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# Culture Matters: Consumer Acceptance of U.S. Films in Foreign Markets

## ABSTRACT

*Culture matters for products with significant cultural content. The current study examines the impact of cultural context on the box office performance of U.S. films in foreign markets. The results indicate that films perform better in countries that are culturally closer to the United States and those that have a greater degree of Americanization. The authors draw implications for films and, more broadly, for products with cultural content.*

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**C. Samuel Craig,  
William H. Greene,  
and Susan P. Douglas**

Culture has a profound influence on all aspects of behavior. Cultural norms establish rules of conduct and shape values, beliefs, and preferences. They provide a “blueprint” for daily living and for ways to interact with others. Culture determines how people perceive and interpret phenomena (Geertz 1973; McCracken 1986) and the meaning they ascribe to material goods and symbols (Holt 1997). As a result, culture fashions the way that experience is shared among members of a society. Cultural boundaries may also act as barriers and impede the flow of ideas, communication, and products from one culture to another. In an increasingly global economy, a central issue is the receptiveness of members of a culture to objects and ideas that originate from other cultures. Failure to consider the impact of cultural forces has been behind many mistakes made in international markets (Ricks 1993). It is imperative for firms to consider such factors when launching a product internationally.

Culture’s impact varies depending on the product because certain products are more culturally embedded than others. Consumer electronics, power tools, commercial aircraft, and heavy construction equipment have few cultural connotations. However, food, clothing, and modes of artistic expression may be strongly embedded in a particular culture, and there are marked differences from one culture to another in such product categories. Peoples’ acceptance of products from other cultures depends in part on the compatibility of the product with the value and belief system (Rogers 1995). Furthermore, in some cases, people in a particular culture may want to emulate the lifestyle and behavior patterns of another culture. Thus, they may seek out products that symbolize and provide a clear expression of that culture. For example, consumers in other countries have embraced cul-

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tural icons and material artifacts of American culture, such as McDonald's, Marlboro, Coca-Cola, and Levi's, as part of the cultural fabric of their society (Ritzer 2002).

Although the impact of one culture, particularly elements of American culture, on other cultures is evident and highly visible throughout the world, there have been few studies that attempt to assess systematically the influence of culture on acceptance of a culturally embedded product. This article examines the extent to which both the cultural content of a product and the context (country) in which it is sold affect sales. We selected film for investigation because each film is a highly complex product that is rich in cultural meaning. Films are very much a creation of the culture in which they are developed. Films inevitably reflect the writer's view, the director's vision, and the actor's interpretation of the script, all of which are influenced by cultural context (i.e., the values, customs, mores, and institutions of the environment in which they operate). Furthermore, each film is unique and represents a new product offering. Sales data on many films are available on a country-by-country basis, making success relatively easy to measure.

This article examines the extent to which the cultural environment in which a film is released affects its success. The study is based on data drawn from the Variety.com Web site on the top 50 films in eight foreign countries for six consecutive years. We begin with a discussion of the role of culture, some background on the film industry, and a review of previous literature. Then, we present the research approach and the hierarchical regression model we use to analyze the data. Next, we discuss the results and draw some conclusions about the role of cultural factors in influencing the success of U.S. films and other products with significant cultural content in international markets.

Marketing studies have typically viewed culture in terms of three key dimensions: beliefs and value systems, material goods, and language (Sojka and Tansuhaj 1995). Studies examining beliefs and value systems frequently incorporate the frameworks of Hofstede (2001) and/or Schwartz (1992). Hofstede's framework, which has been used extensively in the marketing and management literature, focuses on values at the aggregate or national level (i.e., the mental software or the "collective programming of the mind"; Hofstede 2001). Hofstede's four main dimensions are viewed as characterizing a country's national culture. These represent broad tendencies or preferences that are shared at a collective level in society. Conversely, Schwartz centers on values at the individual level and the role of the individual within society and, as such, has had less widespread application. Regardless of the perspective, values have been widely viewed as

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## BACKGROUND

### Culture in Marketing

reflecting key characteristics of the particular culture from which they emanate.

Research on material goods has explored the content of culture and the interpretation of the artifacts that make up the tangible components of culture. This has centered on the set of culturally constituted meanings that provide understanding and rules for its members and that organize the phenomenal world (Holt 1997; McCracken 1986). The importance of material objects is reinforced by McCracken's (1986, p. 73) observation that "objects contribute to the construction of the culturally constituted world precisely because they are a vital, tangible record of cultural meaning." Interpretation of the material artifacts that constitute the visible aspects of culture is often linked to the intangible elements, values, and beliefs that underlie and provide cultural meaning. Both values and artifacts have been viewed as reflecting and, at the same time, forming an integral part of the cultural fabric of society. Thus, culture becomes an integrative process that both defines and interprets material meaning at a collective level (Sherry 1986).

