitling indirectly promotes the use of a foreign language as an everyday function in addition to creating an interest in a foreign culture. No extreme nationalistic society could allow a foreign language to reach the masses so easily and compete with its national language." For these reasons Germany's National Socialist government preferred dubbing.

With subtitling the foreign soundtrack is always audible and the reader can check the authenticity of the subtitle-translation, which is impossible with dubbing (Pruys 1997, pp. 153ff; Maier 1997). Therefore a nationalistic government that aims at censoring foreign films favours dubbing, because dubbing allows inconspicuously changing dialogue and thereby concealing the censorship-authorities induced edits, changes and twists of the plot, message and moral of films.

After the Nazis took power in early 1933, the influence of extreme nationalism on the film industry worked through the rating and censorship policies of the government's body for film-related issues: the *Filmprüfstelle* already existed in the Weimar

Republic, but by the decree of the *Lichtspielgesetz* in February 1934 it was placed under direct authority of Goebbels' Ministry for Popular Enlightenment and Propaganda (*Reichsministerium für Propaganda und Volksaufklärung*, Deutsches Filminstitut, 2008). Film was an important propaganda tool during the Third Reich and enjoyed special personal attention and promotion by Hitler and Goebbels (Deutsches Filminstitut 2008; Welch 2001, pp. 33ff).

The 1934 *Lichtspielgesetz* tightened the *Filmprüfstelle's* censorship criteria which now included violations such as "Offences against national socialist feelings, moral feelings and artistic sense".¹⁰⁹ Such a 'soft' definition of the censorship criteria enabled Goebbels' censors to arbitrarily reject films that were not in accordance with Nazi ideology. At the same time the *Filmprüfstelle* rated films (Loiperdinger 2004, p. 2). As before in the Weimar Republic the ratings included the categories "artistic", "educative for the people" (*Volksbildend*) and "educational/instructional film" among others. Films that were assigned these ratings were granted a lower tax burden. In 1934 these categories were supplemented by the rating "politically valuable" (*Staatspolitisch wertvoll*). The rating "artistically valuable and/or politically valuable" (*Künstlerisch und/oder Staatspolitisch wertvoll*) ensured that the "entertainment/amusement tax" for the film was even dropped altogether. Jason (1935, p. 146) reports that the amusement tax accounted for 9% of the cinema owners expenditures, which made these films attractive for exhibitors. Therefore the rating system provided a strong financial incentive for film producers and distributors to produce or release films that pleased the Nazi censorship authority. Consequently the ratings policies triggered a wave of production and distribution of rated films (Deutsches Filminstitut 2008, Ch. "Verbote, Zensur und Prädikate im NS-Staat"). How does the *Filmprüfstelle's* work relate to language transfer formats? Dubbing provided a means of manipulating the plot of a foreign film, i.e. to "adapt it to the German mentality"¹¹⁰ - a euphemism for manipulating a film's plot through dubbing and editing to please the Nazi-censors employed in the *Filmprüfstelle*. The "adaptation to the German mentality" was much more difficult with subtitled versions, since the audible dialogue were not replaced. Consequently dubbed "adapted" versions were

¹⁰⁹ In German it reads: "Verletzung des nationalsozialistischen Empfindens, des sittlichen Empfindens und des künstlerischen Empfindens", see homepage of the *Deutsches Filminstitut*, Frankfurt am Main: <http://www.filmportal.de/df/1b/Artikel,,,,,,EE80DA73919BE500E03053D50B372282,,,,,,.html> (January, 2008).

¹¹⁰ *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 Eindutschungsarbeit!", *Film Kurier*, no. 204, 2.9.1935, "Filme im Werden - Chorgesang und Hörerklang".

more likely to obtain a favourable film rating than the foreign subtitled version.¹¹¹ The Nazi rating policy thus discouraged the use of subtitling and provided a financial incentive for distributors of imported foreign language films to employ dubbing.

In comparison, in Italy the pro-dubbing policies were less indirect: In October 1930 Mussolini's Ministry for the Interior prohibited all films with (partly) non-Italian dialogue tracks¹¹² to foster Italian national unity. As a result only Italian language versions and films dubbed into Italian were allowed to be released in Italy.¹¹³ Spain pursued similar policies, as in 1934 it was decreed that foreign language films in (subtitled) original versions were subject to higher taxes than dubbed versions. A quota system that discriminated against subtitling was imposed too, as well as the rule that the dubbing had to be done in Spain. Under Franco these policies were continued in Spain.¹¹⁴ In the 1950s a quota then restricted the import of US films to 80, out of which 68 had to be dubbed and 12 subtitled (Danan 1991, p. 611). As a result Italians, like the Spanish were more exposed to dubbing and hardly ever to subtitling as soon as these policies took full effect. In that this their development resembled that Germany. The populations in the fascist and strongly nationalistic countries became strongly habituated to dubbing and not to subtitling.

Protectionism: Contingent Regulations Apart from political decisions that favoured the adoption of dubbing in Germany, there were also critical circumstances in the realm of economic policies: Germany enacted 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, pp. 35ff). This law also decreed that foreign films that were dubbed still counted as foreign films. The dubbing of foreign films that were exhibited in Germany had to be undertaken by Germans in Germany.¹¹⁵ This regulation spurred the emergence of a large and increasingly professional and efficient dubbing industry in and around Berlin.

¹¹¹ For references see previous footnote. These references give an example for films whose dubbed versions obtained the favourable rating "artistically valuable", ensuring tax breaks, while the original foreign language version was denied any rating altogether by the censorship authorities. This serves as an example for how dubbing was consciously employed to edit films' to obtain favourable ratings.

¹¹² *Film Kurier*, no. 262, 5. 11.1930, "Sprechfilm – Attacke des Faschismus. Mussolini verbietet Fremde Sprachen im Kino".

¹¹³ *Film Kurier*, no. 35, 10.2.1932, "Der Wunsch nach dem Original-Film – Auch Italien will Auslandsfilme"

¹¹⁴ *Film Kurier*, no. 83, 9.4.1934, "Kontingent in Spanien – Verbot einkopierter Titel? Dubben muß im Lande erfolgen – Sondersteuer für Originalfilme".

¹¹⁵ See also *Film Kurier*, no. 94, 21.4.1932, "Die Beschlüsse der Fabrikanten – Im Ausland gedubhte Filme sollen überhaupt verboten werden".

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Before, major Hollywood studio film production capacities in Europe were concentrated in Joinville. Already in 1932, as it became clear that the production of language versions was to be faded out, the Joinville Studios were transformed into dubbing studios (Toeplitz 1979, pp. 295ff).¹¹⁶ Metro-Goldwyn and Paramount planned to employ the Joinville studio capacities to also handle the production dubbing for the German market, which made sense economically as the human capital (actors from various countries, translators and technical staff) and sound film studio capacities were already present. However the new contingent law from June 1933 tightened the 1930 contingent regulations and reduced the import quota further to 105 full-length feature films. Consequently, with language versions being abandoned and dubbing forced to be undertaken in Germany by Germans the major US film enterprises were forced to establish their own dubbing studios in Berlin. The dominating German *Ufa* also expanded its dubbing activity.

By contrast – exemplarily for the subtitling countries – The Netherlands did not pursue active import restricting policies like in those dubbing countries such as Germany, France, Spain, Italy, Czechoslovakia or Hungary (Dibbets 1993, p. 104). It is unclear whether the subtitling countries of Scandinavia or Portugal implemented such severe protectionism in the 1930s as the European dubbing countries did.

Although there seems to be a relation between nationalism and nationalist policies and the use of dubbing there is no necessarily valid causality among them. Japan, for instance, serves as a counter example: In the mid-1930s debates on film imports there took a virulent anti-Western, anti-modern extreme nationalistic form that found its way into film policies, as well. Japan imposed an import ban on Hollywood films that were perceived as threatening and offending to Japanese culture (Tosaka 2003, p. 236 ff), but dubbing never prevailed there. The final outcome of the language transfer regime depends on a variety of factors and their distinct combination in Japan never led to the adoption of dubbing as it occurred in Germany. In contrast to Germany Japanese language versions did not play such a great role in Japan as they did in Germany. What Japan – in contrast to Germany - did not have was a relatively willful decision in favour of dubbing by an actor like the censorship authorities or the *Ufa* (in terms of market power and prestige).

¹¹⁶ *Film Kurier*, no. 60, 10.3.1932, "Auch Joinville wartet ab – Paramount und Metro-Pläne noch immer ungeklärt – Vor einer 'Dubbing'-Aera".

Ufa dubbing policies A fourth critical event that tipped the balance in favour of dubbing was the *Ufa* decision to use dubbing as a systematic effort to create jobs for unemployed *Ufa* actors (Vöge 1977, p. 120). The *Ufa* was the dominating film company in Germany, basically a state-controlled conglomerate, enjoying de-facto control over the German cinema market (see Kreimeier 1992). Unemployment hit actors as a result of three developments.

- (a) During the course of the world economic crisis general underemployment rose. This and falling wages caused cinema attendance to fall during the early 1930s (Ross, 2006: 177), in turn reducing the profitability of films and consequently their production
- (b) The 1932 'SPIO-Plan'¹¹⁷, designed by a few large film production companies "in many ways prefigured Nazi policy towards the film industry after 1933" (Ross 2006, p. 183).¹¹⁸ The plan concentrated capital in a few firms whose high quality productions in a Hollywood blockbuster style (ibid.) was meant to ensure international success of the German film
- (c) Foreign demand for German films dropped after the Nazis took power as a result of efforts to boycott the German film abroad. The result of these developments reduced demand for German actors, putting them at risk of unemployment. It made sense for the *Ufa* to compensate for these effects by the large scale use of dubbing, which requires the employment of a considerable amount of actors. For each speaking part in a film an actor is needed to re-record the dialogue in German. With subtitling this is not the case, since merely a few technicians and a translator/subtitling director are needed for the creation of subtitles. The use of dubbing instead of subtitling for language transfer of foreign language films thus ensured a relatively high employment level for actors. The *Ufa* decision to use dubbing as a means to create employment was, however, not the only option. Theoretically the decision could have been the other way round in favour of subtitling, using the cost savings to produce more films instead. Considering the nationalistic and Nazi-friendly/obeying climate in the *Ufa* itself (Kreimeier 1992) there is reason to believe that this decision was partly influenced by nationalist considerations. Had these been absent this policy might not have been pursued.

¹¹⁷ SPIO means *Spitzenorganisation der deutschen Filmindustrie*. The still-existing SPIO (re-founded in 1950) is an industry organisation representing the interests of the German film industry (compare the homepage of SPIO: http://www.spio.de/media_content/607.pdf, information retrieved January, 2008).

¹¹⁸ cf. *Film Kurier*, no. 291, 10.12. 32, "Bericht der Handelskammer: Filmindustrie im November"

Conclusion of The Analysis of Phase I

The notion of path dependence hinges critically on the idea that history could have followed a different trajectory if certain critical events occurred differently thereby setting the economy on a different course. It is well imaginable that the development of the language transfer regime in Germany could have taken a different path if historical circumstances and events had occurred in a different way. This paragraph returns to the critical events and circumstances that were described in detail in this section, sketching how these events and circumstances could have favoured the prevalence of subtitling if they had occurred differently.

- (a) If language versions had not been produced on such a large scale in the first place the German population would not have been habituated to foreign films in German. Then subtitling might have been much more popular and become the market standard when double shooting was abandoned.
- (b) If chemical subtitling was developed and more widely employed earlier the German audience might have been much more in favour of subtitling when the decision between dubbing and subtitling became acute after the production of language versions was increasingly given up.
- (c) The same holds for government policies: German government film policies during the end of the Weimar Republic and the Nazi-era could have been much less protectionist and nationalistic in nature. They then would have less systematically favoured the production of dubbing and at the same time discourage subtitling. Consequently subtitling would not have been pushed back so vigorously after the early 1930s.
- (d) The *Ufa* could have decided to relieve the burden of unemployment in the labour market for actors in a different manner than through the wide use of dubbing. Consequently the use and consumption of dubbing would have been reduced and German film history could have taken a different path.

The upshot from this section is that up to this point the adoption of dubbing indeed constitutes a path dependent development for the German film industry. It was shown that critical events and circumstances favoured the adoption of dubbing and that theoretically these could have occurred in a different direction and thereby favoured subtitling. The case of Japan – in many aspects similar to the German one: a large country, strongly nationalistic and protectionist – may serve an example that similar conditions do not necessarily lead to the same outcome.

The critical circumstances and events depicted in this section serve as an indication that the time period from late 1929 until about 1933 can be regarded as the pre-path formation phase - Phase I in the 3-phase path dependence model, characterised first by contingency and then by critical events.

To establish path dependency in this case study the next point is to show that the dubbing-favouring effect of these critical events was magnified by self-reinforcing mechanisms in the years following their occurrence.

5.3.4. Phase II: Path Formation and Self-Reinforcement of the Dubbing Standard

During Phase II of - the path-formation phase in the 3-phase model - the market share of dubbing should increase continually while the use of subtitling should decrease accordingly. The lead of dubbing established by critical events or conditions in Phase I, is magnified by positive feedback mechanisms to the effect that subtitling is increasingly put at a disadvantage over time until the film market becomes “cornered” (Arthur 1989, p. 116), or “locked-into” dubbing (David 1985).

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

Audience Habituation to a Specific Language Transfer: A Positive-Feedback Loop

Above it was shown how critical events favoured the adoption of dubbing in the 1930s film market. The literature mentions that as dubbing got a lead in the market the German audience became increasingly habituated to dubbing, and therefore the demand pattern changed in the favour of dubbing.

Garncarz (2005, pp. 79-80; 2003, p. 18) reports that until about 1933 – in a process of “cultural learning” – the audiences became habituated to ignore the inconsistencies of dubbing in Germany and other countries that employed dubbing or language versions. As reported by different authors, by the mid-late 1930s the German audience must have been largely habituated to dubbing (Maier 1997, p. 67; Wahl 2005, p. 54).

How did this habituation or “cultural learning” occur? In the following, the components of habituation to a language-transfer technique are described in more detail. To make the argument it will draw on the theory of habituation that explains rigid

and one-sided patterns of consumption. The specificity of accumulated consumption skills plays a central role here. I will compare survey data collected in Germany and The Netherlands during the last three decades on the preferences over dubbing and subtitling, and on the respective dubbing and subtitling consumption skills to illustrate the habituation effects. From this data the principal mechanisms of habituation to subtitling and dubbing are derived. It is supposed that these components of habituation are principally the same today as they were 30 or 70 years ago. If this is accepted one can explain how the German audience became habituated to dubbing during the 1930s as is alleged in the literature. Finally it will be checked if there is evidence for this habituation effects in 1930s film industry press and current academic writings on the subject.

Consumption skills and habituation to subtitling and dubbing D'Ydewalle and Rensbergen (1989, p. 238) show that in subtitling countries children's habituation to subtitling occurs between grade 4 and 6 (approximately between 9 and 11 years). In grade 4 59% of the children still prefer dubbing over subtitles while in grade 6 only 13% of the children prefer dubbing. Subtitle-specific consumption skills must evolve during these two years. But what are these subtitle-specific consumption skills? The literature identifies two: (1) Subtitling reading skills and (2) foreign language skills.

- (1) To be able to consume subtitled films properly the viewer naturally has to be able to read in the first place to be able to follow the subtitles. Then it seems to be a specific skill to be able to switch attention from the action of the screen to the lines of subtitle text. Evidence from eye-movement-tracking experiments shows that automated subtitle reading – e.g. the ability to switch 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 effortless “automatically elicited tendency to read the subtitles” (ibid: 245), but this has to be trained (Danan 2004, p. 72ff).
- (2) Koolstra and Beentjes (1999, p. 58) find that Dutch children watching English TV programs with Dutch subtitles acquire English vocabulary and show increased recognition of English words as compared to control groups watching dubbed programmes. Similar results are reported by d'Ydewalle and Van de Poel (1999).

Koolstra et al. (2002) provide an overview of the experimental findings of different researchers on language-transfer related consumption skills: They find that

studies in that field indicate that consumption of subtitled movies/TV programmes increases foreign-language comprehension and subtitle-reading skills as compared to consumption of dubbed content.

From this it can be concluded that there are two basic consumption skills the presence of which increase the consumer's ability to watch subtitled films and programmes. (1) Subtitle reading skills (including the ability to read in the first place and secondly the skill to switch effortlessly between subtitles and the visual image) and (2) foreign language comprehension skills.

The way these skills are accumulated constitutes a positive-feedback loop: Increased subtitle-reading skills and foreign-language competence naturally increase appreciation of subtitled foreign-language films (Garncarz 2005, p. 82), which in turn tends to increase subtitling consumption, which in turn leads to a further accumulation of subtitling-specific consumption skills. Therefore one can say that the exposure to subtitling increasingly habituates the audience to subtitling via the accumulated consumption skills.

In the case of dubbing the principles of habituation are the same, but the accumulated consumption skills and the resulting habituation are different.

First of all exposure to dubbing does not lead to the acquisition of foreign language comprehension skills as compared to subtitling because the dialogue is spoken in the viewers' mother tongue (Koolstra et al. 1999, p. 58; cf. d'Ydewalle and Van de Poel 1999). Similarly no subtitle reading skills are accumulated, as the viewer is not exposed to subtitling if the film/programme is dubbed. On the other hand the exposure to dubbing leads to the accumulation of consumption skills that are rather rare among the consumers of subtitling:

Garncarz (2005, p. 79-80, 2003, p. 18) reports that the Germans have developed a tolerance for the inconsistencies of lip-sync dubbing. This skill is acquired through exposure and therefore it constitutes a form of habituation or "cultural learning". Via increased exposure to dubbing the viewers actually accumulate two distinct but related skills (Vöge 1977):

- (1) The tacit ability to ignore the asynchronicity between the visible lip-movements of the actors on screen and the audible dubbed dialogue.
- (2) The second skill is to ignore the inconsistencies between the plot and dialogue that are implied by dubbing. This inconsistency refers to the impossibility of dubbing's implication that that people in foreign countries and cultures express themselves in the mother tongue of the viewer.

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People that are exposed to dubbing will increasingly accumulate the skill to ignore the inconsistencies of dubbing in form and content. This ability to ignore inconsistencies in turn increases the utility gained from the consumption of dubbed films and programmes, which facilitates the further consumption of dubbed films which in turn leads to further accumulation of these dubbing-specific consumption skills.

The end result of the habituation process, the accumulated sets of language transfer consumption skills are illustrated by data on the consumption skills of the Dutch and the Germans are published in Luyken et al. (1991, p. 119). This data is reproduced in Figure 8 and was collected in two telephone surveys in 1987 and 1999. The first survey was conducted for the European Institute for the Media (See Luyken et al. 1991, p. 119). The second survey – conducted for the Dutch public broadcasting service NOS - builds on the first survey and uses the same questions to enable an inter temporal comparison (see Spinhof and Peeters, 1999). Since the questions used in both surveys are identical and therefore easy to compare I combined the results of both surveys. This has the advantage of presenting the data clearly and allows for direct comparison of 1987 and 1999, and the Dutch as well as the German data. Unfortunately the 1999 survey did not collect data from German consumers like its predecessor. The data collected is nonetheless illustrative on the consumption and subtitling skills that the respective Populations have accumulated. The beams show the percentage of the population that agree with the specific statement.

Subtitling-specific consumption skills: Figure 8 reveals that 63% of the Germans find it difficult to follow subtitles and that merely 61% believe subtitles ensure satisfactory understanding. This indicates that subtitle-related consumption skills – in this case subtitle *reading* skills – are relatively underdeveloped in Germany. The Dutch seem to command over fairly highly developed subtitling-related consumption skills: For a vast majority subtitling ensures satisfactory understanding, and subtitles lessen the enjoyment of the program for only a minority. Most noticeable is that only for a minority of about 15% of the Dutch in 1987 subtitles are difficult to follow, which is a strong contrast with the 63% of the Germans who have difficulties following subtitles. For a vast majority of more than 80% of the Dutch subtitles do not interfere with the original flavour of the program. For 90% of the Dutch the language transfer by subtitles ensures a satisfactory understanding of the program, while in Germany subtitles only ensure a satisfactory understanding of the program for 60% of the audience. Assuming that the quality of subtitling is the same in both

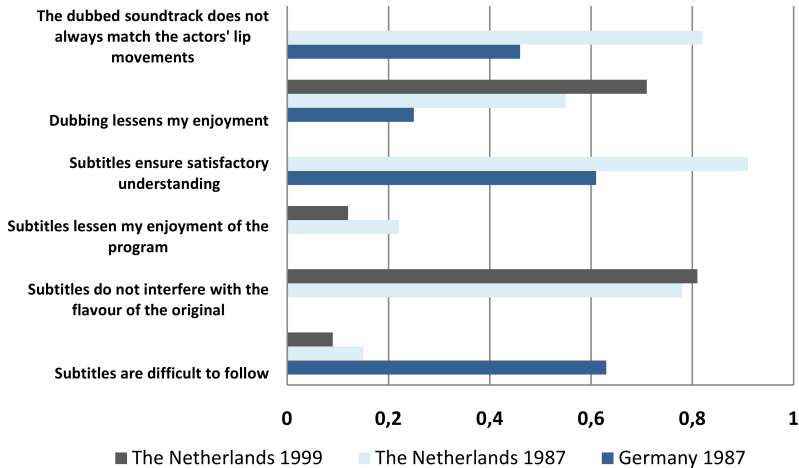


Fig. 8.: Indicators for Consumption Skills in Germany and The Netherlands: Statements about Subtitling and Dubbing
Sources: Luyken et al. (1991, p. 119); Spinhof, H. and Peeters, A. (1999)

countries, these figures indicate how exposure to subtitling in the Netherlands has trained (or habituated) the Dutch to follow the subtitling with much more ease than the Germans who obviously have difficulties with subtitling consumption: Both aesthetically, and on the level of understanding.

These figures indicate that the Germans lack the specific consumption skills that facilitate the consumption of subtitled films and programmes.

Dubbing-specific consumption skills: Dubbing-related consumption skills, on the other hand, seem to be relatively well developed among the German audience: Only 46% of the Germans recognise that the dubbing soundtrack does not always match the actors' lip movements while 81% of the Dutch do. These figures indicate that the Germans have developed a relatively strong tolerance towards the asynchronicity between visible lip-movements and the audible dubbed dialogue. The Dutch on the contrary have not developed this tolerance and feel disturbed by dubbing's inconsistencies. This attitude towards the lip-synchronicity is also reflected in the two audiences' general evaluation of dubbing: For about 25% of the Germans dubbing lessens their enjoyment of the program but in the Netherlands this figure is

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twice as high. The general evaluation of dubbing may not only capture the aspect of lip-synchronicity but also the audiences' attitudes towards the inconsistencies with respect to content, i.e. the respective audiences may also feel more or less disturbed by the inconsistency of members of a foreign culture speaking the mother tongue of the audience.

The findings of experiments on dubbing and subtitling reported in this sub-section reveal that the consumers' habituation to subtitling is a self-reinforcing process: The more subtitling one is exposed to the more one gets habituated to the consumption of subtitling. This reasoning is matched by data on the subtitling consumption skills of the Dutch that has been collected between 1974 and 1999 (Spinhof and Peeters 1999). This data reveals that the Dutch' subtitle-specific consumption skills increased over time and that the audience became increasingly habituated to subtitling. This expresses itself in the subtitle reading skills of the audience, these not only increased over the whole population, but also within a cohort. This excludes the possibility that the shifts were caused by a changing demography (e.g. older generations being replaced by younger, better trained generations). Rather the increased subtitling-skills are due to habituation which grew over time.

Unfortunately the data on the German's consumption skills do not cover different points in time, but merely the year 1987. Logical reasoning can however be employed by arguing that habituation to dubbing occurs principally in much the same way as habituation to subtitling, namely by exposure leading to the accumulation of consumption skills. The experiential findings cited in this section reveal that exposure to dubbing entails the *non-accumulation* of subtitling-specific consumption skills, which is reflected in the survey data published by Luyken et al. (1991, p. 119). This data suggests that the Germans have accumulated dubbing-specific consumption skills (which enable them to ignore dubbing's inherent inconsistencies). A higher accumulation of these dubbing-specific consumption skills corresponds to stronger habituation to dubbing. Therefore one can conclude that the habituation to dubbing can be termed a process of self-reinforcement: Consumption of dubbing leads to the accumulation of dubbing-specific consumption skills which in turn increases the utility derived from watching dubbed films/programmes which in turn results in an increased relative demand for dubbing, as compared to subtitling. Unfortunately the proof in this case has to be indirect by reason and transferring the results from the subtitling-habituation case of the Dutch.

However there is one striking characteristic in the survey data on language transfer preferences and the language transfer consumption skills collected by Luyken et al (1991, pp. 112f) that indicates that the consumption of language transfer techniques is indeed subject to strong habituation effects, as the theory on addiction and habituation predicts: The bifurcation of demand. In many countries that have a tradition of importing foreign language films the majority of the population strongly prefers one of the language transfer techniques. E.g. dubbing is preferred by 78 % of the Germans and by about 70 % of the French, while subtitling is preferred by 82 % of the Dutch population. Such bifurcations of demand are predicted by the theory of habituation (Becker and Murphy 1988, p. 683; Becker 1992, p. 329). These bifurcations are a result of strong habituation effects which also indicate that the habituation process itself is characterised by positive feedback.

This chain of reasoning about the self-reinforcing character of habituation to dubbing can be applied to the German consumer of the 1930s. Again, there is no data available on the dubbing-specific consumption skills of the German audience in this crucial period. But there are reports in the contemporary film industry press that indicate an increased audience habituation to dubbing:

In 1930 the majority of Germans rejected dubbing¹¹⁹ because of its inherent inconsistencies.¹²⁰ However, between 1930 and the mid-1930s the tide changed, the German audience became increasingly habituated to dubbing and fewer people preferred subtitling. The following paragraph analyses articles in the *Film Kurier* to illustrate the time frame in which the habituation of the German audience occurred.

Since in 1930 the German audience mocked the inconsistency between the dubbed voice and the visual image¹²¹, there were doubts in the film industry whether dubbing could ever satisfy the increasingly demanding tastes of the audience.¹²² This phenomenon was also described above as a general rejection of the “synthetic man” (Müller 2003). In 1932 wide parts of the audience still rejected dubbing although technical advancements in dubbing studio techniques were remarkable.¹²³ At the same time the *Film Kurier* reports that the American film companies assessed the

¹¹⁹ *Film Kurier*, Sondernummer, 31.5. 1930. “Antworten auf 10 Fragen über die Tonflimlage Europas”.

¹²⁰ *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. Tonfilmentäuschungen – Warum?” reports that dubbing is rejected due to its low quality that lays bare dubbings inherent inconsistencies.

¹²¹ *Film Kurier*, no. 191, 14.8.1930, “Das Publikum wird kritischer – Proteste gegen schlechte Filme auch im Reiche”.

¹²² *Film Kurier*, no. 262, 5. 11. 1930 “Auch Europa muß vielsprachig drehen”.

¹²³ *Film Kurier*, no. 27, 1.2.1932, “Tagesschau, Berlin 1. Februar – Nachsynchronisierte Versionen”.

situation in the German market quite differently. The artistic (yet unsolved) challenges that dubbing posed and the low opinion of parts of the audience of dubbing are not seen as a problem that is likely to persist for long: The audience “will get habituated to dubbing in shorter time than they became habituated to sound film at that time,” an American film executive is quoted as saying.¹²⁴ This optimism was to prove to be correct two years later in 1935 when the *Film Kurier* finds “broad parts of the population are habituated to dubbing”.¹²⁵ That same year the *Film Kurier* reports that 90 % of German theatres play dubbed versions¹²⁶ and a few months later it is reported that the dubbing process generally satisfied the audience.¹²⁷

The chronological order of these findings corresponds to Müller’s (2003, p. 312) who argues that dubbing started to prevail in the marked from 1933 onwards. Maier (1997, p. 67) reports that the German audience must have been largely habituated to dubbing by the mid to late 1930s. Garncarz (2005, pp. 79-80; 2003, p. 18) places the population’s habituation to dubbing a bit earlier, arguing that around 1933 – through a process of “cultural learning” – the audiences had become habituated to dubbing. Wahl (2005 p. 54) notes that this “process of cultural learning” that caused the prevalence dubbing from 1933 onwards entailed that the audience actually lost the skill to perceive the inconsistencies between the dubbed voice and the visual image (i.e. the inconsistencies that fall under the heading of the “synthetic man”, which were clearly detected by the audience when sound film was a novelty). Wahl (2005, p. 54) therefore emphasises that the habituation to dubbing was a “process of cultural dislearning” instead of “learning”. This “dislearning” is what has been identified in this section as the dubbing-specific skill of ‘blindness towards the inherent inconsistencies of dubbing’ with respect to form and cultural context. In the available 1980s data (Luyken et al. 1991, p. 119) this skill was present within the German, dubbing-habituated audience, while the Dutch, subtitling-habituated audience lacked this skill and felt disturbed by dubbing.

Concluding from the results of current survey data and the historical records one can assume that in 1930s Germany habituation to dubbing occurred: Initially small events caused a higher audience-exposure to dubbing than subtitling. Consequently a self-reinforcing habituation to dubbing set in. During this habituation German audi-

¹²⁴ *Film Kurier*, no. 42, 18.2.1932 “Illusionen Amerikas über Synchronisationen. “Dubbing” – Frankreichs Problem”.

¹²⁵ *Film Kurier*, no. 80, 4.4.1935, “Original oder Synchronisierung – Amerikaner in Westdeutschland”.

¹²⁶ *Film Kurier*, no. 100, 30.4.1935, Helmuth Brandis: “Original oder Nachsynchronisierung”.

¹²⁷ *Film Kurier*, no. 228, 10.12.1935, “Zu einer Deutsch-Fassung: *Es geschah in einer Nacht*”.

ences probably accumulated the general dubbing-specific consumption skill of “blindness towards the inherent inconsistencies of dubbing” with respect to form and content. At the same time the accumulation of subtitling-specific consumption skills was neglected because subtitled films were less often shown. Over the years this habituation became cemented as dubbing came to dominate language transfer in Germany.

Industry: Learning-by-Doing

Positive feedbacks on the supply side can take the form of learning-by-doing and have the potential to propel a technology to market domination (Arthur 1989, p. 116). If learning-by-doing occurs in the production process of language transfer in the form of technical improvements it expresses itself in two forms: (a) learning-by-doing leads to increased technical efficiency of the production process itself (b) it improves the translational and acting quality of the language transfer. Both make a language transfer technique more attractive to consumers and producers by lowering its relative costs and by improving its quality in relation to a competing technique. In the following section, evidence is given for learning-by-doing effects accrued in the dubbing sector in 1930s Germany.

