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European movies in the U.S

A box office success analysis of European movies in the U.S. market

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MANAGERIAL SUMMARY

In recent years there has been an increase in the production of European movies which has not been followed by an adequate increase in the demand for those movies. Moreover, all the movies produced have to face increased competition because of the intensification in movie production and generally they do not break-even (Elberse, 2007). One solution may be the export of these European movies overseas, in the largest market for European movies: The United States. As a matter of fact, certain segments of American moviegoers are not served by the American industry (Moul, 2005). This happens because studios repeatedly produce formulaic products like remakes, sequels or formula movies with well-known-stars because these products are perceived as highly profitable and involving low risk.

To the date, little is known about European motion picture economic performance in the U.S. market. This study fills the gap in the literature in order to understand which are the factors of box office success for non-U.S. feature movies in the U.S market. In particular, this study analyses the effect of language, prior appearance of the director in the U.S. market, original vs. non-original stories, and co-production with the U.S. on the success of European movies in the U.S. The data has been collected on Imdb and Box Office Mojo.

For what concerns the language, according to the model of the study, movies shot partly in English were expected to result in higher U.S. box office performance due to familiarity with the language. However, movies completely shot in English interestingly showed a negative and significant effect on U.S. box office for European movies. For what concerns prior appearance of the director in the U.S. market, the study confirmed that employing directors that had previous experience in the American market results in higher U.S box office performance regardless of whether previous movies were a success or not. Moreover, concerning the effect of original and non-original stories, as it was expected by the mode, non-original stories were proved to lead to higher box office performance of European movies in the U.S. market. Lastly, as it was expected by the model of this study, European movies that are co-produced with the U.S. generate greater box office success compared to movies produced without involving U.S. professionals.

PREFACE

This thesis I wrote is the final step of my Master's degree in Marketing Analytics at Tilburg University and Marketing Analytics and Metrics in Rome at LUISS Guido Carli and probably it is the last step of my university career. In this preface I would briefly say thanks to people that helped me in my path during the university. To my family that silently have always believed in me and supported my choices. To all the new friends that I have known in the Netherlands and their support even during hard times we are living, and friends that have been always present with whom I grow up and implicitly are part this thesis. Finally, my special thanks go to my girlfriend Sofia who loudly believes in me. Without her this thesis would not have been the same.

INTRODUCTION

Background

In Europe, in the decade 2007-2016, over 18,000 movies had been produced. Specifically, the production of fiction has reached 1,424 units in 2016 alone and the trend is still increasing. In 2018, European production has been estimated to reach an amount of 1,847 movies, excluding the co-production with the U.S (European Audiovisual Observatory, 2019). A considerably greater amount compared to the U.S., that account for 1,376 movies, of which 993 released in 2018 (Box Office Mojo, 2020). However, this positive trend in production is not followed by an increase in demand. In fact, according to the European Audiovisual Observatory, the European share in Europe dropped from 33.2% to 29.4% in the 2014-2018 interval. Therefore, it is clear that the supply side is increasingly fragmented in Europe with many little companies (European Audiovisual Observatory, 2019). Moreover, all the movies produced have to face increased competition because of the intensification in movie production and generally they do not break-even (Elberse, 2007). Indeed, for some movies, one solution may be the export to other countries. For these reasons, some movies are being subsidised by many European programs like MEDIA and Eurimages (Henning & Alpar, 2005). The aim of these programs is mainly the export of these movies abroad, in order to export and preserve European movie tradition. According to European Audiovisual observatory, the U.S. is the largest foreign market for European movies (European Audiovisual Observatory, 2019). It accounts for the 32% of total European admissions outside the Europe (European Audiovisual Observatory, 2019). However, it only comprises only the 2% on the whole U.S. market.

Problem Introduction

According to Wasko (2005), U.S moviegoers' choice is somewhat constrained. This happens because studios repeatedly produce formulaic products like remakes, sequels or formula movies with well-known-stars. Moreover, these products are perceived as highly profitable and involving low risk. Indeed, it is known that industry box office is dependent on fewer and fewer number of blockbusters (Eliashberg, Elberse, & Leenders, 2006). As a result, certain segments of American moviegoers are not served by the American industry (Moul, 2005). This constraint has been sometimes covered by foreign movies that offered

differentiated contents. They disclosed new stories, new collective images and cultures with great result. For instance, the South Korean movie *Parasite* has recently reached 35 million U.S. dollars in the U.S. domestic box office and won four Academy Awards (Box Office Mojo, 2020).

This is only one of many cases that showed that it is possible for foreign movies to get a considerable success in the U.S. market. To encourage American moviegoers to watch these movies, they have been provided with cues of movies' quality through various signalling attributes. First, in the case of the South Korean movie *Parasite*, a known director may have conveyed a signal of quality trough his previous movie history in the U.S. A similar objective has been achieved through an interesting and innovative plot that is one of the most important drivers of success (Eliashberg, Hui & Zhang, 2007). Another strategy adopted by many audiovisual companies around the world is the inclusion of other companies from another country, that is: co-production (Henning & Alpar, 2005). Co-production is a joint venture between two companies from at least two different countries. (Henning & Alpar, 2005). This is a very common strategy in Europe, proved by the exsistence of the *Eurimages* program, a public funding call that aims to promote co-productions (Henning & Alpar, 2005). As a consequence, when two companies from different countries make a movie together, they are likely to face the problem of the language. The movie may be shot or dubbed in both the languages of the producing countries. Moreover, when the final goal is to export the movie in the American market, the movie can include English dialogues like the French and Italian movie *Call Me By Your Name* or even be completely shot in English, like the French movie *Lucy* (Box Office Mojo, 2020).

Problem Statement

Up until now, research has recently focused on many factors of influence of the U.S box office performance. (Clement, Wu & Fischer, 2013; Hofmann, Clement, Völckner & Hennig-Thurau, 2017;). However, little is known about European motion picture economic performance in the U.S. market. Furthermore, literature focused on export of movies from U.S. to Europe but not the other way around (Jayakar & Waterman, 2000). This study aims to fill the gap in the literature in order to understand which are the factors of box office success for non-U.S. feature movies in the U.S market.

Prior research studied how talents, like actors, directors, and, sometimes, also producers and writers may influence box office. The theory behind this is the signalling theory applied to

experiential products (Kirmani & Rao, 2000). In general, the signaling theory is referred to every kind of signal that is able to reduce the choices' risks (Kirmani & Rao, 2000). Specifically, this study focuses the attention on directors' history in the U.S. market. For instance, what is the relevance of a director that previously appeared in the U.S. screens? Including directors such as Pedro Almodovar, Paolo Sorrentino may have reasonably a greater impact on the U.S. box office compared to other directors with no history in this market. The question is: what is the extent of their impact on box office? For example, by looking at the box office results of Pedro Almodòvar career, between the U.S release of *Women on the Verge of a Nervous Breakdown* in 1988 and the release of *Dolor y Gloria* in 2019, almost each of his movies have been considerably successful in the U.S. (Box Office Mojo, 2020).

Another issue that could be relevant is the co-production strategy between two or more countries. There are many movies that had been co-produced between European countries for funding reasons (Henning & Alpar, 2005). Another strategy may be the inclusion of an American company in the production in order to get the access to American stars, financial resources, locations, and above all, the public. For instance, the movie *Amélie* is a co-production between France and Germany and it reached a U.S. box office of 33,2 Million. Since this area is still unexplored, it may be of crucial importance the understanding the co-production impact on box office results.

Many of the European movies that have been released in the U.S. come from U.K. (Box Office Mojo, 2020). This is facilitated by the fact that they share a common language (Jayakar & Waterman, 2000). The problem may arise when there is a mismatch between the movie language and the language moviegoers. For instance, the Italian and French movie *Call Me By Your Name,* had been shot in English, French, and Italian and co-produced by Italy and France. It achieved a great box office success in the U.S. and one Academy Award (Box Office Mojo, 2020). Therefore, choosing whether to include or not English as one of the languages of the movie may be a crucial decision to be made.

Last but not least, there are many stories that are already known in the U.S culture and screenplays often come from novels, comics, video-games, and other movies whereas others are original stories (Joshi & Mao, 2010). Hennig- Thurau, Houston and Heitjans (2009) named this *cultural familiarity* of the public to the parent story. For instance, the American, English and French movie *Paddington 2* reached a box office of 42 Million in the U.S, inheriting the success of the first movie. Another example is the Italian movie *Under the Tuscan Sun* a movie based on a book that obtained an incredible success.

In conclusion, the research question of this study is the following:

What is the effect of language, directors previous release in the U.S market, original vs. non-original stories, and co-production with the U.S. on the success of European movies in the U.S.?

Contributions

Theoretical contribution. As it has already been discussed above, there are many studies that have recently focused on the U.S. box office and how it is influenced by factors such as budget, star power, number of screens, release date, advertising expenditures and so on. (Hofmann, Clement, Völckner & Hennig-Thurau, 2017; Clement, Wu & Fischer, 2013; Mathys, Burmester & Clement, 2016; Leenders & Eliashberg, 2011). Currently, there is no detailed knowledge on the success of European movies abroad. Elberse and Eliashberg (2003) investigated the international release strategy of U.S. feature movies in international markets. In contrast, the focus of the current study are European movies in the U.S market. In particular, the novelty is in the understanding of the role of language, the director's history in the U.S, the dichotomy original vs. non-original story, and the co-production efficacy.

Managerial contribution. Nowadays, the European cultural entrepreneurship, investors and public stakeholders need guidelines to understand how to make a movie successful abroad. The study first investigates the different kinds of success namely, artistic and commercial and lately analyses whether the factors explained above improve the commercial one, specifically measuring opening box office.

First of all, this paper reveals the impact of different languages on the abroad markets. As a consequence, this could help distributors to better select movies for the U.S. market relying on the language, or even change it. Secondly, distributors could better understand the contribution of the choice of a familiar director. That is, the extent to which the presence of director that previously appeared on the U.S. screens increases the U.S. box office result. Thirdly, if non-original stories outperform the original ones, it would help in making better choice in the greenlighting process. Lastly, if this study demonstrates that co-production enhances the movie success, producers could put more effort in this kind of strategy when producing a movie. All this contribution may also help governments and local institutions that face the problem of addressing financial resources when they decide to subsidise a movie.

Outline of Next Chapters

The next section will focus on existing literature concerning the box office performance and the resulting conceptual model where the main variables and the hypothesis will be explained. The third section is the methodology and it precedes the results. The study ends with discussion and managerial implication.

BACKGROUND LITERATURE AND CONCEPTUAL FRAMEWORK

Background Literature

According to Delmestri, Montanari and Usai (2005) movies are at the same time economic products and cultural creations. This means that success of such products is multidimensional given their twofold nature. This implies that measuring performance of a movie involves the measurement of both dimensions. In their study, the authors defined economic success as the box-office performance while they defined artistic merit as the quality of cultural content of the movie recognized by relevant social actors in the industry (through recognition of the critic). Moreover, they analysed how several movie characteristics influence both kinds of success. Their research showed that economic success and artistic merit do not always go in the same direction and that factors positively influencing economic success do not necessarily lead to artistic merit and vice versa.

Accordingly, Holbrook and Addis (2007) define success as a two-path model. Indeed, they tested and did not found a correlation between industry recognition and market performance, where industry recognition is the number of prizes won by a movie. They implemented a two-path mediation analysis that aimed at analysing determinants of artistic success and market performance. They found that critical and popular evaluation and buzz are uncorrelated and they influence respectively two different variables: artistic success and market performance. In other words, certain intrinsic properties of the movie (e.g. actors, budget, genre, language) have a tendency to result in positive/negative evaluations of moviegoers and the critic. This, in turn, influences the artistic success of the movie. On the other hand, other characteristics of the movie have a tendency to result in buzz, which happens when moviegoers

and film critic recommend that movie to other moviegoers. This, in turn, influences market performance. Therefore, attitudes toward a movie and word of mouth appear to be uncorrelated and they have an effect respectively on artistic success and market performance. However, the authors also found that movie characteristics has still a direct effect on market performance and artistic success. Therefore, there is the possibility that artistic recognised movies and market performance are not 100% explained by buzz measures (e.g. WOM). Hence, more attributes should be analysed to assess the success determinants of movie success.

Moreover, Hadida (2009) found that previous success of talents, producers and directors involved in the movie -both artistic and commercial- have a positive influence on budget that, in turn, influences commercial success. However, she found that budget does not influence artistic success. This means that more expensive movies do not win more prizes compared to less expensive ones. This study shows that the budget allocation is an endogenous variable that has an effect on commercial success (Hadida, 2009). In addition, the study points out the importance of directors in the European industry and the effect of directors on both commercial and artistic success (Hadida, 2009).

Commercial and artistic success have been measured and defined in various ways. Indeed, commercial and artistic success are indexes that capture several multidimensional variables. According to Simonton (2009), commercial success has been measured trough gross or total box office, opening box office, theatrical runtime and, only in few studies considered profits. According to him, the latter would be the most relevant one from the business point of view. However, the analysis of profits involves costs of each movie that are not public in many cases. Another way to measure commercial success is to include other release platforms next to the theatrical release. For instance, home video box office, that includes both rental and the purchase physical copies has been included in the commercial success index in some studies (Holbrook & Addis, 2007). However, home video is not anymore sufficient to measure non-theatrical movie commercial success. Unfortunately, there are no studies that considers commercial success on VOD (Video on Demand) platforms since data are usually not published by VOD companies nowadays.

On the other hand, Simonton (2009) measured artistic success through Academy awards (or Oscars). The reason why only Oscars are usually included in the measurement of this variable lays in fact that the Academy prize is awarded following the release of the movie, but this is not the case for many other prizes. In other words, movies must be released on the U.S. screens before their nomination while other prizes like Cannes Palme d'Or or Venice Golden Lion are assigned before the first release. This kind of prizes, may act as signal for the

moviegoers and are usually not considered as measure of artistic success.

As a result, movie success analysis should take into account that cultural industry success is a multidimensional concept that includes both the artistic value and the market performance.