Language, the third research stream, has been viewed as the conveyor of meaning. When the product has a major information component to be communicated, language compatibility facilitates the acceptance of the product because it reduces ambiguity and reinforces the notion that it is from a similar cultural context. In addition to the obvious role of enabling communication, linguistic structures play a key role in cognitive processes that influence judgment and choice (Schmitt and Zhang 1998). This extends to the encoding and recall of information (Tavassoli 1999) and brand recall and recognition (Schmitt, Pan, and Tavassoli 1994). Thus, language is an important element of culture in forming and organizing cultural content and in providing a cohesive bond among members of a shared language group. At the same time, language differences establish a major barrier between cultures, impeding communication and effective transmission of messages, ideas, and verbal expression of emotions and feelings.

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## The Film Industry

Film is a highly portable material artifact of culture. Although films from other countries are shown in the United States, the dominant pattern is for U.S. films to be shown in other countries. Of the 256 top-grossing films of all time in terms of the non-U.S. box office (gross revenue of \$100 million or more outside the United States), all but 6 were U.S. films, and 3 of these remaining films were from the United Kingdom (imbd.com). In aggregate, non-U.S. films accounted for only 2% of the total revenue. The pattern is consistent from year to year. For example, in 2002, the top 5 films in

Germany, the United Kingdom, Australia, Spain, Argentina, the Netherlands, Japan, South Korea, and China were U.S. films, and in Mexico and France, all but 1 of the top 5 films were from the United States (*Variety* 2003b).

Although studios generate revenue from multiple windows, the theatrical release window is the most critical because it establishes the value of the film for subsequent windows, such as pay-per-view, cable, home video, and broadcast television. In addition to these windows, successful films also represent substantial opportunities for licensing, merchandising, and other entertainment products, such as television shows, books, plays, and theme park attractions. In 2002, theatrical release revenues from films in the United States were more than \$9.5 billion (Motion Picture Association of America 2002), and U.S. studios could expect to receive equivalent theatrical revenue from foreign markets as well. In 2002, U.S. theatrical revenue represented only 9.7% of the total revenue that studios received from key film release windows (*Variety* 2003a).

In addition to their economic importance, films play an important role in the transmission of cultural values and mores. They are both culturally rich and culturally complex. They constitute a form of entertainment that reflects daily life, often emphasizing romantic, humorous, and violent elements and the fantasies, dreams, and imagination through which people escape from the realities of daily existence. As with other forms of entertainment, films mirror the culture in which they are created. Chekhov's plays reflect the life of the Russian landowner at the turn of the twentieth century, just as Wilde reflects the mannerisms of Edwardian culture and Weill reflects the ideological conflicts of Germany in the 1930s. Similarly, Italian opera, Brazilian samba, the Indian dance of Shiva, and Spanish bullfights are integral parts of their respective cultures and appeal to a broad spectrum of society (Gannon 2001). French films by Truffaut, Swedish films by Bergman, Italian films by Fellini, Spanish films by Almodovar, Indian films produced in "Bollywood," and Japanese films by Miyazaki all reflect the vision of the directors and the cultures that produce them.

Although many countries have their own film industry that reflects their national culture and cultural values, over time, these have declined in importance. The film industry has come to be dominated by U.S. studios, and film entertainment represents a major U.S. export. However, the success of U.S. films varies depending on the specific country. An important issue is related to the extent to which this is a function of a different cultural context and the cultural content of the film.

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## Previous Research

Research examining film has focused on a range of topics. Some studies have examined the pattern of weekly box office revenues (Jedidi, Krider, and Weinberg 1998) and the degree of competition among motion pictures (Krider and Weinberg 1998). Others have examined the impact of both distribution and marketing policies and film and critics' reviews on box office revenue (De Vany and Walls 1999; Neelamegham and Chintagunta 1999; Ravid 1999; Sawhney and Eliashberg 1996). Decision support systems that help exhibitors make better and more timely scheduling decisions have been developed (Swami, Eliashberg, and Weinberg 1999), and more complex models that examine the interaction between audience and exhibitor characteristics have been formulated (Elberse and Eliashberg 2003).

Only two studies (Elberse and Eliashberg 2003; Neelamegham and Chintagunta 1999) examine the performance of U.S. films in foreign markets. Neelamegham and Chintagunta (1999) developed a Bayesian modeling framework to predict first-week viewership for 35 new films in the United States and in 14 international markets. For all countries, they found that the number of screens on which a film was released influenced viewership. They also found that local distribution improved film sales internationally. In addition, differences were found in genre preference across countries, though no systematic pattern was identified and similar genre preferences were evident in geographically disparate countries.