Self-reinforcement The contingency laws from 1930 onwards constituted a strong incentive for foreign film companies to shift their dubbing production facilities to Germany because foreign dubbed films – by decree – had to be dubbed in Germany by Germans. This led to an increasing concentration of dubbing activity in and around Berlin. The already present concentration of dubbing professionals and studio capacities there (such as the *Ufa Studios* in Babelsberg) facilitated knowledge spill over and learning-by-doing effects through experience. The German dubbing industry moved quickly down the learning curve, improving dubbing’s cost efficiency and quality remarkably during the early- to mid 1930s: Learning effects led to efficiency improvements of the dubbing production process and a better quality of the final product. As a result the dubbing productions from the Berlin area were of the highest quality in Europe by 1932. The *Film Kurier* is eager to point new dubbing achievements on several occasions.¹²⁸ As a result some dubbing for foreign markets such as Italy, Spain, France and Britain was also done in Berlin.¹²⁹ This

¹²⁸ Compare: *Film Kurier*, no. 99, 27.4.1932, “Berlin – Zentrum für Versionen”, *Film Kurier*, no. 190, 13.8.1932, “Wochenschau Nr. 31 – Dubben In Deutschland”.

¹²⁹ *Film Kurier*, no. 68, 19.3.1932, “Wichtiges Dubbingereignis – Rom ist sehr zufrieden mit gedubhten Filmen”. Actually the first evidence found that Dubbing for other markets than Germany was done in Berlin dates

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increased volume of dubbing production for foreign markets further advanced the learning effects. Over time this constitutes a circular relationship: Increased dubbing activity is originally stimulated by the contingency law and then reinforced either through increased export or stronger domestic demand, all of which results in more learning effects. These in turn advance the dubbing quality which again leads to an increased demand and production of dubbing. Learning-effects and the increased dubbing volume conducted in the Berlin area thus constitute a self-reinforcing relationship. This self-reinforcing interplay was kicked-off by the critical event of the “contingency law”. The emphatic pro-dubbing Nazi film policies also contributed to increased dubbing activity by providing strong incentives to the industry to dub their films instead of using subtitling. The resulting higher relative volume of dubbing activity in the early 1930s constituted a head start for dubbing, which profited relatively strong from experience in the industry, compared to subtitling.

In Germany itself the high quality dubbing increased its popular acceptance and during the 1930s the audience became increasingly habituated to this previously widely rejected mode of language transfer.¹³⁰ The learning-by-doing effects that occurred in the Berlin area’s dubbing industry are illustrated on the following pages. These learning effects led to technical improvements of the dubbing process, resulting in lower dubbing production costs. Due to the lack of data these monetary savings can not be quantified (no data in the publicly accessible archives and libraries could be found that allowed such quantification). But the general tendency of technical efficiency gains is reflected in the articles available in the archives. They describe how new techniques were developed and implemented. These articles also show how the second effect of learning-by-doing, the quality improvements of the dubbing recordings (in the form of the acting and the recording quality) itself were increasingly recognised and appreciated by the audience over time. This vast array of documented improvements of the dubbing technique are sharply contrasted by the trade press’ neglect of subtitling. This discrepancy points to the much lower importance of subtitling in the German industry: The major innovations in the realm of subtitling were made in other countries and the use of subtitling in Germany fell significantly over the first half of the 1930s. As a consequence the learning-by-doing

back to February 1931 (compare: *Film Kurier*, no. 36, 12.2.1931, “Besuch im Studio der Organon.” This article also describes how dubbing for the French market is conducted). Dubbing for the British market falls, too into early 1931 (compare *Film Kurier*, no. 92, 21.4.1931, “*Rhythmographie* zeigt Synchronisation”).

¹³⁰ *Film Kurier*, no. 80, 4.4.1935, “Original oder Synchronisierung – Amerikaner In Westdeutschland”.

effects and the consequent technical improvements with respect to subtitling were negligible in Germany's film industry.

Learning-by-doing and Technological, product- and process-improvements of dubbing and subtitling between 1930 and 1935 The vast technological and qualitative improvements of dubbing, as compared to subtitling become clear through the study of the changeover from *Rhythmographie* to 'normal' dubbing during the 1930s.

With *Rhythmographie*, a dubbing procedure that was used as early as 1930, the original language dialogue was divided into syllables. A dubbing script was written to correspond to the original dialogue in terms of syllables, language rhythm and content, i.e. that it would be lip-synchronous. To achieve lip-synchronicity the dubbing text and instructions for intonations for each syllable of the German dubbing text were projected on a screen of a so-called *Rhythmonom*, a small device with a 30cm-wide screen through which a band with the text and the instructions for the actors pass. The *Rhythmonom* simultaneously recorded the dubbing dialogue¹³¹ (Müller 2003, p. 310). The dubbing speaker's voice was recorded in long sequences over and over again until synchronicity was considered satisfactory. During the actual dubbing recording, the voice actors read the text from the screen without seeing the corresponding film scenes; this was to help them focus on the recording (Müller 2003, p. 310).¹³²

The problem with this method was that the speaker could hardly keep up a natural rhythm of pronunciation, resulting in a clipped, halting intonation. The experience collected in the dubbing studios by voice actors, directors and sound engineers during the 1930s led to an improvement of studio recording techniques, sound and dubbing equipment. Professional dubbing speakers learned to recite shorter lines lip-synchronously by heart (Maier, 1997: 69). This development away from the *Rhythmographie* gave the dubbed soundtrack a more natural and fluid character. In the following paragraphs the improvements of the dubbing technique through experience shall be illustrated in more detail. Emphasis is put on the quality and efficiency improvements of the dubbing technique through learning-by-doing, i.e. experience, which is pointed out explicitly when mentioned in the records:

¹³¹ For a technical description of *Rhythmographie* see: *Film Kurier*, no. 287, 5.12.1930, "Nachsynchronisierung nach dem Rhythmographie-system.", The dubbing director's and actors' work are described in: *Film Kurier*, no. 294, 13.12.1930, "Rhythmographierter Tonfilm. Versionen-System der Sprachübersetzung".

¹³² Ibid.

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1930

- The industry ceases to dub by crudely reciting a direct translation of the original dialogue (this must have resembled the voice-over technique). Instead the dubbing directors try to achieve lip-synchronicity with the help of *Rhythmographie*.¹³³
- Insights into ambient acoustics grow, improving the quality of sound recordings in the dubbing studio, particularly with respect to music. It is asserted that “one year of experience with dubbing has become the basis for further developing the dubbing-methods”¹³⁴, a statement which attributes studio-technique advancements directly to learning-by-doing effects.

1931

- The *System Organon* technology (developed by the *Organon* studio, Berlin) improves the *Rhythmographie* by allowing post-recording adaptations of the visual image film tape and the recorded dubbing tape.¹³⁵ This procedure is a novelty and improves dubbing quality greatly because lip-synchronization previously had to be achieved by recording the dubbed dialogue to match the visual image. Now single scenes can be shortened or lengthened by up to 4 frames to match the image (the movements of the actors’ mouths) and thereby correct discrepancies between dubbed sound and image. This provides much more flexibility and facilitates the dubbing process. An especially constructed copy-machine is used to merge the dubbing sound with the picture without actually cutting the original negative by the use of a stencil. For each language into which the film is to be transferred one requires a dubbing sound track, a stencil and the original picture negative film.¹³⁶ The *Organon* is praised for achieving correspondence of the movements of the actors’ mouths and the dubbed dialogue “to a large extent”. The dubbed text is regarded as being “inserted fluently and fully validly substituting the original dialogue”.¹³⁷
- Until 1931 the dubbing speakers are in the same room as the sound-effect makers, because multiple-sound track editing is not yet introduced. The sound

¹³³ *Film Kurier*, no. 185, 7.8.1930., “Die Versionen”.

¹³⁴ *Film Kurier*, no. 227, 25.9.1930 “Ein Jahr Synchronisations-Erfahrungen. Raumgehalt des Tones bedingt Tonwirkung”.

¹³⁵ *Film Kurier*, no. 36, 12.2.1931, “Besuch im Studio der *Organon*”.

¹³⁶ *Film Kurier*, no. 119, 23.5.1931, “Vervollkommnung der Synchronisationstechnik” and *Film Kurier*, no. 119, 23.5.1931, “Technik des *Organon* Synchronisierungsverfahrens System Thun - Gerst”.

¹³⁷ *Film Kurier*, no. 92, 21.4.1931, “*Rhythmographie* zeigt Synchronisation”.

engineer Meyen therefore calls for the introduction of sound proof cabins in which the dubbing speakers record their dialogue undisturbed by the sound-effect makers. From the cabins the actors can now watch the film scenes they are dubbing on a screen.¹³⁸ The principle of sound-proof cabins is still standard practice in the studios today.

1932

- 1932 sees technical improvements of the film winding apparatus that allow the fast-forwarding and rewinding of film reels to exactly appointed frames, facilitating dubbing enormously¹³⁹. Though this technique is also useful for subtitling, the dubbing process benefits relatively more from this innovation, since precision to the single frame is more important in lip-sync dubbing than subtitling which allows for a less precise timing in the flashing of subtitles. This is relative technical gain for the dubbing is also reflected in the nomination of the innovation explicitly as an apparatus for dubbing; its application for subtitling is not mentioned once.
- Through experience and language training the dubbing directors and actors increasingly improve the dubbing dialogue's rhythm of language, intonation and appeal to resemble the natural sound of the dialogue spoken by the original actors¹⁴⁰.
- The *Film Kurier* reports growing experience with dubbing: "The technical accomplishments in the production sites are identifiable from quarter term to quarter term"¹⁴¹.

1933

- Near the end of 1933 the dubbing studios' working procedures have advanced greatly over the previous three years: Instead of reading the dialogue off a *Rhythmonom* the dubbing speakers learn their lines by heart and record them while watching the corresponding film scenes projected on screen in the dubbing studio¹⁴²; this was not standard procedure in 1930.

¹³⁸ *Film Kurier*, no. 136, 11.6.1931, "Schafft Sprecher-kabinen".

¹³⁹ *Film Kurier*, no. 232, 1.10.1932, "Tonsystem Friess – Vollapparatur für Gleich- und Nachsynchronisierung".

¹⁴⁰ *Film Kurier*, no. 190, 13.8.1932, "Wochenschau Nr. 31 – Die Kunst der *Rhythmographie* - Dubben in Deutschland".

¹⁴¹ *Film Kurier*, no. 27, 1.2.1932, "Tagesschau, Berlin 1. Februar – Nachsynchronisierte Versionen".

¹⁴² *Film Kurier*, no. 178, 1.8.1933, "Filme im Werden – Bei den Geistern des deutschen Films", *Film Kurier*, no. 271, 17.11.1933, "Im 'Souffleurkasten' des Films".

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- Instead of mechanically reciting the dialogue the industry now lets the voice actors speakers “act the part” in the dubbing studio to sympathise with the screen figure to whom they lent their voice. This has the effect that the dubbed dialogue gets a more natural sounding and convincing touch¹⁴³.
- The *Rhythmographie* technique is still used in 1933, although it is modernised: The actors record their dubbing dialogue while watching the corresponding film scenes on a screen. The dialogue is visible below the film images on a rolling tape¹⁴⁴.

1934

- In 1934 the dubbing procedure is so advanced that even a film critic is reported to have thought that Greta Garbo’s dubbed voice in “Queen Christina” was her original voice¹⁴⁵.

1935

- In 1935 the abandoning of the intricate *Rhythmographie* technique and its complicated technical devices leads to more fluent and natural sounding dubbing recordings, although this is traded off against less lip-synchronicity¹⁴⁶. The audience now seems to be ready to accept this trade-off implying that it is in an advanced state of habituation to dubbing at that time.
- In August 1935 the leading dubbing director and translator Kurt Bleines calls for the German film industry to use the extensive experience gained in dubbing to produce more dubbed foreign versions of German films to release them abroad. In that respect he notes that within the last two and half years “the standard of the German dubbing has been lifted extraordinarily” and asserts

¹⁴³ (ibid.) and *Film Kurier*, 12.12.1933, “Spricht die Garbo deutsch?”.

¹⁴⁴ *Film Kurier*, no. 283, 2.12.1933, “Dr. Rohn verdeutscht Mutterhände”.

¹⁴⁵ *Film Kurier*, no. 87, 12.4.1935, “Tagesschau – Gute Synchronisation täuscht Filmkritiker” (This mistake however has to be put into perspective for two reasons. (a) The mistaken journalist worked for the very small Schneidemühler newspaper “der Gesellige”, a paper whose staff probably does not necessarily belong to the elite of journalism at its time (b) Greta Garbo is ‘mega star’ and her voice is adored in particular. This admiration for Garbo goes so far that even the Goebbels’ Nazi propaganda paper *Der Angriff* – that was in general opposed to releasing films in original versions for political reasons – has been strictly against dubbing in the case of this Garbo-film (see: *Film Kurier*, no. 41, 16.2.1933, *Angriff* setzt sich für Originalfassung ein – Beim neuen Garbofilm”). Therefore the dubbing of Greta Garbo has been done with particular care and effort: Even the search for an appropriate dubbing voice for Greta Garbo has attracted the general public’s interest and wide media attention. The actual dubbing was done under supervision of the renowned Halmut Brandis, one of the leading and most experienced dubbing directors and translators at that time Finally the Berlin actress Sonik Rainer was chosen to dub Garbo (*Film Kurier*, 12.12.1933, “Spricht die Garbo deutsch?”, *Film Kurier*, no. 22, 26.1.1935, “Wochenschau Nr.4 – Dreimal Deutsch”).

¹⁴⁶ *Film Kurier*, no. 139, 18.6.1935, “Madame Dubarry”.

that “dialogue became more fluent [...] and some punchline sharper and better than in the original versions” as a result of the German experiences in the field of dubbing¹⁴⁷.

- Finally, what is left to remark is that from 1935 onwards the dubbing process was technically strongly improved, delivering high-quality lip-synchronous language transfers that generally satisfied the audience¹⁴⁸.

Above it was shown that at the introduction of sound film dubbing was not accepted by the audience and the dubbing studios’ output was of a very low quality. This chronology shows a) how the dubbing production process’ efficiency and output quality constantly improved through technical development based on experience, and b) how these quality improvements contributed to a growing acceptance by the audience. These two processes went hand in hand. As the citations from the *Film Kurier* show, learning-by-doing played a major role in the development of dubbing studio techniques. The audible quality of the dubbing dialogue was particularly improved by the experience and language training of dubbing actors and directors which in turn greatly improved the audience’s acceptance of dubbing. Important technical innovations and improvements in the dubbing production process originated from the dubbing studios themselves: The technical and artistic staff used their experience in the dubbing studio to improve the production process and the final output’s quality. Important examples for this learning from previous experience are the introduction of the sound-proof dubbing speaker’s cabin, the introduction of film screens where dubbing speakers see the respective film scene on screen, the switch from *Rhythmographie* to modern dubbing where dubbing speakers “act” out their roles, and growing experience in the dubbing script writing technique. These technical improvements are usually based on previous experience with dubbing, and this in turn was made possible by the growing acceptance of dubbing and the growing demand for dubbing productions. One can thus speak of a self-reinforcing dynamic: The more dubbing productions were completed, the more experience the technical and artistic staff gained and, consequently, the more they seemed to be able to introduce technical and artistic innovations that led to quality improvements. In return, audience acceptance of dubbing greatly increased over the early 1930s in response to the improvements in the quality of dubbing. These are the components of a self-reinforcing dynamic: The technical and quality improvements through expe-

¹⁴⁷ *Film Kurier*, no. 201, 29.8.1935, “Kurt Bleines schlägt vor: Fremdsprachige Versionen deutscher Filme – nutzt die Erfahrungen der Eindeutschungsarbeit!”.

¹⁴⁸ *Film Kurier*, no. 228, 10.12.1935, “Zu einer Deutsch-Fassung: *Es geschah in einer Nacht*”.

rience on the one hand, result into growing audience acceptance on the other hand. This in turn naturally leads to more demand for dubbing, as was shown above (from the mid-1930s on, dubbing increasingly dominated the market).

The conclusion that can be drawn from this is that the rise of dubbing to the dominance was supported by self-reinforcing dynamics based on learning-by-doing effects. Another result of these technical innovations was monetary savings in the form of less studio, and recording time. Unfortunately these potential savings (if they were not counterbalanced by higher expenses on more advanced studio equipment) do not show in the data available and can not be quantified. But if there was a self-reinforcing dynamic mechanism at work in the favour of dubbing, how did the situation look like for the subtitling technique? This question will be addressed on the following pages.

Learning-by-doing and the development of Subtitling The record of technical and artistic advancements and their implementation in the dubbing studios' work processes is not matched by an equivalent development in the subtitling-sector. Archival research of the volumes 1929–1935 of the *Film Kurier* was conducted for this research to illustrate the above documented technical and artistic development of dubbing in 1930-1935 and to see in how far learning-by-experience advanced the respective language transfer techniques. The articles that are quoted above were primarily obtained from the *Film Kurier Index* (CineGraph and Stiftung Deutsche Kinemathek, 1997). The key-words "dubbing" and "subtitling" were used to search for language-transfer-related articles. The *Film Kurier* articles quoted above were a part of the group of articles that were obtained by extracting all articles that fell under the keywords "dubbing" and "subtitling" for the period 1929–1935. Interestingly, among these articles was only one article dealing with the technological advancement of subtitles¹⁴⁹, while the technical advancements of the dubbing were covered in more than 20 articles. The lack of media coverage of subtitling technology reflects the overall neglect of subtitling-related techniques in Germany:

The only major article that covers technological advances of subtitling dates from September 1932¹⁵⁰. It notes that the Latvian physicist Blumberg invented a method for projecting subtitles on the cinema screen. This invention could replace the elab-

¹⁴⁹ The article in question is *Film Kurier*, no. 246, 18.10.1932, "Aus den Randstaaten: Neues Filmtitelverfahren. 400 Filmtitel auf 4 Meter Film. – Dia-Projektion macht Aufkopieren überflüssig".

¹⁵⁰ *Film Kurier*, no. 246, 18.10.1932, "Aus den Randstaaten: Neues Filmtitelverfahren. 400 Filmtitel auf 4 Meter Film. – Dia-Projektion macht Aufkopieren überflüssig".

orate standard procedure of printing subtitles on film and promised great cost savings. This method, however, never took off the ground at that time, for reasons that can only be speculated about: maybe the projected subtitles' readability (in terms of sharpness or contrast) was unsatisfactory or the techniques' synchronisation of the projected subtitles with the rolling film tape was poorly conceived. Only today, by the help of digital projection technology this subtitling technique is pursued and marketed on a large scale¹⁵¹. Outside Germany, however, extensive research was done in the realm of subtitling. Now the major subtitling-related developments in the 1930s are described:

Until 1932:

The optical subtitling method Until end 1932 subtitles were often generated via the so-called optical or photographic copying technique (Dibbets 1993, p. 101). For producing a subtitled film copy the photographed subtitles were copied on to the film copy itself (Ivarsson 2001, p. 2). Therefore "A frame containing the title was kept in position while the film negative and the positive print strip were fed forward and exposed." (Ivarsson 2001, p. 2). The result was "hardly satisfying" (Dibbets 1993, p. 100) for the subtitles were often unreadable before lighter background pictures. Additionally the film's picture and soundtrack quality severely suffered from the production process (Dibbets 1993, p. 101) because the additional copying of the film was required for adding the subtitles: Often the film-negative was not available and "it was necessary to re-copy the whole film to obtain a new negative, with a consequent loss of focus and substantial increase in the noise level – a serious drawback in the early days of sound films" (Ivarsson 2001, p. 2). Later on – for wider releases that required a high number of copies – the subtitles were copied on the film prints during the reproduction process: A blank film of the same length as the original negative containing the subtitles such that they are synchronous with the dialogue put on top of each other. The resulting copies for distribution drawn here from contain

¹⁵¹ The company *Digital Theater Systems, Inc.* produces digital cinema subtitling projection systems. It describes its subtitling projector as follows: "The innovative unit projects subtitles directly onto the screen, instead of etching or overlaying them onto the film itself. The benefit to distributors is simple to understand: significant cost reductions for limited-use prints [...]. (Information retrieved in January, 2008, from: <http://www.dtsonline.com/digitalcinema/products.php?ID=1579679456>). To compare the short patent description on digital subtitling projection, see <http://www.freepatentsonline.com/6741323.html> (information retrieved in January 2008).

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the original soundtrack and the subtitles. But this copying process naturally harms the negative.

From 1932-mid-late 1930s:

Mechanical and thermal subtitling Already in 1930 the Norwegian Erikson introduced an improved technique that was based on stamping the subtitles into the film copy. Minuscule letterpress type plates containing the subtitles are pressed frame-by-frame onto the film's emulsion layer after the film was specially treated in a softening bath. Although invented in 1930 Dibbets (1993, p. 101) reports that this technique was introduced in the Netherlands only three years later. In 1935 the mechanical pressing technique was improved by the Hungarian Turchányi. The novelty was that the letterpress plates were heated before they were pressed on the film-stripe. However, the "results [were] often erratic, with poorly defined letters" (Ivarsson 2001, p. 3).

From the mid-1930s:

Chemical subtitling Only in 1932 a new high-quality etching technique for subtitle generation was invented by the Hungarian Inventor Hruska and the Norwegian Ertneæs independently from each other. The subtitles are no longer printed mechanically onto the film emulsion layer, but they are etched onto it. The basic procedure is the same as for etching in the fine arts: the film copy is covered with a thin wax or paraffin layer. In the spots where the heated subtitle letterpress type plates touched the film stripe the wax layer melts and displaced and the film emulsion layer is exposed. This procedure is applied in sequences frame-by-frame on the whole film stripe. Finally the film is chemically treated so that the spots where the subtitles have been pressed to the film emulsion layer dissolves and brightens. "This procedure produced clearly legible white letters on the screen" (Ivarsson 2001, p. These 'chemical' subtitles were cheaper to generate and did not affect the picture's quality as severely as the previous techniques did. Chemical subtitling was used until the mid-1990s (Dibbets 1993, p. 101; Low 1985, p. 100). Although being invented in 1932 it took again some years until chemical subtitling became widely implemented. Dibbets (ibid) reports that chemical subtitling was implemented in the Netherlands as

late as 1937. This is a quite astonishing delay for a country that relied extensively on subtitling (Dibbets 1993).

Lack of Learning-by-doing Effects for Subtitling From these major subtitling-related technical developments in the 1930s a few relevant points with respect to the self-reinforcing mechanism learning-by-doing can be concluded: In contrast to dubbing subtitling does not seem to have benefited from self-reinforcing learning-by-doing effects and increased audience acceptance in Germany. This can be shown by a few arguments. First, the development of subtitling seems to be publicly largely neglected in Germany. This can be concluded indirectly from the low - or rather the lack of - attention subtitling-related technical inventions received in the media when compared to dubbing. The technical advancement of subtitling was a non-German affair and it did not receive attention in the film industry press. The major subtitle-related scientific breakthroughs and inventions have to be credited to non-Germans; particularly Norway and Hungary were strongholds in that respect. With respect to learning-by-doing in the realm of subtitling the Germans seem to have lacked behind other nations. It seems that German engineers and inventors did not have accumulated subtitling-specific knowledge through learning-by-doing during the early 1930s that was transferable into technological improvements. This can not be proved by direct evidence; rather the absence evidence to the contrary in the press coverage and in academic writings (Ivarsson 2001) is an indication for subtitling being strongly neglected in Germany.

Logically the low subtitling-related invention activity and consequently the relative slow technical advancement of subtitling in Germany also hampered the audience acceptance of subtitling. It was shown above that the acceptance of subtitling fell over the early 1930s: over the years the working class and rural audiences increasingly preferred dubbing. In turn, the lower popularity of subtitling is a disincentive for investing in the technical advancement of subtitling. But this latter feedback can not be covered by direct evidence. Therefore this study must confine itself to stating that in 1930s Germany learning-by-doing effects accrued largely to dubbing, while subtitling seems to have enjoyed hardly any innovation.

In that respect it is also a remarkable fact that the improvements of the subtitling techniques (mechanical/thermal subtitling and chemical subtitling) took two or more years after their introduction respectively, until they became implemented widely. These delays are concluded from Dibbets' (1993, pp. 100-101) study on the

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introduction of sound film in the Netherlands. The Netherlands used to be much more subtitling-oriented than Germany - already in the 1930s. Therefore it can be deduced that the technical advancement of the subtitling equipment in the Netherlands was quite up-to date for the times' standard as compared to countries that relied more on dubbing and double shooting as Germany did. From that it can be concluded that the lag between the introduction of a new subtitling-technique and its implementation in Germany was at least as long as in the Netherlands. In terms of visual quality the German cinema screens offered a relatively decent subtitling probably from as late as from 1933–1935 onwards. This came at a time when dubbing has already seen vast improvements. Therefore it is not surprising that the German audience increasingly turned towards dubbing and neglected subtitling: The dubbing techniques enjoyed significant technical improvements from 1930 onwards while the major subtitling-related innovations were introduced years later.

Most scientists agree that dubbing became prevalent in the German film market during the 1930s. Therefore the focus of this research is on this time period. But the self-reinforcing mechanisms learning-by-doing is a phenomenon that continued to exert its influence also during later decades. Actually the lack of learning-by-doing in the realm of subtitling became particularly evident after the Second World War. Then the German film distributors used to outsource many subtitling jobs to one of the various Dutch or Swiss subtitling studios, which provided the same work for a lower price and commanded over technically advanced subtitling studios. According to our interview partners, only one traditional large cinema subtitling-only studio remained in Germany after the post-war period (Interview sub1; cf. Maier 1997, p 69). In comparison to the number of established dubbing studios this is not a lot. According to its own statement this single one subtitling studio still handles about 90 % of the cinema subtitling done in the country, today.

Summary and Conclusion This sub-section provides evidence for the self-reinforcing mechanism learning-by-doing being at work in the German film industry in the 1930s. The *Film Kurier* repeatedly and explicitly names learning-by-doing and learning from experience as a major source for the technical and artistic innovations in the dubbing industry. Therefore it can be concluded that learning-by-doing indeed took place, but its efficiency gains in monetary terms are not quantifiable from the data available. The basic components to a self-reinforcing dynamic could be identified: It is illustrated how the technical and artistic staff in the dubbing sector in Germany

continuously improved the dubbing technique through learning-by-doing. This resulted in technical improvements of the production process and better quality of dubbing. As dubbing increasingly dominated the market this experience increased further and dubbing became more sophisticated on the technical and artistic level. In return, the audience acceptance of dubbing greatly increased over the early 1930s in response to the improvements in the quality of dubbing.

On the other hand, from the lack of coverage in the press and academic accounts it can be deduced that the innovation of subtitling-related techniques was much neglected in the German film industry. Subtitle-related inventions and the advancement of this technique was largely a non-German affair. As a result the productivity gains that resulted from these subtitling-improvements must have had a less immediate and lower impact on the German market, as opposed to comparable technical advancements in the dubbing technique.

The differences in learning-by-doing between subtitling and dubbing in Germany can be (at least partly) accounted for by critical and small events. Here two topics are worth mentioning: a) the contingency laws that induced the establishment of a large dubbing industry in and around Berlin which enabled dubbing to benefit early from learning-by-doing effects and knowledge spill-over, and b) the late start of improvements of the subtitling techniques. These events and circumstances gave dubbing a head start. The effect was that dubbing could benefit early from learning-by-doing effects. As a consequence dubbing was increasingly accepted by the audience as its quality improved in relation to that of subtitling. This relation can not be shown directly, since there is no common unit of measurement that allows quantifying the quality of dubbing and that of subtitling. But from academic publications and from the articles in the contemporary film industry press this asymmetry can be deduced.

Logical reasoning implies that within Germany the head start of dubbing and its diffusion enabled engineers and artistic talent to gain experience with dubbing, learn from the past and improve this technique. This did not happen to the same degree with subtitling. In fact subtitling was discouraged by the small events. And the audience acceptance of subtitling fell in relation to the increasing acceptance dubbing. As a consequence the relative importance of subtitling decreased and its production fell. The potential for technical and procedural improvements due to learning-by-doing fell accordingly. In other countries such as Hungary and Norway where major subtitling inventions were pioneered the situation might have been the other way round in the early 1930s: Lower dubbing production, combined with a relative strong re-

liance on subtitling and therefore higher potential to realise learning-by-doing effects with subtitling.

Transaction Costs and Other Factors Favouring the Adoption of Dubbing

Transaction costs as drivers of path dependency can occur on the supply or demand side. They can reinforce a standards' position once it attained leadership in a market and therefore can develop a self-reinforcing dynamic. In the case of Germany this phenomenon occurred with dubbing:

Spurred by small events (see above) dubbing got ahead of all other langue transfer formats in the market during the 1930s (Müller 2003, p. 312). By the mid 1930s a majority of the foreign language film exhibitions in the country involved dubbed copies¹⁵² (see also Wahl, 2005: 54); so dubbing had gained a leading position in the market. That leading position of dubbing was cemented by the US authorities' film policies after the war (Bräutigam 2003, p. 20, more on that topic is elaborated on below). The crowding out of subtitling continued during the post-war period with the introduction of television (compare Bräutigam 2003; Filmkritiker Kooperative 1973) and video in the 1950s and 1970s respectively up until the 1990s (Maier 1997).

The argument drawn here is that as soon as dubbing gained a head start in the market suppliers had incentives to focus their supply increasingly on dubbed films. Over time, as more and more people became habituated to watch only dubbed films subtitling became crowded out to niche markets. This section illustrates how dubbing's leading position in the cinema market resulted in lower transaction costs for consuming dubbing in relation to subtitling. This transaction cost difference in favour of dubbing constitutes an incentive for the audience to consume more dubbing instead of subtitling and thereby the transaction cost difference in favour of dubbing reinforced the leading position of dubbing. This crowding out effect in the cinema, television, and home video market will be illustrated on the following pages. The crowding out of subtitling by dubbing is shown to exhibit characteristics of a self-reinforcing mechanism that underpinning the lead of dubbing in the market. This crowding out effect, due to transaction cost advantage for dubbing finally contributed to the rigid domination of the market by the dubbing technique.

There are no quantitative statistics available on the historical relative diffusion of dubbed, subtitled and original versions of films in the video and cinema segment.

¹⁵² *Film Kurier*, no. 100, 30.4.1935, Helmuth Brandis: "Original oder Nachsynchronisierung".

Neither is there quantitative data available on the relative transaction costs of dubbing and subtitling for consumers. The data on which the reasoning in this section builds is largely derived from historical accounts of industry experts and film historians.

Cinema: This section illustrates how dubbing's leading position in the cinema market resulted in lower transaction costs for consuming dubbing in relation to subtitling. It was illustrated above that during the 1930s the audience got increasingly habituated to watching films in dubbed versions (Müller 2003, p. 312).

As increasing parts of the audience in a certain area preferred dubbing suppliers had incentives to focus their supply increasingly on dubbed films. This is because the non-digital film supply is subject to a degree of indivisibility with respect to language transfer¹⁵³. In 1933 Germany the rural- and working class audience became increasingly fond of dubbed versions¹⁵⁴. This provided an incentive for cinema owners to increasingly show dubbed films and less and less subtitled films and the supply of original/subtitled versions fell in relation to the supply of dubbed versions¹⁵⁵ (Wahl, 2005, p. 54). As a consequence of the sparser supply of subtitling in wide areas of the country the transaction and search costs for consuming foreign language films in subtitled or original language versions were significantly higher than for dubbed versions. This was due to:

- a) The limited availability and the consequently **higher search costs** for people who wanted to see subtitled/original versions.
- b) The **transportation costs** for consumers who preferred watching original/subtitled versions became significantly higher, since the average way to the theatre became longer than the way to a cinema playing a dubbed version.
- c) There must have been a relatively **limited choice** of subtitled films within a certain geographic area compared to dubbed films.