This dualistic path found in literature is particularly relevant for European movies that try to access international markets. Many European movies are subsidized from governments and local institutions trough policies that have different objectives (Delmestri, Montanari and Usai 2005; Henning & Alpar, 2005). According to Delmestri, Montanari and Usai (2005) Europe laws considers movie as cultural goods and they can be subsidised by the government. Specifically, Bagella and Becchetti (1999) described the main reasons related to the subsidization of European movie industry. Among these reasons, one is related to artistic and commercial success. Indeed, they assess that governments subsidises must be provided to develop and support cultural identity (Bagella & Becchetti, 1999). The aim of subside is the creation of masterpieces that increase the prestige of the domestic culture (Bagella & Becchetti, 1999). In other words, governments and local institutions subsidise movies in order to shape customer preferences of both domestic and foreign customers. For instance, an Italian movie produced by an Italian company is subsidised to increase the likelihood of being seen in Italy and abroad. Eventually, Bagella and Becchetti (1999) did not found any effect on subside on commercial success.

This study focuses on commercial European movie success in the United States. Specifically, this study considers Opening box office in order to find what are the signals (i.e. attributes) that makes American Customers prone to watch a European movie.

Some studies found that there are some product-specific attributes that affect international markets box offices success. Neelamegham & Chintagunta (1999) developed a model for forecasting movie results in international markets. Their findings suggest that movie industry should use both product-specific and market-specific information to make more reliable product performace forecast (Neelamegham & Chintagunta,1999). For instance, there are some movie genres that perform better in the country of origin, like comedies (Holloway, 2013). Moreover, different countries lead to higher success for different genres, due to country-specific preferences (Neelamegham & Chintagunta, 1999). In the U.S., for example, romance was the most preferred genre until 1999 whereas, in the same period, the other English-speaking countries (i.e. Australia, U.K. and Canada) and Italy preferred action movies

(Neelamegham & Chintagunta, 1999).

Another attribute that has been studied is the presence of stars. For U.S. movies, stars have been demonstrated to positively boost box office results in international markets (Sawhney & Eliashberg, 1996; Neelamegham & Chintagunta, 1999) while in Europe directors play a more important role in determining the success of a movie (Bagella & Becchetti, 1999). Accordingly, Clement, Wu and Fischer (2013) found that directors affect more box office result in Germany compared to the U.S. Moreover, they found significant differences in factors like seasonality and movie critics' reviews between these two countries (Clement, Wu & Fischer, 2013). As a result, it is reasonable to assume that attributes that make European movies successful in Europe are different from the attributes that lead to success in the U.S market for the same movie. Therefore, in order to achieve better performance, it is crucial to analyse country-specific important attributes - the U.S ones in this case.

Next to these factors, other product-specific factors need to be studied despite genre or presence of stars in order to understand what may lead a European movie to succeed in the U.S. market. Few studies focused their attention on languages, cultural familiarity (i.e sequel, adapted from a book or comic, remake) and co-productions. These may be important product-specific characteristics that may influence the box-office of European movies in the U.S. These factors will be discussed next.

Conceptual Framework and Hypotheses

This conceptual framework is a step-by-step focus on different attributes that may be particularly relevant in the U.S market for European movies. It is mainly based on signaling theory.

As stated above, the use of signals reduces the asymmetry of information between the firm and consumers, that is typical in the experience goods domain (Kirmani & Rao, 2000). This is because when choosing experience goods customers cannot assess the value of the product before the purchase (Nelson, 1970). As a consequence, in this domain signalling attributes, i.e. characteristics that convey quality of the product are extremely important and used by consumers when making a purchase decision (Nelson, 1970).

This theory has been applied multiple times to the movie industry to understand the impact on box office success because movies fall in the category of experience goods.

Specifically, it has been demonstrated the role of "human brands" as signal of quality (Hofmann, Clement, Völckner & Hennig-Thurau, 2017). "Human brands" are referred to any person mentioned in the marketing communication of the movie (Thomson, 2006).

This study will investigate the role of language, directors, original vs. non-original stories and co-productions, on the European movies' box office success in the U.S. market, considering them this as signals for the audience.

Language. Language is one of the main barriers to the diffusion of European movies in international markets and Europe itself (Henning & Alpar, 2005). The majority of studies that concern this attribute are about English movies in both English-speaking and non-English-speaking countries (Craig, Greene & Douglas, 2005; Jayakar & Waterman 2000). Less is known about the impact of foreign language movies in English-speaking markets.

Language can act as signal for customers. Indeed, it can negatively affect box office result when the movie is released in a country that does not understand the language of dialogues (Craig, Greene & Douglas, 2005). In other words, moviegoers use the compatibility of their language with the movie language as a diagnostic attribute to choose whether to watch or not that movie (Craig, Greene & Douglas, 2005). Therefore, the choice of language for a movie directly reflects a film's target market (Peng, 2016). The rationale behind this is that people that speak the same language may share the same belief, attitudes and culture (Craig, Greene & Douglas, 2005). As a proof of that, Jayakar and Waterman (2000), found that English-speaking countries, like UK, Australia, and New Zealand have a higher American movie box office share compared to the American movie box office share of non-English-speaking countries. In other words, American movies are the most watched movies both in English-speaking and non-English speaking ones but they are preferred in English-speaking countries even more (Jayakar & Waterman, 2000). However, concerning the exports of U.S. movies in foreign markets, the authors did not find a strong impact of English fluency on the share of U.S. movies' box office over total box office in the country, when they analysed non-English-native countries (Jayakar & Waterman, 2000). This can be attributed to the fact that a lot of these countries dub foreign movies and English fluency was not a strong predictor of the share of U.S. box office. In other words, some non-English European countries overcome the language barrier by dubbing movies and this nullifies the effect of English fluency on the share of U.S box office.

Per contra, in the U.S. market the use of subtitles for foreign movies is more common compared to the use of dubbing, although it is always used for animation movies (Marich,

2013). As a result, movies shot entirely in a foreign language, tend to underperform in the U.S. market even if they are subtitled because they are still in foreign language and mainstream audience historically have shied away from foreign language movies (Marich, 2013). Indeed, foreign movies are preferred by heavy moviegoers which is only a small segment (Marich, 2013). Therefore, only a small number of imported movies reach commercial U.S. movies results (Marich, 2013).

Hence, including English among languages of the movie dialogues in a non-U.S. movie that is exported in the American market may have a positive impact on its box office compared to movies entirely shot in a foreign language. More formally:

H_1: Including (excluding) English as spoken language in the movie positively (negatively) influences U.S. box office.

Directors' previous appearance in the U.S. market. Many studies on signaling theory applied to the movie industry considered directors as risk-reducer when moviegoers select the movies (Hofmann, Clement, Völckner & Hennig-Thurau, 2017; De Vany & Walls, 1999; Akdeniz & Talay, 2013). This means that they act as a signal of quality. This can be also applied to European movies.

Hadida (2009) demonstrated that directors' former success positively influences box office. Therefore, directors who get higher commercial success in previous movies, led to greater success to their next movies' box office (Hadida, 2009). According to Marich (2013) Auteur movies (or arthouse movies) are more likely to attract small segment of customers like heavy moviegoers or ethnic moviegoers. For this kind of customers, the director is an important signal of quality (Marich, 2013) and a previous appearance in the U.S. market of a director would make them able to recognise him. Accordingly, the mere exposure effect sustains that the simple exposure may lead to more positive attitudes toward a product or person (Kahneman, 2011; Lunardo, Gergaud & Livat, 2015). Therefore, applying this effect to the movie industry, we can expect an increase in box office performance that depends on simple appearance. Indeed, previous appearance in the U.S. market will deliver an additional signal to customers and, as a consequence, a choice-risk reduction. If confirmed, this would mean that box office success does not depend on previous director success like Hadida (2009) found.

In addition to previous commercial success, directors with a history in a specific market may have a stronger network in that country, and a better positional embeddedness (Packard, Aribarg, Eliashberg & Foutz, 2016). Positional embeddedness refers to the extent to which a

person has collaborated with well-connected others in the network and has been found to positively influence box office (Packard, Aribarg, Eliashberg & Foutz, 2016). In the specific case of the present research, European director that have previous experience in the U.S. market is expected to be better positioned compared to directors at their debut. As a result, a better positioned director will lead to more publicity opportunities and media attention, and as a consequence, to a greater audience appeal (Packard, Aribarg, Eliashberg & Foutz, 2016).

Therefore, movies that has been directed by directors who previously appeared in the U.S market are expected to outperform the ones with directors at their first experience in the American market, even if the previous movie was not a commercial success.

H2: The director's presence (absence) in movies previously released in the U.S market will positively (negatively) influences U.S box office.

Original vs. non-original story. Cultural familiarity is the extent to which a movie makes use of known themes or other elements of popular culture to signal quality (Sawhney & Eliashberg 1996). In other words, it is the previous public knowledge of the plot (Hennig-Thurau, Houston & Heitjans 2009). This is what draws the line between original and non-original stories (all the movies adapted from books, comics, and other forms of written or illustrated storytelling; Hennig-Thurau, Houston & Heitjans 2009). The relevance of this classification is proved by the existence of two separate categories for Oscar awards made by the Academy of Motion Picture Arts and Sciences. Indeed, there are the Oscars for original screenplays and the Oscars for the adapted ones. Practically, in the production phase, the non-original story requires the producer to buy the rights of the book, comic, or videogames in addition to the screenplay rights.

Recent literature on brand extensions in the motion picture industry considers sequels as non-original stories (Hennig- Thurau, Houston & Heitjans, 2009). Moreover, they found that sequels tend to generate higher revenues compared to original movies (Hennig- Thurau, Houston & Heitjans, 2009). Literature on movie adaptation from books also considered adapted movies as brand extensions (Joshi & Mao, 2010). The main difference between sequels and adapted movies is that, the former's source is the previous movie it is based on, while the latter's source takes a different form (books, comics etc.). As a consequence, adapted movies involve a modality change i.e. the transposition from a different kind of storytelling—e.g. books' prose and comics' illustration—to the images of a movie. Furthermore, it has been found that non-book-based movies earn significantly less than book-based movies (Joshi &

Mao, 2010). Following the signaling theory this happens because there might be less consumption risk when a movie comes from a non-original story compared to an original one. In other words, customer make their choice considering the source of the movie and they prefer familiar ones. This happens because when it comes to adapted movies the public is culturally familiar with the plot (Hennig- Thurau, Houston & Heitjans 2009). Moreover, when customers are exposed to the book the movie is based on, they tend to store in memory the attitude toward the book and transfer it to the movie (Joshi & Mao, 2010). This is also the case for customers that got exposed to the book but they have never read it (Joshi & Mao, 2010), which may be particularly the case for European movies with a non-original story.

To sum up, European movies adapted from books, comics etc. that have been previously released in the U.S. are expected to outperform original ones. As explained above, the rationale behind this may be the fact that American public did not have any possibility to be exposed to European movies based on a completely original story before its conception, whereas it is more likely that the American public got exposed to the creative source of non-original movie released in the U.S that already existed in another creative form (a book, comic etc.), taking the source into account in their decision about the movie. Formally:

H3: Non-original screenplays (original screenplays) positively (negatively) influence U.S box office.

Co-production. Co-productions are joint ventures between two or more countries that have multiple objectives: entering in a new market with a movie and access both to financial and human resources of both countries (Peng, 2016). In general, co-productions imply that professionals from both countries are involved in the movie-making phase (Henning & Alpar, 2005). For instance, a co-production between Sweden and France must involve both countries, not only financially but also on the crew level. Therefore, a coproduction with the U.S. is supposed to have American professionals. Packard, Aribarg, Eliashberg and Foutz (2016) demonstrated that crew may positively influence the box office performance. Specifically, they focused on junctional embeddedness, that is the extent to which a person's prior collaborations bridge different network sub-communities (Packard, Aribarg, Eliashberg & Foutz, 2016). They showed that junctional embeddedness positively influences box office (Packard, Aribarg, Eliashberg & Foutz, 2016). It could be argued that junctional embeddedness with crew members the destination country, can result in a product that better suits the demand of the destination market. As a consequence, it can be expected that European companies could

generate better results in the U.S market collaborating with a U.S. company/crew. The reason is that, if the crew is composed by both European and American members, the European members will learn different approaches to the filmmaking process from American ones and vice versa. This synergy generated by junctional embeddedness is expected to result in positive effect on box office.

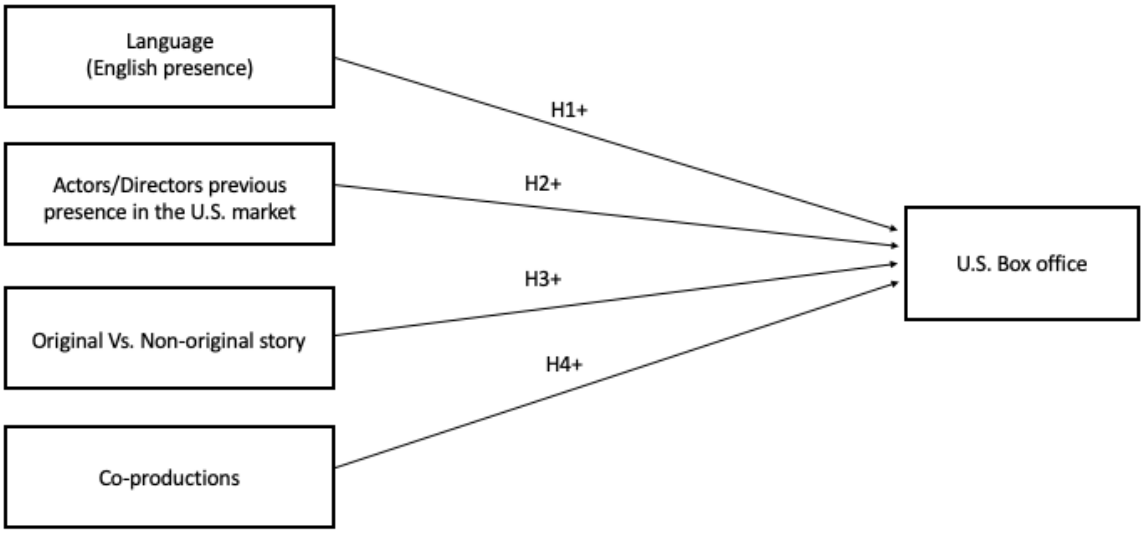
From a consumer perspective, it is known that country of origin may act as signal of quality (Russell & Russell, 2006). Specifically, U.S. customers usually prefer American products compared to foreign movies (Russell & Russell, 2006). However, this is not always the case. In fact, triggering the belief of foreignness, in such countries where domestic movies are dominant (like the U.S.), may neutralize the implicit bias against the foreign movies' quality (Schooler 1971; Russell & Russell, 2006). This means that American moviegoers have negative attitude toward foreign movies but this negative attitude can be offset by signals of foreignness (Schooler 1971; Russell & Russell, 2006). In the specific case of co-productions between a European country and the U.S, cues suggesting that both countries are involved may trigger the perception that the movie is both American and a foreign at the same time. This is possible, for instance, by showing the locations where the movie has been shot, in the cases in which it has been shot in a foreign country.