Elberse and Eliashberg (2003) conducted a study of 164 films over two years in the United States and four foreign countries (i.e., France, Germany, Spain, and the United Kingdom). They used an econometric modeling approach to predict the opening-week box office, second-week box office, and beyond. In addition, they examined the time lag between domestic and foreign market introduction to assess the extent to which performance of a film in a foreign market is influenced by its performance in the domestic market and whether this relationship is moderated by the time lag among the film's introduction in each market. Again, they found that the number of screens on which a film was distributed was associated with its success (Elberse and Eliashberg 2003).

Both studies provide considerable insight into the film-specific factors associated with box office performance in foreign markets. Both studies also demonstrate that a film's box office performance in the United States is a strong predictor of its success outside the United States. However, neither study examines how the cultural context in which films are released influences their success. Films are laden with cultural content, and it is critical to assess how this content



and its compatibility with the cultural context affect performance in other countries.

The rich cultural content of films suggests that there is a need to consider the role of content and context in influencing their success in foreign markets. In examining the impact of cultural context on film, the complexity of culture and the multiplicity of ways that culture influences phenomena suggest the importance of examining each of the three different components of culture: the intangible elements, or values and beliefs; the material aspects of culture; and communication and language. Each plays a role in influencing the success of U.S. films in foreign markets, and they interact to provide a climate that varies in the degree of receptivity to U.S. films.

*Values and Beliefs.* Values and belief systems have been widely used in the assessment of the impact of cultural context on behavioral phenomena in cross-cultural psychology and management studies (Oyserman, Coon, and Kemmelmeier 2002). In a particular national culture, values and cultural orientation have been used as a measure of cultural context. To the extent that these are viewed as broad societal constructs that condition collective behavior patterns, societies with similar cultural values are expected to exhibit more similar response patterns than those with different values. Although the role of cultural values has not been examined specifically in relation to film, there is a rich tradition in the international business literature of examining the impact of national cultural values on foreign market entry (Mitra and Golder 2002), selection of mode of entry (Kogut and Singh 1988), new product development (Nakata and Sivakumar 1996), and the effect of culture on consumer traits, such as innovativeness (Steenkamp, Ter Hofstede, and Wedel 1999). Insofar as U.S. films reflect U.S. values, they may be expected to be more successful in countries in which national cultural values are similar to those of the United States and less successful in cultures in which national cultural values are different from those in the United States. This suggests the following research hypothesis:

H<sub>1</sub>: The more culturally similar a country is to the United States, the more likely a U.S. film is to be successful at the box office in that country.<sup>1</sup>

*Material Goods.* The range and variety of material goods available in a culture provide an important indicator of the culture's receptivity and openness to products from other cultures. Cultures in which foreign products are widely available and accepted provide a more favorable context for the introduction of new foreign products than those in which consumers are ethnocentric and prefer domestic products

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## Research Hypotheses

(Shimp and Sharma 1987). Again, however, receptivity to foreign products may vary depending on the country and culture. For example, consumers have been found to reject products from less-developed countries on the basis that such products are of poorer quality than domestic products, and conversely, consumers have been found to view certain products from foreign countries as superior to domestic products, such as perfume from France, cars from Germany, and consumer electronics from Japan (Bilkey and Nes 1982; Papadopoulos and Heslop 2003).

Consumers may also want to emulate lifestyles of a certain culture and adopt the material goods that are icons and metaphors of that country. Countries vary in the extent to which they emulate a U.S. lifestyle or have adopted products that are icons and metaphors of U.S. lifestyles, such as fast food, carbonated soft drinks, casual clothes (e.g., jeans, T-shirts, running shoes), and sports (e.g., basketball, baseball; Gannon 2001). People in other countries may embrace role models from U.S. culture, such as Tiger Woods, Tom Cruise, or Eminem. In addition, members of other cultures may adopt traits that are typical of U.S. culture, such as concern with cleanliness (as reflected in frequent showers and daily hair washing), preoccupation with time, a fast-paced lifestyle, wearing of casual dress, and a taste for fast food (Ritzer 2002). Thus, we hypothesize that U.S. films, as conveyors of American values, are more successful in countries that have adopted U.S. products.

H<sub>2</sub>: The greater the degree of Americanization in a country, the more likely a U.S. film is to be successful.

*Language.* Language is an important factor that influences the success of U.S. films. It is important not only for effective understanding of the film's content but also because it is an important component of culture. Language reflects specific cultural attitudes and behavior patterns that may be alien to an audience that speaks a different language, and it can act as a barrier to the acceptance of or empathy with the film's story line and presentation. In non-English-speaking countries, films need to be dubbed or subtitled to ensure comprehension of the dialogue. This may diminish their effectiveness and impact as a result of loss of fluency and synchronization of dialogue and action. In some cases, there may also be inconsistency between the scenario and the language spoken (e.g., when an American Western is dubbed in French, Arabic, or Mandarin).