¹⁵³ Indivisibility with respect to language transfer format means that it is not possible to obtain a film for theatrical exhibition and then exhibit it in different language transfer formats at will. An example from the cinema market would be a cinema owner deciding to show a certain film X 20 times during one week in his cinema. Then the cinema owner has to decide on the language transfer format of the film roll he orders beforehand and the distributor provides a celluloid copy of the film. With classical celluloid film it is not feasible to show the film 18 times in a dubbed version and 2 times in a subtitled version. Either the exhibitor obtains a subtitled or a dubbed version. This indivisibility also applies to the video market. The consequence is that often the dubbing format will be the only format that is supplied. The reason is that the potential audience for a subtitled version is too small and therefore it is unfeasible to obtain a subtitled copy. With digital film distributions this indivisibility is strongly reduced but since digitalisation is a recent development this argument will be postponed to a later chapter of this research.

¹⁵⁴ *Film Kurier*, no. 1, 1.1.1933, "Probleme des Tonfilmexports".

¹⁵⁵ *Film Kurier*, no. 100, 30.4.1935, Helmuth Brandis: "Original oder Nachsynchronisierung".

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The result of this transaction cost difference was an increasing crowding out effect of subtitling by dubbing: This transaction cost difference in favour of dubbing constituted an incentive for the audience to substitute subtitling by dubbing. As the supply of subtitling fell the relative transaction costs of watching subtitled versions rose even further. Consequently the demand for subtitling fell, which in turn signalled to film exhibitors to show less subtitled versions, which in turn increased subtitling's transaction costs again. The less subtitling was shown the more the transaction cost difference in favour of dubbing reinforced the leading position of dubbing.

This self-reinforcing transaction cost effect also contributed to the crowding out of subtitling during the war and in the post-war era. Over time, as more and more people became habituated only to watching dubbed films subtitling became limited to niche markets. Maier (1997, 28-29) reports that in the post-war era until the 1980s it was absolutely uncommon that films were shown in an original or a subtitled version in the theatres. Similarly the *Odeon Cinema* in Berlin informs that during the 1980s there were practically no original language versions of films circulating in the market. During the 1980s it was even very difficult for exhibitors to obtain proper copies of original language versions, since these were not regularly provided by the film distributors¹⁵⁶.

Before the mid-late 1980s exhibition of English language films in the original version was mainly confined to educative purposes. These included film exhibitions organised by the *Deutsch Amerikanisches Insitut* (DAI¹⁵⁷). The success of these original language screenings among foreign language native speakers and Germans induced commercial cinemas to adopt the practice of screening foreign language films in original or subtitled versions during the 1990s (Maier 1997, p. 29). The wider availability of cinema exhibitions in subtitled/original language versions somewhat reduced the relatively high transaction cost difference in the cinema segment. However cinemas exhibiting subtitled and original versions are still largely confined to urban areas (Maier 1997, p. 29; interview: dis2) and therefore consumers on average still incur relatively high transaction and search costs if they want to watch a film in subtitled/original language version in the theatres.

¹⁵⁶ See homepage of the *Odeon Cinema* Berlin, one of the first cinemas that started exhibiting original/subtitled versions for the public in Berlin in 1985: http://www.yorck.de/yck/yorck_ie/yorck_kinos/odeoninfo.html (information retrieved in May, 2008).

¹⁵⁷ The DAIs are located in German cities, often University cities. Their aim is to further the US-German cultural and academic exchange. See. For example the DAI Tübingen: <http://www.dai-tuebingen.de/en/index.php?sec=dasdai> (information retrieved in February, 2008); or the DAI Heidelberg: http://www.dai-heidelberg.de/content/index_eng.html (information retrieved in February, 2008).

5.3. *Historical Analysis*

Still today the same transaction cost disincentives that helped dubbing to rise to domination in the market can be observed. They still work to the disadvantage of subtitling and thereby reinforce dubbings domination: Cinemas that show subtitled/original version of foreign language films are few and confined to urban areas. These rather small art house and "independent" cinemas cater to the tastes a minority audience attracted to watching films in subtitled and original versions (Maier 1997, p. 29; Interview: dis1). These cinemas are sparse so that consumers have to travel longer distances to reach the cinema, even in the larger German cities. Generally, these art house cinemas have less seat capacity per screen and fewer screens in their theatres, than their larger counterparts that are showing mostly dubbed versions (FFA 2007).

Apart from higher transportation costs there is only a limited choice of subtitled/original versions of films supplied to the consumer and often an impaired audio visual experience: Their screens tend to be smaller and their sound equipment tends to be technically less advanced which impairs the audience's audio-visual experience. This relatively impaired audio visual experience depicts an extra cost to the consumer that can be avoided if the film is watched in a dubbed version in a larger technically better equipped cinema that is not only closer but also easier to find and has a more varied film program.

This section relies on historical accounts as sources of data. Since there is no (historical) quantifiable data available on the relative transaction costs of dubbing and subtitling in the cinema segment only the direction of the relative transaction cost difference can be stated. Since there were practically no cinemas exhibiting subtitled/original versions before the mid 1980s one can safely argue that the transaction cost difference between both formats was huge between the 1940s and the 1990s; and to the disadvantage of subtitling/original versions. This transaction costs advantage of dubbing still prevails, since the majority of the circulating copies of a film are dubbed versions (interview: dis 2, dis 3).

In sum, in the cinema segment the transaction costs of watching subtitled/original versions of films were driven up in relation to dubbed films: The consumption of subtitled/original version of films is subject to a) higher transportation costs b) in higher search costs and b) in a lower variety of choice for the dubbing/subtitling-preferring consumer. This resulted in lower demand for subtitling which in turn induced exhibitors to supply less subtitling which again increased subtitling's rela-

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tive transaction costs for consumers. This self-reinforcing dynamic contributed to a crowding out of subtitling by dubbing in the post-war era.

Video: Also in the video segment the transaction costs for consuming the 'minority standard' subtitling are higher than for the dominating dubbing standard, providing a disincentive for consumers to choose subtitling instead of dubbing. Until digitalisation of home video entertainment video tapes came either in dubbed or subtitled/original versions. In the video market the transaction cost disadvantage for subtitling was due to a higher price and transportation costs for the subtitled/original versions and a longer time for obtaining them:

- 1) This is reflected in longer distances to be travelled to video stores that supplied subtitled films in subtitled/original version videos in Germany before DVDs became common.
- 2) Consumers that wanted to watch original or subtitled versions of foreign language films on video were confronted to a very limited selection of films in these language transfer formats in their local video rental stores and video retail stores.
- 3) Consumers willing to buy a film tape often had to order subtitled/original version films from abroad or from central mail order distributors since they were not provided locally. This procedure increased the transaction costs for these consumers twofold: 1st such consumers probably paid a higher price for a film which was available at lower costs in a dubbed version in their local shops. 2nd The films had to be ordered and shipped individually the customer who incurs an additional cost in terms of further waiting time until the ordered film is shipped and at the consumer's disposal (Maier 1997, p. 30).

Although there is a minority that prefers subtitling noteworthy niche markets emerged almost only in large urban areas (Interview dis2). Only there the catchment area of a video store or a cinema renting out or exhibiting original/subtitled versions enclosed a critical mass of consumers with the corresponding 'minority preferences' (compare also Maier 1997, p. 28-31). In video stores this situation has only been recently balanced due to the introduction of DVDs, which generally contain a file with the original dialogue and subtitles. In summary: In the video segment subtitling was subject to higher transaction and search costs because the subtitled/original videos often had to be imported from abroad on the customers' individual request as the assortment of such films in local video retail stores was generally limited in range. This inconvenience added to the additional travelling costs as the consumer had to travel

longer distances to the relatively sparse video stores/rentals who supplied original/subtitled versions. Unfortunately there is no data published that allows quantifying the relative costs of ordering dubbed and subtitled/original version video tapes during the 1990s and earlier. The reasoning itself is backed up by historical accounts, given by Maier (1997).

At the end of this section it can be reasonably concluded from the historic accounts that from the mid-1930s on the average German consumers had to incur higher price or transaction costs if they consumed a film in subtitled or original version as compared to when they consumed a dubbed film. The cause for this difference in price and/or transaction costs depends on the window of exhibition. Additionally in the cinema market and the pre-DVD video segment there was a very limited supply of subtitled/original films and series so that there was little choice for consumers. These higher transaction costs constituted a disincentive for the audience to consume subtitling. As the demand for subtitling fell the supply of subtitling was reduced in response, which in turn increased the relative transaction costs of subtitling again. A result was that the audience became increasingly habituated to dubbing and demanded even less subtitling, which aggravated the crowding out of subtitling. So the transaction cost dynamics contributed to a self-reinforcing crowding of subtitling by dubbing. As a result dubbing became the market standard and subtitling was confined to niche markets in larger urban areas. How these higher prices/transaction costs for subtitling affect the distribution of dubbing and subtitling will be briefly illuminated with the help of a basic microeconomic reasoning in the following paragraph.

Substitution Effects Leading to Economies of Scale

In this section I will examine in how far there were substitution effects at work that caused an increasing number of consumers to adopt dubbing over time. This substitution of subtitling by dubbing could result in economies of scale on the production level reinforcing the market position of dubbing in Germany and leading to a crowding out of subtitling.

Generally spoken, economies of scale are an incentive for the supplier or producer of a good or service to provide only one (standardised) form of the good or service because its average unit costs fall with every new consumer that is added to the respective customer bases. Film distribution for cinema, television and home entertainment is subject to high fixed costs. These high fixed costs are due to overhead, P&A,

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language transfer, license costs, broadcasting facilities, and wages (Wasko 2003). So the costs for producing the first copy of a film are high. At the same time the costs of providing the film to one more consumer are relatively low¹⁵⁸. The upshot is that film supply for digital cinema, television and video is subject to economies of scale. To a slightly lower degree this holds for celluloid-based cinema, as well.

When the substitution of subtitling by dubbing lead to economies of scale, why should consumers have an incentive to substitute subtitling by dubbing? In accordance with standard microeconomic textbook knowledge one can state that the higher price or transaction costs of subtitling constitute an incentive for subtitling-lovers to consume dubbing instead.

78 % of the population prefer dubbing and 13 % prefer subtitling/original version (Luyken et al. 1991) in the late 1980s-beginning 1990s. The current market share of dubbing and subtitling (measured in terms of circulating copies) on German cinema screens is 95 % and 5 % respectively, and these market shares were even more biased towards dubbing in the past (Interview: sub1; Maier 1997). Assuming a degree of elasticity of film demand with respect to the language transfer format implies that German consumers who actually prefer subtitling tend to watch some dubbed films: When the supply of original/subtitled films is limited and when the costs to access original/subtitled films are relatively high subtitling-preferring consumers switch to watching dubbed films and programmes instead – at least occasionally. Generally spoken this elasticity of demand with respect to language transfer format means that consumers watch films even in the non-preferred language transfer format if the language transfer format they actually prefer is not supplied, supplied in smaller amounts only and when the access costs to the preferred language transfer format are high. The microeconomic reasoning and graphical depiction of this principal substitution effect can be found in Nicholson (1998, Ch. 5, pp. 132ff).

Such substitution effects also most likely occurred – and still occur – within the German film market as well, since the consumption of subtitled films was – and still is – subject to relatively high transaction costs:

It was shown that in Germany in the early 1930s dubbing and subtitling were on an equal footing in the market. Over time dubbing increasingly crowded out subtitling. During the Third Reich the supply of foreign films in general - and the supply of subtitled foreign films in particular – abated. After all total cinema attendance more

¹⁵⁸ In that respect film distribution is similar to the economics software production case (compare Shy 2001, pp. 53ff). Although it must be said that the comparison with software is a bit too strong for the celluloid-based cinema market, though it applies for digital cinema, television and the video/DVD segment.

than quadrupled during the Third Reich and then after the war again rose steadily until the arrival of television in the late 1950s (compare SPIO 2006a; and Deutsches Filminstitut 2008). But the trend of fewer provision of subtitling continued in the post-war period. Simultaneously the transaction costs of subtitling (for consumers) rose in relation to those of dubbing. The cost imbalance is still present in the first decade of the 21st century in the television (limited choice and/or price difference) and cinema market (higher transportation costs, higher search costs, limited choice).

So between the 1930s and today consumers were given incentives to substitute subtitling by dubbing. With the decline of subtitling in the mid 1930s the costs of accessing subtitled films climbed in relation to those for dubbing, so it is natural that substitution effects have occurred at that time and later: Consumers who actually preferred subtitling probably substituted subtitled films by dubbed films because the transaction costs for accessing subtitled films were relatively high compared to those of dubbed films (or the films were simply not available in subtitled versions). This development can not be pointed out with actual data showing such substitution effects, but the general macro data does not allow another conclusion: the supply and consumption of subtitled/original versions declined during the 1930s and the supply and consumption of dubbing rose continuously to dominate the market (Wahl 2005, p. 54). Müller (2003, p. 312). So substitution effects must have had occurred.

Although there are no surveys to quantify these substitution effects let me assume at this point that such substitution effects actually took place, which is perfectly reasonable. A central theme of this work is the notion that increased exposure to a certain language transfer format induces the audience to become habituated to that format, at least partially. Therefore it can be deduced that German subtitling lovers over time 'forcibly' watch(ed) a lot of dubbed content on television and in the cinema. Over time, therefore, they should have become habituated to watching films and programmes in dubbed form. Even if these original subtitling lovers did not become (totally) habituated to dubbing their consumption of dubbed films constitutes a part of the effective demand for dubbing. Thus if subtitle lovers consume dubbed films due to substitution effects they increase the number the number of dubbing consumers. This is of vital importance since film distribution is subject to economies of scale.

These economies of scale occur on the level of competing films and on the level of the production of the subtitled and dubbed versions of individual films because dubbing and subtitling are subject to high fixed costs (interview: sub3). It is expensive

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to provide the first copy of a dubbed version of a film to one consumer, but it costs relatively little to supply an additional copy, because the fixed costs are high and the variable costs are low. This is even truer for television and video distribution. As a result, every additional viewer that substitutes subtitling by dubbing increases the relative profitability of dubbing. The more consumers consume a dubbing version of a film, the lower the price for accessing the dubbed film can be set. Theoretically the price for a dubbed video tape could be lowered a little with every new consumer deciding to watch the film in a dubbed version. Accordingly the price could be held steady but therefore the film could be profitably distributed in more (remote) stores. This in turn lowered the customers' search and travelling costs that have to be incurred in order to access the film. So over the years, the more the audience substituted subtitled films by dubbed films the more profitable became the dubbed version in relation to the subtitled version. Also the more dubbing crowded out subtitling the lower fell the costs for consuming the dubbed films in terms of relative transportation and search costs for the consumer. As the number of dubbing consumers increase the costs for watching dubbed films fall. Consequently the consumption of dubbed films had become even more attractive and consequently more subtitle-preferring consumers were tempted to abandon subtitling and embrace dubbed films.

Analogically, with subtitling the reverse occurred: As increasing parts of the audience substituted subtitling by dubbing the average costs for providing one consumer with a subtitled version of a film increased. The result was an increased access price and/or increased transportation and search costs that consumers face when consuming a subtitled film.

This circular relationship constitutes a self-reinforcing mechanism that furthered the domination of dubbing once it got a lead in the market: In terms of transaction costs dubbed films became increasingly attractive to subtitling-consumers who then substituted subtitling by dubbing. The increased consumption of dubbing translates into lower relative average costs of dubbed films which increases dubbed films' attractiveness for suppliers even further. In turn subtitling becomes relatively more unattractive in terms of producers' average costs. This induces more producers to abandon subtitling and provide films exclusively in a dubbed version. That in turn shifts the consumers' transaction costs in favour of dubbing which induces consumers to substitute subtitling by dubbing.

This is a self-reinforcing interaction between supply and consumption of the language transfer format. In the case of Germany this positive feedback worked in the favour of dubbing.

Evidence for Economies of Scale Effects or Alternative Effects

The current study on dubbing and subtitling of the European Commission (2007, p. 38ff, p. 80) provides evidence that the production of dubbing and subtitling are indeed subject to economies of scale. This means that the increased production of dubbing and subtitling should lead to lower average costs of dubbing: In Western Europe it is striking that in the traditional dubbing countries (France, Germany, Spain, Italy) *subtitling* is relatively expensive, while in the traditional subtitling countries (Norway, Finland, Sweden, Denmark and the Netherlands) *dubbing* is relatively expensive. The average costs for dubbing a 90 minute film in the dubbing countries is €34,900 while it is €52,000 in the subtitling countries – a price increase of about 50%! On the other hand subtitling costs are on average €5,300 in the dubbing countries which is more than twice the average price paid in subtitling countries (€2,600) (European Commission 2007, pp. 38f). This pattern fits into the logic of economies of scale. The economies of scale argument predicts that the more language transfer is done in one particular format in one country, the lower the average costs will be for producing one unit of language transfer in that format in that country. In the case of economies of scale there are fixed costs involved in the production of both language transfer formats, (particularly in the case of dubbing, e.g. studio equipment and other fixed costs). Therefore the average costs will fall with production volume and the amortisation of studio equipment progresses with production volume.

Alternatively this cost improvement could be attributed to learning-by-doing effects. Here the rationale for the average cost decrease is that the more experienced an industry becomes with a particular language transfer format, the more cost efficient it will produce that format. Unfortunately the data provided by the European Commission (2007, pp. 38f) does not allow to differentiate between both potential effects, i.e. between economies of scale and learning-by-doing. This evidence allows only to state that there is a self reinforcing effect at work: economies of scale and/or learning-by-doing. In how far both individually contribute to the price differences of dubbing and subtitling can not be quantified. Only the accumulated total effect can be stated. And the effect is clearly predicted by the theory: lower costs for each

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language transfer technique are found in the countries where they respectively dominate the market.

There is, however, an alternative explanation that does not need economies of scale or the learning-by-doing effects to explain the price differences of dubbing and subtitling in Europe. The competitive situation in the countries might be different: Strong competition in the dubbing sector and few dubbing firms in the traditional dubbing countries – low competition among dubbing producers and high dubbing prices in the traditional subtitling countries. For subtitling the logic is vice versa: low subtitling-competition in dubbing countries resulting in relatively high subtitling prices. Such a pattern is indeed found for the dubbing countries (European Commission 2007, p. 35) where the subtitling market is highly concentrated. Only if this competition argument can be countered one has to accept the existence of the self-reinforcing mechanisms economies of scale or learning-by-doing effects.

As a counterargument it has to be remarked that the competitive situation of the subtitling market is not fully reflected in the data collected by the European Commission (2007, pp. 38f). The European Commission study did not account for cross border competition. Taking this into account there is actually strong competition on the German film market at least with respect to subtitling. Foreign subtitling firms, above all Dutch subtitling studios provide their services on the German market. Where they compete with the German subtitling studios and strongly engage in price competition (Interview: sub1, dis2). The fact that there is cross-border competition, at least in the realm of subtitling makes sense, since subtitling production is a much less elaborated process as compared to dubbing.

Taking into account the cross-border competition among subtitling suppliers lowers the likelihood that the differences in the national prices can be explained in terms of the respective countries competitive situations alone. Therefore economies-of-scale and/or learning by doing effects could play a larger role. Additionally, the available data on the high fixed costs in dubbing hint to the existence of economies of scale. Also, learning-by-doing effects were found in the history of dubbing. Therefore it is justified to assume that the price differences of subtitling and dubbing across the national borders are to some degree due to learning-by-doing effects and/or economies of scale.

Conclusion This section tried to show the existence of the self-reinforcing mechanism economies of scale in language transfer production explaining how dubbing

became propelled to market leadership. There is evidence (price differences) pointing to the existence of economies of scale. These price differences, however, could also be explained by learning-by-doing effects. Both effects can not be identified individually and therefore have to be 'lump-summed'. This result, although quite undifferentiated, has nonetheless relevant implications for path dependence: The language transfer market is likely to be governed by either economy of scale or learning-by-doing effects, or by both. This implies that it can be assumed that self-reinforcing mechanisms are at work in the market. This supports the above findings and assumptions in this research that there were self-reinforcing mechanisms at work in the language transfer market in the early 1930s that helped to propel dubbing to domination as soon as it gained a head start in the market. These self-reinforcing mechanisms were identified from the literature and historic accounts as learning-by-doing effects – a finding which is now supported. Alternatively, economies of scale, as argued above, could have fulfilled a similar role as a self-reinforcing mechanism in helping dubbing crowd out subtitling and pushing dubbing to market leadership.

Complementary Technologies and Installed Base: The Introduction of TV and Video

Another explanation for how dubbing managed to crowd out subtitling and establish itself as the dominating market standard for language transfer in Germany uses the phenomenon of technically related technologies that reinforce each others market position (David 1985, p. 336). The idea of the argument is that during the 1930s in Germany dubbing started to get a lead in the cinema market and the audience started to become habituated to dubbing to some degree. After the Second World War, however, the dominance of dubbing was reinforced by the introduction of broadcasted television on a broad basis because television employed dubbing which was complementary to the existing stock of consumption skills in the audience.

In Germany television was already introduced during the 1930s (the Berlin Olympic Games 1936 were transmitted via television signals) but never reached a large audience. Ownership of television sets in private households was practically nonexistent (50 television sets were sold to private households until the end of the war). After the Second World War television facilities were build up under the supervision of the allied forces and only then television was introduced on a large scale. The start of a limited test program took place November 1950 and the official start of a full tele-

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vision program took was on Christmas 1952. The transmission of the soccer world cup in 1954 boosted television's popularity and the sales of television sets. By 1958 there were 2 million registered households with television sets, a number which further increased in the following years (compare: Verein Film- und Fernsehmuseum Hamburg 2007).

Soon after the war the cinemas were reopened under supervision of the allied forces in their respective zones of occupation. Until the introduction of television cinema provided the only possibility to watch movies and newsreels and therefore was very popular. American films were released exclusively in dubbed versions to the German cinemas (Bräutigam 2003; Garncarz 2005). Because dubbing dominated the cinema market already since the 1930s the German audience was habituated to dubbing (Garncarz 2005, p. 80) – i.e. the audience had already accumulated a stock of dubbing-specific consumption skills. Consequently, with its introduction the television program makers employed dubbing for television, as well. Because by that time dubbing was the cinema standard the audience had accumulated mostly dubbing-specific consumption skills. These depicted an irreversible investment that could not easily be replaced by a subtitle-specific set of consumption skills. So the cinema audience and its consumption skills formed a quasi-installed base in the sense of Arrow (2004, p. 28; see also David 1985). The rigidity of the installed base with respect to dubbing necessitated that the mode of language transfer of the new media television was compatible to the existing installed base's consumption skills inherited from the cinema era. Dubbing, therefore, had to become the language transfer standard in television.

In wide parts of the population the introduction of television has led to substitution of cinema consumption by television (Kreimeier 1992, p. 448) and increased consumption of (foreign) films/programmes in general (Bessler 1980, pp. 112- 115). The use of dubbing in television in turn exposed the audience to more dubbed content which led to the further accumulation of dubbing-specific consumption skills. In conclusion one can say that the adoption of dubbing for television reinforced the existing habitual consumption pattern of the audiences. Hereby the part of the audience that was habituated to dubbing and had accumulated largely dubbing-specific consumption skills (a form of quasi-irreversible investment) constituted an established base. Therefore the makers of television had to opt for the dubbing standard as it was complementary to the established base of dubbing-specific consumption

skills. The increased film- and therefore dubbing consumption of the population that followed the diffusion of television further reinforced its habituation to dubbing.

The same argumentation applies to the introduction of video in the 1970s. Here, too, dubbing was chosen as the standard language transfer format by the film industry because it was compatible with the previously established language transfer formats in the cinema and TV market and the consumers' skills. These skills again were quasi-irreversible, and the dubbing-habituated audience constituted an installed base to which the language transfer technique of video had to be compatible. Actually, by then the installed base of the dubbing standard has even been widened as compared to the introduction of TV. This is because the wide diffusion of TV increased the general consumption of foreign language programmes across the population which in turn increased the overall population's habituation to dubbing. Had video distributors chosen to supply videos largely in subtitled versions they probably would have alienated the audience which by that time was already largely habituated to watching foreign films in dubbed versions. The increased exposure to dubbed films and content on video further habituated the German audience to watching films in a dubbed format only.

The statistical evidence for this sort of habituation and consumption skills is taken from Luyken et al. (1991, p. 119, cf. Figure 8 in this study). Unfortunately they provide only data from the late 1980s-beginning 1990s. So the habituation of the German audience can not be reconstructed quantitatively over the post-war period. There is no good reason to assume that the principal mechanisms of habituation do not apply to all historical periods: Above it was depicted how habituation to dubbing is manifested in dubbing-specific consumption skills. The very skill that has been identified as a dubbing specific consumption skill – the skill to ignore the inconsistencies of dubbing – constitutes a quasi-irreversible investment. This investment is build up over time through exposure to dubbing, resulting in habituation to dubbing which is not easily to be disposed of. Therefore logical reasoning implies that in Germany at the time of the introduction of TV and video the domination of dubbing was reinforced by expanding the media of habituation. Both, TV and video picked up the dubbing format that has been established as a market standard in previously established windows of distribution. The employment of dubbing was necessitated as it was compatible to the installed base i.e. the audience's accumulated dubbing-specific consumption skills, constituting a quasi-irreversible investment. Thereby

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television and video further habituated the audience to watching foreign films and programmes in dubbed versions.

Conclusion of the Analysis of Phase II

In the section before it was shown that critical circumstances and events in the 1930s favoured the adoption of dubbing. This section builds on these findings and depicts the self-reinforcing mechanisms that magnified the head start of dubbing in the German film market and propelled dubbing to dominance.

First habituation of the audience to a particular language transfer technique is shown to have self-reinforcing properties: On the individual level through mere exposure to dubbing the consumer accumulates dubbing-specific consumption skills. Consequently, the more dubbing the audience consumed, the stronger it became habituated to dubbing and 'dishabituated' to subtitling. Another driver of dubbing was learning-by-doing effects: The head start of dubbing translated into learning-by-doing effects during the early-mid 1930s: The technical and artistic staff in the dubbing studios learned from experience and continuously improved the production process technically and artistically. This resulted in a qualitatively improved dubbing output which in turn increased dubbing's attractiveness to film suppliers and to the audience, and thereby helped dubbing to prevail in the market. In contrast, learning-by-doing effects to such extent could not be identified for the subtitling sector in Germany.

Another important factor that propelled dubbing to dominance was transaction costs. As dubbing increasingly crowded out subtitling, the transaction costs (travel costs, search costs) for watching dubbed films fell over time relative to the transaction costs for watching a film in subtitled version. This increases the attractiveness of dubbing and induces more consumers to abandon subtitling and thereby reinforces the market domination of dubbing. Because dubbing is subject to economies of scale the increased demand for dubbing further increased its relative attractiveness and profitability by lowering its average costs.

The last driver of dubbing was the introduction of television. The mode of language transfer in television had to be compatible to the audience's previously accumulated dubbing-specific consumption skills constituting a quasi-irreversible investment. Therefore dubbing had to be introduced into the new windows of distribution, television and video, which reinforced the audience's habituation. This section showed the self-reinforcing mechanisms through which dubbing increasingly

crowded out subtitling and rose to domination in the market. The next part of this research analyses in how far the German film industry is locked into dubbing and when it became locked into dubbing.

5.3.5. Phase III: Shift into Lock-In and Current Demand Rigidity

This section approaches the history of the development of dubbing in Germany from the angle of the third phase of path dependent adoption processes. The focus is a) to find out if Germany is currently locked-in to dubbing, and if this is the case b) to identify how Germany became locked into dubbing, and c) from which point in time Germany became locked into dubbing. For this purpose this section pays again attention to the German audience and to film distributors and exhibitors. Their current situation is examined for evidence of lock-in to dubbing. The period immediately following World War Two and the development in the following decades is regarded with the purpose of identifying a shift into a lock-in.

Demand Rigidity due to Audience Switching Costs

A behavioural lock-in is characterised by a rigid pattern of demand behaviour, as it is present in post-WWII Germany. The most general criteria for a lock-in in the path dependence literature is the presence of switching costs that have to be incurred if the standard technology into which the market is locked in is abandoned for an alternative. So if Germany is locked-in to dubbing changing to subtitling is associated with extra switching costs if dubbing is abandoned. There are two forms of switching costs involved: First there are higher transaction costs that are attached to the consumption of subtitling (see above). Then, because watching films is a social event that is shared with social peers there are network effects in the favour of dubbing. The most obvious switching costs is probably the lack of understanding that the average German consumer has to incur if he switches from dubbing to subtitling. The last form of switching costs is the first form that is analysed here. The others will be briefly treated below.

Psychological switching costs The comprehension of a subtitled film depends positively on the presence of a subtitling-specific set of consumption skills that the individual must have had accumulated. If the individual lacks a sufficiently accumulated

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set of subtitle-specific consumption skills the individual's comprehension of a subtitled film will be relatively low as compared to a dubbed version. Because the positive utility derived from film consumption depends positively on the comprehension of the film the lack of subtitling specific consumption skills forestalls enjoying subtitled films.

In the German case the switching costs that large parts of the audience have to bear if they switch to subtitling derive from the absence of subtitling-specific consumption skills: The German audience's strong and rigid preferences for dubbing can be explained by habituation due to the accumulation of dubbing-related consumption skills and the absence of a sufficiently accumulated stock of subtitle-related consumption skills. Consequently, switching from dubbing to subtitling' means that German consumers' comprehension of a film drops, which implies that they suffer from a drop in utility, which in turn depicts the consumers' costs of switching from dubbing to subtitling. The limited comprehension of subtitled films by Germans is reflected in survey data. The audience in the Netherlands is widely habituated to subtitling. Therefore the survey data for the Dutch is used for putting the German figures into perspective:

Luyken et al. (1992, p. 119)¹⁵⁹ find that for 32 % of the German population subtitles do not ensure satisfactory understanding. On the contrary this figure is merely a low 9 % in The Netherlands. In accordance with that figure 63 % of the German population find subtitles difficult to read, while only 14 % of the Dutch think so. Consequently a majority of the German audience would be negatively affected by a general switch to subtitling. It would imply that about 1/3 of the German audience do not understand subtitled films satisfactory and that about 2/3 of the audience have difficulties following the subtitles themselves. These figures reflect the German populations' non-habituation to subtitling and the associated low level of subtitle related consumption skills - particularly the lack of subtitle reading skills.

On the contrary dubbing fulfils its purpose for the German population: 76 % of the audience state that dubbing ensures satisfactory understanding of films. The Germans' stock of dubbing-related consumption skills seems reasonably well 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). Consequently 78 % of

¹⁵⁹ The figures stem from 1987.

the Germans prefer dubbing over subtitling while only 13 % prefer either subtitling or original versions of foreign language films.