In summary, co-production movies with the U.S. will generate greater box office. Hence, the following hypothesis has been developed:

H_4: Including (excluding) a U.S company among the production countries positively (negatively) influences U.S box office for a given movie.

Conceptual framework.

Figure 1: Conceptual Framework



RESEARCH METHODOLOGY

Motivation

This study uses secondary data to test the hypothesis showed above. The main advantage of secondary data is certainty. That is, the data is generally less susceptible to measurement error. Moreover, they are timelier because they shorten the time needed for primary data collection. As a matter of fact, movie industry data are only available through secondary data and easily accessible. Specifically, European movies are often not so successful or popular and it would be hard to find primary data about some of them. As a result, this research will also include relatively less-known movies (e.g. documentaries). Lastly, in the specific case of movie industry, secondary data available online are updated weekly.

Sampling and Data Collection Procedure

Data sources. For this study, secondary data gathered from IMDb and Box office Mojo will be used. IMDb and Box Office Mojo are the largest and most used databases by professionals and researchers (Hofmann, Clement, Völckner & Hennig-Thurau, 2017). The data include information related to movie attributes, distribution and performance: weekly and

total movie box office, number of screens in each week and across the entire movie lifetime, genre of the movies, release date, budgets, production year, country of origin, production company, language of the movie dialogues, directors, writers actors, producers, creative source of the movie (whether it comes from books, comics, videogames etc.), critics reviews and prizes.

Sample. The data set includes all the movies released in the U.S. between the 2000 and the 2020 that amount to 12578 movies. There were some duplicates and miscollected cases that were not movies that have been deleted. Then, all movies that were not produced in Europe, i.e. do not include any European country in the country of origin variable, were deleted. Specifically, country of origin refers to the nationality of the production companies. In other words, all the movies produced by a company in the European continent were retained. Russia, Azerbaijan, Georgia, Turkey were excluded because their area mostly belongs to Asia.

The final dataset includes all the movies between 2005 and 2019 because the 2000-2005 will been used as initialization period for the director history as explained below. Moreover, movies released in 2020 were removed because it is not yet concluded. After data preparation the remained movies are 2742.

Research Design

Dependent variable. In this study, the opening week box office is considered as the dependent variable. Hofmann, Clement, Völckner and Hennig-Thurau (2017) did not find any substantial difference between studies that considered the total box office compared to the others that considered the opening box office. In general, many studies found that the opening box office is a reliable forecast of the total success and that it accounts for the 30% of the total box office performance (Elberse & Eliashberg, 2003; Ainslie, Drèze & Zufryden, 2005). As a result, the dependent variable is operationalized considering only the opening box office ($OPEN\_BOX\_OFFICE_i$).

Because the distribution of box office is skewed, a log transformation has been applied to the opening box office variable ($Ln(OPEN\_BOX\_OFFICE_i)$). Indeed, the logarithmic transformation gives the distribution normality (Clement, Wu & Fischer, 2013).

Independent variables. This study takes into account four different independent

variables as showed previously in the hypothesis.

First of all, language (ENG_LANG) has been simply coded into a dummy variable that gives a 1 to movies that contain English dialogue and 0 otherwise. Specifically, in this variable both movies that are completely acted in English and movies that only include English among the language has been coded as 1. On the other hand, movies completely shot in a non-English language has coded as 0. In this way, it is possible to distinguish the effect of language on the dependent variable.

Second, directors' previous history in the U.S. market (DIR_PREV) has been coded. There are two categories: 1, in the cases in which in the dataset there is a movie with the same director that has been previously released in the U.S. and 0 otherwise. To code this variable, different issues came up. Given the fact that the data collected contained movie in the range 2000-2020, it is very likely that many directors shot movies released in the U.S. before this period. For instance, if Luc Besson released only one movie in the period 2000-2020 it would be coded as 0, but in reality, he would be not at his debut in the American market because he released some successful movie previously, like the French movie *Leon*. To deal with this problem, a five-year history was considered and the sample is restricted to movies released starting in 2005. To give an example: every time a movie released in 2005 encounters another movie in the period 2000-2004 with the same director, it is coded as 1. Moreover, for movies directed by more than one person, each director has been processed individually based on their five-year history extracted from the dataset. Therefore, if at least one of the directors shot a movie released in the U.S. in the previous five years, it is coded as 1. The second problem concerned the fact that there are some directors that shot both movies whose country of origin does not belong to Europe and others that are European. Indeed, a director may have previously directed a movie produced in a non-European country and eventually released the movie in the U.S. theatres. For example, if a Korean director produced a movie with a Korean company that was released in the U.S. in 2006 and he subsequently directed a European movie also released in the U.S. in 2008, then he is coded as 1 as well. To solve this problem, this variable is coded considering the whole dataset, including non-European movies.

Third, original story vs. non-original story is coded considering all movies that come from another creative source including books, book series, plays, comics, comic books, novel, novella and short story. It does not include sequels, spin-offs and remakes, that will be treated as control variables in the next paragraph. If the movie comes from any of the sources just listed it is coded as 1 in the variable NON_ORIG_STOR and 0 otherwise.

Lastly, the co-production is coded into two different variables (COPR_US, COPR). The

first one concern the U.S. co-productions: 1, whether it occurs a co-production with the U.S. and 0 otherwise. The second one, controls for co-productions in general: 1 if the movie is a co-production and 0 otherwise.

Control Variables. The independent variables are factors that are particularly relevant for European movies in the U.S.. Other factors affect box office revenues as well, however. This section is a brief explanation of other important variables that are included.

First of all, the number of screens is one the most important variable for international markets release (Neelamegham & Chintagunta, 1999). To allow for decreasing returns, it has been transformed trough the natural logarithm (Ln(SCREENS_OPEN$_i$)) (Clement, Wu & Fischer, 2013).

Second, the presence of a well-known star in a European movie may significantly influence the U.S. box office. Many studies used the star power as a measure of their influence on box office (Joshi & Mao, 2010; Hofmann, Völckner & Hennig-Thurau, 2017). Therefore, the variable star power (STAR_POW$_i$) will be included in this analysis. Next to star power, director power (DIR_POW$_i$) will be controlled for as well. Second, it has been demonstrated that movies are affected by seasons. This is called seasonality (Elberse & Eliashberg 2003) and has been coded into 5 different dummy variables (SEAS_WINT$_i$, SEAS_SPRING$_i$, SEAS_SUMM$_i$, SEAS_FALL$_i$, SEAS_XMAS$_i$) following what Joshi and Mao (2010) did.

Also, genre is included, as many studies have done (Neelamegham & Chintagunta, 1999; Joshi & Mao, 2010). The genre variable has been coded into 10 different dummies, including ACTION$_i$, CRIME$_i$, BIOGRAPHY$_i$, COMEDY$_i$, DRAMA$_i$, ROMANCE$_i$, THRILLER$_i$, DOCUMENTARY$_i$, ANIMATION$_i$, OTHER$_i$ based on the most frequent genre in the dataset, plus documentaries and animation movies. Other genres are collapsed in the OTHER$_i$ genre dummy. Interestingly, movies may have more than one genre: a movie can be both thriller and action. This means that GENRE$_i$ it is not mutually exclusive and that all the genres' dummies will be included in the model.

Also, reviews play a crucial role in the U.S., this is particularly important for foreign movies that usually struggle to have access to the American publicity (Elberse & Eliashberg, 2003; Marich, 2013). This variable is coded as METASCORE$_i$ that is a weighted score of movie reviews from approximately 40 different sources designed by metacritic.com (Hennig-Thurau, Houston & Heitjans, 2009).

Sequels (SEQ$_i$) are also separately accounted for in the model because they affected box office significantly in past research (Hennig-Thurau, Houston & Heitjans, 2009; Hofmann,

Clement, Völckner & Hennig-Thurau, 2017). I also add remakes (REM_i) and spin-off ($SPIN_i$) because they fall into the cultural familiarity classification of Hennig-Thurau, Houston, and Heitjans (2009) and they are also classified separately by Hofmann, Clement, Völckner and Hennig-Thurau (2017).

Release year has been introduced as dummies to control for inflation and factors that depends on economic context (RELYEAR_2005 … RELYEAR_2019).

In conclusion, MPAA restrictions ($MPAA_i$) has been found to influence significantly box office in the U.S. (Leenders & Eliashberg, 2011; Elberse, A., & Eliashberg, J. 2003). MPAA (Motion Picture Association of America) is the organization that is responsible for public restrictions. Usually, MPAA rate each movie that is going to be released in the U.S. market considering the movie content (Leenders & Eliashberg, 2011). There are 5 age-based score restrictions: G (Generic audiences) PG (Parental guidance); PG-13 (Parents Strongly Cautioned); R (Restricted); C-17 (Adults only). The variable $MPAA_i$ has been coded into one single ordinal variable from 0 to 5, where 0 is the value assigned to unrated movies and the values from 1 to 5 follow the restrictiveness (Joshi & Mao 2010).

Table 1: Data Collection

Variable	Name	Description	Source
Dependent Variable **Opening Box Office**	Ln(OPEN_BOX_OFFICE)	Natural logarithm of the Opening week box office in $	Box Office Mojo
Independent Variables **English Language**	ENG_LANG	Dummy values assigned whether movie contains English dialogues (=1) or not (=0).	IMDb
Director's Previously released in the U.S.	DIR_PREV	Dummy values assigned whether	IMDb

		a director's movie (at least one) was previously released in the U.S. (=1) or none (=0).	
Original vs Non-Original Story	NON_ORIG_STOR	Dummy values assigned whether movie is a Non original story (=1) or an original one (=0).	IMDb
Co-production with U.S.	COPR_US	Dummy values assigned whether movie is co-produced with an American company (=1) or not (=0).	IMDb
Co-production	COPR	Dummy values assigned whether movie is co-produced by more than one country (=1) or not (=0).	IMDb
Control Variables			
Opening Screens	Ln(SCREENS_OPEN)	Natural logarithm of the Opening week Screens	Box Office Mojo
MPAA rating	MPAA	Dummy values assigned according	IMDb

		to the MPAA rating 0 = unrated; 1 = G; 2 = PG; 3 = PG-13; 4 = R; 5 = C-17.	
Seasonality	SEAS_WINT SEAS_SPRING SEAS_SUMM SEAS_FALL SEAS_XMAS	5 mutually exclusive variables each with dummy values assigned whether movie was released in that season (=1) or not (=0).	Box Office Mojo
Genre	ACTION CRIME BIOGRAPHY COMEDY DRAMA DOCUMENTARY ROMANCE THRILLER ANIMATION OTHER	10 non-mutually exclusive variables each with dummy values assigned whether movie belongs to that genre (=1) or not (=0).	IMDb
Release Year	RELYEAR_2005 . . . RELYEAR_2019	15 mutually exclusive variables each with dummy values assigned whether movie was released in that year (=1) or not (=0).	Box Office Mojo

Sequel	SEQ	Dummy values assigned whether movie is a sequel (=1) or not (=0).	IMDb
Remake	REM	Dummy values assigned whether movie is a remake (=1) or not (=0).	IMDb
Spin-Off	SPIN	Dummy values assigned whether movie is a spin-off (=1) or not (=0).	IMDb
Star Power	STAR_POW	Ranking metric from 0 to 1 for actors	IMDb
Director Power	DIR_POW	Ranking metric from 0 to 1 for directors	IMDb
Reviews	METASCORE	Average critic review score	IMDb

Model. A multiple regression analysis model has been developed to test the hypothesis and the effect of the independent variables on the box office success. Regression analysis has been run twice. The first one with the control variables, the second including the 5 independent ones in order to compare the results. The model has been operationalized as in the formula showed below.

$$\text{Ln}(\text{OPEN\_BOX\_OFFICE}_i) = \beta_0 + \beta_1(\text{ENG\_LANG}_i) + \beta_2(\text{COPR\_US}_i) + \beta_3(\text{COPR}_i) + \beta_4(\text{NON\_ORIG\_STORY}_i) + \beta_5(\text{DIR\_PREV}_i) + \beta_6(\text{Ln}(\text{SCREENS\_OPEN}_i)) + \beta_7(\text{ACTION}_i) + \beta_8(\text{CRIME}_i) + \beta_9(\text{BIOGRAPHY}_i) + \beta_{10}(\text{COMEDY}_i) + \beta_{11}(\text{DRAMA}_i) + \beta_{12}(\text{DOCUMENTARY}_i) + \beta_{13}(\text{ROMANCE}_i) + \beta_{14}(\text{THRILLER}_i) + \beta_{15}(\text{ANIMATION}_i) + \beta_{16}(\text{OTHERS}_i) + \beta_{17}(\text{MPAA}_i) + \beta_{18}(\text{SEAS\_WINT}_i) + \beta_{19}(\text{SEAS\_SPRING}_i) + \beta_{20}(\text{SEAS\_SUMM}_i) + \beta_{21}(\text{SEAS\_XMAS}_i)\ \beta_{22}(\text{RELYEAR\_2005}_i) + \ldots + \beta_{36}(\text{RELYEAR\_2018}_i) + \beta_{37}(\text{SEQ}_i) + \beta_{38}(\text{REM}_i) + \beta_{39}(\text{SPIN}_i) + \beta_{40}(\text{STAR\_POW}_i) + \beta_{41}(\text{DIR\_POW}_i) + \beta_{42}(\text{METASCORE}_i) + \varepsilon_i$$

Robustness check. A robustness check will be performed to distinguish movie that were completely shot in English and movie that only contain English among the languages of the dialogues. Indeed, in the variable ENG_LANG_i both movies completely shot in English and movies partially in English where coded as 1. Since this focuses on the difference between English and other languages, results may vary with this new distinction. As a result, a new dummy variable has been created (ENG_LANG_TOTAL_i), where movies whose dialogues were completely shot in English, were coded as 1 and 0 otherwise.