In addition, insofar as language is an important element in the transmission of cultural patterns and behavior, it can be expected that speakers of the same language have similar



cultural beliefs, attitudes, and behavior patterns. Language also plays an important role in linking cultural communities and forging a bond among its members, resulting in similar preferences and behavior norms (Hall 1976; Usunier and Lee 2005). Thus, members of countries that speak a common language are expected to be more culturally similar than those that speak another language.

H<sub>3</sub>: U.S. films are more likely to be successful in English-speaking countries than in non-English-speaking countries.

*Film Content.* So far, the hypotheses have centered on the cultural environment into which a film is released and how that affects the degree of success. We hypothesize that the host culture, degree of Americanization, and language all exert some influence. It is also important to consider how different types of films are received by different cultural groupings. Films are complex, multifaceted creations of a particular culture (Austin and Gordon 1987). Each is unique, and the nature and extent of their cultural content varies. At the extreme, Westerns are unmistakably American, portraying a particular period of U.S. history. Comedy is a genre that tends to be embedded in a particular culture, and appreciation of a particular type of humor (e.g., British humor) is not universal. Notions of romance and courtship vary considerably from culture to culture and may not correspond to contemporary U.S. mores. Conversely, fantasy and science fiction are not necessarily anchored in any particular culture, though members of a particular culture may exhibit preferences (or dislikes) for these genres. Prior research on U.S. films in foreign markets (Neelamegham and Chintagunta 1999) has demonstrated that genre affects a film's performance in different countries. However, results vary considerably, and there is no specific pattern of acceptance of a particular genre across countries. Given that the nature of the content (genre) matters, it is important to account for its effect in the examination of box office performance. However, to this end, we do not formulate any specific hypotheses.

To examine these hypotheses, we developed a hierarchical regression model that specifies the impact of both film-level and country-level independent variables on box office receipts. The dependent variable consists of foreign box office receipts in eight different countries for the top 50 U.S. films for six consecutive years. The independent variables consist of two groups. The first measures film characteristics, specifically, U.S. box office revenue and film genre, and the second measures country characteristics, namely, cultural distance, degree of Americanization, and language.

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## DATA

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## Film-Level Data

We obtained data from the Variety.com Web site on the top 50 U.S. films (gross box office receipts) for a six-year period (1997–2002). Approximately 500 films are released each year in the United States. Focusing on the top 50 films for each year ensures a sample of films that not only are released in the United States but also are released subsequently in foreign markets. In any given year, to be in the top 50, a film must have domestic gross revenue of approximately \$50 million. We obtained corresponding data for the same films for the eight foreign countries available on the Variety.com Web site. (Australia, the United Kingdom, Austria, Germany, Argentina, Chile, Mexico, and Spain were the only countries available on Variety.com.) Although *Variety's* domestic data go back to 1982, complete data on foreign box office receipts begin in 1997. Data on box office receipts in Australia, Austria, and Argentina are sparse for 1997. The missing observations are attributable to a film not being released in a particular country or the incompleteness of the Variety.com database in the early years. To determine whether there was any systematic bias due to missing data, we ran a probit model. The dependent variable was whether a film was released in all eight countries, and the independent variables were genre dummies. None of the genre dummies was significant. Furthermore, the overall equation was not significant ( $\chi^2 = 8.94$ , degrees of freedom [d.f.] = 12). We excluded the top 50 film *Everest* from the analysis because data were available for only one country outside the United States. This provided a total of 299 films and 2198 observations. We adjusted these data to per capita values and expressed them as logs.

We determined a film's genre from the Internet Movie Data Base (see [www.imdb.com](http://www.imdb.com)). Although multiple genres are typically listed, the instructions for data entry indicate that "the main genre should always be placed first." We coded these data as 12 dummy variables in the analysis to assess the impact of a film's genre on its performance in foreign markets. Table 1 contains a listing of 12 of the genres. The 13th genre was crime.

Film-level predictor variables for the analysis were limited to the per capita U.S. box office and its genre. Because the data were for the film's entire run in all the countries, we did not use factors that are normally examined, such as screens. The number of screens varies week by week so that one number for screens would not suffice. Furthermore, the number of screens is systematically reduced over a film's run because exhibitors stop showing films with declining revenue and substitute new releases. This results in a very high correlation between the number of screens and box office revenue. However, it is the decline in box office revenue that drives the number of screens and not the reverse. In addition, previous studies that incorporated screens were interested in pre-