Switching from dubbing to subtitling in Germany implies that audience utility is negatively affected, at least during a transition phase during which the audience becomes habituated to subtitling and accumulates a sufficiently well endowed set of subtitling-specific consumption skills. The duration of a transition phase would last from a radical switch to subtitling until a sufficiently large subtitle-related stock of skills is accumulated such that utility from watching subtitled films matches the previous utility from watching dubbed films. The switching costs are mainly due to a drop in film appreciation due to the lack of subtitle-related consumption skills.

Some parts of the audience are probably more affected than others. E.g. the older members of the audience generally tend to exhibit stronger preferences for dubbing, in the Netherlands, too, (Spinhof and Peeters 1999). The reason therefore is that a) the older members of the audience tend to have more impaired sights, limiting their ability for subtitle reading; b) older members of the audience might have enjoyed less foreign language training than younger generations. These potential switching costs fell with the speed with which the German audience would accumulate a sufficient set of subtitle-complementary consumption skills. The duration of this hypothetical transition phase is hard to estimate, since there is no data of cases suitable for comparison.

But to gain an impression of the duration of the audience habituation to subtitling one can draw on figures from the Dutch market: A decisive part of the switching costs that consumers face is to accumulate skills to master a quick and possibly effortless reading of subtitles. As can be seen in Figure 3 of Spinhof and Peeters (1999) the share of the Dutch audience who deemed that subtitles were difficult to follow fell from 14 % in 1987 to 9 % in 1999, thus on average by 0.42 percentage points per year. Figure 4 in Spinhof and Peeters (1999) depicts two important components of subtitle comprehension which together will be termed subtitle reading skills from here on: The speed in which subtitles are read and readability of subtitles. The share of people who thought that the time in which subtitles are presented on screen is fully sufficient increased from 63 % in 1987 to 80 % in 1999 (thus on average by 1.41 percentage points each year) and the share of people who deemed that subtitles were good to read increased from 71 % to 87 % in the same period (on average by 1.33 percentage points per year). These figures on subtitle reading skills in the period 1987-99 largely resemble the data from the period 1974-87.

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It is problematic to employ the Dutch transition figures on subtitle reading skills development directly to forecast hypothetical transition dynamics in Germany: In 1987 the Dutch were already widely habituated to subtitling, with 82 % preferring this format compared to 4 % in Germany¹⁶⁰. Therefore the percentage point changes in the Dutch opinions on language transfer formats and indicators for their consumption skills (see Figure 3, 4, 5 of Spinhof and Peeters 1999) are likely to differ from those of the hypothetical German future figures if Germany embarked on the subtitling track today.

As an orientation: The percentage of Dutch' preferring subtitling went up from 63 % in 1974 to 82 % in 1987 to 93 % in 1999, while the preference for dubbing fell correspondingly. These numbers can not deliver an exact prediction of how long a potential transition phase for the German consumers would last. Still, it can be estimated that the time in which a majority of Germany's audience is likely to develop a sufficiently large set of subtitle-related consumption skills such that it prefers subtitling over dubbing is likely to take more 15 years or more¹⁶¹. This is a very optimistic time frame considering that in the Netherlands the number of subtitle-lovers increased by 29 percentage points over 25 years and the number of dubbing-lovers fell roughly equivalently in the same time. The prospects of a transition period of that length in which the dubbing-habituated German audience suffered utility losses relative to the current situation naturally obstructs any attempt to wide scale substitution of dubbing by subtitling.

¹⁶⁰ It seems unlikely that by now the German audience has developed into a similar position that the Dutch were in 1987.

¹⁶¹ This is based on the 1987 figure that 78 % of the Germans prefer dubbing, 4 % prefer subtitling and 9 % prefer original versions. Starting from the 4 % German subtitle lovers and the average increase of 1.38 percentage points per year in the number of Dutch people preferring subtitling over other language transfer methods between 1974 and 1987 it will take roughly 33 years until 50 % of the German population prefers subtitling. On the other hand, if one starts out from the 78 % of dubbing lovers in Germany and an average decrease of 1.46 % points of Dutch dubbing lovers per year between 1974 and 1987, it will last roughly 19 years until the percentage of dubbing lovers in Germany is 50 %. This calculation is based on the Dutch figures from the period 1974-87. Still, one could argue that the figures would be higher in Germany because the growth rates of dubbing lovers would be higher in the beginning due to the start from a low base level. Even assuming an increase of 2 percentage points on average in the number of subtitle lovers, it would take 23 years until they constituted 50 % of the population, up from 4 %. Equivalently assuming an average 2 percentage points fall per year in the number of dubbing-lovers it took 14 years until the dubbing lovers constituted 50 % of the population, down from 78 %. This calculation is based on the Dutch figures from the period 1974-87. Still, one could argue that the figures would be higher in Germany because the growth rates of dubbing lovers would be higher in the beginning due to the start from a low base level. Even assuming an increase of 2 percentage points on average in the number of subtitle lovers, it would take 23 years until they constituted 50 % of the population, up from 4 %. Equivalently assuming an average 2 percentage points fall per year in the number of dubbing-lovers it took 14 years until the dubbing lovers constituted 50 % of the population, down from 78 %.

Transaction costs as switching costs Apart from the switching cost implied by habituation the individual consumer who attempts to switch from dubbing to subtitling is faced with more than the above treated “psychological” switching costs. In the previous chapter it was outlined that currently the consumption of subtitling is associated with higher transaction costs than the consumption of dubbed films. That means if a consumer decides to watch any film in an original language/subtitled version, then he incurs higher transaction costs in the cinema market. In the television segment, consumers who want to watch original/subtitled versions of feature films have to switch to pay TV, only there viewers have free choice between dubbed and subtitled versions of movies. These higher TV access costs are practically switching costs that have to be incurred by a consumer switching from dubbing to subtitling, just in the sense of the path dependence literature.

Cinema: In the cinema market the higher transaction costs incur in the form of a) higher transportation costs to the cinema because cinemas showing original language/subtitled films are much sparser and can actually only be found in larger urban areas (interview: dis2, dis7). b) Art House cinemas in which original/subtitled versions are played are sparse and in general have a smaller capacity in terms of screens and seats than their larger counterparts (FFA 2007) that tend to play mainly dubbed versions. The range of films offered in a subtitled format in a certain area is smaller than the range of dubbed films and consumers seeking subtitled films are confronted with a limited choice offered in the market c) another switching cost associated with subtitling is related to the planning of cinema attendance of a subtitled film. It involves higher search costs than for planning a trip to the more omnipresent dubbed films. These higher search costs result directly from the points a) and b).

Naturally these switching costs constitute a disincentive for consumers to consume subtitled films in the cinema. Unfortunately there is not data available at all that allows testing this argument quantitatively. But it can be convincingly argued -with certainty, I suppose - that in many cases these switching costs are preventively high. This holds particularly for residents of non-urban areas who had to incur long rides to a far away cinema that shows subtitled original versions, while the conveniently located local cinema plays only dubbed versions.

Television: With respect to the television it can be said that the supply of original or subtitled versions of foreign language films or fiction series on free TV in Ger-

many is negligible (interview: sub3). The only quantitative data available on the subject is the percentage of dubbing and subtitling in German television in Luyken et al. (1991, p. 30). They report that 80 % of the total foreign language output that is broadcasted in Germany is dubbed. 10 % of the foreign language output is subtitled and 10 % is transferred to German by voice-over. These figures include all broadcasted programmes and therefore the share of subtitling and voice-over with respect to foreign fiction content is artificially inflated. The reason is that in television subtitling and particularly voice-over are overwhelmingly employed in documentaries, reports and news. That explains the respective 10 % market shares of subtitling and voice-over. Foreign language films and TV series are hardly ever broadcasted in an original/subtitled version in Germany. Sometimes subtitled films are exhibited in the niche channels at late hours, but these account for only a tiny fraction of the televised programme (interview: sub3). Still today there is no way for consumers to watch original/subtitled films on the German free TV channels. If consumers want to see original version films and TV series on television they can subscribe to a pay TV channel such as *Premiere*¹⁶² who provides such a service. Subscribing to a basic *Premiere* pay TV package that only allows for watching films costs € 19.99/month, for instance. This is a considerable cost difference that has to be incurred in Germany if a consumer wants to watch original version films on television.

So the € 19.99 could be termed an additional monthly mark up on non-dubbed films¹⁶³. In other words, a consumer that wants to watch original/subtitled versions of films on television has to incur switching costs of € 19.99/month. There is no data available that allows any conclusion in how far this amount constitutes deterrence for viewers that prefer original versions of films (the television station refuses to share any data that was collected on the subject) but the fact remains that it constitutes a switching cost non the less.

Social peer pressure and network effects Consumer willing to watch original version/subtitled films potentially face switching costs in the form of a loss of positive

¹⁶² *Premiere* offers packages <http://www.premiere.de/> (information retrieved from the Homepage of *Premiere* in October 2008)

¹⁶³ One could argue that if a household pays additionally € 19.99/month to watch original language films on pay TV, the household is supplied not only with films in original versions but also with a different selection of films and less advertisement. Therefore the € 19.99 do not reflect a mark up specifically due to the language transfer, but that it entails other benefits for the viewer. Nonetheless pay TV is the only way to receive considerable range of foreign fiction on TV. Therefore the € 19.99/month are actually the switching costs for consumers that want to watch original/subtitled versions of films on TV but do not place value on the other services provided by the pay TV station.

network externalities. This applies the media cinema, video/DVD and television. Watching films is a social activity and the consumers value not only the film but also the social aspect of watching the film in the presence of social peers. In 2007 one quarter of the cinema audience named as motivation for going to the cinema “doing something with others”; another motivation for going to the cinema named by 24.5 % of the audience was that the cinema attendance was the “the wish of the companion”. These two reasons to go to the cinema were only surpassed by the motivation “topic and story” of the film (see FFA 2008, p. 68). People have a similar social motivation for watching DVD: For 68 % of the DVD users say it is very important that they can watch the DVD in the companionship with others (FFA 2006, p. 32). From that can be concluded that the social component of the cinema attendance is of vital importance. Therefore watching films is subject to a form of network effect, in that people value the company of their social peers when watching a film¹⁶⁴. Thus a social peer that one likes to watch a film with constitutes a form of positive network externality. Watching a film together with social peers in the cinema or on DVD also implies that all those present have to watch the film in the same language version, i.e. either in original/subtitled version or dubbed. This can be a problem if people have different preferences over the language transfer mode. Then the positive network externalities are lost because the people with conflicting dubbing/subtitling preferences tend to watch the film apart. The majority of the German population prefers watching dubbed films. Therefore an average individual that insists on watching a film in the subtitled version will find less social peers to watch a film with than he would if he was satisfied with the dubbed version. Therefore he suffers a loss in the form of foregone network externalities. This loss that one has to incur when insisting on watching subtitled/original versions of films can be termed a switching cost in the sense of path dependence in that it prevents people from switching from dubbing to subtitling because their social peers resist subtitling. Again, unfortunately there exists no data to quantify this loss.

In sum the unwillingness of consumers to switch from dubbing to subtitling, is due to switching costs that the consumers incurred in such a case. The switching costs take the form of limited film comprehension and harder effort to follow the film plot as compared to dubbing. This is because consumers lack a sufficiently accumulated set of subtitling-related consumption skills. The audience lacks subtitling

¹⁶⁴ This network effect is of a special form, in that it might probably be confined to a closed network of familiar social peers, but that does not interfere with the principle line of the argument.

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reading skills and is not habituated to follow film dialogue in a foreign language, i.e. mostly English. Subtitling is associated with higher transaction costs in the cinema market and in television subtitles are only available upon the purchase of a pay TV subscription. Furthermore watching films with social peers is associated with positive network externalities. These are foregone if a consumer's social peers insist on watching dubbed films while the consumer switches over to watching subtitled movies.

The result of this section is that a majority of the German film consumers indeed face significant switching costs of various types when switching over from dubbing to subtitling. As a consequence of these switching costs a majority of the audience is unwilling to switch over from dubbing to subtitling. Since audience's preferences in that matter are also decisive for the film suppliers' decision on the provision of dubbing and subtitling the whole market is locked in to dubbing. This point is examined in the next section.

Suppliers' Limited Room to Manoeuvre

Film distributors promoting and distributing a foreign-language film in a national market have to comply with the domestic audience's preferences when deciding over the language-transfer format in which the film is exhibited in the cinema. A survey published in the early 1990s reveals that 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, p. 113).

The television landscape has hardly changed over the course of the 20 years with respect to the distribution of dubbing and subtitling. The only novelty is the pay TV channel "Premiere" where some films are offered in original version¹⁶⁵. The same holds in Home video: Until the end of the 20th century the use of subtitling in home video was rather rare. This may have been changed gradually – but on a small scale – during the past eight years since the introduction of the DVD made subtitling widely available to consumers. There may be shifts in the overall distribution of subtitling and dubbing in the favour of subtitling, but these shifts are small in magnitude. Unfortunately there is no data available to check the current distribution of subtitling and dubbing in the consumption bundle of the typical consumer.

¹⁶⁵ cf. the internet page of Premiere: http://www.premiere.de/premweb/cms/de/abo_paketuebersicht.jsp (information retrieved in February 2008).

Film distributors in Germany are therefore eager to comply with the 78 % majority of audience in that films are released to the cinemas in a dubbed version in general¹⁶⁶: In the cinema market at least 95 % of the film prints in circulation are dubbed versions while subtitled or original versions of a film constitute at most 5 % of the copies in circulation (interview dis2, dis3, ex1). "These 5 % serve a niche audience primarily visiting art-house cinemas - mostly located in large cities" (interview dis2). Although the survey data provided by Luyken et al. (1991) is not up to date there is reason to believe that the figures still apply today: 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 alternative language-transfer formats. The audience has become used to dubbing over a long period of time and film distributors 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 (interview: dis 1, dis 2). Similarly non-compliance with the dubbing norm in the German film market is widely regarded as resulting in lower video sales/rentals and a decreased audience interest. Also the European Commission reports that breaking with the dubbing imperative in television by broadcasting a film in a subtitled version "can lead to an audience drop of about 30 %" (European Commission 2007, p. 56).

The consequent profit loss that is associated with releasing films only in subtitled form constitutes the film distributors' and film exhibitors' switching costs associated with a switch from releasing films in dubbed form to only releasing subtitled original versions.

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-evolutionary tied to the consumers' preferences. Whether or not they perceive this as beneficial or harming film suppliers have to stick to dubbing because the audience

¹⁶⁶ There are few exceptions to the 'dubbing rule' among films with more than 30 copies in circulation. E.g. Mel Gibson conceived "The Passion of the Christ" (2004) and "Apocalypto" (2006) to be released in a subtitled original language version worldwide (Gumbrecht 2004) (for the German releases see the "Online-Filmdatenbank" for "The Passion of the Christ":

<http://www.ofdb.de/view.php?page=fassungandfid=35671andvid=91102> and "Apocalypto": <http://www.ofdb.de/view.php?page=fassungandfid=112220andvid=191132>). But this is an exception to the rule. In the case of Kevin Smith' "Clerks" (1994) - a small budget production (\$230,000 incl. post production (www.imdb.com)) the German film distributor decided to release only a subtitled version to the cinemas because of the difficulties of dubbing the dialogue-laden movie (interview dis3).

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is unwilling to follow a switch to subtitling. Therefore film suppliers are locked to the audience preferences which themselves are locked into dubbing.

1930s Beginning Habituation to Dubbing, Post – War Allied Policies and Shift into Lock-In

As a lock-in to dubbing was identified above it now remains to see when the German film market became locked in. It shall be stated in advance that it is not possible to determine an exact point in time when the German film industry became actually locked into dubbing. It is possible however to diagnose a lock-in in the current data. Data that could be helpful in identifying a lock-in is rather sparse for the period between the 1940s and 1970s. In this section the microeconomic arguments that have been examined above when the lock-in and the switching costs were identified will gain less attention. The reason for this is that there is no more historical data available to identify the switching costs in the period between the 1930s and after in any more detailed way than it was done in the section on lock-in above. The logic of the argument however remains the same: These switching costs in terms of network effects and transaction costs have been build up over the years as increasing parts of the population became habituated to dubbing and the amount of subtitling supplied decreased. This development of crowding out will be briefly outlined again but now with the focus on habituation, which is at the source of the consumers' demand rigidity that constitutes the lock-in. It is quite safe to state that the above described switching costs were even higher and more severe in the 1950s, 1960s, and 1970s when they are today. The reason is that in the three decades after the war the supply of subtitling was even sparser in the cinema market than it is today. Maier (1997, pp. 28-31) reports that in the post-war era until the 1980s it was absolutely uncommon that films were shown in original or subtitled versions in the theatres. With video the situation was nearly the same. Original/subtitled versions of films were hard to come by in the video stores (*ibid.*). And also in television subtitled versions were sparse and broadcasted late at night on niche stations (compare Filmkritiker Kooperative 1973). These conditions were thus more severe than the are today with the availability of DVD and an increased supply of subtitled versions by art house cinemas that arose during the 1990s (Maier 1997, pp. 29ff). Therefore, in the following paragraph the lock-in of the population here is sketched with a focus on habituation.

The point of time at which the German audience became locked into dubbing can not be pinpointed to an exact date, but the aspect of habituation plays a major role

in the lock-in process: the strong habituation to dubbing most likely occurred at the mid-end of the 1930s. The aspect of habituation is important, because it denotes rigidity on part of the demand side of the film market. According to the *Film Kurier*¹⁶⁷ in 1933 the rural part of the audience was widely habituated to dubbing and refused subtitling. Although one could argue that habituation of the rural part of the audience does not necessarily imply a strict irreversible lock-in of Germany as a whole this already hints towards rigidity of demand that suppliers of films had to comply with if they wish to attract a wide audience. The situation became much more rigid towards the mid-end of the 1930s: In 1935 the *Film Kurier*¹⁶⁸ reports that “broad parts of the population” are “habituated to dubbing” and notes that 90 % of the German theatres played dubbed versions¹⁶⁹. In accordance with these reports Maier (1997, p. 67) and Garncarz (2005, p. 79-80, 2003, p. 18) note that the German audience must have been largely habituated to dubbing by the mid-late 1930s. So towards the mid-end of the 1930s the German audience was widely habituated to dubbing. A concomitant phenomenon was that subtitling was increasingly less accepted. Between 1937 and 1941 most US were dubbed in Germany (Wahl 2005, p. 54). Müller (2003, p. 312) provides evidence that dubbing became the market standard between 1933 and 1939. This implies that in the mid-late 1930s large parts of the audience were habituate to dubbing, demanded dubbed films and rejected subtitled films, which forced film suppliers to provide dubbed films. In some film theatres the owners report that the audience was deterred by the prospects of watching films in subtitled or original versions. Particularly subtitled versions of English language films were refused first by those who wanted to see dubbed versions and second by the urban educated audience who spoke and understood English and felt that subtitles were unnecessary distractions and elements disturbing the visual impression of a movie.

The question of when the lock-in of the German film market into dubbing occurred means that one has to identify the point in time when it became unfeasible to release films exclusively in subtitled versions to the German market. This was already the case in the mid-late 1930s when most of the audience rejected subtitled films and preferred dubbed versions to which it has become habituated. In the 1930s a ‘behavioural lock-in’ on part of the audience has already occurred. A “behavioural lock-in” consists of “deep-seated attachments [...] due to habit, organisational learn-

¹⁶⁷ *Film Kurier*, no. 1, 1.1.1933 “Probleme des Tonfilmexports”.

¹⁶⁸ *Film Kurier*, no. 80, 4.4.1935 “Original oder Synchronisierung – Amerikaner In Westdeutschland”.

¹⁶⁹ *Film Kurier*, no. 100, 30.4.1935 Helmuth Brandis: “Original oder Nachsynchronisierung”.

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ing, or culture" (Barnes et al. 2004, pp. 372-3). The film demand of large parts of the German audience was characterised by such "deep seated attachments" to dubbing and a simultaneous rejection of subtitling due to habituation. So it is quite safe to state that the German cinema audience became behaviourally locked-in to dubbing already in the 1930s by habituation.

If the audience had not become habituated to dubbing during the Third Reich it definitely became in the post-war years. After the Second World War control over the German film industry taken over by the allied forces in their respective sectors. This measure was taken because of the important role that film played as a propaganda instrument during the Third Reich and because allies intended to employ the film for their own (political) ends.

The Second World War represented a fundamental disruption on all social levels. Theoretically the dubbing-path could have been broken by the allies. It is conceivable, in particular that the British and American military administrations could have been interested in reversing the language-transfer format standard into subtitling in order to get the German audience more receptive of foreign (Anglo-American) cultures. In this way film could have been used as an instrument for re-education: Danan (1991) elaborates on how and why "dubbing is an expression of nationalism" and why subtitling is not since here the audience is confronted with and influenced by foreign cultural influences. This includes the foreign language itself and also the ideas transported by that language because it is audible in an 'uncensored' form. The allied forces' authorities in their respective zones of occupation made an effort to re-educate the German population, to educate the people to responsible democratic citizens and root out German nationalism and Prussian militarism, which was seen as a source of the war¹⁷⁰. So at least in the western zones the allies might have had an incentive to change the language transfer regime from dubbing to subtitling. The idea would be to use subtitling to stimulate an open mindedness to foreign people and cultures in the German audience via the foreign language in the movies. This policy is only the reasonable consequence from the idea that "dubbing is an expression of nationalism". Its consequence would have been severe. If realised consequently, the German population (at least the younger and the following generations) could have been re-habituated to subtitling, so that Germany would qualify as a subtitling country today. This would have constituted an interruption in the dubbing path –

¹⁷⁰ This argument of re-educating the German population to democratic citizens applies to the western sectors, particular the American one. In the eastern soviet Zone the emphasis of reduction was much less on a liberal democracy but more on socialism.

a chance for path break or path dissolution by an external influence. What has occurred, however, was exactly the opposite:

Since 1941 Hollywood has not had access to the German film market. With the US officially declaring the war upon the axis powers all US-American films were banned from Germany as they were regarded as enemy propaganda by the German authorities (Bräutigam 2003, p. 20). Particularly during the war film provided a popular forum for diversion or escapism for the German population. The numbers of tickets sold in Germany rose from 624 million tickets in 1939 to 1.117 billion tickets sold in 1943. There were 8600 cinemas in Germany and the occupied territories during the early 1940s, a number which was second only to the number of cinemas in the US (Deutsches Filminstitut 2008, Ch. Film und Filmschaffende unter dem Hakenkreuz). The cinema was an important tool for the German propaganda and was considered to be of prime importance in this respect by the propaganda minister Goebbels (ibid.; Deutsches Filminstitut 2008a; Welch 2001, pp. 33ff). After the war cinema played an important role, as well. The German population was seeking diversion from the hardship and misery of the daily existence in a destroyed country, and this diversion was provided by film: The remaining cinemas enjoyed huge popularity. In winter times when fuels were scarce and expensive the visit to a cinema also had the benefit of escaping the freeze, since cinemas were heated and densely packed¹⁷¹. To ensure the goodwill of the population the allied military authorities had an interest in reopening the cinemas as soon as possible. At the same time the military authorities regarded film as a tool for political “re-education” in the form of cultural propaganda for the allied countries (Kreimeier 1992, p. 435).

So after the war German film demand was high. There was also a backlog of 2500 US films (Danan 1991, p. 608) produced during the war and never released to the German market. Unfortunately for the Hollywood studios, these films could not simply be exhibited in Germany since many were strongly anti-German, and it was feared by the studios that showing these films would at least result in low cinema attendance. At the same time the US authorities in Germany feared worse, namely that the exhibition of these Anti-German films could give rise to anti-American sen-

¹⁷¹ There are reports from various parts of Germany that in the immediate post-war years visitors to the cinema often paid their entrance fee in form of fire wood, or coals that in turn were used to heat the cinema. This was illustrated at the podium discussion at the conference: “Vom Trümmerkino zum Zoo Palast – Deutsches Kino vor 60 Jahren” Part of the Kolloquium der Kinemathek 2007, June 22./23. in the Kino Arsenal, Filmhaus Potsdamer Strasse, Berlin. (See: <http://www.fdk-berlin.de/arsenal/programmtext-anzeige/archive/2007/06/article/933/212.html?cHash=599f1517cb> (Html address retrieved in February 2008).

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timents among the population, when they saw that Germans were – for large parts - pictured negatively (Bräutigam 2003).

Dubbing provided once again a convenient tool for altering the films to fit the German market. Potentially offensive scenes could be cut out and at the same time anti-German tendencies or lines of dialogue could be eliminated through the dubbing process. Dialogue were dubbed artfully to inconspicuously twist the plot and character of whole films to please the audience (see Pruys 1997, p 153ff; Maier 1997).

Consequently dubbing became the US language-transfer method of choice and all American films released to the cinemas in post-War (West) Germany were dubbed. 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 and films were principally released in dubbed versions only (Filmkritiker Kooperative 1973; Maier 1997, p. 28 ff).

The German market was locked into dubbing the post-war period for sure since the definition of a lock-in is a narrowly confined corridor of action (Schreyögg, Sydow und Koch, 2003, p. 272) that is reflected in a rigid repetitive pattern of action on the demand and the supply side. The dominance of dubbing and the absence of subtitling in post-war (West) Germany depict this repetitive pattern of action, namely the general provision and demand of foreign language films in a dubbed format only. Therefore one can state that the German film market was definitely locked-in to dubbing in post-WWII Germany.

Identification of the 3 Phases

It is not possible to sharply define the timely horizon for the respective phases. The pre-path formation phase is identified as the period between mid-late 1929 and about 1932/33. While the beginning of the pre-path formation phase is clearly identifiable with the introduction of sound film in Germany in the autumn of 1929 (Jason, 1932: 25; Kreimeier 1992, pp. 213ff) the border between the pre-path formation phase and the path formation phase is not that clear cut, but rather fluent. The path-formation phase is identified as being situated approximately between 1932/33 and the mid-end of the 1930s. However, the self-reinforcing mechanisms characteristic to the phase II continued to work after the market was locked-into dubbing. The German film industry has most probably become locked-in to the dubbing standard during the Third Reich, but a definitely at latest during the post-war-period. Thus the shift

into the lock-in can not be pin-pointed to an exact date but rather to the period between the mid-late 1930s and the late 1940s/1950s.

Switching Costs on the TV Market: TV Market License Agreement

At last there is another cause for the rigid fixation to dubbing in the German television market. The nature of this argument is distinct from the habituation or transaction cost arguments above, and that is why it is positioned at the end of this section. It is not rooted in switching costs the individual consumers incur when they switch to subtitling. The cause for this rigidity is rather institutionally rooted, and the switching costs are would be incurred by the large German free TV broadcasters (publicly financed and private stations). German television stations are bound by the locked-in audience preferences for dubbing and therefore most broadcasted foreign language films and programmes are dubbed. But even if the audience and the stations would like films to be broadcasted in subtitled form this would hardly be possible on a large scale because in many cases this constituted a violation of the stations licensing agreement for the films.

In television the simultaneous broadcasting of both, dubbed and subtitled/original version films is technically possible for decades with secondary audio programming. "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 TV¹⁷²." With SAP the television stereo signal is split and two alternate audio versions – the dubbed and the original version – can be transmitted. The viewer uses chooses on a teletext menu to choose which language version to watch and activates the subtitles on teletext, as well. The SAP could easily cater to the preferences of the part of the audience that prefers subtitled original versions of films. In German television, however, subtitled/original versions are rarely broadcasted via secondary audio programming. In public television broadcasting of subtitled original version programmes and films is subject to licensing problems¹⁷³. The reason is that the German television stations have to buy licenses to broadcast films over a certain period of time. The license also specifies a *specific license area* in which the station is allowed to broadcast the

¹⁷² cf. Wikipedia, "Secondary Audio Program" (information retrieved on February 20, 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.

¹⁷³ For a report on television and license problems see. Wikipedia "Digitales Fernsehen" (Homepage, information retrieved from http://de.wikipedia.org/wiki/Digitales_Fernsehen, February 11, 2008).

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films (Hartlieb and Schwarz 2004, p. 312; Homann 2001). This license area may be confined to a national market or alternatively may limit the commercial exploitation of a film to one language area, such as Germany, Austria and the German speaking part of Switzerland. If the broadcaster obtains a distribution license for a certain geographic area the broadcaster is generally guaranteed *exclusive* broadcasting rights within the license area within a specified period of time. This means that the broadcaster is guaranteed to be the only supplier of the film/program within a specified territory but at the same time the contractual agreement limits the distributor's activity to the specified geographical market. Germany's major public stations the ZDF and *Das Erste* as well as commercial channels are broadcasted in many parts of Europe. They can be received by many households outside Germany¹⁷⁴ because they are fed into the networks by satellite or cable television providers in many European countries. If German stations obtain a license for broadcasting a film/program they obtain the license for Germany or for the German-speaking audience including the populations in Austria and German-speaking Switzerland. Other German speaking minorities like in Belgium, expatriates, Germans-speakers on holiday are negligible in number. Naturally it is assumed that beyond the German speaking countries German dubbed films broadcasted by these stations are primarily watched by citizens of these German speaking countries staying abroad. Therefore broadcasting beyond the German speaking license area is not regarded as violating the license agreement. The rationale is that hardly anyone else is habituated to watching films dubbed into German.

However, if foreign language films - which are mostly English language films - were offered in subtitled/original versions on German television other European audiences could receive and understand these films if they have a fair command over the English language. This holds for many European consumers, above all the younger generations. Because these non-German households are not covered by the German license fee this constituted a violation of the license agreement. The populations that are theoretically able to comprehend such a film/program include above all the populations of countries that are already habituated to watching for-

¹⁷⁴ See the leaflet ZDF (2007) "Programmverbreitung ZDF und Partnerprogramme", Mainz, issued by the ZDF, Obtained in February, 2008, from:

http://www.unternehmen.zdf.de/fileadmin/files/Download_Dokumente/DD_Technik/Broschuere_Programmverbreitung_internet.pdf) News report from November 2007, "Das Erste jetzt europaweit besser über analoge Satellitenreceiver zu empfangen", published by on www.presseecho.de. The report was obtained in February 2008 from: <http://www.presseecho.de/kultur%20and%20unterhaltung/PR305426.htm>.

eign language films (mostly English language films) in original versions. For these audiences the German subtitling is no great hindrance for consumption, even if they can not read and understand German, since they are quite habituated to follow the original English dialogue. At first sight these audiences entail the populations of The Netherlands (16 m inhabitants), Denmark (5.5 m), Sweden (9 m), Finland (5 m) and Flanders (6 m), Great Britain (60 m). But also the other English-comprehending parts of Europe's population.