RESULTS

Sample Description

The models started from 2,742 number of observations, 340 of them has been deleted because of missingness (listwise deletion). 100% missingness' case occurred is in the control variables. Specifically, this is mainly due to METASCORE that account for 72% of the missingness. Other missing values are caused by DIRPOW and STARPOW. Lastly, only 1 observation was missing due to number of screens. As a result, 2,402 observation remained in both models.

Table 2 and Table 3 shows descriptive statistics and frequencies of the dependent variable, the independents and the covariates. Moreover, a correlation table is attached in the appendix A, Table A.1.

Table 2: Descriptive statistics

	N	Min.	Max.	Mean	S.D.	Skewness	Kurtosis
OPEN_BOX_OFFICE	2742	24.000	169189427	4225192.715	13261136.433	5.456	40.340
OP_SCREENS	2741	1.000	4561.000	571.649	1166.733	1.821	1.732
METASCORE	2495	9.000	98.000	62.453	15.600	-0.450	-0.185
STARPOW	2631	0.000	1.000	0.010	0.056	13.901	227.236
DIRPOW	2736	0.000	0.200	0.000	0.004	37.555	1614.198
Valid N (listwise)	2402						

Some interesting things can be noticed. First, the inclusion of English dialogue in European movies is very frequent (76% of the cases). This is partially due to the inclusion of UK among the European production countries. Second, co-production with the U.S, occurred in 44% of the cases, as a proof that is a very common strategy that needs more attention. Interestingly, non-original stories amount only to 20% of the cases.

Among the covariates, the most common genre is drama. This is the typical classification of the arthouse and independent movies that are very frequent in the European production. Sequels, spin-offs, and remakes are not very usual in the sample, they amount respectively to 6%, 3% and 2%.

Table 3: Frequency Statistics

Variable	**N**	**Freq.**	**%**
DIR_PREV	2742	1248	46%
ENG_LANG	2742	2080	76%
COPR_US	2742	1198	44%
COPR	2742	2126	78%
NON_ORIG_STORY	2742	538	20%
SEQ	2742	165	6%
REM	2742	80	3%
SPIN	2742	26	1%
Action	2742	358	13%

Biography		2742	360	13%
Comedy		2742	625	23%
Crime		2742	362	13%
Drama		2742	1786	65%
Documentary		2742	433	16%
Romance		2742	547	20%
Other		2742	1065	39%
Thriller		2742	613	22%
Animation		2742	98	4%
MPAA	0	2742	1084	40%
	1	2742	26	0.9%
	2	2742	192	7%
	3	2742	523	19%
	4	2742	906	33%
	5	2742	11	0.4%

Assumptions

The regression models showed no problem of multicollinearity. The VIF metric is useful to understand these kinds of problem. All the predictors in both models gave VIF< 3, this means that the correlation within the variables do not represent an issue. The distribution of residuals (see Plot A.3- APPENDIX A) varies randomly around zero and does not show a systematic pattern, thus, the assumption of homoscedasticity is met. Moreover, the residuals appear normally distributed as they follow the straight line in (see plot A.1 and plot A.2- APPENDIX A)

Results

Two models were run, the first one includes only the control variables whereas the second includes also the independent variables. Table 4 shows model fit statistics.

The control model showed strong significance $F(36, 2365) = 499.292$, $p < 0.001$. The model explains 88.4% of the variance ($R_2 = 0.884$). Once included the independent variables the model is still significant with $F(41, 2360) = 477.681$, $p < 0.001$. Moreover, it showed a little

improvement in adjusted both R square (R_2 = 0.892 from R_2 = 0.884) and adjusted R-square (Adj.R_2 = 0.891 from Adj.R_2 = 0.882) compared to the model with only control variables.

Table 5 shows the estimates of the full model.

Table 4: Model fit

Model	R^2	R^2 Adj.	F	p	F Change	p F Change
Covariates	.884	.882	499.292	0.000	499.292	0.000
Independent + Covariates	.892	.891	477.681	0.000	38.335	0.000

Table 5: Independent and control variable Estimation

Model1: Independent variables					
Predictors	*B*	*Std. Error*	*t*	*p*	*VIF*
Dependent Variable: Ln(OPEN_BOX_OFFICE)					
(Constant)	6.620	.153	43.162	.000	
ENG_LANG	.047	.061	.778	.437	1.458
DIR_PREV	.408***	.046	8.965	.000	1.135
NON_ORIG_STORY	.214***	.055	3.857	.000	1.108
COPR_US	.468***	.061	7.674	.000	2.015
COPR	.024	.060	.400	.689	1.332
Ln(OP_SCREENS)	.897***	.011	81.270	.000	2.369
ACTION	-.011	.076	-.150	.881	1.492
BIOGRAPHY	.298***	.067	4.436	.000	1.138
COMEDY	-.079	.057	-1.370	.171	1.300
CRIME	-.116*	.068	-1.712	.087	1.219
DRAMA	.172***	.065	2.652	.008	2.000
DOCUMENTARY	.013	.095	.140	.889	2.175
ROMANCE	.096*	.057	1.683	.093	1.172
OTHER	.126***	.048	2.600	.009	1.224
THRILLER	-.051	.062	-.832	.405	1.513
ANIMATION	.234*	.121	1.929	.054	1.151
MPAA	.101***	.015	6.636	.000	1.566
SEAS_WINT	.146**	.056	2.579	.010	1.263
SEAS_XMAS	-.077	.082	-.941	.347	1.133
SEAS_SPRING	.104	.065	1.611	.107	1.210
SEAS_SUMM	.071	.066	1.078	.281	1.215
RELYEAR_2005	.410***	.119	3.441	.001	1.949
RELYEAR_2006	.139	.120	1.158	.247	1.912

RELYEAR_2007	.303*	.120	2.520	.012	1.897
RELYEAR_2008	.298**	.116	2.562	.010	2.038
RELYEAR_2009	.453***	.127	3.564	.000	1.727
RELYEAR_2010	.479***	.122	3.940	.000	1.867
RELYEAR_2011	.303***	.116	2.609	.009	2.037
RELYEAR_2012	.222*	.120	1.842	.066	1.920
RELYEAR_2013	.136	.117	1.165	.244	2.029
RELYEAR_2014	.185	.116	1.594	.111	2.051
RELYEAR_2015	-.033	.117	-.281	.778	1.969
RELYEAR_2016	.246**	.121	2.031	.042	1.874
RELYEAR_2017	.188	.117	1.603	.109	1.980
RELYEAR_2018	.070	.119	.588	.557	1.906
SEQ	.455***	.096	4.718	.000	1.172
REM	.211	.129	1.640	.101	1.058
SPIN	.439**	.216	2.030	.042	1.059
METASCORE	.014***	.001	9.580	.000	1.094
STARPOW	.575	.382	1.504	.133	1.057
DIRPOW	4.258	4.945	.861	.389	1.025

*p<0.1; **p<0.05; ***p<0.001

Test for H_1 involves the variable language test the effect on opening box office (Ln(OPEN_BOX_OFFICE)) of the presence of English dialogues in the movie. However, dummy variable ENG_LANG did not show significant effect (β= 0.047, t= 0.778, p=0.437). H_1 is, thus, not supported. The model also tested the effect on U.S. opening box office of directors whose movies had previously been released in the U.S. The variable DIR_PREV shows a positive and significant effect on opening box office (β= 0.408, t= 8.965, p< 0.001). Hence, H_2 is confirmed. The third hypothesis H_3 tested the effect of non-original stories (NON_ORIG_STORY) also showed a positive and significant effect on opening box office (β= 0.214, t= 3.857, p< 0.001) and demonstrated that, being other factors equal, non-original stories performs better than an original ones considering the success of European movies exported in the American market. Thus, H_3 is also confirmed. The last hypothesis (H_4) examines the effect of co-productions with the U.S. on the European movie success on their American opening box office. It had been operationalized trough the variables COPR_US, controlling for the 'main' effect of co-production (COPR). In line with H_4 co-production with the U.S. showed a positive and significant effect on opening box office (β= 0.468, t= 7.674, p< 0.001). The latter (COPR) included all coproduction in general, comparing them to movies produced by companies from only one country, did not show a significant effect (β= 0.024, t= 0.060, p= 0.400). This means that H_4 is confirmed.

In the model with the covariates there are some predictors that have a significant effect. As expected, Ln(OP_SCREENS) had a strong and positive effect on box office (β= 0.897 , t= 81.270, p< 0.001). Among the movie genres some European movies revealed a positive and significant effect on U.S. box office: the effect of BIOGRAPHY, that is biographical movies, is confirmed to be positive and significant (β= 0.298, t= 0.436, p < 0.001), followed by DRAMA (β= 0.172, t= 2.652, p < 0.001) and OTHER (β= 0.126, t= 2.600, p < 0.001). Interestingly, the genre ANIMATION is also positive but is has a weak significance (β= 0.234, t= 1.929, p < 0.10). Surprisingly, MPAA rating has a positive and significant effect (β= 0.015, t= 6.636, p < 0.001).

Moreover, another interesting finding is the positive effect of sequels (SEQ) and spin-offs for European movies. Indeed, the effect of spinoffs on performance is positive (β= 0.439, t= 2.030, p < 0.05) just like the effect of sequels (β= 0.455, t= 4.718, p < 0.001). Lastly, METASCORE has a positive effect on U.S. box office of European movies (β= 0.014, t= 9.580, p < 0.001)

Robustness check. Robustness check has been performed to further analyse the effect of language of European movies on U.S opening box office. Specifically, this is important to check the difference between movies that are completely shot in English with movies that are only partly shot in English. The dummy variable TOT_ENG_LANG showed a negative and significant effect (β= -0.159, t=-3.559, p< 0.001) showing that European movies completely shot in English has a negative effect on U.S. opening box office compared to all the others that only include English. Moreover, with the addition of this variable in the model, the results of the other independent variable do not change in their significance.

Table 5: Hypothesis testing

Hypothesis	Description	Supported/rejected
H1		Rejected
H2		Supported
H3		Supported
H4		Supported

DISCUSSION AND CONCLUSIONS

Discussion of the Results

Previous research found many different factors that affects box office. They specifically focused on the American movies in the U.S. and U.S. movies in foreign markets. This research analysed which are the factors of box office success of European movies in the U.S. finding that European movies has specific attributes that signals value to the potential customers. Indeed, new attributes such as language, directors previous experience in a market, non-original stories and co-production was studied.

First of all, language was expected to have a positive effect on U.S. box office. However, this was not the case. This was probably due to the fact that many movies include English among languages in the sample and that the simple inclusion of English is not a sufficient classification. Indeed, movie dialogues can be either completely in English or only contain it among the languages. As a consequence, the robustness check was run to check for this possibility and it returned interesting results. Indeed, movies completely shot in English interestingly showed lead to lower U.S. box office for European movies. This is probably due to the fact that European movie in the U.S., that are completely shot in English may reduce the trigger of foreignness and led the movie to be perceived as a bad version of an American movie and less authentic. Indeed, authenticity have an important role in the movie industry that must be preserved (Delmestri, Montanari & Usai, 2005). It is possible that language influences customers' authenticity perception.

Second, it was expected that directors that had previous experience in the American market would generate a greater U.S box office. As expected, the results confirmed the importance of simple appearance of directors of European movies in the American market. This implicates that directors of a European movie that are at their debut in the American market will get worse result box office results compared to directors that have at least one previous movie released. Moreover, the study did not take into account whether the first movie was a success or a flop and, therefore, it demonstrates that director effect does not depends on the director power for European movies. Indeed, the solely appearance positively trigger box office trough the mere exposure effect. In other words, a director with a previous movie released in the U.S. in his filmography has more probability to trigger American customers simply because they have seen his name once before. Moreover, director's positional

embeddedness—i.e. its connection with well-known others—in the American market gets better after the debut. Finally, the results implicate that directors may also act as signals for customers even if they are European.

Non-original stories, was tested on box office results comparing them to the original ones. The outcome results showed that non-original stories that come from Europe perform better compared to original ones in the American market. Therefore, the findings are in line with signalling theory. In other words, all the stories that are adapted from novels, comics and plays and all the other forms of written or illustrated goods acted as signal for customers and performed better compared to others. Moreover, the findings suggest that when customers are exposed to the movie source, they tend to infer more positively about the movie quality because they have positive attitudes toward its source (movie, books, comics etc.). This is particularly true for European movies in the U.S., because European books or novels that had previous success in the U.S. fitted better U.S culture and for this reason were adapted and had success.

Lastly, co-productions were theorized both to convey cues of country of origin and to generate junctional embeddedness, that is the crew's previous experience with the country were the movie is produced. Therefore, European movies that are co-produced with the U.S. will generate greater box office success compared to movies produced without involving U.S. professionals. The finding suggests that U.S. professionals that are involved in the movie production phase know better the U.S. market and how to reach the quality that American customers expect from a movie. Moreover, this study confirms that co-productions have both attributes that an American movie and European one may have. These attributes act as signal of country of origin and convey the fact that a movie is both American and European. In other words, co-production could show these foreignness trough locations, actors or other signals that lead the customers recall the foreign country of origin. Moreover, co-productions attract both customers that usually prefer American movies and curious customers that are interested in foreign movies.

Implications

Theoretical Implications. Many researches focused their attention on what are the determinants of success of American movies' box office. Moreover, other studies focus their questions on what are the attributes that make an American movie a success abroad. This study adds to the previous research on box office success findings on attributes that make a foreign

movie a success in the U.S.. Specifically, the study focused on European movie attributes and their impact on U.S. box office. These attributes have been considered as signals for customers to reduce their choice risk. This research contributes to signalling theory applied to movies through findings concerning attributes that have never been studied before like co- productions. Moreover, findings of this study add the previous literature on the effect of directors, because results demonstrate that directors' influence does not depend only on their power or their previous success. This shows that even if the director of the movie is not well- known, the previous appearance of the director can nevertheless affect positively the box office demonstrating that the mere exposure effect also works for European movie in the U.S. Furthermore, this research contributes to research on adapted movies demonstrating that non-original stories works better even for European movies because of previous exposure and cultural familiarity.

Managerial Implications.