	All	All	English	German	Spanish
Nonrandom Parameters					
Drama	-.0933 (.0919)	-.0832 (.0933)	-.269 (.085)**	-.260 (.060)**	-.154 (.176)
Romance	.177 (.129)	.171 (.132)	.362 (.124)**	.770 (.088)**	-.118 (.229)
Comedy	-.0942 (.0901)	-.0927 (.092)	.0208 (.084)	.0362 (.058)	-.395 (.171)**
Action	.179 (.089)**	.185 (.092)**	.132 (.084)	.303 (.058)**	.0531 (.171)
Fantasy	.557 (.133)**	.558 (.136)**	.462 (.124)**	.816 (.085)**	.252 (.252)
Adventure	.197 (.107)*	.204 (.109)*	.0896 (.101)	.0356 (.0682)	.139 (.205)
Family	-.287 (.101)**	-.189 (.103)**	-.027 (.099)	.0216 (.0701)	-.764 (.189)**
Animated	.281 (.108)**	.284 (.110)**	.168 (.101)*	-.351 (.069)**	.450 (.208)**
Thriller	.0827 (.113)	.081 (.115)	-.132 (.107)	-.202 (.075)**	.172 (.209)
Mystery	.685 (.201)**	.679 (.207)**	.256 (.185)	1.176 (.145)**	.803 (.375)**

Table 1.  
Estimated Regressions for Log  
Per Capita Box Office, for All  
Countries, and by Language  
Group

Table 1.  
Continued

	All	All	English	German	Spanish
Science fiction	.162 (.117)	.166 (.119)	.207 (.111)	.251 (.076)**	-.0478 (.228)
Horror	.279 (.108)**	.294 (.111)**	.132 (.100)	.251 (.026)**	.276 (.206)
McDonald's per capita	.0399 (.0033)**	.070 (.001)**	.0274 (.002)**	.0329 (.0031)**	.238 (.017)**
Cultural distance	-.157 (.012)**				
English speaking	.140 (.0593)**				
Random Parameters					
Constant Term = $\alpha_0 + \alpha_1 \log \text{Income} + \sigma_\alpha w_\alpha$					
Intercept $\alpha_0$	1.611 (1.366)	.845 (1.402)	-2.252 (3.022)	-1.715 (.419)**	-1.211 (.761)
Income $\alpha_1$	-.386 (.169)**	-.392 (.174)**	.181 (.419)	.0291 (.0521)	-.249 (.093)**
Standard deviation $\sigma_\alpha$	.172 (.013)**	.158 (.014)**	.035 (.013)**	.509 (.011)**	.121 (.026)**

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	All	All	English	German	Spanish
<b>Coefficient on PCUSBox = <math>\beta_0 + \beta_1 \log \text{Income} + \sigma_\beta w_\beta</math></b>					
Intercept $\beta_0$	4.226 (.96007)**	4.054 (.995)**	3.328 (1.890)	3.497 (.301)**	1.439 (.526)
Income $\beta_1$	-.384 (.121)**	-.363 (.124)**	-.286 (.263)	-.279 (.037)**	-.047 (.066)
Standard deviation $\sigma_\beta$	.406 (.011)**	.403 (.011)**	.445 (.009)**	.653 (.009)**	.368 (.019)**
<b>Regression Disturbance Standard Deviation</b>					
Standard deviation $\sigma$	.940 (.0075)**	.967 (.008)**	.454 (.008)**	.319 (.006)**	1.178 (.012)**
Log-likelihood	-3042.035	-3094.537	-526.765	-510.2834	-1680.854
Sample	2198	2198	597	559	1042

\*Significant at 95%.  
 \*\*Significant at 99%.  
 Notes: Estimated standard errors are in parentheses.

Table 1.  
Continued

dicting opening-week box office and week-by-week revenues. In these cases, the number of screens can be helpful to differentiate between a platform (limited number of screens) and a wide release. However, after the first week, the relationship may be misleading because of exhibitors' decisions to reduce screens in response to declining attendance.

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## Country-Level Data

We measured cultural distance as distance from the United States on a composite index of Hofstede's four value orientations (individualism/collectivism, power distance, uncertainty avoidance, and masculinity/femininity). These value orientations represent the "collective programming of the mind that distinguishes one nation from another" (Hofstede 2001, p. 1). Individualism/collectivism represents the degree to which a person perceives himself or herself as separate from a group and feels pressure to conform, power distance reflects the degree to which members of a society accept a hierarchical or unequal distribution of power in society, uncertainty avoidance reflects the degree to which members of a society are willing to accept the uncertainty or risk of daily living and prefer to work with long-established friends and acquaintances, and masculinity/femininity represents the degree to which a society views materialistic and aggressive behavior favorably rather than nurturing behavior. Following Kogut and Singh (1988), we developed an index of cultural distance from the United States for each country.