If German free TV stations broadcasted films and programs in subtitled original versions they were compelled to obtain a license covering these non-German audiences, as well. So the respective German stations 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 payments for these German stations increased drastically. Above all the German station would serve neighbouring countries where other local stations may have obtained an exclusive license. So the only possibility to switching over to broadcasting films and programmes mostly in subtitled format requires that German stations encode their broadcasting signal so that only households covered by the license fee can receive and decode the broadcasted signal. Switching over to encode the broadcasted signal entails switching costs for the technical and administrative changeover and the necessary decoding devices for the audience. But, probably more important, public German television broadcasters see their role as promoting German culture, also abroad, which is impeded by encoding the program. Both measures constitute switching costs that the stations had to bear. To prevent these switching costs in form of legal complications, potential fee increases or technical and administrative costs to encode the broadcasting signal German stations stick to broadcasting foreign language films in dubbed versions. These are generally not appreciated by non-German audiences. So dubbing serves as a market barrier separating the respective national audiences, i.e. dubbing confines the national audiences to the respective linguistic/national license areas for which a license has been obtained. As television stations stick to dubbing this in turn cements the audience's habituation to dubbing.

5.3.6. Summary and Conclusion of the Historical Analysis

To conclude this section one can state that the German film market is generally locked into dubbing: Consumers are unwilling to switch from dubbing to subtitling due

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to switching costs that a majority of the consumers had to incur in that case. The switching costs take the form of limited film comprehension and harder effort to follow the film plot. These difficulties arise because consumers are habituated to dubbing and not to subtitling, i.e. the audience lacks a sufficiently accumulated set of subtitling-related consumption skills. More precisely the audience lacks subtitling reading skills and the skills to follow foreign language film dialogue (i.e. mostly English). The consequence is that when switching from dubbing to subtitling consumers experience a loss in utility, which constitutes a switching cost to each individual. Other forms of switching costs that the consumers face when they switch from dubbing to subtitling are higher transaction costs due to higher transportation and search costs, and a limited choice of films in the cinema market. Because collectively watching films is regarded as a social activity a switch to subtitling deprived an individual consumer from a share of his social peers with whom he could watch a film. The loss of (some of) these positive network externalities constitutes a switching cost for the individual, as well. These switching costs provide a disincentive to consume subtitled films.

Film distributors and exhibitors in Germany have to comply with the audience's preferences for dubbing when they release a film to the theatres or exploit it on video or television. The potential profit loss that is associated with releasing films only in subtitled form constitutes the film distributors and film exhibitors switching costs. The film distributors' and exhibitors' situation can be understood in a wide sense as one of being quasi-co-evolutionary tied to the development of consumers' preferences. Therefore film suppliers are locked to the audience preferences which themselves are locked in to dubbing. Additionally German television stations face high switching costs if they were to broadcast foreign language films/programmes in subtitled versions via secondary audio programming.

This main chapter on the historical development of dubbing in Germany has established that the case fulfils to the basic requirements of the 3-phase model of path dependence: There was contingency at the outset of the adoption process and small events favoured the selection of dubbing. Then evidence suggests that the head start of dubbing was magnified by self-reinforcing mechanisms that propelled dubbing top domination in the market. Finally the market is locked into dubbing. The only component of the path dependence model that is missing is that dubbing constitutes a relatively inefficient solution to the language transfer problem. The next main chapter approaches this question.

5.4. Inefficiency

In the previous section the German market was found to be locked in to dubbing. The interesting question is in how far this constitutes a problem. That is the core idea of the path dependence argument: a lock-in into an *inefficient* technique. Therefore this section examines in how far the dubbing standard constitutes an inefficiency as compared to a hypothetical subtitling standard.

The question is for which groups in the society the dubbing standard constitutes an inefficiency. The inefficiency argument will be approached from different perspectives. In concrete terms it will be looked at the cost inefficiency of the dubbing imperative from a film distributors' perspective. The dubbing imperative has the potential to hurt film distributors and also indirectly the consumers. Consumers are negatively affected because the dubbing imperative has potentially negative effects on the cultural diversity. Another approach to the dubbing phenomenon is from the perspective of foreign language education. Also, the negatively affected groups should be relevant actors in the market. Then it must be analysed if these groups have to bear a loss in the form of additional costs (or benefits foregone) due to the markets' rigid fixation to dubbing.

The cost structures of the language transfer techniques were deliberately left out of the discussion until this point. The reason is that an understanding of the technicalities of the respective language transfer formats' production processes was sufficient for the argumentation, yet. The distinctive production processes for dubbing and subtitling described above are a prerequisite for the understanding of their respective cost structures.

Film distributors were identified as central figures in a value chain, and they are responsible for outsourcing the language transfer production to a dubbing/subtitling studio in the respective national markets. First this section compares the cost structure of dubbing and subtitling under the celluloid technique. This section analyses in how far the cost structures of dubbing and subtitling compare and examines in how far a lock-in into either one of them constitutes a relatively inefficient standard from the perspective of film distributors. To begin with the evaluation criteria for judging "efficiency" is economic efficiency. The argument is then extended into the problem of cultural diversity and foreign language skills.

When dubbing is more expensive than subtitling as it is often asserted and generally acknowledged (Heinze 2005, section 1.1; Diaz-Cintas, 2007) then this allows

for the possibility that dubbing is not necessarily the best solution to the language transfer problem – at least not from the point of view of film distributors who bear the costs of the language transfer. The rationale for terming dubbing inefficient is that if the language transfer could be accomplished for a lower price with the exclusive use of subtitling instead of dubbing film distributors could save money while releasing the same number of films, or alternatively could release more films for the same amount of financial resources. Furthermore, the implications of the cost structure of dubbing versus subtitling can be extended into a cultural diversity argument that has been hinted at in the introduction: If dubbing is significantly more expensive than subtitling and involves high fixed costs, dubbing puts small and medium budgeted films (marketed by small film distributors) to a structural disadvantage in the market. This hampers the diversity of the films supplied and consumed in the market.

Another alleged beneficial side effect of a subtitling standard is subtitling's positive externality of foreign language acquisition by the audience. The argument is that viewers' acquire foreign language skills by watching subtitled films/programmes. These positive effects are foregone under a dubbing standard. This argumentation is popular when it comes to explain the relatively strong English language skills of the Dutch and Scandinavians as opposed to the Germans, French, Spaniards and Italians.

Comparability of the Dubbing Standard to a Hypothetical Subtitling Standard

If dubbing is more expensive than subtitling the necessity to provide dubbed versions of foreign language films instead of subtitled versions could comprise a sub-optimal market standard for film suppliers. This notion of sub-optimality requires comparing the current market situation under the dubbing standard to a fictitious situation in that German consumers are habituated to watching subtitled films *ceteris paribus*. The argument that dubbing is inefficient for film suppliers from an economic point of view rests critically on this *ceteris paribus* assumption.

The *ceteris paribus* assumption implies that the German audience was habituated to subtitling to the same extent as it is habituated to dubbing. This means that the German audience consumed as much films in the cinema under a fictitious subtitling standard, as it does now under the current dubbing standard; given that the historical development had been different such that subtitling had prevailed as the market standard. This is a vital assumption since it is a precondition for comparing both

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market situations – the dubbing regime and the subtitling regime – from an efficiency perspective. If the *ceteris paribus* condition was not fulfilled gains from changing from one language transfer system to the alternative could be offset by changes in audience attendance and spending behaviour. The assumption of the *ceteris paribus* condition can be regarded as being valid if the cinema going behaviour in terms of cinema attendance in both, subtitling and dubbing countries is the same. Here the economically relatively homogenous countries of Western Europe serve as a test set to compare the average annual admissions per capita between the groups “subtitling countries” and “dubbing countries”. The data was taken from the European Cinema Yearbook 2006 (Media Salles 2007, p. 122). The group of subtitling countries includes all Nordic countries, Belgium, the Netherlands, and Portugal, while the group of dubbing countries encompasses France, Italy, Germany and Spain (FIGE countries) plus Austria. The UK and Ireland were omitted because of their negligible market shares of non-English language film productions requiring a language transfer, and their incomplete data reported. Luxemburg, Switzerland and Liechtenstein were omitted due to the difficulty of placing them to one or the other group. The figures of interest that are to be compared are the average annual frequency of cinema attendance per capita of the countries in the respective groups over the five-year period 2001-2005.

The One-Way ANOVA comparison of means in SPSS delivers three outputs:

Table 5.: SPSS Output (Comparison of admissions in dubbing and subtitling countries)

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Upper Bound	Lower Bound		
no	5	2.4472	.68298	.30544	1.5992	3.2952	1.82	3.35
yes	8	2.3358	1.19609	.42288	1.3358	3.3357	1.33	5.12
Total	13	2.3786	.99660	.27641	1.7764	2.9809	1.33	5.12

Levene Statistic	df1	df2	Sig.
.150	1	11	.706

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.038	1	.038	.035	.854
Within Groups	11.880	11	1.080		
Gesamt	11.918	12			

The first – descriptive statistics – is straight-forward. It reveals that in the five dubbing countries the average annual cinema attendance per capita is 2.45. There-

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fore this group's average admission figure is slightly higher than the average annual admission figure in the eight subtitled countries with 2.34 annual film theatre visits per capita. However, both numbers differ by only 0.111. This seems fairly small, but scientific rigour requires subjecting this difference to a statistical test. Before testing whether this difference in the two groups' means is actually statistically negligible the variances between the two groups have to be compared first with the help of a Levene test for homogeneity of variances. The reasoning for this test is that the two groups must have similar variances otherwise they could have the same mean but still be incomparable due to a different scattering of their values (Backhaus et al. 2006, p. 150). So the Levene test tests for differences in the groups' variances. The output reveals a Levene statistic of 0.150 and a corresponding p-value of 0.706. Therefore the null hypothesis of different variances between the two groups (i.e. dubbing and subtitled countries' annual admissions per capita) can be rejected at $\alpha = 0.05$ confidence level.

Having that established, the next step is to test in how far the average annual admissions per capita in subtitled- and dubbing countries – 2.34 and 2.45 respectively – are significantly different from each other. Therefore SPSS produces an ANOVA testing the hypothesis that both groups' means are different from each other. The ANOVA output reveals that the low F-value of 0.035 is not significant (at the 5% confidence level) since the corresponding p-value is 0.854. Therefore the null hypothesis that both groups' means is different from each other must be clearly rejected at a 5% or 1% significance level. In plain words: The difference in annual cinema admissions per capita between Western European dubbing and subtitled countries is not only fairly small but statistically it is not significant and therefore negligible. I.e. the average annual cinema admissions per capita in the dubbing and subtitled countries are practically the same. Consequently there is reason to believe that it does not make a difference in terms of annual visits to the cinemas, whether a national market has adopted the dubbing or the subtitled standard, given that the audiences are habituated to the respective language transfer standard. In both groups there are countries with higher annual admission figures per capita that are matched by markets where peoples' visit to the cinemas are relatively sparse. On average cinema going behaviour in both groups is the same and does not differ systematically. This justifies the *ceteris paribus* assumption that is required for efficiency comparisons between the current dubbing standard the hypothetical conditions if subtitled was adopted in Germany. Therefore this study can proceed comparing the hypothetical

situation of a subtitling market standard to the actually realised dubbing standard situation in Germany.

5.4.1. Cost Efficiency

Language Transfer Costs

The cost approach to the potential inefficiency of dubbing from the perspective of film suppliers emphasises potential cost savings in the language transfer production process that could be enjoyed by film distributors if subtitling was the standard instead of dubbing. The general relation between the cost of dubbing and subtitling is given by a quote of Heinze (2005, section 1.1): “Dubbing is expensive, time intensive and requires numerous highly qualified personnel. In comparison to dubbing subtitling is an inexpensive and non-elaborated undertaking with low technical requirements¹⁷⁵.” Generally it can be said that the process of producing a first copy of a subtitled version is much cheaper than to produce a dubbing soundtrack. This is due to lower labour and capital requirements of subtitling. The process of dubbing is relatively laborious, time-consuming and requires sophisticated sound recording studio equipment. Additionally dubbing costs are elevated by dubbing speakers of foreign stars demanding monopoly prices. In total the dubbing process is very costly compared to subtitling surpassing the costs of the latter by the factor 10 or more (European Commission 2007, p. 38; cf. Luyken et al. 1991, chapter 4; Pruys 1997, pp. 92-93; dis1, dis2).

Costs of Dubbing versus Costs of Subtitling

Dubbing speakers monopoly prices: One characteristic of dubbing is that its' costs are elevated by dubbing speakers being able to demand monopoly prices. Foreign film stars are generally dubbed by the same dubbing speakers whose voice is familiar to the audience. This ensures a continuity of the dubbing voice to spare the audience the confusion of constantly changing voice of their favourite actors. The audience is habituated to this dubbing voice and associates this particular German dubbing voice with the respective foreign actor. Because voices are unique these dubbing actors have a quasi-monopoly on the dubbing voice of a certain foreign star and

¹⁷⁵ This quote was translated from German by the author. Original quote: “Synchronisation ist teuer, zeittensiv und erfordert zahlreiche hochqualifizierte Mitarbeiter. Im Vergleich dazu ist die Untertitelung ein preiswertes und unaufwändiges Unterfangen und bedarf geringer technischer Voraussetzungen.” (Heinze 2005, section 1.1).

consequently are in the position to demand high prices for their dubbing service (Filmecho/Filmwoche 1996).

At first glance subtitling seems to be much cheaper than dubbing which supports the suspicion that from the perspective of film distributors the dubbing standard constitutes an inefficient situation as compared to a subtitling standard. A closer look at the total follow up costs of dubbing and subtitling reveals that the situation is more complex under the celluloid standard. This puts dubbing's disadvantage to some degree into perspective, but it does not eliminate the dubbing imperatives inefficiency when compared to the situation in a subtitling country. This relativisation only applies to the soon to be outdated celluloid technique in the theatrical distribution system. For the upcoming digitalised theatrical distribution system and also for all other formats of exhibition the cost inefficiency of dubbing counts to the full extend.

Costs of dubbing and subtitling under the celluloid film technique: According to the interviewed film distributors dubbing costs range from € 20,000 for low-budget dubbing up to € 60,000 and more for the more elaborated dubbing productions for major blockbusters. The European Union (2007, p. 38) reports that the average dubbing costs in the Western European 'classic' dubbing countries is € 34.900. Since this figure also entails the relatively low cost dubbing done in Spain the true figure for the German dubbing market can safely considered being higher. These figures correspond to older figures given in the literature¹⁷⁶. If dubbing speakers are popular stars, or if the actors in the film are popular stars the total dubbing costs rise significantly and range from € 60,000 upwards to € 100,000¹⁷⁷. 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 (Interview: dis2). This distribution budget covers all expenditures that are required to release a film to the German market.

¹⁷⁶ Luyken et al. (1991, p. 106) assess the costs for *one hour* of quality lip-sync dubbing for television to ECU 25,000 – ECU 29,000. 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 up to € 55,500 per film. Foreman (1997, p. 7) estimates that dubbing a 90-minute feature film in Germany costs DM 50.000 – DM 100.000 (\$ 29,000 – \$ 60,000). A detailed elaboration of this calculation is reprinted in the Appendix.

¹⁷⁷ German known actors or celebrities lending their voice to a popular foreign actor or a cartoon character earn wages of € 1000 or more per day. Then during a dubbing recording session lasting for a week for a film with two famous dubbing speakers the wages of these speakers alone amount to € 14,000.

The quality of the dubbing production depends on the way the quality of how dubbing dialogue is written and recorded. The quality of the dubbing dialogue and the lip synchronicity increase with the budget devoted to dubbing (Forschungsinstitut für Soziologie der Universität zu Köln 1963, p. 405). The important points are: a) the care with which dubbing dialogue is written to fit the visual lip movements of actors in a lip-synchronous way b) the adequacy of the content or message that the German dialogue carry, and c) the care and effort that is devoted to the actual dubbing recording in the dubbing studio by the dubbing actors, the dubbing director and the technical staff. The time devoted to the dubbing recording in the studio greatly increases the costs, in terms of wages and studio rent but also tends to increase the quality of the dubbing. This means that the lower the budget devoted to dubbing the less lip-synchronous the dialogue and the picture is going to be, and/or the less sophisticated and convincing will the dialogue be in terms of the content they transport (Blickpunkt:Film, 2008, no. 14, p. 12ff; Filmecho/Filmwoche, 1996).

Dubbing costs: The fixed costs of dubbing involve the completion of the first master copy entailing the dubbed dialogue. These costs are incurred before one print of the film is drawn and distributed to the theatres. As mentioned above these costs range between €20,000 and €100,000. The European commission estimates that the dubbing production costs about €35,000 in Western European dubbing countries, which corresponds to the figures named by the interviewees. Under the celluloid standard – that is still dominating the market – all additional distribution copies of a film are printed on celluloid film. These copies are shipped to – and exhibited in – theatres. The corresponding printing and transportation costs are variable costs as they depend on the number of prints that are made and distributed. A rule of thumb says that copying a 35mm film costs on average about €1,000 per copy (dis1, dis2, dis3, dis4, dis7; these costs are the same in The Netherlands (dis5)). In the US copying costs are about \$ 1000 (Wasko 2003, p. 93). The costs for shipping and insuring the prints are not taken into account here, as they accrue equally in the case of dubbing and subtitling and consequently cancel out in a comparison of the cost efficiency of both techniques.

Subtitling costs: According to the interview partners the costs for subtitling are on average €2,500 per film (interview: dis2, sub2, sub3). The subtitles are stored digitally on a disc and then printed on celluloid copies of the film (interview:

sub3). The costs for producing the plain celluloid copy of the film with the original language dialogue are again about €1,000 per copy – the standard market average market price for producing celluloid prints¹⁷⁸. Then the subtitles are printed on the 35mm celluloid film using the laser etching technique. This subtitle etching takes considerable time (about 7 hours (interview: sub2)) and costs on average an additional €725 per copy. So the total variable costs of for producing a subtitled cinema copy of a film average at about €1,725 per copy.

Another method for producing subtitled copies for theatrical distribution is the internegative method. The internegative method, however, involves fixed production costs for the master internegative of about €25,000 (including the conception of the subtitles, subtitling and the production of the relatively expensive and robust internegative master tape). From this master copies for distribution are drawn for the standard price of about €1000 per print. Due to low acceptance of subtitling, in Germany the internegative method is not used. Its fixed costs of producing an internegative tape are relatively high and the number of copies needed for amortisation is not reached.

Cost Comparison: Generally it can be said that the production cost of dubbing itself (about €35,000) is clearly higher than that of subtitling itself (€2,500) – the fixed costs ratio can amount up to the factor of 10 or more (Luyken et al. 1991, ch.4; Pruys 1997, pp. 92-93). However, when taking the variable (copy) costs into consideration the cost difference between dubbing and subtitling shrinks as the number of copies increases due to the fixed cost degression-effect. The relative costs associated with dubbing, subtitling and internegative subtitling can be seen in figure 9¹⁷⁹.

¹⁷⁸ The major film distributors in Europe who release blockbusters with several hundred copies up to more than 1000 copies per film naturally can negotiate favourable contracts with the few film laboratories in Europe. So they usually get discounts on the usual copy prices.

¹⁷⁹ For dubbing it is assumed that the fixed costs are about €35,000 on average, and the variable costs are €1,000/copy, this is denoted by the line marked by "dubbing avg.". Furthermore it is assumed that high quality dubbing can cost up to €60,000. This high quality/high cost dubbing is denoted by the "dubbing exp." For subtitling with the laser technique the fixed costs are assumed to be about €2,500 and the variable costs amount to €1,750 (denoted by the line "ST Laser"). For the internegative subtitling technique the fixed costs are assumed to be about €25,000 and the variable costs are €1,000 ("ST internegative"-line). In the following the individual calculations are given on which the Graph is based:

Subtitling with the Internegative Method ("ST internegative"): Expressed in a formula the costs for subtitling a film and the production of the corresponding subtitled prints with the internegative technique have the structure:

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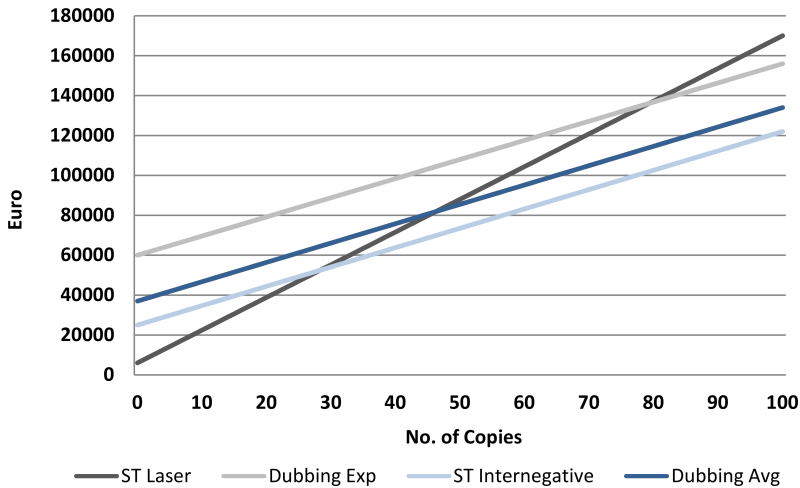


Fig. 9.1: Total costs for language transfer and printing of 35mm celluloid copies for theatrical distribution in subtitled and dubbed format

(fixed costs for subtitling and creating an internegative) + (copy costs) * (number of copies)

Expressed in numbers this formula translates to: (€25,000) + (€1,000) * N; N denotes the number of copies produced.

Laser subtitling ("ST laser"): Expressed in a formula the costs for subtitling a film and the production of the corresponding subtitled prints with laser etching have the structure are:

(fixed subtitling costs) + (copy costs + laser etching costs) * (number of copies)

Expressed in numbers this formula translates to:

(€2,500) + (€1,000 + €725) * N.

Low budget dubbing ("Dubbing avg"): the average costs for dubbing and producing the circulating copies are described by:

(Fixed dubbing costs) + (copy costs) * (number of copies)

Expressed in numbers this formula translates to:

(€35,000) + (€1,000) * N.

High quality dubbing ("Dubbing exp"): In the case of a very elaborate and expensive dubbing production the costs for dubbing and producing the circulating copies are described by:

(Fixed dubbing costs) + (copy costs) * (number of copies).

Expressed in numbers this formula translates to:

(€60,000) + (€1,000) * N.

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The cost curves in figure 9 are based on the estimated average fixed and variable costs for producing dubbed and subtitled copies. As figure 9 illustrates, for films circulating in the cinema with less than 40 copies laser subtitling is less expensive than the average dubbing. However, if the number of subtitled copies increases it becomes increasingly more expensive than the other methods due to its high variable costs. Subtitling with the internegative method would be always less expensive than dubbing, also for higher number of copies. For the expensive and high quality dubbing (€ 60.000) the costs for (internegative) subtitling are always lower than dubbing costs, no matter how many copies are produced. In sum, subtitling is cheaper than dubbing, this holds particularly if the number of film copies that is to be distributed is small.

Therefore one can conclude that from the perspective of film suppliers the subtitling norm constitutes a superior or more efficient solution to the language transfer problem since subtitled film copies can be provided at a lower cost than dubbed film copies. In how far this inefficiency really plays an important role is a matter that needs further consideration. For subtitling the laser method is cheaper than the internegative method when only few subtitled copies are produced. When internegative subtitling is included in the calculation subtitling is always cheaper or costs as much as dubbing. In terms of average cost per film print the difference shrinks with increasing numbers of prints in circulation.

Cost Comparison and Cost Efficiency for Distributors under the Celluloid Standard

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

The potential cost inefficiency of the dubbing regime becomes marginal as the number of circulating copies is very large. For a distributor of a blockbuster running in Germany with 500 copies the cost difference between dubbing and subtitling is negligible. For example: When a film is distributed in the theatrical market with 500 circulating copies the language transfer and copying costs are € 1,050/print with internegative subtitling. One print costs € 1,120 when a film was dubbed in a high quality for € 60,000 (this does not take into account that there are price reductions as the number of copies ordered is large). On the other hand when a film is dis-

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tributed with merely 70 copies one copy costs on average €1,357 with internegative subtitling technique (including language transfer and copy costs) while it costs on average €1,857 with higher quality dubbing. The price difference per copy amounts to €500/copy. Even if the calculation for producing 70 copies is based on the average dubbing costs of about €35,000 the cost per copy is €1,530 – still a €173 or more than 10 % price difference per copy. For small films distributed with 50 copies the subtitling price amounts to €1,500/subtitled copy and to €1,761 in the case of an average priced dubbing; a price difference of €261 per copy.

For major film distributors, this difference in the copy costs is negligible, considering that their distribution budgets tend to reach millions of Euros per film (blockbuster) released. For distributors of smaller films, however the cost difference between dubbing and subtitling, however, is significant. A small or medium sized film distributor releasing films to the theatrical market with 50 circulating copies commands over a total distribution budget of €200,000 –€250,000. Then the cost difference between internegative subtitling and high quality dubbing of €35,000 constitutes a significant share of the distribution budget. In other words: Dubbing constitutes a larger relative financial strain on small film distributors as compared to large distributors. The reason for that is that the costs of dubbing are relatively fixed: Dubbing budgets generally vary between €25,000 for low budget dubbing of films with only few copies in circulation and €60,000 or more for a more sophisticated dubbing production. The latter is generally employed for films featuring stars and which are distributed with several hundreds copies. I.e. the dubbing budgets may vary by a factor of 3 and average at about €35,000. The distribution budgets on the other hand vary by a much higher factor between €100,000 for small films and several million Euros for major blockbusters. So, dubbing budgets are relatively fixed in comparison to the distribution budgets. From that follows that the relative share of the distribution budget that is consumed by dubbing is relatively large for small films. On the other hand, the dubbing budget constitutes a relatively small post in the total distribution budget for a larger film.

For small and medium sized film distributors the cost inefficiency of the dubbing standard relative to the subtitling standard is much more salient as for their larger competitors, namely the major distributors in the film market. Therefore, 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 subtitled countries (interview: dis2). This statement reflects that for small and medium sized distributors the dubbing standard actually constitutes an inefficiency.

Cost Comparison and Cost Efficiency for Distributors under Digital Cinema

Under digital cinema films are copied digitally and distributed on hard drives, digital discs, or even via satellite. In the theatres where they are screened they run on digitalised projection equipment. The digitalisation of theatrical film distribution and exhibition has significant effects on the costs of the different stages of production that film distributors are involved with.

First and foremost it is projected that under digital cinema film distributors can save large parts of their current copying costs: With the wider diffusion of digitalisation of distribution and exhibition of motion pictures copy costs for cinema distribution drop by 90 % to 95 % to an estimated €50–€100/film copy (Rüggenberg 2007; FDA 2007, p. 14)¹⁸⁰. It is estimated that the yearly savings in copy costs due to digitalisation for the US film industry alone could reach \$1 bn or more¹⁸¹.

So for the film distributor the savings in terms of variable costs of film distribution are enormous. However the fixed costs of approximately €2,500 for subtitled and €25,000 to €60,000 for dubbing remain constant but the variable costs for the production of dubbed *and* subtitled copies are the same (interview: sub3). So the cost disadvantage of dubbing becomes more pronounced and the distribution of films exclusively in subtitled format becomes relatively more attractive for distributors:

With digitalised cinema the dramatic fall in copy costs for subtitled films makes it relatively more cost effective to distribute films exclusively in a subtitled format as compared to the celluloid standard. Under digital cinema the copy costs for dubbed

¹⁸⁰ 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-mba.de/showfile.php?sid=12andref=seminarflyerands=pdfandPHPSESSID=e1b7f11030b98466d50eb3cce9f957a0> (information retrieved in October 2007).

¹⁸¹ cf. Wikipedia, “Digital Cinema”, information retrieved online from http://en.wikipedia.org/wiki/Digital_cinema, March, 11, 2008. These figures were also 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-mba.de/showfile.php?sid=12andref=seminarflyerands=pdfandPHPSESSID=e1b7f11030b98466d50eb3cce9f957a0> (information retrieved in October 2007).

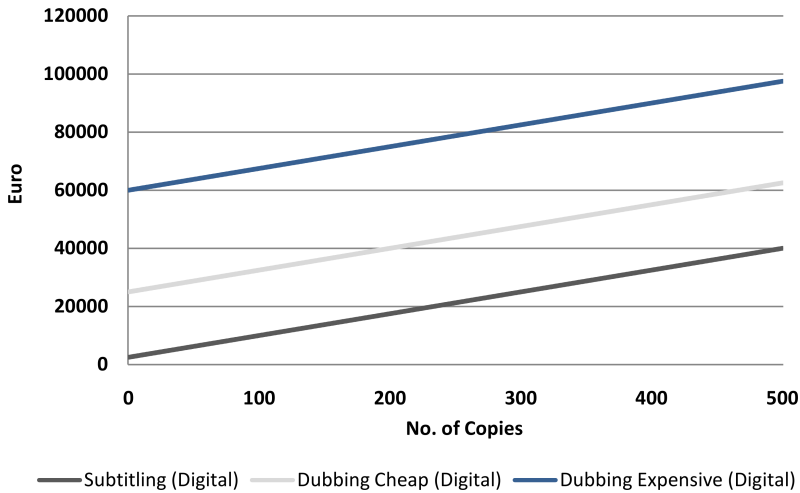


Fig. 10.: Total costs for language transfer and printing for theatrical distribution in subtitled and dubbed format under digital cinema

and subtitled films are quasi identical subtitled can take full advantage of its much lower fixed costs. The costs of adding subtitles copy are on average of €725 with celluloid film. These costs become marginal under digitalisation; because once the subtitles have been produced they can be stored in a file and if demanded, they can simply be copied to the digital media on which the motion picture is distributed to the theatres (interview: sub3). So for the standard copying price of €50–€100 one can produce a hard disc or DVD copy that contains a dubbed version, an original version and any set of subtitles that is available to the distributor. So the copy costs for all language transfer 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. This research does not take into account that there might be additional cost per copy due to more elaborate encoding to protect the digital prints from copyright theft (interview: dis7)

The relative costs for language transfer and copying that distributors face under digital cinema are illustrated in the cost curves in Figure 10.

Figure 10 assumes that the copying costs for dubbing and subtitling alike are reduced to €75 per print (the average of €50 and €100). The cost curves in figure

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10 are calculated by multiplying the €75 copy costs with the number of prints and adding the fixed costs of €2,500, €25,000 and €60,000 for subtitling, low budget dubbing and higher quality dubbing respectively. In figure 10 it is clearly visible that subtitling has become the cheapest form of language transfer by far. For a small film that is distributed with 50 copies the total costs of subtitling and digital copying are €6,250 while the costs for a low-budget dubbing are €28,750 and for high quality dubbing the costs are €63,750 – more than 10 times the costs for subtitling.

How large are the potential cost savings for the German film distributors implied by a switch from dubbing to subtitling standard? This potential cost savings denote the cost inefficiency of a dubbing versus a subtitling standard. These cost difference is calculated in the Table 6.

Table 6.: Language transfer and copy costs with celluloid copies under digital theatrical distribution.