Competition for movies in the U.S. is intense and each project requires time and huge investments to obtain an access to the American market. Moreover, international distributors usually choose the movies that are expected to be a success. Without a specific concern about the destination market, producers and distributors may release a movie relying on the attributes that make it a success in its domestic country. For instance, a Spanish movie that get success in Spain may not have the same success in the U.S. if specific country attributes of the American market are ignored or unknown. Moreover, if the aim of a producer is to enter the American market, he should consider these characteristics from the beginning, when the movie is still a work-in-progress. This will lead producers to make better choices in the green-lighting process, i.e. the phase in which a screenplay is selected among other scripts and developed. Specifically, it would be a good choice to invest in a book or a comic. In this way the movie will have more chance of success. Once the movie has been selected, producers may rely more on directors with at least one movie released in the U.S. or if this is not possible try to build a coproduction with an American company. In summary, the findings of this study show that there are attributes that lead European movies to success in the U.S. that should be considered both by producers and policy makers, in the first stages of movie production, and distributors when they face the choice of which movie's rights they should buy.

In particular, considering the fact that many European movie are subsidised this study is also relevant from a public policy point of view. Indeed, European subsides aim at exporting

European movies abroad (Bagella & Becchetti, 1999) for instance, the U.S.

First of all, governments and local institutions should separate artistic and commercial success. In fact, it is reasonable to assess that there are some movies that are likely to achieve commercial success and others that have a greater likelihood to achieve artistic success. For instance, movies that generate more buzz are more likely to produce commercial success whereas movie that shows positive evaluations achieve greater artistic success (Holbrook & Addis, 2007). This is supported by the fact that Holbrook and Addis (2007) showed that the two paths (artistic vs. commercial success) are uncorrelated and therefore should be treated as such. In other words, when subsidizing a movie, governments and local institution should take into considerations the fact that the two kinds of success can be achieved and that characteristics lead to commercial and artistic success.

This study spots the light on factors boosting commercial success of European movies exported in the American market. To achieve this objective, policy makers should allocate financial resources on movies that own one of the attributes demonstrated to have a positive influence on commercial success. First, European movies that are completely shot in English may impact negatively commercial success results in the U.S. Generally, this finding proves that language is an important variable to take into account and governments and local institution should pay attention on the movie language when they subsidise movies. Second, subsidise a movie that is shot by a director with previous experience in the U.S. may lead to a greater success in the American market. In addition, subsidise program may support and invest in collaborations between European directors and American production. For instance, a director that never had an experience in the U.S. needs to access the American market with a first released movie in order to be recognised and get better future results. Therefore, the more the number of directors with released movies in the U.S., the more the likelihood to achieve overall commercial success of European movies in the American market. Third, European subside should be addressed particularly to non-original movies whose source (book, comic or videogame) is known by some U.S. customers. Fourth, co-productions between a European company and a U.S. one shows a positive effect on the commercial success of the movie that these company produced. Therefore, policy makers may enforce and stimulate co-productions and sustain all that production companies that aim to access the American market.

Finally, past studies considered that subsidised movies showed no effect on commercial success (Bagella & Becchetti, 1999). Probably this happened because the subsidise should not involve movies without any consideration about where the movie is released and what attributes are important for that specific country. In other words, public subsides should take

into account research like the present one in order to assess whether a movie owns the attributes to be commercially successful in countries targeted by producers of that movie. For instance, a Spanish movie that targets the American market should be subsidised whether it owns at least one of the attributes considered in this study. In this way, subside will improve their overall commercial efficacy. In fact, box office results are a measure of moviegoers' demand that is a proxy of the number of people that have seen the movie subsidise. Therefore, the higher the commercial success, the higher the number of people that will have watched the movie subsidised. This is in line with the export of culture objective typical of the subsidise programs (Bagella & Becchetti, 1999).

Limitations and Suggestions for Future Research

The present study has a few limitations that must be taken into account and should be seen as an opportunity for further research focusing on related research questions. First of all, the inclusion among the movie dialogues of English had an effect on U.S. box office. As explained in the robustness check, a further analysis was necessary to find that the effect of language depends on whether the movie is completely shot in English or it only partly contains English dialogues. For this reason, language appears to be a more complex attribute that requires further research. Specifically, it would be interesting to analyse the weight of dialogues in English in the movie and their effect on box office.

Second, non-original stories group together all the movies that are from books, comics or videogames. Nowadays, many movies adapted from comics and videogames are released. Hence, a study that focuses on comic movie and videogame movies compared to the others may be relevant. Moreover, in this study it is not specified whether the movie source come from the U.S. market itself or from the European one. For this reason, next studies may investigate the relationship between the author's nationality of the movie source and whether a European movie from a European author affects box office. Also, the success of the movie source is not taken into account in this research. Indeed, a book that gets more success may generate more success compared to a movie that was read by few people. For this kind of research data regarding the income of the source are necessary.

Fourth, this research focuses the attention only considering the box office success, that is the demand of the movie. Further research should direct their research questions in the study of other form of success like the artistic success—i.e. the amount and importance of prizes that

a movie obtains. This may be particularly interesting for European industry, where artistic success has a heavier weight compared to the American industry (Marich, 2013).

Subsidies constitute another topic that is not analysed in the present study and that necessitate attention. Specifically, this is a relevant topic for independent European movies that usually are funded by public entities due to the lack of private investors. For this reason, it is interesting to assess whether European movies that are subsidized obtain greater success compared to non-subsidized ones. This would be important to understand whether subsides are able to enhance the visibility of the movie and their appealing to customers and, therefore, their success.

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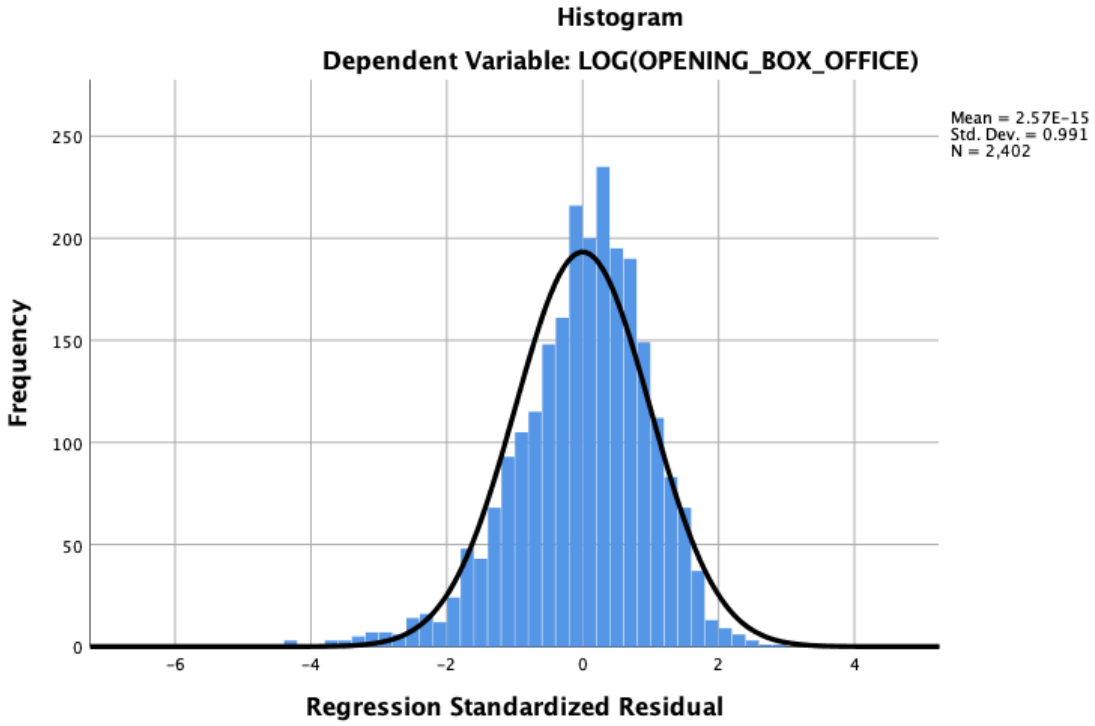
APPENDIX A- Correlations and Regression Plots