We obtained population and per capita income from the World Bank (2001) for all countries for 2000. This is roughly in the middle of the period for the film data. These numbers are relatively stable and do not change appreciably in a relatively short period of time. We used population to express box office receipts on a per capita basis. We used per capita income data as a covariate to control for the wealth of the population and, thus, members' ability to afford discretionary leisure-time activities. We assessed the degree of Americanization as the number of McDonald's outlets per capita in each country. We obtained the number of McDonald's restaurants from McDonald's Web site. McDonald's is a key symbol of U.S. values and lifestyle overseas (Ritzer 2002). People who admire and try to emulate U.S. lifestyle view McDonald's restaurants as emblematic of that lifestyle. Equally, those who resent the growing dominance of U.S. culture and U.S. economic and military power view McDonald's as a target for their animosity. We use the number of McDonald's restaurants per capita as a measure of a country's degree of Americanization and, thus, the propensity to accept U.S. films. There is some precedent for using the presence of McDonald's in novel ways. *The Economist* (2005) finds that the price of Big Macs is a useful measure of currency disparities, and it annually publishes its Big Mac Index.



All of the films in the database, with the exception of *Chocolat* and *Crouching Tiger, Hidden Dragon*, were originally released in English. We coded a dummy variable as one if the foreign country was English speaking and zero if otherwise. This also served as another measure of cultural proximity because countries that share a common language have other elements of culture in common. Language is also expected to affect box office revenues because subtitles may limit the appeal of the film. As we noted previously, films that are dubbed may also have less appeal than they do in their original language because the language may be incongruent with the stars or context of the film; alternatively, idioms may translate poorly into another language. More important, language is a key element of culture and communication and thus may reflect important cultural differences.

We measured film performance as local box office revenue in each of the eight countries. The nature of the performance measure and the types of interactions implied by the hypotheses suggest a regression approach. However, the unusual nature of the data necessitates a modeling framework that goes beyond familiar linear regression methods. Each film is unique in some respect. Thus, it was desirable to be able to account for film-specific heterogeneity. In addition, the three hypotheses involve variables at two levels: film and country. A hierarchical random parameters regression model is well suited to this situation. We used the following model:

$$(1) \quad B_{f,c} = \alpha_{f,c} + \beta_{f,c} B_{f,U.S.} + \gamma_1 CD_c + \gamma_2 MACSPC_c + \gamma_3 English_c + \sum_{g=1}^{12} \eta_g G_{fg} + \varepsilon_{f,c},$$

where  $f$  denotes film,  $f = 1, \dots, F = 299$ , and  $c$  denotes country. In the primary equation,  $B_{f,c}$  is the log of per capita box office revenues for film  $f$  in country  $c$ ;  $B_{f,U.S.}$  is the same for the United States. In addition,  $CD_c$  is our measure of the cultural distance of country  $j$  from the United States. Following the work of Kogut and Singh (1988), we expressed cultural distances as indexes based on Hofstede's (2001) measures of individualism, power distance, uncertainty avoidance, and masculinity. This provided an overall measure of cultural distance from the United States. We corrected deviations for differences in the variance of each of the four dimensions. The aggregate measure of cultural distance is as follows:

$$(2) \quad CD_c = \frac{1}{4} \sum_{i=1}^4 \frac{(I_{i,c} - I_{i,U.S.})^2}{V_i}, \quad c = \text{U.K., Australia, ...},$$

$i = \text{power distance, uncertainty, ...},$

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## MODEL AND ESTIMATION METHODS

where  $V_i$  is the variance across the eight countries of the  $i$ th cultural distance index. The term  $\text{MACSPC}_c$  is the number of McDonald's restaurants per capita in country  $c$  in 2000, and  $\text{English}_c$  is a dummy variable for whether the country is an English-speaking country. The variables  $G_{f,g}$  are 12 dummy variables for primary genre; the 13th genre, crime, is fixed as the basis. We assume that the disturbance,  $\varepsilon_{f,c}$ , is normally distributed with a mean of zero and a constant variance of  $\sigma^2$ .

To investigate heterogeneity across films, we first fit the model by ordinary least squares and computed the Breusch and Pagan (1979) Lagrange-multiplier statistic to assess the hypothesis of the presence of group- (film-) specific effects. The chi-squared statistic is 282.11 (d.f. = 1). Because the critical value for one degree of freedom is 3.84, we reject the hypothesis of homogeneity and proceed to the random parameters (heterogeneous) specification of the model. Two random parameters are specified:

$$(3) \quad \begin{aligned} \alpha_{f,c} &= \alpha_0 + \alpha_1 \log \text{Income}_c + u_{\alpha,f}, \text{ and} \\ \beta_{f,c} &= \beta_0 + \beta_1 \log \text{Income}_c + u_{\beta,f}. \end{aligned}$$