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.	2) absolute, including children films	3) absolute, without children films	4) in %	5) average number circulating copies per copy class	6) Estimated dubbing costs in €
1 - 10	89	84,2	29,9	5,5	25.000	
10 - 50	71	67,4	23,9	30	30.000	
50 - 100	33	30,8	10,9	75	35.000	
100 - 200	26	24,6	8,7	150	40.000	
200 - 300	20	18,8	6,7	250	45.000	
300 - 500	29	27,6	9,8	400	50.000	
500+	30	28,4	10,1	600	55.000	
total	298	282				

Copy class: No. of copies per year	7) Digitalisation: Total dubbing costs per copy class [†] in €	8) Digitalisation: Total subtitling costs per copy class [‡] in €	9) Digitalisation: Differences between subtitling and dubbing costs in €	10) sum of cost difference in €	11) No. of films that could be distributed additionally with the savings from a switch to subtitling No. of films (accumulated) in % for all small and medium films
1 - 10	2.105.000	210.500	1.894.500	1.894.500	7,58
10 - 50	2.022.000	168.500	1.853.500	3.748.000	14,99
50 - 100	1.078.000	77.000	1.001.000	4.749.000	19,00
100 - 200	984.000	61.500	922.500		9,84
200 - 300	846.000	47.000	799.000		
300 - 500	1.380.000	69.000	1.311.000		
500+	1.562.000	71.000	1.491.000		
total	9.977.000	704.500	9.272.500		

[†] No. of films * Dubbing Cost

[‡] No. of films * cost of Subtitling of €2.500

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The copy classes order the films according to their number of circulating copies in the cinema market. This is an indication for the “size” of the film and the correspondingly larger effort that is put into its marketing and dubbing. 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. For each year between 2000 and 2005 the number of *foreign* long films released to German cinema market per copy class was calculated from the SPIO film statistical yearbooks 2001-2006 (SPIO Filmstatistisches Jahrbuch 2003, 2006). For this calculation the respective yearly *total* number of films that were released per copy class was multiplied by the share of foreign films that were released to the German market that year. E.g. in 2005, in the lowest copy class (1-10 copies) 126 films were released to the German market. 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 (72.3 % of 126 films is 91 films). 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 results for the years 2000–2005 are reprinted in Table 6.

Also subtitling countries films for children are generally subtitled and dubbed (European Commission, 2007, p. 14). 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. Since the data available does not distinguish between foreign and domestic films by genre I assume for simplicity that the share of children’s films is equally distributed over foreign and domestic productions and the copy classes. The average share of children’s films of all films released which is 5.45 % between 2000 and 2005 (SPIO, 2006, p. 27 2003, p. 28). This average share of children films was subtracted from the average annual foreign film releases in each copy class: The average number of foreign film releases per copy class was multiplied 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 %. Therefore the relation of the number of film releases across the copy classes remains constant. The obtained figure represented in the third column of Table 6 represents the estimation for the number of yearly foreign film releases per copy class excluding the children films. The average of the years 2000-2005 of the yearly estimation of foreign non-children films released per copy class was calculated in absolute and percentage

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terms, as well. The 4th column shows these figures in percentages of all non-children foreign long films.

The next column depicts estimations for the average number of circulating copies per film release in each copy class. The assumption is that on average the number of circulating copies of films in each copy class is equally distributed across all films in a copy class. The average given in column 5 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 an average calculation is not possible and therefore it is conservatively assumed that the average number of copies in that class is 600¹⁸².

The 6th 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 €5,000 per copy class up to a maximum of €55,000. 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 rationale is: the larger the number of circulating copies that are produced the larger is the distribution budget. With increasing distribution budgets distributors have more resources at their command 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 forthcoming digitalisation of theatrical distribution. The calculus was done according to the simple formula for each copy class respectively. The copy costs are not considered. They cancel out as they are the same for dubbing and subtitling under digital distribution:

Column 7: foreign non-children film releases * dubbing costs

Column 8: foreign non-children film releases * subtitling costs

The dubbing costs are the estimation of the dubbing costs for each copy class (€25,000, €30,000, €35,000...). The subtitling costs are €2,000.

The 9th column “Cost differences between subtitling and dubbing” shows the cost differences for film distributors operating under a dubbing and a subtitling standard with digital cinema. 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 be-

¹⁸² It is common that blockbusters released by major US distributors are released with 800-1000 or more copies in Germany. Therefore the assumption of an average of 600 copies for this copy class is realistic if not conservative.

cause under digital cinema the variable copy costs for dubbing and subtitling are the same and subtitling can fully exploit the advantage of its lower fixed costs. For all cinema distributors the cost difference between a dubbing and a subtitling standard is €9.2m under digitalised theatrical distribution. This is the actual amount that the whole film industry would save in terms of language transfer costs under a subtitling standard as compared to a dubbing standard.

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 amount to €4.75m. 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 €200,000 - €250,000. So the potential savings of €4.75m that small and medium sized film distributors could realise under a subtitling standard amounts to the distribution budgets of 19 long films (assuming a budget of €250,000). 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 releases of foreign non-children films of about 10 % in the segment of small and medium sized films (see columns 11 and 12).

Actually this calculation is distorted. Imported foreign language children films tend to be relatively large productions. Children films therefore account over 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 is important, because as a consequence the conclusions derived from this analysis with respect to the damage that the dubbing standard does to small and medium sized films and film distributors is actually underestimated. In fact the dubbing standard should hurt small and medium sized films stronger than this data suggests.

The conclusion from this section is that there are potential cost savings so that small and medium sized film distributors could significantly benefit if Germany had a subtitling regime. These cost savings enabled them to release additionally 10 % more foreign small and medium-sized films in a year under the forthcoming digitalised theatrical exhibition and distribution. In other words, a subtitling standard constitutes a chance for smaller film distributors to release more films with the same budget. Alternatively the budget savings due to subtitling could be used by these small and medium sized film distributors to beef up their marketing campaigns for

the existing number of films in their distribution portfolio. Thereby the box office per film could be increased. On the other hand it must be acknowledged that the cost inefficiency caused by dubbing is not a severe problem for large film distributors. For them the potential cost savings implied by a subtitling- instead of a dubbing standard are relatively small. Still, dubbing's cost inefficiency is more pronounced for all distributors under the forthcoming digitalisation of theatrical film exhibition due to the shift of the relative copy costs in the favour of dubbing. For small and medium-sized film distributors, however, the dubbing standard nonetheless constitutes inefficiency, since it eats up a relatively large share of their distribution budget.

Another aspect that shall only be touched briefly in this section is that not only film distributors are negatively affected by the dubbing imperative's cost inefficiency. Television stations have to spend significant additional costs for dubbing that would be saved if subtitling was generally accepted, as it is in other markets: In 2006 the costs of dubbing are 10 % of costs of broadcasting licences for foreign programmes¹⁸³. According to the *Blickpunkt:Film* (1997, no. 7, p. 4) in 1997 TV stations in Germany spent DM 1 bn for "dubbing and the like". This spending on dubbing constitutes a significant cost block that could be cut by the factor 10 or even 15 if subtitling was employed.

In sum, because dubbing eats up a relatively large share of the distribution budget of small and medium-sized film distributors the dubbing standard amounts to a problem from a cultural diversity point of view, as well. This is explored in the following section.

5.4.2. Language Transfer Costs and Cultural Diversity

In the previous section it was shown that the dubbing imperative constitutes an inefficiency for small and medium-sized film distributors. This cost burden could actually have more severe consequences than reduced profits only. Because this group has to devote a relatively large share of the distribution budget to the dubbing process the dubbing imperative also constitutes a disadvantage in comparison to their larger competitors. The dubbing imperative could even constitute an entry barrier for small and medium sized film distributors. These might shun away from buying the distribution rights for the German film market because in addition to the marketing and copy costs also the high fixed costs for the production of a dubbed

¹⁸³ On a personal request a large German commercial TV station revealed to me that it spend last year €100 m € on licenses for foreign programs and €10 m on dubbing these.

version have to be incurred. On the other hand, releasing the film only in a subtitled version in Germany severely reduces its chances of reaching a broader audience in the market (interview: dis1, dis2). Small and medium sized film distributors enrich the cinema landscape because they tend to distribute small films from a wide range of countries (about half of the films that are released to the German market are distributed with 50 or less copies). The logical consequence of such an argument would be that the dubbing standard counteracts cultural diversity in the film market. This effect not only hurts small distributors but also consumers who are confronted with a smaller diversity of films to choose from. This section examines in how far this argument against the dubbing standard is justified.

The total gross box-office revenue in the EU in 2004 was about €5,363bn. European feature films produced that year numbered 761, while the US produced 611 motion pictures (OBS 2006, p. 15; Media Salles 2006). When considering the market share of EU and US films (between 1995 and 2005) the proportions shift dramatically: On average in the respective national EU markets domestic films have a market share of 13 %, other European films account for about 11 %, and US- and US-dominated productions secure a 73 % market share (ibid.). These figures display an evident discrepancy from the EU perspective: While EU productions outnumber the US productions in terms of film releases in the European markets US films (in total) manage to secure a market share that is about three times as large as that of EU films. The reasons for this US dominance of the European market has been analysed from various points of view (e.g. Wasko 2005, Ch. 5). The upshot seems to be that US productions are more market oriented. They tend to cater more to the tastes of larger audiences if compared to EU films that tend to be more artistically or author-oriented (*Autorenfilm*). Another important component is the strong economic position of US major film distributors: The US major's subsidiaries that distribute and market the major's films in foreign markets are financially well equipped in comparison with local rival film distributors that distribute the domestic films. This allows the US distributors to finance relatively expensive advertisement and marketing campaigns which in turn tend to increase their film's box office (Waterman and Lee 2005; Wasko 2003, p. 154ff, Moreau and Peltier 2004).

To counter this US domination of the EU film market the European Union finances a €755 m subsidy programme called MEDIA¹⁸⁴ in 2007. Its objectives are:

¹⁸⁴ See the homepage of the MEDIA program: http://ec.europa.eu/information_society/media/index_en.htm. (information retrieved in May 2008).

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“[...] 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 and supply of films can be seen as a goal of EU policy. Film distribution is just one aspect of the MEDIA programme, although a vital one: This part of the MEDIA programme entails support for film distributors and DVD publishers of European films, as well as sales agents who sell European films on the international film markets. There is also support for cinemas devoted to the screening of European motion pictures, as well as support for broadcasting European films on television¹⁸⁵. One major conclusion can be deduced from this official effort the EU puts into the encouragement of the circulation of European films: Films are cultural goods that deserve to be promoted and the cultural diversity in the film market is an angle for evaluating economic arrangements in the film sector, i.e. higher cultural diversity is seen as a desirable feature of film market (cf. Moreau and Peltier 2004).

Above it was shown that with the forthcoming digital cinema small and medium sized German film distributors could release 10 % more foreign films a year under a subtitling standard as compared to a dubbing standard. This potentially increased output is simply due to the savings of the high dubbing costs. Therefore the cost inefficiency of dubbing hampers the distribution of small and medium sized films and puts pressure on the market shares. I.e. under a dubbing standard – as it dominates the German market – film distributors are forced to release almost all films in dubbed versions if they want to reach a large audience. Consequently the high costs of dubbing impede the distribution and consumption of lower-budget films. This is because 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 and increase box office (Wasko 2003, pp. 59ff; FDA 2007). As a consequence distributors of small and medium sized films attempt to economise on their dubbing budget to keep down the relatively high proportion of dubbing costs in their total distribution budget. This leads to a follow-up problem: To economise on the dubbing

¹⁸⁵ cf. the homepage of the MEDIA programme: http://ec.europa.eu/information_society/media/distrib/index_en.htm (information retrieved in March, 2008).

budget, in turn can reduce dubbing's quality in terms of lip-synchronicity and dialogue quality (Forschungsinstitut für Soziologie der Universität zu Köln 1963, p. 405; Filmecho/Filmwoche 1996). This in turn lowers the audience's appreciation of the film and thereby reduces the potential box office of the film.

This chain of reasoning can be summarised schematically: The dubbing imperative 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 distribution budget away from advertisement and promotion. Both, the lower distribution budget and lower dubbing quality put the film at a disadvantage in the film market. For larger films the dubbing budget constitutes a relatively small share of the distribution budget and therefore can be regarded as less critical.

With respect to the EU policy goal of promoting European films in the European market it has to be mentioned that these disadvantages for small and medium-sized films over proportionately affect European films. The rationale is that European films tend on average to have a lower production budget than their American counterparts: In 2005 the average US feature film (negative) production cost 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 distribution budget is positively correlated with the production budget: Larger film production costs mean that the film has higher chances to reach a large audience and therefore distributors have to pay higher licensing fees for the right to exploit the film in the respective national markets. That requires that the film distributor commands over considerable strong financial resources. To recoup the relatively large license expenditures the national film distributor tends to make a relatively large effort to promote the film to increase box office. This means that the distribution budget for larger films will be larger as compared to a low- or small budget film.

Because European films tend to be smaller productions than the average US film European films have a hard struggle against their US competitors in the market anyway - differences in the advertisement budget play a major role in that respect. The dubbing standard reinforces this relative disadvantage in that it puts the smaller European films systematically at an additional disadvantage.

In contrast, under a subtitling regime distributors of small and medium sized films (i.e. rather EU films) are *not* forced to spend a significant share of their total distribution budget on dubbing. Therefore relatively fewer resources are channelled away

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from their advertisement budgets. Also, under a subtitling standard the fixed costs of subtitling are relatively low and the resulting quality of the subtitling across the market is relatively high and homogenous. This is because a high quality subtitling production is easily affordable even for small film distributors. So the differences in the *quality* of the language-transfer between large (i.e. US) and small films are smaller, if nonexistent. This is in contrast to the dubbing regime where the quality of dubbing critically depends on the budget devoted to its production which in turn greatly varies over the market. Consequently from an EU policy perspective dubbing constitutes an inefficiency compared to subtitling, in terms of the promotion of the distribution of cultural diversity.

The argument of in this section is that under a subtitling standard smaller films face a lower entry barrier to the film market and that therefore the supply of European audiovisual works will tend to increase. This finding is in line with the EU MEDIA programme policy approach (EU 2006, Ch. 1, art. 1). However this argument only relates to the supply side of the film market. In how far the film demand will change in response to a hypothetical switch to subtitling and if the audiences will demand more European films is a matter of speculation. This could be tested by using European national statistics on the market share of domestic films, European films, and US films and checking whether there are differences in film consumption across dubbing and subtitling countries. However the statistical data available from the European statistical Yearbook (Media Salles 2007) indicate that there is a slightly higher consumption of European films in subtitling countries but these differences are so small that they are statistically not valid. These results are likely to be inconclusive as in such a cross-national comparison the differences in national cultural tastes can hardly be accounted for. Also political factors play a large role: E.g. in France the market share of European films is very high as the France strongly subsidises its film productions and coproductions with other countries. So within in this research that point will rest on the argumentation so far; its support by quantitative evidence is regarded as a matter of future research as it is a very elaborate undertaking.

In sum, this section found that the dubbing standard is inefficient from the point of view of film distributors; particularly small and medium sized distributors are hurt by the dubbing standard. Digital cinema makes the inefficiency more salient. It is estimated that the group of small and medium sized film distributors could increase the yearly number of foreign film releases by about 10% if they operated under a

subtitling standard. The dubbing imperative increases the entry barrier for the relatively small European films which hampers cultural diversity in the film market.

The following section considers another inefficiency that is widely associated with dubbing. It concerns the acquisition of foreign language skills by the audience.

5.4.3. Foreign Language Skills and the Dubbing Standard

Through globalisation and the growing economic and cultural integration of Europe and other parts of the world communication with people with different mother tongues has become a necessity in business and private life for many parts of Europe's population. When two partners do not understand/speak each others' mother tongue it is often quite self-evident that English serves as *lingua franca* (That holds for the young generations for sure). A striking phenomenon is that the average Scandinavian or Dutch seem to feel quite at ease in chatting and conversing in English, while this is not self-evident for their German counterparts. When Dutch children are asked on why they speak English so well it is commonly asserted that this is so because in their countries all English films and programs on television are shown in subtitled original language version¹⁸⁶. In other words: It seems that there are positive foreign language skills externalities associated with watching films and television programmes in subtitled original versions. That means that there are additional costs attached to the dubbing standard: These costs take the form of foregone positive foreign language skills externalities. That implies that the benefits from having a subtitling standard extend beyond the pure economic cost question of subtitling and the cultural diversity problem discussed above but also touch the foreign language skills of the audience. Actually this is not entirely true. The language skills foregone could be expressed in economic terms: Using data from other European countries one could attempt to estimate the relative loss of foreign language skill externalities that the German population has to incur due to having dubbing standard. This loss of language skills could be expressed in years of schooling, which would allow their quantification in monetary terms. Alternatively, since foreign language skills are remunerated in the labour market one could attempt to translate the loss of foreign language skills into higher salaries foregone. Due to the lack of time I will not accomplish this task within the frame of this research. But nonetheless this criterion

¹⁸⁶ Cited in Koolstra et al. (2002, p. 431). Original Reference: De Bock (1977) *Ondertitelen of Nasynchroniseren? [Subtitling or Dubbing?]*, Report no. B77-090. Hilversum: NOS.

is valuable for the comparison of the relative efficiency of dubbing and subtitling countries. This section attempts to review the available evidence for this argument.

Language Skills Forgone

The potential of subtitled original version films and programmes to promote foreign-language proficiency is broadly acknowledged. Common knowledge attributes a good part of the Dutch' and Scandinavians' well developed English skills to the fact that in these countries people are habituated to watching a majority of the films and television series in subtitled original English versions. A side effect of this consumption pattern is that people's English skills improve (interview: sub1). For instance de Bock (1977)¹⁸⁷ reports: "More than one-third of Dutch adolescent viewers are convinced that watching subtitled television programmes is indeed beneficial to learning foreign languages". Similarly Koolstra et al. (2002, p. 431) report the finding of Vinjé (1994)¹⁸⁸ that "one-quarter of Dutch primary school children are convinced they even learn more English from radio and television than at school".

Apart from the above mentioned EU policy goal to increase cultural diversity in the film market, an European 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" (European Commission 2003, p. 4).

In its pursue to achieve this goal, the European Union has recognised that there are positive externalities in form of accumulated foreign language skills associated with watching films in subtitled original language versions. In their effort to promote the European populations' foreign language skills the European Commission (2003, p. 19) wants to "analyse the potential for greater use of subtitles in film and television programmes to promote language learning". In this line of reasoning the European Parliament has recently issued a "written declaration on the subtitling of all public-service television programmes in the EU". The Parliament demands the general provision of subtitles in television primarily to ensure that the deaf and hard-of-hearing persons have access to the television content, but also "takes the view that this would also help with foreign language learning" (European Parliament 2007).

Experimental studies confirm the foreign language learning effect. They find that consumption of subtitling enhances foreign-language comprehension as compared

¹⁸⁷ *ibid.*

¹⁸⁸ For original references see: Vinjé, M. (1994) 'Kinderen praten Engels: Balans van het Engels aan het einde van de basisschool' [Children Speak English: Results of English Lessons at the Completion of Elementary School], *JSW* 79(4): 32-5.

to dubbing: Koolstra et al. (1999, p. 58) find that Dutch children watching English TV programs with Dutch subtitles acquire English vocabulary and show increased recognition of English words as compared to control groups watching dubbed programmes, or original version programmes that are not subtitled. D'Ydewalle and Van de Poel (1999) report similar results also for other languages (e.g. Danish, French). So while subtitling enhances children and adults' foreign language skills watching dubbed foreign films and programs does not. Koolstra et al. (2002) provide an overview of the experimental findings of different researches on the effects of subtitling and dubbing on the foreign language skills, domestic language skills and well as writing and reading skills. The result is that the consumption of dubbing seems to be beneficial with respect to the domestic language skills (reading, writing and vocabulary acquisition). On the other hand the consumption of subtitled original language versions seems to be beneficial with respect to the acquisition of foreign language skills (vocabulary acquisition and vocabulary comprehension). Additionally subtitling seems to be beneficial in that it promotes the skills of reading in the domestic language, as children follow the written subtitles in their mother tongue on screen (compare for example Koolstra et al. (1997) who analyses generally the impact of television on children's reading comprehension and decoding skills). Koolstra et al. 2002 sum up the "pros and cons of dubbing and subtitling" but are unable to reach an overall conclusion of which language transfer format is the most beneficial including all aspects. However, it can be said when the criteria for evaluating dubbing and subtitling is the acquisition of foreign language skills – subtitling is to be preferred due to its positive externalities of vocabulary acquisition and increased comprehension of foreign language dialogue.

The foreign language skills acquired passively through film consumption are most probably English: English language films and television series constitute a majority of the films and programmes consumed in Europe: about three quarters of the box office market share is captured by of US productions alone, this figure does not consider UK productions or other European cross national co-productions that are produced in English. English is widely regarded as an important lingua franca in Europe and internationally (for an overview see Seidlhofer 2005). The dominance of English is probably nowhere as visible as in the world's scientific community (Truchot 2002, p. 10). Over the course of the last two decades of the 20th century English also gained increasing importance in the work sphere: As a result of internationalisation of economic life and the spread of multinational companies English gained

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increasing importance as a company and working language (Truchot 2002, pp. 12-14). Similarly English grew as the working language in supranational Institutions (ibid. 15). Therefore English language skills are of monetary value to the EU citizens in that foreign language skills constitute a valuable qualification in the labour market. From the EU foreign language policy point of view dubbing constitutes an inefficiency since it does not promote the European populations' acquisition of foreign language skills as compared to subtitling.

In sum, dubbing constitutes an inefficient solution compared to subtitling with respect to the language skills acquisition of the population. As outlined by the EU Commission the wider use of subtitling instead of dubbing is desirable from a policy point of view because it increases the population's foreign language competencies (European Commission 2003, p. 4). Dubbing can be regarded as an inefficient market standard as compared to subtitling from the film distributors' point of view because it is more expensive than subtitling, which particularly hurts small and medium sized film distributors. Because dubbing also puts small and medium-sized films at a disadvantage compared to larger films and thereby hampers cultural diversity in the cinema market because these are the foremost distributors of non-US films. At the same time the MEDIA programmes' policy goal of supporting the distribution of European audiovisual artwork (EU 2006, p. Ch.1, art. 1) can be furthered by the wider spread of subtitling. Consequently the means to the ends of both EU policy goals mentioned here ((a) promotion of cultural diversity in film supply and (b) enhancement of foreign language proficiency among Europeans) converge. Both policy goals could be furthered by the wider use of subtitling in Europe.

6. Discussion

6.1. Alternative Explanations: Country Size Argument

The main proposition and conclusion of this research is that the adoption of dubbing in Germany became path dependent. An alternative explanation for the worlds' distribution of dubbing and subtitling countries is the market size argument: Large countries in Europe such as Germany, France, Spain and Italy dub. It is generally argued that smaller countries such as The Netherlands and the Scandinavian countries use subtitles because dubbing's high expenses cannot be recouped in their small markets (Luyken et al. 1991, p. 32). If this was true, then the market size would be the predominant explaining factor for the world's distribution of dubbing and subtitling countries and the path dependence approach to the subject would be merely an interesting intellectual-historic enterprise. This is because the historicity, small events and self-reinforcing mechanisms would be irrelevant in explaining why Germany adopted the dubbing standard in the first place since the only explanatory factor would be the country size. However, the argument that market size per se determines a country's language-transfer method is refuted in the literature on the issue (Danan, 1991, pp. 606-607; Dibbets 1996, 1993, p. 104). Then there is a considerable number of counter examples to this 'rule of thumb' that are too prominent to be overseen and draw suspicion of the market size hypothesis.

First I will explore in how far the market size argument really applies, i.e. this entails foremost checking if there are small countries that traditionally employ dubbing or the other way round if there are large subtitling countries. This endeavour serves as an entry point into a discussion to clarify whether the country size argument is valid and applicable.

6.1.1. Large Subtitling Countries and Small Dubbing Countries

Small Dubbing Countries

A fact that refutes the country size-rule of thumb is that there are small countries that can look back on a longstanding dubbing tradition: On the one hand data from the early 1990s indicates that in the Czech Republic 64 % and in the Slovak Republic 94 % of the films are dubbed. And the Czech Republic and Slovakia are not exactly large countries. Take the Czech Republic, for example: with a gross box office of €29m or 9m admissions in 2005 it definitely is a relatively small market, compared even to the western European subtitling countries. Slovakia constitutes an even smaller market, but still used to dub, so did film distributors in Hungary's cinema market. During the 1990s the Czech Republic and Hungary used to be dubbing markets, employing dubbing already since the 1930s. Meanwhile these two countries are in a transition and subtitling is increasingly used in the cinema market (European Commission 2007, Annex III, pp. 67f).

There are a number of small countries that also dub programmes for broadcasting on television: E.g. in Hungary the author could observe himself recently that larger films are released in a in a dubbed version to the cinemas¹⁸⁹. In the Czech Republic 45 %, Hungary 80 %, Slovakia 94 %, Bulgaria 70 % of the broadcasted content is dubbed (Dries 1995). Although this data stems from the mid 1990s dubbing is still the language transfer of choice in most eastern European television markets. The only exceptions currently are Poland, Bulgaria, Latvia and Lithuania, where voiceover is used widely (European Commission 2007, p. 6).

Large Subtitling Countries

The market size argument entails the implicit notion that dubbing is superior to dubbing, and always preferred by the audiences if it is affordable. This implies that dubbing is the language transfer of choice, as soon as a country's market size passes a certain threshold. This may hold for continental Western Europe, where the classic dubbing countries Germany, France, Italy and Spain constitute relatively large markets. If the picture is broadened and other parts of the world are included the country size argument does not apply universally: Countries do not necessarily employ dubbing, although their film market is large.

¹⁸⁹ cf. the Budapest guide EXIT, on www.exit.hu, (information retrieved in September 2008.)

6.1. Alternative Explanations: Country Size Argument

To start with, in the large Russian Federation (92 m cinema tickets sold in 2005) voice-over traditionally dominates the market (Dries 1995); although voice over is related to dubbing it is clearly a distinct technique. In Japan's cinemas about 75 % of the circulating copies are subtitled (interview: dis6). With 164 m admissions sold in Japan in 2006 the Japanese market is huge (OBS Focus 2007, p. 50). The United Kingdom (121 m admissions in 2006 (see OBS Focus 2007, p. 26)) is considered to be a subtitled country (interview: sub3): Foreign programmes and films are generally subtitled and only foreign animated television programmes and children films are dubbed. A similar situation can be found in the United States where dubbing is hardly used, except for Japanese animation films¹⁹⁰. The examples of the UK and US need special consideration since in these markets the share of US productions and co-productions, i.e. English language films that need no language transfer is traditionally very high. But when considering that in the US the non-US productions account for a market share of approximately 9.7 % or 135 m admissions in 2006 (OBS Focus 2007, p. 36) the market for non-US films can be considered as being as large as the total film markets in other large countries, such as Italy. Because the US market is so large, it does not really matter that the figure of 9.7 % market share for non-US films entails UK Productions and other films that were possibly shot originally in English. Still the market volume of these non-English language films would be large enough to justify dubbing in the sense of the market size argument. Another large subtitled country that has not yet been mentioned is Korea. To put these examples for large markets into perspective take Italy as a comparison: with 103 m admissions in 2005 Italy's market is just slightly larger than Russia's (92 m admissions) and considerably smaller than the UK market (164 m admissions)¹⁹¹.

6.1.2. Country Size Discussion

Table 7 provides an overview of the distribution of dubbing and subtitled countries and their respective market size. Country size is measured by the number of cinema admissions per year. Countries are only included if it is known whether that they traditionally and primarily employ subtitled or dubbing and if they are listed in

¹⁹⁰ On the UK and US dubbing practices compare the Wikipedia article "Dubbing (filmmaking)", information retrieved on April 14 2008 from [http://en.wikipedia.org/wiki/Dubbing_\(filmmaking\)#Americas](http://en.wikipedia.org/wiki/Dubbing_(filmmaking)#Americas).

¹⁹¹ 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: 161 m, Germany: 127 m, Italy: 102 m, Russia: 92 m, The Netherlands: 20 m, Hungary: 12 m, Czech Republic: 9,5 m, Slovakia: 2 m

6 Discussion

Table 7: Market Size of Subtitling and Dubbing Countries I in ECU (1999–2005: Euro)
 Source: Media Salles (2007); EU Commission 2007; supplemented by data obtained from Solon Consultants (1998) and the web page <http://en.wikipedia.org/wiki/Subtitles#Trans> (information retrieved in August 2008).

		Dubbing Countries	
		country	Cinema admissions 2006
Small		AT	17.344.000
		CZ	11.509.000
		HU	11.665.000
Large		DE	136.679.000
		ES	123.510.000
		FR	188.673.000
		IT	102.428.000

		Subtitling Countries	
		country	Cinema admissions 2006
Small		AR	35.400.000
		BE	23.807.000
		CH	16.380.000
		DK	12.604.000
		FI	6.687.000
		GR	12.766.000
		IE	17.854.000
		NL	23.387.000
		NO	12.012.000
		PL	32.374.000
		PT	16.367.000
		SE	15.293.000
	Large		AU
		JP	164.300.000
		KR	153.500.000
		MX	164.900.000
		UK	156.560.000
		US	1.448.500.000

the Media Salles statistical Yearbook 2007. Furthermore only countries with a market size of at least 5 million admissions a year are considered. The latter serves the purpose to exclude underdeveloped markets or markets overly dominated by their larger neighbours, such as Luxembourg.

As large countries I regard those with more than 50m admissions/year which results in a split up of the sample into large and small countries that is in accordance with the common literature on the subject (compare Luyken 1991).

Table 8 depicts a 2x2 contingency table that summarises the data from Table 7. It shows how dubbing and subtitling is distributed over small and large markets. Applying the χ^2 test for independence to this classification results in a χ^2 of 1.538,

6.1. Alternative Explanations: Country Size Argument

Table 8.: Market Size of Subtitling and Dubbing Countries II – Contingency Table

	dubbing countries	subtitling countries
large market (more than 50.000 admissions/year)	4	6
small market (fewer than 50.000 admissions/year)	3	11

with $df = 1$; Therefore, at the first glance the H_0 of independence of country size and the common mode of language transfer must be rejected at $\alpha = 0.05$ confidence level. A word of caution should be mentioned here since the two counts for dubbing countries are quite small. This could lead to a miss approximation of the χ^2 to the sampling distribution (McClave et al. 1998, p. 935) and therefore the test result can not be fully trusted. Therefore it is inappropriate to simply conclude from this test that the film market is size is responsible for the mode of language transfer dominating in a country. Therefore the country size argument should not be taken for granted and explaining the language transfer in a country requires considering more socio-economic and historical factors.

The following paragraph continues the discussion on the country size arguments validity and employs evidence from the early 1930s when sound film was introduced.

Discussion: Historical Influences, Contingency and the Adoption of Dubbing

The above arguments show that country size and the language-transfer technique vary considerably and that dubbing is not reserved for small countries and that large countries use subtitling extensively. Actually in the early 1930s *dubbing* was seen as a solution to market films *particularly* in *smaller countries* for which the production of multiple “language versions” or double shooting was considered too expensive¹⁹². In that context Dobbins (1993, p. 104) reports that as early as 1932 attempts were made by distributors to introduce dubbed films in the Netherlands, but these were not accepted by an audience already habituated to subtitling. Similarly, films were dubbed into Swedish, and Danish, as well. Therefore the country size argument does not apply to *dubbing itself*; definitely not in the historical context of the 1930s when the respective national markets entered the path that they stayed on during the 20th century. If at all the country size applies to the production of *language versions (double shooting)* in the late 1920s early 1930s. *Their expensiveness was an incentive to concentrate*

¹⁹² Film Kurier, No. 52, 1.3.1932, “Dubben’ – Die große Mode” In the long term, the article holds that dubbing is the only possible language transfer solution for smaller linguistic areas.