Table A.1

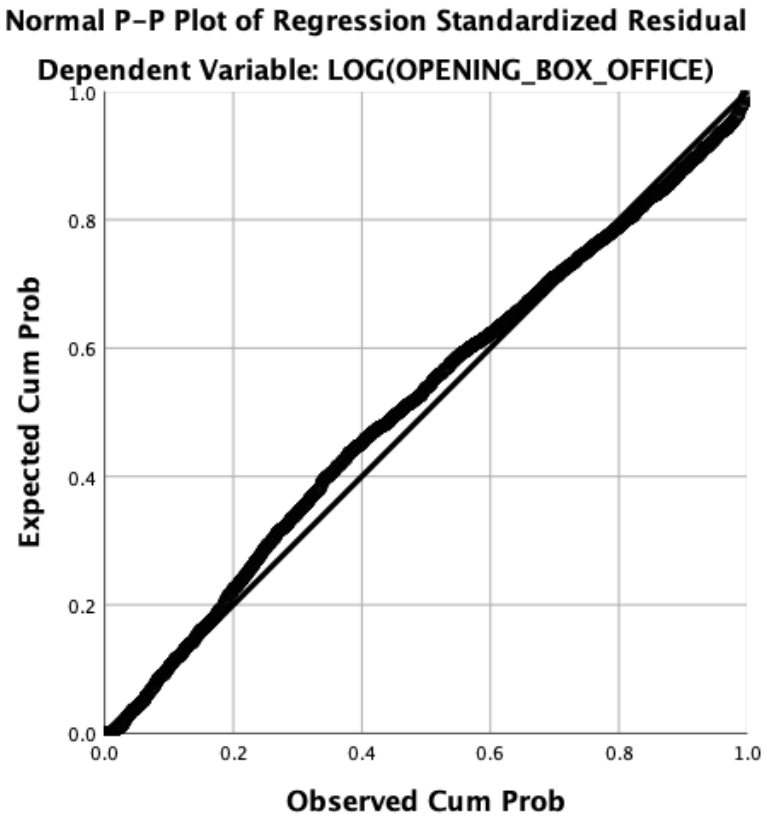
		LOG(OPENING_BOX_OFFICE)	Log(OP_SCREENS)	ENG_LANG	DIR_PREV	ORIG_STORY	COPR_US	COPR	Action	Biography	Comedy	Crime	Drama	Documentary	Romance	Other	Thriller	Animation	MPAA	SEAS_WINT	SEAS_XMAS	SEAS_SPRING	SEAS_SUMM
LOG(OPENING_BOX_OFFICE)	Pearson Correlation	1																					
	Sig. (2-tailed)																						
Log(OP_SCREENS)	Pearson Correlation	.930**	1																				
	Sig. (2-tailed)	0,000																					
ENG_LANG	Pearson Correlation	.364**	.353**	1																			
	Sig. (2-tailed)	0,000	0,000																				
DIR_PREV	Pearson Correlation	.327**	.268**	.100**	1																		
	Sig. (2-tailed)	0,000	0,000	0,000																			
ORIG_STORY	Pearson Correlation	.221**	.193**	.079**	.106**	1																	
	Sig. (2-tailed)	0,000	0,000	0,000	0,000																		
COPR_US	Pearson Correlation	.574**	.549**	.430**	.198**	.097**	1																
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000																	
COPR	Pearson Correlation	.296**	.270**	.214**	.135**	.092**	.471**	1															
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000																
Action	Pearson Correlation	.426**	.460**	.155**	.135**	.115**	.261**	.127**	1														
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000	0,000															
Biography	Pearson Correlation	-0,011	-.061**	.101**	-0,029	-0,036	.046*	0,038	-.092**	1													
	Sig. (2-tailed)	0,571	0,002	0,000	0,150	0,072	0,021	0,060	0,000														
Comedy	Pearson Correlation	.080**	.097**	.044*	0,020	-0,035	.047*	-0,028	-.059**	-.121**	1												
	Sig. (2-tailed)	0,000	0,000	0,029	0,322	0,077	0,020	0,163	0,003	0,000													
Crime	Pearson Correlation	.078**	.090**	0,023	.055**	0,038	.057**	0,012	.175**	-0,018	-.044*	1											
	Sig. (2-tailed)	0,000	0,000	0,259	0,006	0,058	0,004	0,559	0,000	0,380	0,027												
Drama	Pearson Correlation	-.150**	-.205**	-.151**	.053**	.108**	-.195**	0,012	-.217**	.060**	-.094**	.067**	1										
	Sig. (2-tailed)	0,000	0,000	0,000	0,008	0,000	0,000	0,540	0,000	0,003	0,000	0,001											
Documentary	Pearson Correlation	-.275**	-.269**	.076**	-.183**	-.201**	0,015	-.088**	-.149**	.142**	-.201**	-.127**	-.517**	1									
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,446	0,000	0,000	0,000	0,000	0,000	0,000										
Romance	Pearson Correlation	-0,010	-0,036	.053**	0,003	.113**	-.040*	-0,015	-.126**	-0,039	.161**	-.091**	.209**	-.201**	1								
	Sig. (2-tailed)	0,630	0,074	0,009	0,873	0,000	0,044	0,453	0,000	0,051	0,000	0,000	0,000	0,000									
Other	Pearson Correlation	.261**	.249**	.143**	0,027	.079**	.179**	.144**	.173**	.135**	0,028	-.146**	-.124**	-0,014	-0,034	1							
	Sig. (2-tailed)	0,000	0,000	0,000	0,183	0,000	0,000	0,000	0,000	0,000	0,164	0,000	0,000	0,479	0,088								
Thriller	Pearson Correlation	.272**	.295**	.097**	.101**	.080**	.163**	.082**	.317**	-.112**	-.210**	.348**	0,007	-.213**	-.132**	-.066**	1						
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,725	0,000	0,000	0,001							
Animation	Pearson Correlation	.115**	.124**	0,035	-.051*	0,016	.083**	.071**	0,001	-0,025	.168**	-.039*	-.139**	-.058**	-.070**	.194**	-.080**	1					
	Sig. (2-tailed)	0,000	0,000	0,077	0,010	0,421	0,000	0,000	0,948	0,213	0,000	0,050	0,000	0,004	0,000	0,000	0,000						
MPAA	Pearson Correlation	.472**	.435**	.364**	.198**	.189**	.346**	.185**	.246**	0,033	.062**	.169**	.090**	-.331**	.090**	.096**	.314**	-.042*	1				
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,101	0,002	0,000	0,000	0,000	0,000	0,000	0,000	0,035					
SEAS_WINT	Pearson Correlation	0,017	0,002	0,004	-0,015	-0,012	0,032	.043*	-0,008	-0,010	0,009	0,003	0,020	-0,036	0,009	-0,002	0,018	0,022	0,029	1			
	Sig. (2-tailed)	0,402	0,911	0,829	0,458	0,543	0,113	0,031	0,701	0,607	0,643	0,881	0,308	0,068	0,657	0,910	0,360	0,278	0,153				
SEAS_XMAS	Pearson Correlation	-0,017	-0,005	-0,026	0,018	0,009	-0,018	-0,013	0,007	0,006	0,003	-0,010	0,004	0,005	-0,038	0,034	-0,033	0,012	-0,014	-.170**	1		
	Sig. (2-tailed)	0,392	0,794	0,195	0,374	0,664	0,372	0,522	0,709	0,764	0,865	0,621	0,835	0,817	0,055	0,093	0,095	0,561	0,499	0,000			
SEAS_SPRING	Pearson Correlation	-0,006	-0,007	0,029	-0,015	0,002	-0,002	-0,026	-0,005	-0,030	0,018	0,027	-0,010	0,034	-0,006	-0,011	-0,017	-0,035	0,001	-.241**	-.129**	1	
	Sig. (2-tailed)	0,774	0,714	0,154	0,452	0,912	0,915	0,187	0,794	0,133	0,372	0,175	0,605	0,094	0,761	0,589	0,393	0,079	0,944	0,000	0,000		
SEAS_SUMM	Pearson Correlation	0,008	0,008	0,000	-0,016	-0,011	-0,011	0,013	0,034	-0,015	0,015	-0,032	-.064**	0,029	0,009	0,029	-.042*	0,005	-0,015	-.233**	-.125**	-.177**	1
	Sig. (2-tailed)	0,688	0,694	1,000	0,427	0,571	0,596	0,530	0,088	0,460	0,457	0,108	0,001	0,152	0,671	0,150	0,035	0,800	0,452	0,000	0,000	0,000	
SEAS_FALL	Pearson Correlation	-0,007	0,001	-0,010	0,026	0,012	-0,008	-0,020	-0,019	0,039	-0,034	0,006	0,034	-0,016	0,012	-0,030	.047*	-0,003	-0,008	-.436**	-.233**	-.331**	-.320**
	Sig. (2-tailed)	0,742	0,971	0,606	0,198	0,535	0,671	0,310	0,355	0,052	0,086	0,755	0,092	0,411	0,535	0,132	0,020	0,872	0,705	0,000	0,000	0,000	0,000
RELYEAR_2005	Pearson Correlation	.065**	.050*	0,010	.047*	.039*	.040*	0,009	0,006	-0,024	0,021	.067**	0,021	-0,033	.055**	0,009	-0,008	-0,017	0,025	0,004	-0,022	0,015	-0,001
	Sig. (2-tailed)	0,001	0,012	0,614	0,018	0,049	0,044	0,670	0,767	0,234	0,293	0,001	0,296	0,098	0,006	0,669	0,694	0,392	0,219	0,849	0,265	0,461	0,948
RELYEAR_2006	Pearson Correlation	0,038	.047*	0,014	-0,004	0,011	.045*	0,033	-0,013	-.048*	0,030	0,017	0,000	-.055**	0,011	0,021	0,016	0,003	.049*	0,028	0,011	-0,024	-0,028
	Sig. (2-tailed)	0,060	0,019	0,488	0,853	0,592	0,025	0,100	0,529	0,017	0,139	0,386	0,985	0,006	0,592	0,303	0,432	0,882	0,015	0,166	0,569	0,228	0,164
RELYEAR_2007	Pearson Correlation	.040*	0,030	0,012	.039*	0,001	0,025	0,007	-0,004	0,004	-0,008	0,002	0,034	-0,033	.042*	0,004	0,014	-0,033	0,039	0,010	0,010	-0,021	0,003
	Sig. (2-tailed)	0,045	0,130	0,558	0,050	0,967	0,211	0,741	0,839	0,827	0,704	0,937	0,090	0,095	0,037	0,825	0,489	0,101	0,053	0,605	0,605	0,297	0,864
RELYEAR_2008	Pearson Correlation	0,034	0,027	-0,010	-0,001	0,026	0,027	0,005	0,038	0,000	0,022	0,024	0,017	-.055**	0,034	0,009	0,028	0,004	0,036	-0,035	-0,012	-0,004	0,015
	Sig. (2-tailed)	0,090	0,178	0,603	0,963	0,190	0,170	0,784	0,058	0,998	0,262	0,230	0,394	0,006	0,090	0,660	0,168	0,846	0,071	0,083	0,560	0,831	0,442
RELYEAR_2009	Pearson Correlation	0,032	0,014	0,010	0,034	-0,001	-0,007	0,024	0,003	-0,009	-0,011	-0,001	-0,001	-0,037	0,004	-0,026	0,000	-0,005	-0,013	0,020	-0,030	0,008	0,018
	Sig. (2-tailed)	0,111	0,498	0,613	0,088	0,964	0,740	0,226	0,895	0,644	0,588	0,964	0,942	0,064	0,855	0,197	0,980	0,789	0,514	0,320	0,136	0,703	0,356
RELYEAR_2010	Pearson Correlation	-0,013	-0,030	-0,034	0,007	-.044*	-0,035	-.048*	0,015	-0,030	0,011	.045*	-0,009	0,003	0,028	0,007	-0,011	-0,022	-0,003	-0,006	0,026	0,030	-0,020
	Sig. (2-tailed)	0,525	0,136	0,088	0,711	0,030	0,082	0,016	0,445	0,128	0,597	0,023	0,648	0,866	0,167	0,728	0,571	0,265	0,870	0,752	0,190	0,134	0,316
RELYEAR_2011	Pearson Correlation	-0,032	-.040*	-0,009	0,006	0,018	-0,036	-0,012	-0,007	-0,013	0,003	-0,015	-0,012	0,027	-0,017	-0,033	-0,010	0,002	-.048*	0,000	0,013	-0,004	-.045*
	Sig. (2-tailed)	0,105	0,045	0,659	0,771	0,382	0,070	0,553	0,734	0,529	0,895	0,440	0,548	0,179	0,403	0,100	0,604	0,917	0,016	0,994	0,508	0,845	0,026
RELYEAR_2012	Pearson Correlation	-0,022	-0,019	0,008	-.050*	0,013	-0,031	-0,028	-0,002	-0,032	-0,023	-0,002	-0,019	.049*	-0,003	-0,039	0,005	-0,017	-0,024	0,028	-0,027	-0,015	-0,018
	Sig. (2-tailed)	0,278	0,350	0,676	0,013	0,518	0,117	0,157	0,906	0,108	0,241	0,935	0,346	0,015	0,872	0,054	0,788	0,407	0,240	0,157	0,172	0,451	0,362
RELYEAR_2013	Pearson Correlation	-0,023	-0,019	0,025	0,010	-0,015	0,032	0,012	0,006	-0,009	0,016	-0,011	-0,023	-0,020	-0,008	-0,038	.043*	-0,012	0,003	-0,001	0,000	-0,012	-0,010
	Sig. (2-tailed)	0,255	0,347	0,206	0,623	0,439	0,109	0,543	0,747	0,668	0,425	0,569	0,245	0,327	0,699	0,060	0,031	0,536	0,878	0,948	0,999	0,542	0,610
RELYEAR_2014	Pearson Correlation	-.051*	-.054**	-0,002	-0,029	-0,001	-0,023	-0,002	0,021	0,001	0,018	-0,006	0,019	-0,019	0,007	-0,004	-0,002	-0,014	-0,012	-0,017	0,019	-0,012	0,003
	Sig. (2-tailed)	0,011	0,007	0,901	0,141	0,970	0,258	0,935	0,297	0,942	0,367	0,765	0,340	0,343	0,732	0,856	0,907	0,485	0,543	0,392	0,336	0,559	0,865
RELYEAR_2015	Pearson Correlation	-0,012	0,012	-0,010	0,014	0,013	-0,021	0,007	-0,003	0,019	-0,012	-0,035	0,012	0,015	-0,002	0,029	0,005	-0,027	0,006	-0,017	0,026	-0,021	0,025
	Sig. (2-tailed)	0,561	0,558	0,613	0,484	0,503	0,294	0,743	0,875	0,347	0,558	0,082	0,558	0,442	0,906	0,151	0,802	0,171	0,746	0,389	0,192	0,299	0,205
RELYEAR_2016	Pearson Correlation	0,023	0,024	-0,015	-0,007	-0,007	0,018	0,011	-0,004	0,029	0,012	-0,018	-0,015	0,035	-0,028	0,015	-0,002	0,029	0,026	-0,013	0,010	0,025	-0,015
	Sig. (2-tailed)	0,259	0,222	0,441	0,736	0,712	0,357	0,597	0,839	0,154	0,549	0,381	0,466	0,081	0,164	0,469	0,930	0,151	0,198	0,527	0,605	0,221	0,450
RELYEAR_2017	Pearson Correlation	-0,034	-0,030	0,003	-0,037	0,004	-0,008	-0,007	0,002	.069**	-.047*	-.048*	0,000	.062**	-.043*	-0,003	-0,027	.054**	-.052**	-0,009	-0,006	0,001	0,034
	Sig. (2-tailed)	0,088	0,134	0,867	0,066	0,847	0,672	0,743	0,925	0,001	0,019	0,018	0,986	0,002	0,033	0,894	0,181	0,007	0,009	0,670	0,778	0,974	0,093
RELYEAR_2018	Pearson Correlation	-0,013	-0,003	0,027	-0,026	-0,002	-0,010	-0,014	-0,021	.040*	-0,019	-0,006	-0,020	0,018	-0,035	0,032	-0,013	0,027	0,009	-0,012	-0,009	0,030	-0,008
	Sig. (2-tailed)	0,514	0,885	0,182	0,199	0,903	0,603	0,497	0,295	0,045	0,348	0,775	0,316	0,363	0,082	0,105	0,516	0,175	0,668	0,537	0,642	0,129	0,672
RELYEAR_2019	Pearson Correlation	-0,021	-0,001	-0,028	0,002	-.059**	-0,016	0,005	-.040*	-0,002	-0,014	-0,010	-0,004	0,037	-.042*	0,017	-0,039	0,028	-0,035	0,027	-0,015	0,009	.047*
	Sig. (2-tailed)	0,301	0,976	0,162	0,928	0,003	0,438	0,795	0,048	0,906	0,482	0,623	0,837	0,064	0,035	0,391	0,050	0,169	0,077	0,185	0,462	0,664	0,018
SEQ	Pearson Correlation	.283**	.273**	.078**	.133**	.040*	.148**	.067**	.224**	-.053**	0,027	-0,006	-.197**	-.069**	-.087**	.082**	.093**	.042*	.085**	-0,022	0,004	-0,028	.040*
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,046	0,000	0,001	0,000	0,008	0,185	0,773	0,000	0,001	0,000	0,000	0,000	0,034	0,000	0,263	0,839	0,167	0,045
REM	Pearson Correlation	.143**	.147**	.055**	.045*	0,004	.107**	.045*	.075**	-0,039	-0,002	.092**	-0,008	-.067**	-0,014	0,005	.111**	-0,021	.100**	0,015	0,017	0,019	-0,031
	Sig. (2-tailed)	0,000	0,000	0,006	0,023	0,858	0,000	0,026	0,000	0,050	0,937	0,000	0,678	0,001	0,473	0,794	0,000	0,306	0,000	0,458	0,388	0,344	0,125
SPIN	Pearson Correlation	.136**	.134**	.046*	.059**	-0,020	.080**	0,034	.128**	-0,027	0,013	0,019	-.107**	-.043*	-.040*	.052**	-0,007	0,024	.044*	0,000	-0,001	-0,010	0,027
	Sig. (2-tailed)	0,000	0,000	0,022	0,003	0,315	0,000	0,093	0,000	0,170	0,517	0,351	0,000	0,033	0,044	0,009	0,727	0,237	0,028	0,992	0,951	0,630	0,183
METASCORE	Pearson Correlation	-.098**	-.179**	-.127**	0,004	-0,034	-.103**	-0,021	-.140**	.054**	-.053**	-.056**	.089**	.095**	-0,031	-0,006	-.090**	-0,035	-.108**	-0,012	-0,003	-0,024	0,022
	Sig. (2-tailed)	0,000	0,000	0,000	0,840	0,087	0,000	0,294	0,000	0,007	0,008	0,005	0,000	0,000	0,121	0,767	0,000	0,080	0,000	0,556	0,881	0,239	0,262