6 Discussion

the production of double shooting on larger markets (Müller 2003). Double-shot language versions were also produced for smaller markets (Dibbets 1993), particularly if the audience preferences and regulations forced distributors to exhibit films in the national language. In these markets language versions habituated the audience to watching films in the domestic idiom such as in Czech Republic, for example. This led the consumers demanding dubbing instead of subtitling when language versions were mostly abandoned in the early 1930s and the choice was between dubbing and subtitling.

This research makes the point that the widely assumed automatism that a large country size automatically leads to the adoption of dubbing is inappropriate. It was shown in the case of Germany that many different (historical) events influenced and favoured the adoption of dubbing. At the introduction of sound film it was not irrevocably predetermined that Germany adopted the dubbing regime. The historical analyses found contingency in the film market with respect to the language transfer technique at the time when sound film was introduced. The final selection of dubbing was not predetermined and foreseeable during this pre-path formation phase; even stronger: dubbing was widely rejected by the audience at that time. The role of critical events in the selection of dubbing was decisive. Theoretically a different course of events could have strongly favoured the wide use of subtitling. The mechanisms inherent in habituation could have led the German audience to embrace subtitling, such as it occurred in the Netherlands or Japan, for example. The argumentation in this research does not suggest that the country size effect is completely irrelevant; surely country size was relevant with respect to the question of language versions and therefore also *indirectly* influenced a country's propensity to dubbing: Double shooting in a certain language requires a large target market to amortise. Therefore the market size played an indirect role for the later adoption of dubbing, but not a direct role in the 1930s decision of whether a film should be dubbed into a certain language or not. But there were other factors at work as well: The decisive question, however, is what effect was to be expected if the then prevailing critical conditions and small events were different and pointed to the opposite direction. Theoretically this could have led to the adoption of subtitling in Germany.

One important factor is nationalism and nationalist-protectionist policies: 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 as Danan (1991) holds. Japan, for example, serves as a counter example: In the mid-1930s

6.1. Alternative Explanations: Country Size Argument

Japanese debates on film imports took a virulent anti-Western, anti-modern extreme nationalistic form that found its way into film policies, as well. As a result Japan even imposed an import ban on Hollywood films that were perceived as threatening and offending the Japanese culture (Tosaka 2003, pp. 236 ff). In that the situation in Japan was comparable to the German case. However the final outcome of the language transfer regime depends on a variety of factors and their distinct combination in Japan never led to the adoption of dubbing as it occurred in Germany. In contrast to Germany in Japan double shooting did not play such a great role in Japan as it did in Germany. So the national cases have to be studied on a one-by-one basis to explain why a particular language transfer standard prevailed in the market. It is futile to approach the topic with crude, undifferentiating theory that entails only one explanatory variable, such as the country size argument.

Nonetheless, even if the market size did not play a direct role in the dubbing/subtitling decision in the 1930s there is still the possibility that the market size plays an important role in today's decisions over dubbing and subtitling. In the smaller Western European markets – traditional subtitling countries – the dubbing costs are about 50 % higher than in the traditional Western European dubbing markets (European Commission (2007, pp. 7, 38f). This may be due to economies of scale, learning-by-doing efficiency effects, or the competitive situation. The European Commission report (ibid, p. 49) notes that e.g. in Denmark “the dubbing costs account for 25 % of the total distribution budget of a film” and that “given the relative smallness of the market, this cost naturally exerts downward pressure on profitability (and thus purchase) of small animation films.” Children's films are dubbed in all European countries. Although dubbing is particularly expensive in the traditional subtitling countries (ibid., p. 14) it is nonetheless undertaken. If dubbing these films did not pay off in the smaller markets no film distributor obtained a distribution license for such films in subtitling countries in the first place. The profit margin may be lower, but nonetheless it seems to be profitable which is in contrast to the country size argument¹⁹³.

In sum, when it comes to the explanation of the worlds distribution of dubbing and subtitling activity the market size argument is not as convincing and exhaustive as it is often claimed by authors in the field of film studies. If one looks beyond Western Europe there are many counter examples of large subtitling markets and small

¹⁹³ That the dubbing costs are preventively high may be the case for small films reaching a tiny audience in subtitling countries. But this does not legitimise a universal application of the country size argument.

dubbing markets and the practice of language transfer. Historically, in the context of the 1930s the market size argument does not apply to dubbing, therefore contingency is granted in the early phase of the path dependent adoption process with respect to language transfer. Therefore the argument of path dependence is applicable to the case of Germany and its adoption of dubbing: The adoption of dubbing was not utterly predetermined and theoretically also subtitling could have been adopted. The adoption process was strongly influenced by historical circumstances and events.

6.2. Outlook: Potential Path Dissolution

So far the empirical analysis found that the Germany's adoption of dubbing was a path dependent development. The Lock-in to dubbing is still today perceived by the industry participants for whom a deviation from the dubbing standard is not feasible. But is this a condition that is bound to last forever? Discussing the path dependence of technologies in markets and industries the researcher should be aware that a lock-in into a technology is not an utterly fixed condition. Schreyögg et al. (2003, p. 272) emphasise that path dependence constitutes a relatively confined leeway for actions, which leaves the possibility for a sudden path break or a continuous path dissolution. This section provides an outlook into possible future developments. Particular the impact of digitalisation of film consumption and provision on the dubbing path is considered because the digitalisation has the potential to induce a (partial) path dissolution.

6.2.1. Home Entertainment

Before the DVD replaced video tape this used to be the case and the higher transaction costs for subtitling constituted an incentive for consumers to shun subtitling between the 1970s and 2000s. With the wide diffusion of the DVD during the 2000s the home entertainment video segment became largely digitalised. The effect of this digitalisation was the equalisation of transaction costs for the consumption of dubbed and subtitled films in that segment: Most DVDs published on the German market contain an original language soundtrack, a German dubbed soundtrack and subtitles in German (and other languages). Before watching a film a consumer chooses the preferred soundtrack/subtitling combination in the DVD set up menu. Consequently, on the part of the consumer the transaction cost difference between dubbing

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and subtitling in that segment has vanished. As the relative (transaction) costs of subtitling decline the attractiveness of subtitling in relation to dubbing increases. As a result thereof one should expect substitution effects and that the consumption of subtitling increases. Consequently the audience- or parts of the audience – should become increasingly habituated to subtitling. This “re-habituation” should erode the overwhelming dominance of dubbing in the German film market. There is evidence that hints towards such a development: For 28 % of the German DVD/video consumers it is “important” or even “very important” to “watch films in other languages or in subtitled original version” (FFA 2006, pp. 28f). 70 % of the German population belongs to the group of DVD/Video users; therefore 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 whole group of DVD/video users, from which 28 % are inclined to watch 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, since this group is over proportionally represented in the cinema audience. Another development in the home entertaining sector is the possibility to download films from the internet, legally and illegally (with respect to copyright infringements). Particularly in the realm of illegal film downloads network effects are important: The superior number of films available for illegal downloading are original, i.e. English language films – maybe subtitled. This is because US films are the most popular films worldwide and the English language is the most widely spoken by young people in the world (Eurobarometer 47.2 1997, pp. 40f) (and young people are inclined to upload films on the internet ready to download for other users.) Over time further consumption of subtitled original version films (on DVD or downloaded from the internet) could grow further and the consequent habituation are likely to reinforce the audiences preferences further in favour of original version/subtitling. With digitalised pay TV¹⁹⁴, or online “Video-on-demand” (VoD) platforms¹⁹⁵ users can download films to watch on the computer or televi-

¹⁹⁴ The German pay TV provider Premiere allows users to select between dubbed and original versions of films. The sound options are selected in a menu by the user for each film. Compare the homepage of Premiere: http://www.premiere.de/premweb/cms/de/kundencenter_technikberater_erstehilfe_bedienung_tonoptionen.jsp, information retrieved in April 2008).

¹⁹⁵ The German VoD platform Videoload (<http://www.videoload.de/>), information retrieved in April 2008) offers only German dubbed versions of current films. But Users can download the original versions of films

sion. With these formats the user (often) can select the language options, original subtitled version or dubbing. The effect of the consumption of films on such platforms with respect to the market balance between subtitling and dubbing is likely to be similar as it is with DVD's: It might tip the balance in favour of original versions and subtitling and consequently users could become increasingly used to watching films in the subtitled original version.

6.2.2. Cinema: Following the Home Entertainment Sector?

The shift of the relative transaction costs in favour of dubbing in the home entertainment segment could act as a precursor in shifting the German audience's preferences in favour of dubbing. As the preferences of a relevant part of the potential cinema audience shift in favour of subtitled/original versions the release of foreign language films to the cinema exclusively in subtitled can become a feasible option for small and medium sized film distributors.

The ongoing and increasing digitalisation of cinema exhibition facilitates the supply of subtitled films. Digitalised cinema exhibition induces a cost shift in favour of subtitling in two ways: As outlined above, digitalised cinema exhibition allows adding the subtitles to the film digitally, with low marginal additional costs. Consequently it is not any more required that the subtitles are burnt expensively on celluloid with a laser beam. As a result the production costs for subtitled copies fall in relation the copy costs for dubbed films. With the celluloid technique laser subtitling increased the standard copy costs to 75 % above dubbing's copy costs (€1000/copy with dubbing; €1750/copy with subtitling). With digitalised cinemas the cop costs for both formats become the same. Since subtitling itself is 10-15 times cheaper than dubbing digitalisation reduces total subtitling's costs in relation to total dubbing costs significantly. Standard economic reasoning holds that altering the relative costs and benefits of alternative techniques require an adoption of the consumption and production pattern of an economy to account for the relative cost changes. In accordance with this economic reasoning one should expect the supply of subtitling to increase in relation to dubbing, as subtitling becomes relatively more attractive.

Also cinema exhibitors' flexibility to switch between dubbed and subtitled versions is much enhanced through digitalisation. Under the celluloid standard a cinema exhibitor who books a film for one week has to order either a subtitled or a

from English sites such as iTunes by Apple (<http://www.apple.com/itunes/>, information retrieved in April 2008).

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dubbed copy, because of the shipping and high printing costs. With digital cinema the exhibitor receives the film on a data storage disc or via a data transmission network. Usually the film data files contain the dubbed version, but can also contain the original dialogue soundtrack. If the exhibitor decides to show the film in a subtitled original version during one or two evenings during the week the distributor can easily provide an additional digital disc containing the subtitles. The exhibitor's modern digital playback and projection equipment can play the film in the original version and the subtitles are additionally projected on the screen. The exhibitor's additional costs for switching from dubbing to subtitling for one show per week are negligible (interview, ex.1). This was economically unfeasible under the celluloid standard where a whole new subtitled film roll had to be ordered if the film was to be screened in an original/subtitled version.

In sum, two developments that go hand in hand constitute the basis for a potential dissolution, or erosion of Germany's lock-in to dubbing. Via the home entertainment segment and the possibility to download films on the internet the audience could become more habituated to watching original language/subtitled versions of films. At the same time the relative production costs of film suppliers and the consumers' transaction costs of dubbing and subtitling have shifted in the favour of subtitling. This increases the relative attractiveness of an exclusively subtitled version distribution, particularly for small and medium sized films. This opens the possibility that films released exclusively in subtitled format could reach a larger audience in the future. Such a trend is already reported in shifts in the German cinema market. The European Commission (2007, pp. 6, 67) finds a positive trend towards an increased supply of subtitling in Germany, particularly for small budget films. For cost reasons small films are over proportionately released in subtitled format only and therefore "the increase in the number of small budget films in circulation has led to a significant increase in the number of subtitled works being screened in Germany" (ibid.). This trend is not only confined to Germany: Most of the traditional dubbing countries "are clearly moving towards subtitling" (ibid. p. 6). Only Italy and Spain seem to resist this trend.

6.2.3. Foreign Language Skills

Naturally the development of the audiences' preferences in favour of subtitling is spurred if the population's foreign language skills improve, since this facilitates the

comprehension of subtitled original language films. Such a trend is actually observable since 1990: In 2005 in Germany 56 % of the total population indicated to speak English well enough to take part in a conversation (Special Eurobarometer 243 2006, p. 13). This is an increase of six 6 percentage points from 2001. Similarly the foreign language skills of the European citizens with respect to French and German also increased. Only for the young parts of the population (up to 25 years of age) there is data available that allows mapping the development of the language skills over time: According to the Eurobarometer 47.2, (1997, p. 41), and the Eurobarometer 34.2 (1991, p. 79) the percentage of the German youths who indicate that they speak English well enough to have a conversation increased from 63 % in 1990 to 70.3 % in 1997. According to the Eurobarometer 55.1 (2001, p. 16f) this positive trend towards improved English skills among the European youth has continued (unfortunately no specific country data for Germany has been given).

The general positive trend of the development of foreign language skills facilitates the consumption of subtitled original versions of foreign language films. So it is not surprising that the supply and consumption of subtitling has increased in the German cinema market.

The close relationship between film consumption and foreign language skills is indicated by the following data: For the average European in 2005 the most common way to use foreign language skills is on holiday abroad, which is not really a surprise¹⁹⁶ (Special Eurobarometer 243 2006, p. 25). Remarkably though is that the second most common circumstance in which Europeans employ their foreign languages is for watching films/television and to listen to the radio: 26 % of the Europeans use their first foreign language for this sort of media consumption while 18 % used their second foreign language for that purpose. In 2001, when only the Euro 15 countries were accounted for in the Eurobarometer these figures were 22.5 % and 14.8 % respectively (Eurobarometer 55.1 2001, p. 25). So the consumption of foreign language films, television and radio has increased between 2001 and 2006. One might argue that these figures are biased in the sense that only people from subtitling countries could have indicated that they use their foreign language for film and television consumption. Since the subtitling countries' population of the Euro 15 account for about 40 % of the total Europe 15 population¹⁹⁷ it these figures of 22.5 % and 14.8 % are

¹⁹⁶ 44 % of the sampled Europeans use their first foreign language and 42 % use their second foreign language on holidays.

¹⁹⁷ The population in the dubbing countries France, Italy Germany and Spain account for approximately 63 % of the Europe 15 population. The Euro 15 Countries are Belgium, Denmark, Germany, Greece, Spain,

not too impressive. However considering that the majority of the consumed foreign television programmes and films have originally English dialogue, but that English is the first foreign language of only 1/3 of Europe's population (Eurobarometer 55.1 2001, p. 9). Therefore the use of foreign languages for film/television consumption is probably higher as these figures suggest.

In sum, the available data on the German populations' foreign language skills suggests that there is a tendency towards an increase in the foreign language skills, particularly English. The reasons may be diverse; above all there may be more emphasis on foreign language teaching in institutions of education. Other reasons may be a tendency towards increased travelling and cross border cultural exchange. It goes too far for this paper to analyse the reasons for the improved foreign language skills of the population. The relevant point is that they facilitate the consumption of subtitled original versions.

6.3. Summary and Conclusion

It is largely a matter of future developments to judge whether the introduction of DVDs, digital cinema and digital television leads to a dissolution or erosion of the current dubbing path in Germany. Reliable forecasts are forestalled by the lack of current survey data that could confirm or refute theories on such a development.

In the sense of Schreyögg et al.'s (2003, p. 272) notion of path dissolution and path breaking Cowan and Hultén (1996, p. 5) note that "To overcome lock-in it is necessary that some extraordinary events occur". With respect to the digitalisation of film consumption some of these events and developments described by Cowan and Hultén (1996, pp. 6ff) undermine the German market's lock-in to dubbing. These developments and events have been elaborated on in more detail during this chapter and other parts of this work. Briefly summarised and ordered conceptually according to Cowan and Hultén (ibid.) the forces that constitute the basis of path dissolution or a path break in Germany are:

- **Crisis in the existing technology.** Dubbing's negative effects upon the populations foreign language skills and the inefficiency of dubbing with respect to

France, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland, Sweden. For the percentage calculations compare the population statistics of Eurostat:

http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1090_30070682_1090_33076576and_dad=portaland_schema=PORTAL, information retrieved in April 2008.

the supply of small and medium sized foreign films might lead to a partial substitution of dubbing by subtitling. In the segment of small films such a trend is already observable.

- **Technological break-through producing a (real or imagined) cost breakthrough.**

Digitalisation of home entertainment and cinema exhibition results in fundamental changes of the techniques for film copying, storage and subtitle projection. This causes a change in the relative production and transaction costs to the benefit of subtitling, which in turn provides an incentive to substitute dubbing by subtitling.

- **Changes in taste.** The wider exposure to subtitled original versions of films might cause a shift in the audience's habituation and preferences to this format. Such a preference shift is supported if the population's foreign language skills improve over time by other factors (e.g. schooling).

In sum, small signs for an emerging tendency to path dissolution are visible in the German Film market. This holds for the home entertainment market (DVD consumption and film downloads from the Internet) and it extends into the cinema market as well where the supply of small films that are distributed exclusively in subtitled original versions has increased over the past years. A trend towards subtitling could establish in the coming years, since the foreign language skills of Europe's (and Germany's) population grow over time (through schooling and cohort effects) which facilitates the consumption of subtitled foreign language films. Unfortunately the lack of data does not allow the quantification of the strength of this shift towards subtitling in supply and consumption.

7. Summary and Conclusion

After the discussion of the topics of contingency and a potential path dissolution in the previous part this final section starts with a summary of the main findings of the conducted research. This summary follows the design and order of the whole study. Then a conclusion puts the findings into perspective. First the research questions are addressed, meaning that it is checked in how far the research questions have been answered. Then the main results of the study are discussed. This is followed by the implications of these results. Finally the remaining research gaps and research questions that this study raises are identified.

7.1. Summary Theory

The basic question of this research can be broken down to the question of whether the adoption of dubbing in the German film market constitutes a path dependent process: That entails the questions of why is the German film market so fixated upon the allegedly inefficient dubbing technique, and where does this fixation comes from? The theoretical approach to answer that question in this work is to study the German film market from a perspective of the theory of path dependence. Therefore the theoretical part of this research introduces this theoretical framework, and extends it with the theory of habituation:

The concept of path dependence that is used builds on a relatively strict economic approach to path dependence as forwarded by Arthur (1989) David (1985, 1997) and Arrow (2004). The guiding model for this research is the 3-phase model that subdivides the process of becoming path dependent in three stages (Sydow, Schreyögg and Koch 2005, p. 9).

The initial phase – the triggering phase – is characterized by contingency. Alternative technologies 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, called a “small” or critical event that triggers the path-building process.

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At the core of the second phase are self-reinforcing mechanisms, in particular increasing returns that multiply initial decisions' ('critical events') in favour of one solution. Major self-reinforcing mechanisms are economies of scale, technical inter-relatedness and learning-by-doing effects. Once a standard gains a head start in the market positive feedback tends to increase dramatically the returns and favour a single alternative (Arthur 1989, p. 116).

During the third phase 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 and Koch 2005, p. 6) or highly unlikely due to switching costs.

This research had to extend this classical path perspective. To study the film market's alleged lock-in to dubbing thoroughly it is not enough to study the increasing returns and switching costs of producers; also the consumers rigidity has to be taken into account. Therefore the theory of habituation serves as a helpful extension of the theory of path dependence:

Following Michael and Becker (1973, pp. 381ff) and Stigler and Becker (1977, pp. 77ff) it is assumed that consumers 'produce' the commodity 'film appreciation' from different components such as purchasable market goods (e.g. access to cinema), time and human capital or consumption skills. The consumption of a specific good is accompanied by the acquisition and accumulation of complementary specific consumption skills that facilitate – and thus increase – consumption of this specific good in the future. In this research the basic unit of analysis is the individual consumer and his consumption of – and exposure to – foreign language films. Therefore:

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. This skill portfolio increases utility from – and in turn consumption of – the corresponding complementary specific language-transfer format.

It is assumed that in the case of subtitling the assumed consumption skills are foreign-language skills and subtitle-reading skills. With respect to dubbing the consumption skills consist in the ability to tacitly ignore or tolerate the inconsistencies of lip-sync dubbing (Garncarz 2005, p. 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.

Becker (1992, p. 329) finds positive-feedback mechanisms 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 and Shapiro 1994, p. 106) towards one alternative in the cases of strong habits where potential alternative consumption patterns are neglected. Applied to the case of dubbing in Germany this means: During the course of the history of film the audience has accumulated consumption skills specific to dubbing and. These skills favour consumption of dubbing and induce a behavioural lock-in in that changing to subtitling implies switching costs.

7.2. Summary Data and Methods

This research design is conceived as a historical single case study. The focus is on the German film market, the identification and analysis of the processes and historical events that lead to the prevalence of dubbing and the potential inefficiencies of dubbing. The single case study design serves the testing and application of the path dependence theory to the markets of cultural consumer goods. The data sources employed in the analysis were 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. The volumes 1929 to 1939 of the (then) daily German-film-industry trade publication *Film Kurier* are used as a major source for the reconstruction of the historically critical years after sound film has been introduced and the identification of critical events. Further historical statistical data on the film industry in Germany was obtained from film-statistical handbooks. Current industry statistics were taken from various recognised official bodies and academic publications in the European Union. Additionally semi-structured expert interviews were conducted with executives in the film industry, primarily in Germany.

7.3. The Research Questions

The overall research question of this work is why the German film market is so fixated upon dubbing, and how did this come about and in how far this constitutes an inefficiency. In the terms of the theoretical framework adopted in this research the question can be condensed to: “Does the adoption of dubbing in Germany constitute a path dependent process?”. The main research questions result from this Question. It is broken down into sub-research questions. These contain all the elements that were identified in the theoretical part as constitutional elements of path dependent processes:

1. Were there *triggering events* that favoured dubbing when it was competing with other formats? 2. Were there *self-reinforcing mechanisms* propelling the establishment of dubbing? If they occurred how did these mechanisms manifest dubbings majority? 3. Is the German film market currently characterised by *rigidity* or *locked-in* in to dubbing and when did this lock-in occur? 4. Does dubbing currently constitute an *inefficient* market standard from the perspective of *film distributors’* costs in the film market? 5. Does dubbing currently constitute an *inefficient* market standard with respect to *cultural diversity* in the film market? 6. Does dubbing inhibit the development of *foreign-language skills* compared to subtitling? These sub-research questions were each one transformed into a corresponding hypothesis: Hypotheses on path dependency as a historical process:

H1: In the beginning of the sound film era there was *contingency* in the market with respect to the langue transfer techniques.

H2: *Triggering events* favoured dubbing when it was competing with other formats.

H3: *Self-reinforcing mechanisms* propelled dubbing to market domination. Hypothesis on rigidity:

H4: The German film market is characterised by *rigidity*, or *locked-in* in into dubbing. Hypotheses on inefficiency:

H5: Compared to subtitling dubbing currently constitutes an inefficient market standard from the perspective of *film distributors’* costs in the film market.

H6: Compared to subtitling dubbing currently constitutes an inefficient market standard with respect to *cultural diversity* in the film market.

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H7: Compared to subtitling dubbing currently inhibits the development of *foreign-language skills* compared to subtitling.

If these sub-research questions or hypothesis are positively answered in the empirical analysis the adoption of dubbing in Germany is indeed a path dependent process. The most relevant implication of such an overall positive answer would be that Germany is locked into the inefficient dubbing standard: I.e. subtitling countries are better off in terms of cost efficiency and foreign language learning, and that things could have come out differently, at least theoretically.

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A general remark must be made with regards to the answering of the Hypotheses. The core of the study is to analyse in how far the adoption of dubbing in Germany was a path dependent development. Certain phenomena whose interplay constitutes path dependence had to be identified. Some of these phenomena could not be quantified directly. The reason for this is that these phenomena occurred in the past and that they are only accessible for the current researcher via individual historical accounts because there is hardly any historical survey or other statistical data on that issue available. Therefore at some points the historical account data that was available had to be generalised by logical reasoning. An example therefore is the assumption that way of accumulating certain consumption skills and the resulting habituation effects that have been studied and surveyed in the 1970s, 1980s, 1990s and 2000s was in principle the same in the 1930s (E.g. this transfer contributes to explaining the prevalence of dubbing in the German market by self reinforcing mechanisms in the section on Phase II). On the following pages the results of the study will be related to the Hypotheses. The purpose is to check in how far the study's results are in accordance with these hypotheses. A confirmation of the hypotheses also implies a positive answer to the corresponding research sub-questions.

During the golden era of the silent film the film industry was very much internationally oriented. The situation changed fundamentally with the introduction of sound film in the late 1920s: Suddenly the language barrier impeded international film trade. Therefore language transfer methods were developed to enable audiences to understand foreign films. Three language-transfer methods were salient: (1) double-shooting of foreign language versions, (2) dubbing and (3) subtitling.

7.4.1. Phase I: Contingency and Small Events

The first two hypotheses aim at two complexes that are historically situated in a time period directly after the introduction of sound film (Phase I in the 3-phases model): There should be triggering events that supposedly gave a head start to dubbing while there was actually contingency in the market.

H1: In the beginning of the sound film era there was *contingency* in the market with respect to the language transfer techniques.

During the early years after the introduction of sound film the film market was indeed characterised by contingency: Drawing on historical records and academic research this study finds contingency in the German film market with respect to the language transfer technique in the early years of sound film. It was not predictable that dubbing would prevail in the market. On the contrary, since dubbing was refused by large parts of the population and deemed unfeasible by the film industry. The reason was that the film audiences in general did not accept the ‘synthetic man’ inherent in dubbing. This contingency prevails at least from 1929 until 1932. During that period it is by no means clear that dubbing would prevail in the market, rather on the contrary, dubbing is utterly unpopular in wide circles of the audience who preferred double shooting and original versions in the cities. In the discussion on the country size argument above special attention is devoted to the question of whether the world’s distribution of dubbing and subtitling countries is not determined by market size. It was found that this explanation is flawed and that the historical market sizes at the end of the 1920s-begin 1930s had at most an indirect effect upon the later adoption of dubbing or subtitling. Even historically, in the early years of sound film the production of dubbed versions did not depend on the market size. Therefore the contingency-condition is not violated and the hypothesis H1 is confirmed.

The second hypothesis concerns the question of whether there were critical events and circumstances that had a significant effect on the adoption of the language transfer regimes:

H2: *Triggering events* favoured dubbing when it was competing with other formats

A major cause for dubbing prevailing in the market was found in triggering events and circumstances that favoured dubbing: First the use of double shoot language

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versions habituated wide parts of the provincial audience to consuming *all* films with German dialogue. This is rather not a singular critical event but a decisive or critical condition of the German market.

In the political-economic realm a series of singular events favoured dubbing: The contingency laws during the early-mid 1930s decreed that dubbing had to be done in Germany which led to the establishment of a dubbing cluster in and around Berlin. The Third Reich's censorship practices and the film rating system gave a clear financial incentive to employ dubbing and shun subtitling of foreign films. After WWII the US military administration in cooperation with the US film industry consciously decided to release the backlog of US films in Germany only in dubbed versions to hide the films' anti-German elements. These are singular events and decisions. Theoretically these could have been in the other way, too, which might have led to the prevalence of subtitling. Therefore they qualify as triggering events that favoured dubbing, which confirms hypothesis H2. In total these hypotheses H1 and H2 are affirmed by this work's findings and the corresponding research questions must be positively answered: There were several triggering events/circumstances that lead the market participants to adopt dubbing after an initial phase when it was not clear which technique would prevail in the market.

7.4.2. Phase II: Self-Reinforcing Mechanisms

The critical events subsumed as 'phase I' gave dubbing a lead in the German market. Consequently if the adoption process of dubbing was path dependent self-reinforcing mechanisms should have propelled dubbing to dominance:

H3: *Self-reinforcing* mechanisms propelled dubbing to market domination.

This research question aims at clarifying in how far phase II of path dependent adoption processes applies to the case. Several self-reinforcing mechanisms were identified that propelled dubbing to domination after triggering events had given it a head start in the market:

First of all the process of habituation to a specific language transfer format has a self-reinforcing property. The more dubbing is consumed the more the audience becomes habituated to it. In parallel the audience becomes "dis-habituated" or weaned from subtitling. This is because the German audience, being over proportionately

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exposed to dubbing accumulates dubbing related consumption skills. At the same time the accumulation of subtitling –related consumption skills is neglected. As a consequence of this one-sidedness the relative benefits from dubbing consumption rise in comparison with subtitling and the consumption of dubbing increases further.

Then, the available data hints that the increase and concentration of dubbing activity in the Berlin area in the early 1930s resulted in the learning-by-doing effects in favour of dubbing. These increased the technical efficiency of the dubbing production process and the audible quality of the dubbing process and made dubbing relatively more attractive to producers and consumers. During the Early-mid 1930s, comparable technical and artistic innovations in the realm of subtitling did not originate in Germany. Also after the war the German dubbing industry is considered to be the most innovative in the world, while subtitling was widely neglected in Germany.

Logical reasoning holds that dubbing - as it got a head start in the market - enjoyed lower transaction costs than subtitling. The more dubbing was adopted, the more the transaction costs associated with its consumption fell in relation to those associated with subtitling. This discrepancy in turn increased dubbings attractiveness and provided further incentives for consumers to abandon subtitling for dubbing. The same logic not only applies to cinema but also to the video market after its introduction during the 1970s. In the television (and video) market dubbing was made standard from the beginning on. The established base of the audiences' dubbing-specific consumption skills (i.e. the audience's habituation to dubbing) was thereby reinforced.

Several self-reinforcing mechanisms have been identified that propelled dubbing to domination as soon as it got a clear head start in the market. However the evidence for some of these positive feedback mechanisms was indirect. Due to the lack of directly quantitative data it is difficult or impossible to quantify the magnitude of these self-reinforcing effects, and this study had to rely on historical accounts, reasoning, and the transfer and application of empirical phenomena to other time periods. Nonetheless the sum of these various positive feedback effects congruently points towards the direction as predicted by the hypothesis H3, i.e there is evidence that self-reinforcing mechanisms propelled dubbing to domination as soon as it gained a lead in the market.

7.4.3. Phase III: Lock-In and Rigidity

A crucial characteristic of path dependent developments is that of a lock-in into an inefficient market standard. In this analysis, too it has to be shown that the German film market is characterised by rigidity or – even stronger – by a lock-in to the dubbing standard.

H4:The German film market is characterised by *rigidity*, or *locked-in* in into dubbing.

This hypothesis is closely linked to the question of when the German market became locked-in to dubbing. It can not be pinpointed to a specific date from which on the German market could be considered as being locked into dubbing. The lock-in however most likely occurred during the Third Reich; probably already during the latter half of the 1930s. If it did not, then Germany definitely became locked into dubbing during the post-war period. What can be established for sure is that the German market became locked-in to dubbing. This lock-in still has a firm grip on the market and dubbing is dominant. The source of lock-in is first of all to be found in the switching costs of the audience. Since the majority of the German consumers lacks subtitling-specific consumption skills switching to subtitling implies additional costs in the form of lower utility of film consumption. Therefore subtitling is widely rejected. Film suppliers in all media outlets are bound to these rigid audience preferences and are forced to supply films in dubbed formats. Violation of the “dubbing imperative” results in severe drops in the audience and lower profits, if not even losses. Also, the individual consumer faces higher transaction costs when insisting on consuming subtitling. Consumers potentially suffer from a loss of positive network externalities if he switches from watching films in a dubbed version to watching films in subtitled versions.

A distinct reason for dubbings dominance in the television market is that large public television channels that can be received beyond the German borders are bound to broadcast films in dubbed formats. Broadcasting subtitled films constituted a violation of the license agreements since they can be freely received in wide parts of Europe.

These two forms of switching costs are at the source of the wide use of dubbing and the equivalently low use of subtitling in Germany: the rigidly repetitive pattern of dubbing usage can be termed lock-in because deviation from this pattern is widely unfeasible. So, the hypothesis H4 and the corresponding research question on

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a critical condition for path dependence must be confirmed, respectively positively answered.

The outlook in the discussion at the end of the empirical analysis illustrates in how far the digitalisation of film consumption, distribution and cinema exhibition constitutes a potential trigger for path dissolution: Through digitalisation the relative transaction and production costs shift in favour of dubbing – an incentive which increases subtitling’s attractiveness for consumers and producers. It has the potential to gradually change the consumption skills and the habituation of parts of the German audience. Therefore one consequence of the digitalisation could be that it opens the possibility for suppliers to increasingly release films exclusively in subtitled form in the future. This constitutes a potential driver for the dissolution of the dubbing imperative (lock-in), but it must be remarked that currently still a heavy lock-in must be diagnosed.

7.4.4. Inefficiency

One of the crucial elements of path dependence is that the economy is locked into an *inefficient* standard. Therefore it must be shown that the dubbing standard, in which the German film industry is locked into, constitutes a relative inefficiency as compared to the theoretically possible subtitling standard. The dubbing and subtitling standard are compared from an economic, i.e. financial point of view:

H5: Compared to subtitling dubbing currently constitutes an inefficient market standard from the perspective of *film distributors’* costs in the film market.

The first finding is that there is a cost advantage in favour of subtitling. But for distributors of larger film productions releasing films to the cinema with large numbers of copies the relative cost advantage of subtitling is negligible, and thus the research question can not be answered positively. For small and medium sized film distributors, however, the cost advantage of subtitling is relevant and it grows the smaller the number of circulating copies is. So from the perspective of this group of distributors dubbing constitutes a relative inefficient market standard as compared to dubbing. For small and medium sized distributors the high fixed costs of dubbing eat up a relatively large share of the distribution budget. The result is that there are fewer resources left for the vital advertisement campaign. Because dubbing costs

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constitute only a small share of larger film distributors' budgets this problem over proportionately affects small distributors. These results still apply to the current market situation, with films still largely being distributed to the cinemas on celluloid rolls. Considering the upcoming digitalisation of the cinema market the relative costs of dubbing and subtitling shift significantly further to the favour of subtitling; consequently the relative inefficiency of dubbing increases. Therefore subtitling will be even more attractive in the future than it is today. This research estimates that if the German film industry operated under a subtitling and not a dubbing standard small and medium sized film distributors could release about 10 % more films to the cinemas a year under the conditions of digital cinema. So from a financial perspective of particularly small film distributors the dubbing standard must be termed an inefficient solution to the language transfer problem.

This leads to another potential inefficiency of the dubbing standard, namely its adverse effects on cultural diversity in the film market: The EU MEDIA programme's policy aims at increasing cultural diversity in Europe's audio visual markets but for distributors of small films it is easier to enter a market with a subtitling standard.

H6: Compared to subtitling dubbing currently constitutes an inefficient market standard with respect to *cultural diversity* in the film market.

The dubbing standard constitutes a disincentive for small and medium sized distributors to release a film in Germany. These small and medium sized films that are "lost" to the German market are most likely over proportionally small - i.e. European - films. Since the European Union's MEDIA programme policy is particularly aiming at increasing the circulation of European films, the dubbing standard indeed constitutes an inefficient standard in terms of foregone cultural diversity in the film market.

On balance it can be concluded that dubbing's relatively high costs only affect small and medium sized film distributors significantly. But in addition it has to be considered that the dubbing standard has an indirect negative effect on society in terms of a tendency of reduced cultural diversity supplied and consumed in the market. Therefore this hypothesis H5 and H6 are confirmed and the corresponding research question must be positively answered for small and medium sized distributors.

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A last prominent aspect of dubbing is that it adversely affects the population's foreign language skills as compared to a subtitling standard:

H7: Compared to subtitling dubbing currently inhibits the development of *foreign-language skills* compared to subtitling.

This hypothesis as the previous ones aims at testing whether dubbing constitutes an inefficiency as compared to dubbing from an education perspective. It is answered by drawing on findings from consumer surveys and experiments. The consumption of subtitled films promotes foreign-language proficiency: Consumption of subtitling enhances foreign-language comprehension (vocabulary acquisition and word recognition) as compared to dubbing. So while subtitling enhances children and adults' foreign language skills watching dubbed foreign films and programs does not. The EU aims at increasing its citizens' foreign language competencies. Consequently from such a policy point of view the wide use of dubbing constitutes inefficiency. This confirms the hypothesis H7 and answers the corresponding research question affirmatively.

In sum it can be stated that the adoption of dubbing in Germany actually constitutes a path dependent process. All major elements of path dependent process are given: Contingency in the film market with respect to language transfer in the early 1930s and triggering events in the political-economic realm (censorship policies, contingency laws, post-war allied film policies, use of double shooting) gave dubbing a head start in the market during Phase I. Self reinforcing mechanisms were identified. These propelled dubbing to domination during Phase II; these mechanisms were learning-by-doing effects, habituation and transaction costs dynamics and network effects. Then the market is found to be locked into dubbing and these self-reinforcing effects continue to cement dubbings domination in the market. This lock-in occurred in the Third Reich or at latest in the post-war period and still lasts until today. The origins of lock-in are to be found in consumer habituation that limits the leeway of action of film distributors and exhibitors. Additionally in the television market license arrangements limit the larger stations ability to employ subtitling freely. The lock-in to the dubbing standard constitutes a cost inefficiency compared to subtitling, particularly for small and medium sized film distributors. The lock-in to dubbing negatively affects cultural diversity in the film market. At last, consumption of subtitled original versions of films and TV programmes promotes the acquisition

of foreign language skills of the audience. Under the dubbing standard this does not occur. Therefore the dubbing standard constitutes inefficiency as increasing the populations foreign language skills is a desirable policy goal in Europe.

7.5. Implications

The results of this research have implications in different realms of science and society: First, with respect to the academic discussion on path dependence in economics and business administration and the film history and theory, and second to the policy maker and film industry executive.

7.5.1. Economic Theory and Path Dependence

As the theory part of this study illustrates the concept of path dependence is not undisputed in economics and business administration: Proponents of the concept of path dependence face fierce criticism that in discussions with colleagues. This study shows that it is possible to use the concept of path dependence as a relatively confined, and strictly defined theoretical framework when it is fitted into the 3-phase model. This model then can be applied to real life phenomena. The fruit of such an undertaking is a clearer understanding of historical and current adoption processes of technologies and cultural, social standards. This research provides an example for how the path dependence researcher can order and categorize influential historical events and processes according to their effects and origins during the adoption process. The ordering of the empirical data can be undertaken according to the elements of the three phases of the 3-phase model. Thereby the 3-phase model allows capturing the essential elements that exert an influence on the adoption of a specific technology and its competitors. This research provides an example for how the path dependence concept – when strictly defined – serves the economist or business historian as a fruitful guideline or approach to complex and historical phenomena.

For the economist the concrete contribution of this study is to show that a lock-in into an inefficient standard can indeed occur. Compared to subtitling dubbing constitutes an economically inefficient solution for film distributors, particularly for small and medium sized film distributors. Dubbing also constitutes an inefficient solution for the society as a whole due to the potential loss of cultural diversity in the film market.

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The contribution of this work to the understanding of path dependent processes lies in the integrating of the economic theory of habituation as developed by Stigler and Becker (1977) into the framework of path dependence. David (1986) and others (e.g. Barnes et al. 2004) use the concept of habituation to explain path dependent process. Unfortunately no writer devotes much attention to how the processes of consumer habituation work and how in detail they lead to path dependence (the employment of the concept of habituation in David (1986) is rather brief and not further elaborated on in detail). This study concretises the mechanisms of habituation and shows how they can contribute to the emergence of path dependence. Habituation can be entailed in two essential components of path dependence: Habituation processes can be regarded as a) self reinforcing consumption patterns and b) as very rigid consumption patterns. Thereby habituation can fulfil the function of a self reinforcing mechanism propelling one standard to market domination and it can be responsible for a lock-in into a technique. The underlying components responsible for these phenomena are relatively specific consumption skills. Since the direction of habituation depends on the initial conditions and critical events habituation and models of path dependence can go hand in hand.

This research points to the analogy of the two theories and their potential ease of integration. By illuminating the role of habituation effects this research draws attention to the potential ubiquity of path dependent phenomena. The reason for this is that it is a matter of common knowledge that habituation phenomena are omnipresent social phenomena. But this potential ubiquity of path dependence comes with a downside rooted in the theory of science: If path dependence is everywhere where habituation effects can be found the concept becomes trivial, loses its edge, its value for knowledge generation. To prevent trivialising the concept of path dependence it must be rigorously defined. Only when its strictly defined conditions are satisfied one can speak of path dependence. These conditions are laid out in the three-phase model in Sydow et al. (2005) and Schreyögg et al. (2003). To fulfil the conditions of qualifying as path dependent adoption processes, including the element of habituation must also entail the essential components contingency, small/critical events, self-reinforcing mechanisms and lock-in to a relative inefficient standard. Otherwise the researcher ends up with a trivial "history matters" approach. Such a conception dilutes and trivialises the idea of path dependence.

In sum, this research shows that the theory of path dependence can be a useful tool to explain and explore social phenomena when the concept is strictly defined.

It also serves as an example for the usefulness of the case study approach in testing and applying theory, in particularly the theory of path dependence.

7.5.2. Film Studies

This research also shows how the concept of path dependence – when applied to real life phenomena – can contribute to the advancement of scientific theory: This research refutes the notion that country size alone is directly responsible for a country's adoption of subtitling or dubbing in a pre-determining way. With the exception of two writers (Danan 1991; Dibbets 1993) this supposed pre-determination is not principally questioned by film historians and other writers in the field. This research shows that the commonly taken for granted 'market size rule' is flawed. It holds that large markets employ dubbing and small markets use subtitling for cost reasons. It can not be applied universally and the counter examples of large subtitling markets and small dubbing markets are too prominent to be overseen. Above all even historically in the early years of sound film the production of dubbed versions was not directly depending on the market size but rather on the national tastes and policies. Therefore this study contributes to the advancement of film history in that it refutes the over simplistic market size theory: I show how the adoption the language transfer technique in Germany was influenced by a multitude of events and circumstances: The condition of the population's preferences that have been partly shaped by the employment of double shoot language versions; legal conditions and protectionist laws such as the contingency laws; the influence of nationalistic political authorities on film censorship; random events like the post-war allied film policies. Only the sum of these factors can satisfactorily explain the historical evolution of the world's distribution of dubbing and subtitling.

7.5.3. Film Policy and Cultural Diversity

This study's findings also have implications for the practice in film policy and the film industry. Both fields can draw upon the analysis of dubbings inefficiency and the discussion on potential path dissolution through the ongoing digitalisation of supply and consumption of films and television programmes.

To start with the policy maker this research referred two times to the policy-guiding principles of EU-bodies. The first was the European Union's MEDIA 2007 programme whose objectives is

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“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)

This research showed that the high fixed costs of dubbing can act as an entry barrier for small and medium sized films into markets where dubbing is the market standard. The European Union's most recent study on the subject itself confirms this (European Commission 2007). The implications of this insight are relevant for the European Union's MEDIA program whose aim is to support the European audiovisual industry and the equivalent national programmes, such as the federal *Filmförderungsanstalt* in Germany. These programmes subsidise the language transfer, i.e. they (partially) finance the dubbing and subtitling. Naturally the support of adequate quality dubbing consumes much more resources than the financing of subtitling. In the discussion-part on potential path dissolution it was argued that there is a tendency in contemporary Germany, although very subtle at the moment that points towards an increasing supply of small subtitled original version films in the German cinema market. Equivalently it was found that a considerable part of German DVD consumers is inclined towards watching films in the original language version. This development is recent, and it has been speculated here that a) it is linked to the digitalisation of film and media consumption and b) that it constitutes the begin of a trend towards more consumption and supply of subtitled films. The forces of habituation and imitation by other consumers might lead to strengthen that tendency in the coming years. The result would be that larger parts of the population prefer watching films in original subtitled format. The future development of such a preference shift is hardly quantifiable from the current point of view. But the prospect of such a shift has implications for the EU MEDIA and other national support programmes. If this supposed trend realises consumption of subtitled/original version films becomes more widely accepted. Consequently the financial support for the language transfer of films should be rearranged accordingly: Funds should be shifted away from dubbing support towards increasing the budget available for the financing of subtitling. The logic straight-forward: Subtitling is much more cost effective. When cinema distribution is digitalised, with the budget required for one dubbing production the subtitling production for 10-15 films can be financed. The

difficulty that remains is that of audience acceptance. Policy makers should be aware that such a policy shift can have negative implications on the film's box office if the film's target audience is not habituated to a relative large degree to the consumption of original/subtitled versions. The audience that consumes films in art house cinemas most likely easier accepts subtitling as compared to the more popular audience. In the art house segment the typical film is rather small and medium sized and therefore over proportionally European rather than a US major production. Therefore the art house films are more likely to be eligible for the EU MEDIA program's support¹⁹⁸. In this segment over the last years there occurred a shift towards an increase in the supply of small films that are released solely in subtitled versions (EU Commission 2007, p. 6, 7). Therefore the EU MEDIA Programme should keep a close eye on the audience developments in this segment and consider in how far a shift in the subsidy budget away from dubbing towards subtitling becomes more feasible over time. The resources that saved by the substitution of dubbing by subtitling can be employed in other ways to support the European film industry.

The result of such a support policy shift towards subtitling would be twofold: First, the effect would be to increase the emerging phenomenon of small films being released in subtitled format only. This would be an implementation of the policy goal of increased cultural diversity in the supply of European films because more films can be released with the same budget. The second effect is a multiplier effect: The support and wider availability of small subtitled films should induce increased consumption of subtitled films. As a consequence of this exposure the audience should become more habituated to subtitling. This in turn facilitates the consumption of such films in the future, which in turn increases the demand for small and medium sized subtitled films in the future. Such a demand shift promotes the intercultural dialogue and circulation of small European films as designated by the European Union (EU 2006, Ch.1, art. 1).

7.5.4. Film Distributors

The results of this study for the policy maker are strongly linked to those for the industry practitioner, particularly film distributors who are in the focus of this study. This study does not make the claim to explain how digitalisation affects film dis-

¹⁹⁸ Compare the MEDIA support guidelines on

http://ec.europa.eu/information_society/media/distrib/schemes/index_en.htm, information retrieved in April, 2008.

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tributors' business and their optimal film release strategies in general. The film distributors' executives know this for themselves, since it is a hotly debated issue in the current trade press (e.g. see *Blickpunkt:Film*, 17/2008, pp. 3, 4, 7,12-14ff). One small aspect, however, never gets attention by the media but features prominently here: Digitalisation shifts the relative costs between dubbing and subtitling in favour of the latter. Employing the celluloid technique subtitling requires additional variable costs per subtitled print (€725) on top of the normal printing costs (€1000). The costs of adding subtitles to a copy become marginal under the digitalisation once the subtitles have been generated. Such a cost shift is particularly important for the distributors of small and medium sized films. Particularly if they distribute art house films for an audience that is more open to subtitled original versions this enables the distributor to adapt the release strategy and produce more subtitled copies for the same budget.

The discussed potential shift in consumer preferences towards subtitling that may be witnessed in the future has implications for the film distributors: It could become more attractive for distributors to obtain distribution licences for small films whose market is so small that the production of a dubbed version is uneconomical. The box office of such films should increase as audience acceptance of the original version/subtitling format rises due to habituation effects. The potentially increased audience acceptance of original version/subtitled and the reduced costs of producing subtitled copies for cinema exhibition work hand in hand.

In sum, the implications for policy makers and the industry executives of this study go hand in hand: At the one hand the policy makers' goal of increased cultural diversity in the film market is facilitated by digitalisations' implied cost shifts in favour of subtitling. This cost shift can be utilised and supported by shifting the subsidies away from dubbing towards subtitling as subtitling becomes increasingly accepted by the audience. At the other side the film distributor who receives the support might find it increasingly attractive to obtain distribution licenses of small films that become distributed exclusively in subtitled format. The effect on the consumer might be a sort of multiplier effect: Increased exposure to subtitling furthers the audience habituation to that format which in turn increases this format's future box office potential and attractiveness for film distributors.

7.5.5. Foreign Language Skills

The last conclusion that can be drawn from this research is that any policy maker aiming at increasing the foreign language competencies of the population should be flanked with a policy that aims at increasing the consumption of original version/subtitled films. This finding results from studies in cognitive science. Cognitive scientists' experiments and survey findings that the consumption of original version subtitled foreign language films and television programmes tend to advance adults' and children's foreign language competencies. The European Union wants its citizens to "have meaningful communicative competence in at least two other languages in addition to his or her mother tongue" (EU Commission 2003, p. 4). Therefore the proposed policy for increasing the cultural diversity in Europe's film markets and the goal of increasing the population's foreign language competencies converge. A policy proposal that serves both goals – increasing language competencies and cultural diversity in the film market – would be to grant tax breaks to theatre owners and film distributors on their profit from subtitled original versions. Inversely such a measure could be called a dubbing tax in theatrical film exhibition¹⁹⁹.

The statement that the consumption of original version/subtitled films should be stimulated to advance the populations foreign language competencies is naturally a matter of wider political and cultural debate: To some extend and under certain conditions the consumption of films and programmes in the mother tongue advances the vocabularies of children and supports them in learning their mother tongue (Koolstra et al. 2002). The question is simply what goals the policy makers put high on their agenda: advancement of foreign language skills or the advancement of small children's fluency in their mother tongue. This alleged trade-off is less severe than it seems at the first glance: Even if Germany subtitled all foreign films and television programmes the share of subtitled foreign language produced content would only be a limited part of all broadcasted time. In 2001, even 36 % of all fiction programmes broadcasted in Germany were German language productions. And in the non-fiction TV segment the share of German language programmes is even higher²⁰⁰.

¹⁹⁹ German film productions could be granted the same tax break for the advancement of the national film is a major concern of German policymakers and the domestic film industry. I.e. only the returns from dubbed versions would not be granted a tax break.

²⁰⁰ OBS European Audiovisual Observatory, Press Release, 9.10.2001 "TV Fiction Programming: Prime Time is Domestic, Off-Prime Time is American" (information retrieved in May 2008 from http://www.obs.co.int/about/oea/pr/pr_eurofiction_bis.html).

7.6. Fields for Future Research Activity

The undertaking to conduct a comprehensive study on the path dependence of the adoption of dubbing in Germany single handed is doomed to be incomplete. One reason is the depth and mass of the empirical data that could be collected from archives. But also the various scientific approaches and their corresponding findings that could be employed in approaching the topic complicate the matter. Therefore this research focused on the economic approach to the topic. Still, the field that this research covers is wide and complex. It includes arguments and data stemming from different disciplines such as business administration and strategy, economics, consumer behaviour, film theory and history of the film industry and the cognitive sciences. Keeping in mind the scale and scope of the information available on the topic from all these different approaches it is unmanageable for an individual researcher during a three year dissertation project to deliver a complete account of the subject. However, the study provides the reader with 'the big picture' - an overview of the social-economic dimensions of the language transfer. Many social aspects and consequences of the dubbing standard had to be neglected to focus on the research questions. Because of the focus on path dependence this case study provides the reader with an in-depth look at the history of dubbing in Germany. The study's focus is on the economic aspects of dubbing, its prevalence and consequences for distributors and consumers. In that aspect this study is innovative, since this field of media science has yet only received limited attention by economists.

The theory of path dependence provides a guideline that helps focusing on and selecting particularly relevant aspects for detailed scrutiny. The result is the tale of the history of a selective aspect of Germany's film culture that is accessible not only for economists, students of business- and film history but also an illuminating and interesting story for readers with other backgrounds.

In the following I want to touch some further aspects that deserve more attention than I could afford to give them during this work. These aspects also indicate the possibilities for future research, in the field.

This study's focus on the economics has its drawbacks, too: It leaves little space for descriptions of the artistic development of the profession. This limitation is particularly regrettable as Germany's dubbing industry is widely regarded as the world's most artistic, skilful and technically advanced dubbing community. To devote more time and space to this aspect and the industry's development during the later half

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of the 20th century would have benefited this research greatly. In particular it could provide an illustration for the innovation and learning effects that occurred in the industry after WWII (the study limited the identification of learning-by-doing effects to the 1930s).

One of the most interesting prospects for further more detailed study is the potential inefficiencies of the dubbing standard with respect to foreign language acquisition. In this study the scale and scope of this subject was necessarily limited due to time constraints. This research referred to experiments of cognitive scientists when it came to determine in how far the language transfer technique influences peoples' foreign language skills. An interesting advancement of this debate would be to test empirically in how far subtitling has an effect on the foreign language skills of whole nations. Therefore I propose a regression analysis testing the correlation between national foreign language skills and the degree to which subtitling/dubbing is used in the respective the country. Country size effects, schooling effects, and cultural background (e.g. neighbouring countries languages) should be controlled for. The result of such a study would be revealing in that it lays open the true social benefits and costs of subtitling in terms of the promotion of foreign language skills on a national scale. National policies could take this into account.

This research focuses on the cinema market and film distributors releasing films to the cinema market, particularly in the sections on the cost inefficiencies of dubbing. There are good reasons to focus the study's scope to the cinema segment: The cinema market is probably the most critical market segment in which a film's (financial) success in the ancillary windows of exhibition is pre-decided. However the bulk of the film business' money is earned in the video and television segments. Only a tiny fraction of the content that is produced and released on video and television is released to the cinemas beforehand. Therefore the inclusion of these ancillary markets into the cost calculation revealed the true scope of dubbing's relative cost inefficiency for film and program suppliers. For the limited space and time such an undertaking could not be realised in this study.

One aspect that this research did not touch with respect to the digitalisation of cinema distribution and exhibition is the costs of the digital roll out. The benefits of the digital roll out mostly accrue to the film distributors in the form of drastically reduced printing costs. Therefore distributors partly finance the equipment of cinemas with digital film projectors and the corresponding security- and film transmission apparatus. This aspect does affect the relative cost changes between dubbing

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and subtitling. Therefore the policy and strategy implications for policy makers and film distributors given above are valid. The inclusion of the costs of the digital roll out gave a complete image of the situation the film industry faces in the years to come, but such an undertaking also diverted attention from this study's core problem, namely the question of language transfer.

This study only touches the topic of a potential path dissolution brought about by the digitalisation of home entertainment and the theatrical distribution and exhibition. The empirical data on which the argumentation is founded is rather limited. Particularly it would be interesting to see in how far the digitalisation of home entertainment and film downloads from the internet affects the audience, their consumption of and habituation to dubbing and subtitling. Therefore one implication of this research is that future European surveys should cover the issue of language transfer explicitly. This allowed testing whether the predictive aspects of this argumentation correspond to the future real life developments.

Occasionally, in this research comparisons are drawn between current or historical phenomena in Germany and other countries. These comparisons serve as illustrations and support some arguments made in the German case. Still this study is not a comparative multiple case study. A natural extension of this research project would be to conduct more case studies on the development of the adoption of the language transfer techniques in other countries to disclose the nature of the adoption process of the language transfer techniques (e.g. Ariza (2004) in "Spain as a Dubbing Country") in general. The final goal should be to conduct a study in which multiple countries are compared; such as Germany, Spain and France (as dubbing countries) The Netherlands, Portugal and Japan (subtitling) and Czech Republic and Hungary (former dubbing countries now increasingly employing subtitling). The results could be employed to isolate the decisive factors across countries that strongly influenced the adoption of the respective language transfer techniques. Also the cases of countries that changed their standard language transfer technique have the potential to reveal valuable information on the possibilities and challenges of forthcoming potential path dissolution or even a wilful path break in countries like Germany.

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A. Dubbing versus Subtitling: An Fierce Debate

In the aesthetic discussion of dubbing versus subtitling the anti-dubbing side holds that dubbing adulterates the originally intended artistic and aesthetic quality of the artwork of directors and script writers. Above all it is perceived that dubbing disfigures the actors' performance by dispossessing them of their voice. This is bad since the language and voice is considered a vital component of actors' performance. Following this argumentation's logic films should be watched with original dialogue soundtracks to grant fully authentic enjoyment of the artwork. This purist approach is all too often impractical since the population's foreign languages skills are too limited to follow film's dialogue. This is even all too often true for English language productions that dominate the world's film markets, although English is a widely spoken foreign language. Besides, even the "language transfer purists" generally do not have a sufficient command of rather exotic foreign tongues to follow the plot of films shot in such languages. For practical reasons (to ensure comprehension) in such cases one resorts to subtitling. Subtitling is regarded as the preferred mode for transferring foreign language films into the domestic idiom since it is considered to leave the original flavour of the acting intact.

The pro-dubbing group does not agree on this point at all. It is argued that flashing the subtitles in the bottom of the screen covers parts of the filmed frame. This is regarded as a mutilation of the visual camera artwork. Also the necessity for the viewer to switch attention between the plot and the subtitles during the ongoing plot is regarded as irritating and distracting. The benefits of dubbing are first of all seen in the ease with which the viewer can follow the plot without distraction and low effort, which allows concentrating on the film and the plot. Also elderly (visually impaired) can have difficulties following the subtitles. The pro-dubbing side argues that the subtitles only give a short condensed summary of the actual dialogue while lip-synch dubbing allows transferring whole spoken dialogue in detail. This

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is countered by the argument that dubbing itself is prone to be inherent contradictions: the cultural context of the plot, the figures and their use of German constitutes often a contradiction in itself. And importantly dubbed dialogue is hardly ever truly lip-synchronous which constitutes an aesthetic nuisance.

B. Estimation of the Current Monetary Value of Historical Price Information for Dubbing

This estimation of the current monetary value of historical prices for dubbing which are given at the literature serves the purpose to confirm the current relative prices of dubbing and subtitling with the relative prices given in the literature and the comparison of these historical prices with current figures from interviews and literature.

According to film suppliers interviewed in 2006–2007 (dis1, dis2, dis3) costs ranged from € 20.000 up to € 60.000 for small and medium sized films that entered the market with 20 – 70 copies per film. These figures correspond to older but general figures given in the literature: Luyken et al. (1991, p. 106) assess the costs for *one hour* of high quality lip-sync dubbing for *television* to be between ECU 25.000 and ECU 29.000. When neglecting changes the composition of the European Monetary System's (EMS) "basket" currency ECU between 1991 until the 1:1 conversion to the Euro in January 1999, and taking into account the inflation between 1991 and 2006 the figures are close to what the dubbing prices the interviewees stated²⁰¹: The Luyken et al. (1991, p. 106) figures, if translated approximately into 2006 figures state that one Hour of high quality lip-sync costs approximately € 35.000 and € 41.000 in

²⁰¹ For comparison, the stated amounts of ECU 25.000 and ECU 29.000 in 1991 have to be converted into 2006 Euros, taking into account the inflation over this period.

For the EU 15 countries the OECD reports inflation index figures of the consumer price index for the years 1991–2006. (see the databank on the OECD homepage <http://stats.oecd.org/wbos/default.aspx?querytype=viewandqueryname=221>, information retrieved in September 2007). The index rose from 79.7 in 1991 to 113.3 in 2006, with 2000 = 100. Rescaling the figures to 1991 as a base year (i.e. dividing the index figures by 79.7) yields that the price index rose by a factor of 1.42 between 1991 and 2006. The composition of the ECU remained relatively fixed during the 1990s then the ECU was converted 1:1 into the Euro (see European Union homepage http://ec.europa.eu/economy_finance/emu_history/history/part_a_2_d.htm, information retrieved in September 2007). So as an approximation one can calculate that a 42% increase in the price index between 1991 and 2006 can be assumed to be a realistic enough approximation when it comes to compare the price levels over this period. Assuming this, the stated amounts of 1991 ECU 25.000 and ECU 29.000, if converted 1:1 into Euros, and taking into account a total inflation of 42% over the whole period corresponds to € 35.000 and € 41.000 in 2006.

2006. Assuming an average movie time of 90 minutes these figures are € 52.500 and € 61.000 in 2006 monetary values. In *Variety* Foreman (1997, p. 7) estimates that dubbing a 90 minute feature film in Germany costs DM 50.000–DM 100.000 (\$ 29.000–\$ 60.000), Taking into account the increase in the price index of 18.5 % between 1997 and 2006²⁰² these dubbing costs, if converted into a 2006 Euros are approximately between € 30,000 and € 60,000. These “historical” figures given in the literature are in line within the cost range that was established in the current interviews.

²⁰² See footnote above. The increase in the price index is based on the OECD figures from <http://stats.oecd.org/wbos/default.aspx?querytype=viewandqueryname=221>, retrieved in September 2007. The inflation between 1997 and 2006 was calculated by dividing the OECD index number for 2006 (113.3) by the index number for 1997 (95.6), the result being the index change between 1997 and 2006, i.e. 1.185, or 18.5 %. The DM/€ conversion with which is the DM amount is converted into Euros is 1,95583 DM/€.

(Compare the official conversion rates published on “Council Regulation (EC) No 2866/98 of 31 December 1998 on the conversion rates between the euro and the currencies of the Member States adopting the euro”, Official Journal L 359 , 31/12/1998 p. 1–2, retrieved in September 2007 from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31998R2866:EN:HTML>). Using an inflation of 18.5 % and A DM/€ conversion rate of 1,95583 the 1997 amounts of DM 50,000 and DM 100,000 into 2006 Euros is € 30,166 and € 60,332.

C. Interview Guideline for Film Distributors

- How large is the production Budget of films that you release to the cinemas (on average). How many copies of a film do you release (on average)?
- Which exploitation rights do you usually acquire for the films? (Cinema, Video/-DVD, public television)
- In which language transfer format do you release films to the German cinemas? If more than one language is used, what is their relation in terms of circulating copies?
- What are the criteria for deciding whether a film is released in a dubbed or a subtitled version or both?
 - Which audience is the target audience for the respective language transfer formats?
- What are the costs of dubbing and who pays these costs?
 - What are the main components of these costs?
- What are the costs of subtitling and who pays these costs?
 - What are the main components of these costs?
- Is the cost difference significant?
 - How does the box office change if a film is shown in a location only in a subtitled version?
- What is the current market share of dubbing and subtitling (in terms of circulating copies)
 - In general
 - In terms of the films released by your company
- How do you compare your situation to that of your colleagues in subtitling countries?