		SEAS_FALL	RELYEAR_2005	RELYEAR_2006	RELYEAR_2007	RELYEAR_2008	RELYEAR_2009	RELYEAR_2010	RELYEAR_2011	RELYEAR_2012	RELYEAR_2013	RELYEAR_2014	RELYEAR_2015	RELYEAR_2016	RELYEAR_2017	RELYEAR_2018	RELYEAR_2019	SEQ	REM	SPIN	METASCORE
SEAS_FALL	Pearson Correlation	1																			
	Sig. (2-tailed)																				
RELYEAR_2005	Pearson Correlation	-0,001	1																		
	Sig. (2-tailed)	0,972																			
RELYEAR_2006	Pearson Correlation	0,007	-.069**	1																	
	Sig. (2-tailed)	0,713	0,001																		
RELYEAR_2007	Pearson Correlation	-0,002	-.070**	-.068**	1																
	Sig. (2-tailed)	0,921	0,000	0,001																	
RELYEAR_2008	Pearson Correlation	0,029	-.075**	-.072**	-.073**	1															
	Sig. (2-tailed)	0,144	0,000	0,000	0,000																
RELYEAR_2009	Pearson Correlation	-0,020	-.062**	-.060**	-.060**	-.065**	1														
	Sig. (2-tailed)	0,325	0,002	0,003	0,003	0,001															
RELYEAR_2010	Pearson Correlation	-0,017	-.068**	-.066**	-.066**	-.071**	-.059**	1													
	Sig. (2-tailed)	0,391	0,001	0,001	0,001	0,000	0,003														
RELYEAR_2011	Pearson Correlation	0,028	-.076**	-.074**	-.074**	-.080**	-.066**	-.073**	1												
	Sig. (2-tailed)	0,161	0,000	0,000	0,000	0,000	0,001	0,000													
RELYEAR_2012	Pearson Correlation	0,015	-.071**	-.069**	-.069**	-.074**	-.061**	-.068**	-.076**	1											
	Sig. (2-tailed)	0,449	0,000	0,001	0,001	0,000	0,002	0,001	0,000												
RELYEAR_2013	Pearson Correlation	0,018	-.074**	-.072**	-.073**	-.078**	-.064**	-.071**	-.079**	-.074**	1										
	Sig. (2-tailed)	0,376	0,000	0,000	0,000	0,000	0,001	0,000	0,000	0,000											
RELYEAR_2014	Pearson Correlation	0,010	-.076**	-.074**	-.074**	-.079**	-.065**	-.072**	-.081**	-.075**	-.079**	1									
	Sig. (2-tailed)	0,604	0,000	0,000	0,000	0,000	0,001	0,000	0,000	0,000	0,000										
RELYEAR_2015	Pearson Correlation	-0,003	-.073**	-.071**	-.071**	-.076**	-.063**	-.070**	-.078**	-.072**	-.076**	-.077**	1								
	Sig. (2-tailed)	0,892	0,000	0,000	0,000	0,000	0,002	0,001	0,000	0,000	0,000	0,000									
RELYEAR_2016	Pearson Correlation	-0,002	-.070**	-.068**	-.068**	-.073**	-.060**	-.066**	-.074**	-.069**	-.073**	-.074**	-.071**	1							
	Sig. (2-tailed)	0,921	0,000	0,001	0,001	0,000	0,003	0,001	0,000	0,001	0,000	0,000	0,000								
RELYEAR_2017	Pearson Correlation	-0,014	-.074**	-.072**	-.073**	-.078**	-.064**	-.071**	-.079**	-.074**	-.078**	-.079**	-.076**	-.073**	1						
	Sig. (2-tailed)	0,477	0,000	0,000	0,000	0,000	0,001	0,000	0,000	0,000	0,000	0,000	0,000	0,000							
RELYEAR_2018	Pearson Correlation	0,000	-.071**	-.069**	-.069**	-.074**	-.061**	-.067**	-.075**	-.070**	-.074**	-.075**	-.072**	-.069**	-.074**	1					
	Sig. (2-tailed)	0,989	0,000	0,001	0,001	0,000	0,002	0,001	0,000	0,000	0,000	0,000	0,000	0,001	0,000						
RELYEAR_2019	Pearson Correlation	-.056**	-.070**	-.068**	-.069**	-.074**	-.061**	-.067**	-.075**	-.070**	-.073**	-.075**	-.072**	-.069**	-.073**	-.070**	1				
	Sig. (2-tailed)	0,005	0,000	0,001	0,001	0,000	0,002	0,001	0,000	0,000	0,000	0,000	0,000	0,001	0,000	0,000					
SEQ	Pearson Correlation	0,009	0,015	0,019	0,039	-0,011	0,027	-0,014	-0,001	0,016	-0,004	0,026	-0,002	-.066**	-.050*	0,009	0,003	1			
	Sig. (2-tailed)	0,657	0,464	0,349	0,053	0,571	0,173	0,475	0,976	0,437	0,824	0,201	0,930	0,001	0,012	0,648	0,893				
REM	Pearson Correlation	-0,015	0,002	0,005	-0,025	0,035	0,004	0,036	-0,013	-0,007	0,035	-0,031	0,009	-.045*	-0,039	.042*	-0,007	-.043*	1		
	Sig. (2-tailed)	0,461	0,920	0,817	0,205	0,082	0,843	0,071	0,526	0,724	0,079	0,125	0,635	0,025	0,053	0,038	0,743	0,031			
SPIN	Pearson Correlation	-0,011	0,038	.040*	.040*	-0,028	.050*	-0,026	0,002	-0,010	0,019	-0,013	-0,027	-0,026	-0,028	-0,010	-0,010	.094**	-0,017	1	
	Sig. (2-tailed)	0,570	0,060	0,045	0,048	0,160	0,012	0,201	0,923	0,602	0,353	0,509	0,170	0,190	0,161	0,607	0,611	0,000	0,387		
METASCORE	Pearson Correlation	0,013	-.055**	-0,035	0,016	-0,021	0,023	-0,028	-0,022	0,025	-0,021	0,034	0,008	0,036	-0,002	0,025	0,021	0,000	-.061**	-.073**	1
	Sig. (2-tailed)	0,505	0,006	0,077	0,413	0,290	0,261	0,165	0,274	0,216	0,303	0,093	0,687	0,070	0,919	0,209	0,299	0,987	0,002	0,000	

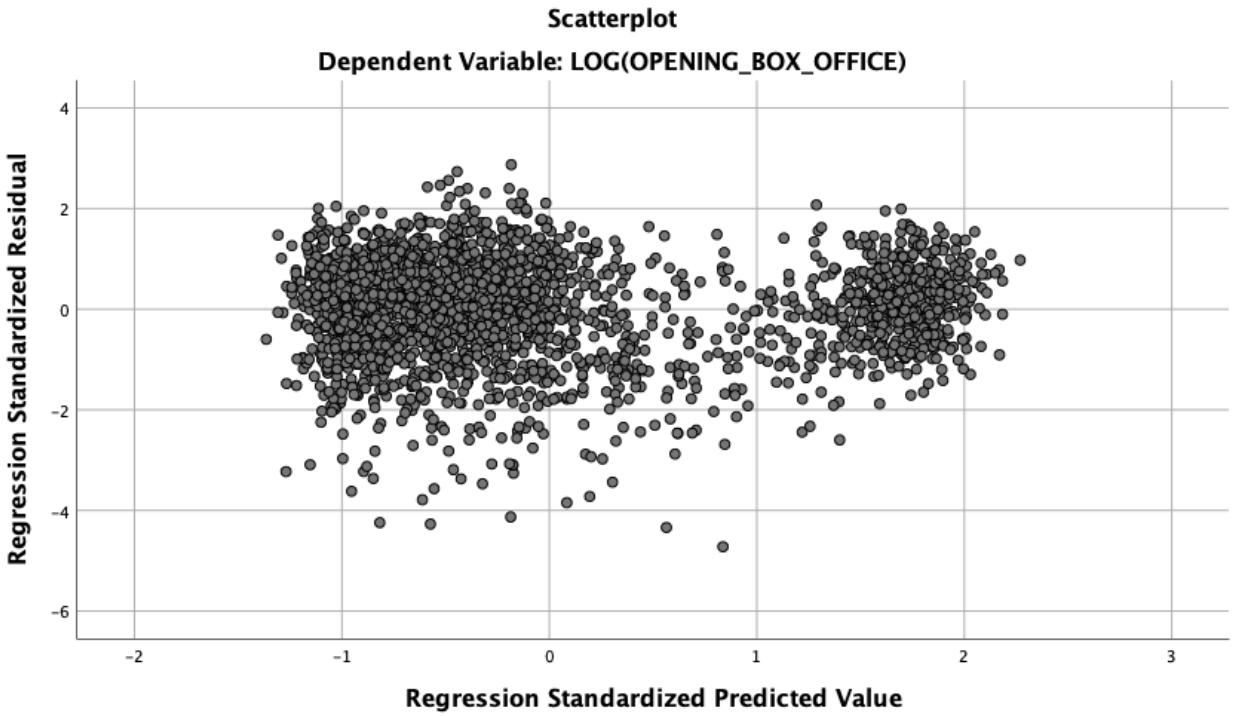
Plot A.1- MoResiduals distribution



Plot A.2- Probability plot of standardized residuals



Plot A.3- Scatterplot of the residuals


Scatterplot
Dependent Variable: LOG(OPENING_BOX_OFFICE)
Regression Standardized Residual
Regression Standardized Predicted Value
4
2
0
-2
-4
-6
-2
-1
0
1
2
3

LUISS

Dipartimento
di Impresa e Management

Cattedra Specifica: Marketing Metrics

European movies in the U.S:
A box office success analysis of European movies in the U.S. market

Summary

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INTRODUCTION

In Europe, in the decade 2007-2016, over 18,000 movies had been produced (European Audiovisual Observatory, 2019). Specifically, the production of fiction has reached 1,424 units in 2016 alone and the trend is still increasing (European Audiovisual Observatory, 2019). In 2018, European production has been estimated to reach an amount of 1,847 movies, excluding the co-production with the U.S (European Audiovisual Observatory, 2019). A considerably greater amount compared to the U.S., that accounts for 1,376 movies, of which 993 released in 2018 (Box Office Mojo, 2020). However, this positive trend in production is not followed by an increase in demand. In fact, according to the European Audiovisual Observatory (2019), the European share in Europe dropped from 33.2% to 29.4% in the 2014-2018 interval. Therefore, it is clear that the supply side is increasingly fragmented in Europe with many little companies (European Audiovisual Observatory, 2019). Moreover, all the movies produced have to face increased competition because of the intensification in movie production and generally they do not break-even (Elberse, 2007). For these reasons, some movies are being subsidised by many European programs like MEDIA and Eurimages (Henning & Alpar, 2005). Indeed, for some movies, one solution may be the export to other countries. The aim of these programs is mainly the export of these movies abroad, in order to export and preserve European movie tradition. According to European Audiovisual observatory, the U.S. is the largest foreign market for European movies (European Audiovisual Observatory, 2019). It accounts for the 32% of total European admissions outside the Europe (European Audiovisual Observatory, 2019). However, it only comprises only the 2% on the whole U.S. market.

According to Wasko (2005), U.S moviegoers' choice is somewhat constrained. This happens because studios repeatedly produce formulaic products like remakes, sequels or formula movies with well-known-stars. Moreover, these products are perceived as highly profitable and involving low risk. Indeed, it is known that industry box office is dependent on fewer and fewer number of blockbusters (Eliashberg, Elberse, & Leenders, 2006). As a result, certain segments of American moviegoers are not served by the American industry (Moul, 2005). This constraint has been sometimes covered by foreign movies that offered differentiated contents. They disclosed new stories, new collective images and cultures with great result. For instance, the South Korean movie *Parasite* has recently reached 35 million U.S. dollars in the U.S. domestic box office and won four Academy Awards (Box Office Mojo, 2020).

This is only one of many cases that showed that it is possible for foreign movies to get a considerable success in the U.S. market.

Up until now, research has recently focused on many factors of influence of the U.S box office performance. (Clement, Wu & Fischer, 2013; Hofmann, Clement, Völckner & Hennig-Thurau, 2017). However, little is known about European motion picture economic performance in the U.S. market. Furthermore, literature focused on export of movies from U.S. to Europe but not the other way around (Jayakar & Waterman, 2000). This study aims to fill the gap in the literature in order to understand which are the factors of box office success for non-U.S. feature movies in the U.S market.

This study analyses factors that play a crucial role in shaping moviegoers preferences as supported by the signaling theory. In general, the signaling theory is referred to every kind of signal that is able to reduce the choices' risks (Kirmani & Rao, 2000). Specifically, this study focuses the attention on directors' history in the U.S. market. For instance, what is the relevance of a director that previously appeared in the U.S. screens? Including directors such as Pedro Almodovar, Paolo Sorrentino may have reasonably a greater impact on the U.S. box office compared to other directors with no history in this market. The question is: what is the extent of their impact on box office? Another issue that could be relevant is the co-production strategy between two or more countries. There are many movies that had been co-produced between European countries for funding reasons and this could have an impact on box-office performance (Henning & Alpar, 2005). Another strategy to attract moviegoers may be the inclusion of an American company in the production in order to get the access to American stars, financial resources, locations, and above all, the public. Since this area is still unexplored, it may be of crucial importance the understanding the co-production impact on box office results. Many of the European movies that have been released in the U.S. come from U.K. (Box Office Mojo, 2020). This is facilitated by the fact that they share a common language (Jayakar & Waterman, 2000). The problem may arise when there is a mismatch between the movie language and the language moviegoers. For instance, the Italian and French movie *Call Me By Your Name,* had been shot in English, French, and Italian and co-produced by Italy and France. It achieved a great box office success in the U.S. and one Academy Award (Box Office Mojo, 2020). Therefore, choosing whether to include or not English as one of the languages of the movie may be a crucial decision to be made.

Last but not least, there are many stories that are already known in the U.S culture and screenplays often come from novels, comics, video-games, and other movies whereas others

are original stories (Joshi & Mao, 2010). Familiarity with the plot could compel moviegoers to watch the movie in question and boost commercial success.

Background Literature

According to Delmestri, Montanari and Usai (2005) movies are at the same time economic products and cultural creations. This means that success of such products is multidimensional given their twofold nature. Accordingly, Holbrook and Addis (2007) define success as a two-path model. Indeed, certain intrinsic properties of the movie (e.g. actors, budget, genre, language) have a tendency to result in positive/negative evaluations of moviegoers and the critic. This, in turn, influences the artistic success of the movie. On the other hand, other characteristics of the movie have a tendency to result in buzz, which happens when moviegoers and film critic recommend that movie to other moviegoers. This, in turn, influences market performance. Therefore, attitudes toward a movie and word of mouth appear to be uncorrelated and they have an effect respectively on artistic success and market performance.

As a result, movie success analysis should take into account that cultural industry success is a multidimensional concept that includes both the artistic value and the market performance.

This dualistic path found in literature is particularly relevant for European movies that try to access international markets. Many European movies are subsidized from governments and local institutions through policies that have different objectives (Delmestri, Montanari and Usai 2005; Henning & Alpar, 2005). According to Delmestri, Montanari and Usai (2005) Europe laws considers movie as cultural goods and they can be subsidised by the government. Specifically, Bagella and Becchetti (1999) described the main reasons related to the subsidization of European movie industry. Among these reasons, one is related to artistic and commercial success.

This study focuses on commercial European movie success in the United States. Specifically, this study considers Opening box office in order to find what are the signals (i.e. attributes) that makes American Customers prone to watch a European movie.

Some studies found that there are some product-specific attributes that affect international markets box offices success. Neelamegham and Chintagunta (1999) developed a model for forecasting movie results in international markets. Their findings suggest that movie industry should use both product-specific and market-specific information to make more reliable product performace forecast (Neelamegham & Chintagunta,1999).

In Europe directors play a more important role in determining the success of a movie (Bagella & Becchetti, 1999). Accordingly, Clement, Wu and Fischer (2013) found that directors affect more box office result in Germany compared to the U.S. As a result, it is reasonable to assume that attributes that make European movies successful in Europe are different from the attributes that lead to success in the U.S market for the same movie. Therefore, in order to achieve better performance, it is crucial to analyse country-specific important attributes - the U.S ones in this case.

Conceptual Framework and Hypotheses. As stated above, when choosing experience goods customers cannot assess the value of the product before the purchase (Nelson, 1970). As a consequence, in this domain signaling attributes, i.e. characteristics that convey quality of the product are extremely important and used by consumers when making a purchase decision (Nelson, 1970).

This study investigated the role of language, directors, original vs. non-original stories and co-productions, on the European movies' box office success in the U.S. market, considering them this as signals for the audience.

Language is one of the main barriers to the diffusion of European movies in international markets and Europe itself (Henning & Alpar, 2005). The majority of studies that concern this attribute are about English movies in both English-speaking and non-English-speaking countries (Craig, Greene & Douglas, 2005; Jayakar & Waterman 2000). Less is known about the impact of foreign language movies in English-speaking markets.

Language can act as signal for customers. Indeed, it can negatively affect box office result when the movie is released in a country that does not understand the language of dialogues (Craig, Greene & Douglas, 2005). The rationale behind this is that people that speak the same language may share the same belief, attitudes and culture (Craig, Greene & Douglas, 2005). In the U.S. market the use of subtitles for foreign movies is more common compared to the use of dubbing, although it is always used for animation movies (Marich, 2013). As a result, movies shot entirely in a foreign language, tend to underperform in the U.S. market even if they are subtitled because they are still in foreign language and mainstream audience historically have shied away from foreign language movies (Marich, 2013). Thus the first hypothesis of the current study is:

H_1: Including (excluding) English as spoken language in the movie positively (negatively)

influences U.S. box office.

Moreover, Hadida (2009) demonstrated that directors' former success positively influences box office. Therefore, directors who get higher commercial success in previous movies, led to greater success to their next movies' box office (Hadida, 2009). According to Marich (2013) Auteur movies (or arthouse movies) are more likely to attract small segment of customers like heavy moviegoers or ethnic moviegoers. For this kind of customers, the director is an important signal of quality (Marich, 2013) and a previous appearance in the U.S. market of a director would make them able to recognise him. Accordingly, the mere exposure effect sustains that the simple exposure may lead to more positive attitudes toward a product or person (Kahneman, 2011; Lunardo, Gergaud & Livat, 2015). Therefore, applying this effect to the movie industry, we can expect an increase in box office performance that depends on simple appearance. Indeed, previous appearance in the U.S. market will deliver an additional signal to customers and, as a consequence, a choice-risk reduction. If confirmed, this would mean that box office success does not depend on previous director success like Hadida (2009) found. Accordingly the second hypothesis of the model of this study is:

H2: The director's presence (absence) in movies previously released in the U.S market will positively (negatively) influences U.S box office.

In addition to that, the third hypothesis of this model predicts that cultural familiarity has a positive effect on box-office performance. Cultural familiarity is the extent to which a movie makes use of known themes or other elements of popular culture to signal quality (Sawhney & Eliashberg 1996). In other words, it is the previous public knowledge of the plot (Hennig- Thurau, Houston & Heitjans 2009). This is what draws the line between original and non-original stories (all the movies adapted from books, comics, and other forms of written or illustrated storytelling; Hennig-Thurau, Houston & Heitjans 2009).

Literature on movie adaptation from books also considered adapted movies as brand extensions (Joshi & Mao, 2010). It has been found that non-book-based movies earn significantly less than book-based movies (Joshi & Mao, 2010). Following the signaling theory this happens because there might be less consumption risk when a movie comes from a non-original story compared to an original one. In other words, customer make their choice considering the source of the movie and they prefer familiar ones. This happens because when it comes to adapted movies the public is culturally familiar with the plot (Hennig- Thurau,

Houston & Heitjans 2009). More formally:

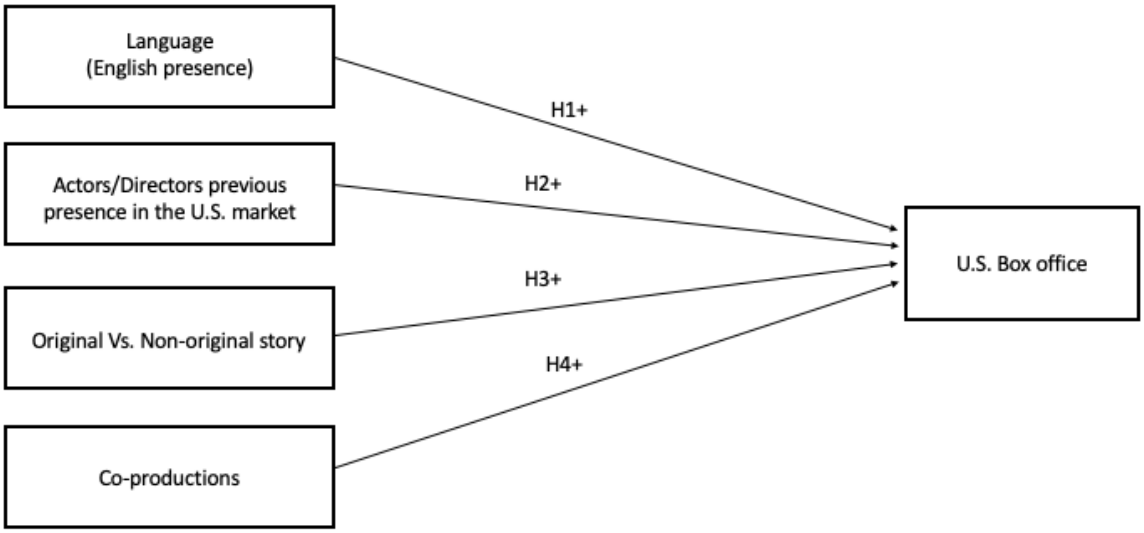
H3: Non-original screenplays (original screenplays) positively (negatively) influence U.S box office.

Furthermore, this study investigates the role of co-productions on commercial performance. In general, co-productions imply that professionals from both countries are involved in the movie-making phase (Henning & Alpar, 2005). Packard, Aribarg, Eliashberg and Foutz (2016) demonstrated that crew may positively influence the box office performance. Specifically, they focused on junctional embeddedness, that is the extent to which a person's prior collaborations bridge different network sub-communities (Packard, Aribarg, Eliashberg & Foutz, 2016). They showed that junctional embeddedness positively influences box office (Packard, Aribarg, Eliashberg & Foutz, 2016). It could be argued that junctional embeddedness with crew members the destination country, can result in a product that better suits the demand of the destination market. As a consequence, it can be expected that European companies could generate better results in the U.S market collaborating with a U.S. company/crew.

From a consumer perspective, it is known that country of origin may act as signal of quality (Russell & Russell, 2006). Specifically, U.S. customers usually prefer American products compared to foreign movies (Russell & Russell, 2006). In the specific case of co-productions between a European country and the U.S, cues suggesting that both countries are involved may trigger the perception that the movie is both American and a foreign at the same time. This is possible, for instance, by showing the locations where the movie has been shot, in the cases in which it has been shot in a foreign country. Thus the fourth and last hypothesis of this model is:

H4: Including (excluding) a U.S company among the production countries positively (negatively) influences U.S box office for a given movie.

The conceptual model of this study can be graphically represented as follows:



Data sources. For this study, secondary data gathered from IMDb and Box office Mojo have been used. IMDb and Box Office Mojo are the largest and most used databases by professionals and researchers (Hofmann, Clement, Völckner & Hennig-Thurau, 2017).

Analysis. A multiple regression analysis model has been developed to test the hypothesis and the effect of the independent variables on the box office success. Regression analysis has been run twice. The first one with the control variables, the second including the 5 independent ones in order to compare the results.

Results. The sample started from 2,742 number of observations, 340 of them has been deleted because of missingness (listwise deletion).

Test for H_1 involves the variable language test the effect on opening box office of the presence of English dialogues in the movie. However, the English language variable did not show significant effect ($\beta = 0.047$, $t = 0.778$, $p = 0.437$). H_1 is, thus, not supported. The model also tested the effect on U.S. opening box office of directors whose movies had previously been released in the U.S. The director variable shows a positive and significant effect on opening box office ($\beta = 0.408$, $t = 8.965$, $p < 0.001$). Hence, H_2 is confirmed. The third hypothesis H_3 tested the effect of non-original stories also showed a positive and significant effect on opening box office ($\beta = 0.214$, $t = 3.857$, $p < 0.001$). Thus, H_3 is also confirmed. The last hypothesis (H_4)

examines the effect of co-productions with the U.S. on the European movie success on their American opening box office. In line with H_4 co-production with the U.S. showed a positive and significant effect ($\beta = 0.468$, $t = 7.674$, $p < 0.001$). This means that H_4 is confirmed.

Robustness check. Robustness check has been performed to further analyse the effect of language of European movies on U.S opening box office. Specifically, this is important to check the difference between movies that are completely shot in English with movies that are only partly shot in English. Robustness check showed a negative and significant effect ($\beta = -0.159$, $t = -3.559$, $p < 0.001$) showing that European movies completely shot in English has a negative effect on U.S. opening box office compared to all the others that only include English.

Discussion of the Results

Previous research found many different factors that affects box office. They specifically focused on the American movies in the U.S. and U.S. movies in foreign markets. This research analysed which are the factors of box office success of European movies in the U.S. finding that European movies has specific attributes that signals value to the potential customers. Indeed, new attributes such as language, directors previous experience in a market, non-original stories and co-production was studied.

First of all, language was expected to have a positive effect on U.S. box office. However, this was not the case. This was probably due to the fact that many movies include English among languages in the sample and that the simple inclusion of English is not a sufficient classification. Indeed, movie dialogues can be either completely in English or only contain it among the languages. As a consequence, the robustness check was run to check for this possibility and it returned interesting results. Indeed, movies completely shot in English interestingly showed lead to lower U.S. box office for European movies. This is probably due to the fact authenticity have an important role in the movie industry that must be preserved (Delmestri, Montanari & Usai, 2005). It is possible that language influences customers' authenticity perception.

Secondly, as expected, the results confirmed the importance of simple appearance of directors of European movies in the American market. This implies that directors of a European movie that are at their debut in the American market will get worse result box office results

compared to directors that have at least one previous movie released. Indeed, the solely appearance positively trigger box office trough the mere exposure effect. In other words, a director with a previous movie released in the U.S. in his filmography has more probability to trigger American customers simply because they have seen his name once before.

Thirdly, the effect of non-original stories, was tested on box office results comparing them to the original ones. Results showed that non-original stories that come from Europe perform better compared to original ones in the American market. In other words, all the stories that are adapted from novels, comics and plays and all the other forms of written or illustrated goods acted as signal for customers and performed better compared to others.

Lastly, co-productions were theorized both to convey cues of country of origin and to generate junctional embeddedness, that is the crew's previous experience with the country were the movie is produced and this hypothesis was confirmed. Therefore, European movies that are co-produced with the U.S. will generate greater box office success compared to movies produced without involving U.S. professionals. The finding suggests that U.S. professionals that are involved in the movie production phase know better the U.S. market and how to reach the quality that American customers expect from a movie. Moreover, this study confirms that co-productions have both attributes that an American movie and European one may have.

Theoretical Implications. Many researches focused their attention on what are the determinants of success of American movies' box office. Moreover, other studies focus their questions on what are the attributes that make an American movie a success abroad. This study adds to the previous research on box office success findings on attributes that make a foreign movie a success in the U.S. Specifically, the study focused on European movie attributes and their impact on U.S. box office. These attributes have been considered as signals for customers to reduce their choice risk. This research contributes to signalling theory applied to movies through findings concerning attributes that have never been studied before like co- productions. Moreover, findings of this study add the previous literature on the effect of directors, because results demonstrate that directors' influence does not depend only on their power or their previous success. This shows that even if the director of the movie is not well- known, the previous appearance of the director can nevertheless affect positively the box office demonstrating that the mere exposure effect also works for European movie in the U.S. Furthermore, this research contributes to research on adapted movies demonstrating that non-original stories works better even for European movies because of previous exposure and cultural familiarity.

Managerial Implications. Competition for movies in the U.S. is intense and each project requires time and huge investments to obtain an access to the American market. Moreover, international distributors usually choose the movies that are expected to be a success. Without a specific concern about the destination market, producers and distributors may release a movie relying on the attributes that make it a success only in its domestic country. If the aim of a producer is to enter the American market, he should consider these characteristics from the beginning, when the movie is still a work-in-progress. This will lead producers to make better choices in the green-lighting process, i.e. the phase in which a screenplay is selected among other scripts and developed.

Moreover, considering the fact that many European movie are subsidised this study is also relevant from a public policy point of view. Indeed, European subsides aim at exporting European movies abroad (Bagella & Becchetti, 1999) for instance, the U.S.

First of all, governments and local institutions should separate artistic and commercial success. In fact, it is reasonable to assess that there are some movies that are likely to achieve commercial success and others that have a greater likelihood to achieve artistic success. For instance, movies that generate more buzz are more likely to produce commercial success whereas movie that shows positive evaluations achieve greater artistic success (Holbrook & Addis, 2007). This is supported by the fact that Holbrook and Addis (2007) showed that the two paths (artistic vs. commercial success) are uncorrelated and therefore should be treated as such. In other words, when subsidizing a movie, governments and local institution should take into considerations the fact that the two kinds of success can be achieved and that characteristics lead to commercial and artistic success.

This study spots the light on factors boosting commercial success of European movies exported in the American market. To achieve this objective, policy makers should allocate financial resources on movies that own one of the attributes demonstrated to have a positive influence on commercial success.

Finally, past studies considered that subsidised movies showed no effect on commercial success (Bagella & Becchetti, 1999). Probably this happened because the subsidise should not involve movies without any consideration about where the movie is released and what attributes are important for that specific country. In this way, subside will improve their overall commercial efficacy. In fact, box office results are a measure of moviegoers' demand that is a proxy of the number of people that have seen the movie subsidise. Therefore, the higher the commercial success, the higher the number of people that will have watched the movie subsidised. This is in line with the export of culture objective typical of the subsidise programs

(Bagella & Becchetti, 1999).

Limitations and Suggestions for Future Research

The present study has a few limitations that must be taken into account. First, the inclusion among the movie dialogues of English had an effect on U.S. box office and language appears to be a more complex attribute that requires further research.

Second, this research focuses the attention only considering the box office success, that is the demand of the movie. Further research should direct their research questions in the study of other form of success like the artistic success—i.e. the amount and importance of prizes that a movie obtains. This may be particularly interesting for European industry, where artistic success has a heavier weight compared to the American industry (Marich, 2013).