The two random parameters in the model capture unobserved film-specific heterogeneity. The constant term,  $\alpha_{f,c}$ , includes a pure, random film effect. The coefficient on U.S. box office,  $\beta_{f,c}$ , is also film specific; we assume that the direct relationship between the United States and local box office receipts has a film-specific component. We also assume that the two random parameters are affected by the country's per capita income, which provides an indication of the standard of living, discretionary income, and the population's ability to engage in paid leisure-time activities. The stochastic nature of these two parameters is imparted by the random components,  $u_{\alpha,f}$  and  $u_{\beta,f}$ , which we assume to be normally distributed with means of zero and variances of  $\sigma_{\alpha}^2$  and  $\sigma_{\beta}^2$ , respectively. Although the film industry has certain market characteristics that underlie the relationship between foreign and U.S. box office receipts, each film is a separate project with characteristics of its own that are sufficiently distinct; thus, we believe that it is appropriate to allow for the film-specific heterogeneity as we described. We estimated the parameters of the model by the method of maximum simulated likelihood with LIMDEP 8.0 (Greene 2002; for a discussion, see Greene 2003, pp. 512–17).

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## RESULTS

We tested the hypotheses using the hierarchical linear random parameters regression model and controlled for the effect of per capita income to account for the source of country-to-country variation. As we indicated previously, we assume that people with higher incomes also have more discretionary income and are better able to engage in paid leisure-time activities. We expect the effect of income to be

positive. Because of the interaction terms in the model, a simple examination of the coefficients in Table 1 is not sufficient to determine whether this is supported by the model. By inserting Equation 3 into Equation 1, we can isolate the term involving logIncome:

$$(4) \quad B_{f,c} = \alpha_0 + \alpha_1 \log \text{Income} + \beta_0 \log \text{PCUSBox} + \beta_1 \log \text{PCUSBox} \times \log \text{Income}.$$

Therefore, the estimated effect of changes in (log) income on logBox will be  $\partial \log \text{PCBox} / \partial \log \text{Income} = \alpha_1 + \beta_1 \log \text{PCUSBox}$ . To compute this, a value must be inserted for logPCUSBox. The sample mean of this is  $-1.1538$ . Using this with the values in the first column of Table 1, we obtain an estimate of  $\partial \log \text{PCBox} / \partial \log \text{Income}$  equal to  $+0.057$ . Thus, the results are consistent with the proposition that increased income is associated with increased per capita expenditures on movie going.

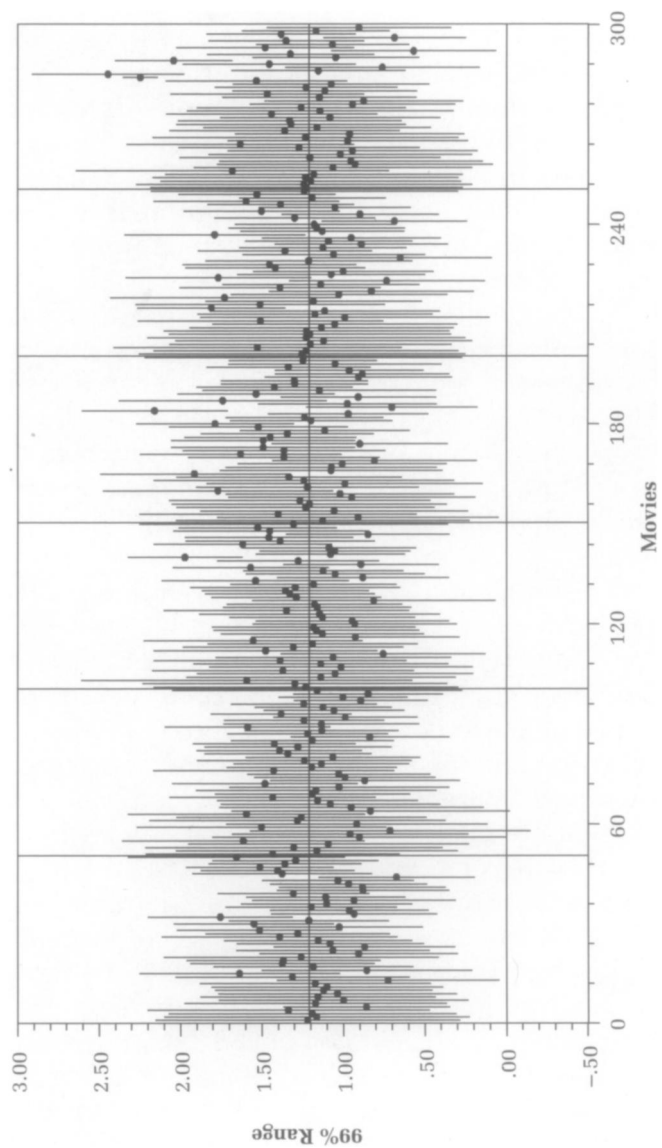
Assessment of the significance of the relationship between U.S. box office (log per capita) success and local box office (log per capita) success is more involved in the random parameters setting than is a simple examination of the estimated coefficients and their estimated standard errors. In the hierarchical model, we have the following:

$$(5) \quad \beta_f | \text{Income}_c = \beta_0 + \beta_1 \log \text{Income}_c + \sigma_\beta v_f,$$

where  $v_f \sim N[0, 1]$ . A finding that estimates of  $\beta_0$  and  $\beta_1$  are significant does not imply that the random coefficient on the left is, in total, correspondingly significant. Large variation due to the normally distributed component,  $\sigma_\beta v_f$ , might dominate the random parameter. Likewise, a simple computation and examination of the marginal mean,  $\beta_0 + \beta_1 \log \text{Income}_c$ , at the estimated parameters is inconclusive. We propose to examine the distribution of the random parameters as follows: For each film, we can estimate the conditional mean,  $E[\beta_f | B_{f,c}, \mathbf{x}_{f,c}, z_c, c = 1, \dots, 8]$ , using Bayes' theorem, where  $z_c$  is log per capita income;  $\mathbf{x}_{f,c}$  is all other variables in the model, including the log per capita U.S. box office; and  $B_{f,c}$  is the log of the local per capita box office (the dependent variable). The empirical distribution of the film-specific estimates then suggests whether the results document a systematic relationship between U.S. and local box office receipts (see Greene 2003, pp. 714–15).

For each of the 299 films, Figure 1 shows the range given by the mean  $\pm 2.5$  standard deviations from the conditional distribution. With conditional normality, this range would encompass approximately 99% of the mass of each conditional distribution. Because the conditional distributions are not necessarily normal or symmetric, the actual mass may be

Figure 1.  
Plot of 99% Probability  
Interval for USBox Coefficient



slightly less than this, but it will be more than 95%. The horizontal lines in Figure 1 are drawn at the sample mean of the 299 estimated conditional means (1.21) and zero. The vertical bars divide the data into the six years of observations. Only one of these intervals comes close (and only slightly at that) to including zero. We conclude that the relationship between U.S. and foreign box office is, indeed, positive and significant.

There is a considerable amount of variation in the film-specific coefficients on U.S. box office that appears in Figure 1 (and in the film-specific constant terms, which we do not show). This suggests that the expanded model, which accounts for the film-specific heterogeneity, should do a better job of predicting the dependent variable than a model that does not account for this. The R-square for the linear least squares regression that corresponds to the results in the first column of Table 1 is .4847. (We do not show these results.) There is no corresponding fit measure for the random parameters model, but we can craft a counterpart based on the result that in the simple model, the R-square is the squared correlation between the actual and the predicted values in the model. We computed the predictions from our estimated random parameters model by using the results in Table 1, with the film-specific coefficients (shown in Figure 1) for the constants and U.S. box office. The squared correlation between these predictions and the actual values rises to .5821, a substantially better fit. Essentially, the random parameters model explains 28% more of the variation than the linear model  $(.5821 - .4537)/.4537$ . The log-likelihood function for the random parameters model is  $-3042.035$ , whereas it is  $-3191.212$  for the linear model. The chi-squared statistic for testing the extension is 390.9 (d.f. = 2), and the 95% critical value is 5.99. On the basis of these results, we conclude that the random parameters model is a significant improvement over the simple linear regression model.<sup>2</sup>

Cultural distance has a significant effect on the performance of films. The coefficient was negative ( $-.157$ ) and highly significant. Films released in countries that were culturally closer to the United States were more likely to perform better. Conversely, films released in countries that were further from the United States in terms of cultural distance did not perform as well. This confirms the key premise of the study that culture matters.

Closely related to cultural distance is the extent to which the country has embraced elements of American culture. The number of McDonald's outlets per capita provided some indication of the extent to which a population has accepted aspects of American culture. The coefficient for the number of McDonald's outlets per capita was positive (.0399) and

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### Effect of Culture on Film Performance

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### Effect of Americanization on Film Performance

highly significant. Films had higher per capita box office receipts in countries that had more McDonald's outlets per capita.

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**Effect of Language on Film Performance**

Related to cultural distance was whether the film was released in an English-speaking country. The coefficient for the English-language dummy variable was positive (.140) and highly significant. When films were released in other English-speaking countries (i.e., the United Kingdom and Australia), they performed better than when they were released in non-English-speaking countries.

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**Genre Effect**

We included genre in the equation to account for differences in the nature of the cultural content. Seven of the genres had a significant impact on how films performed in foreign countries. Action, fantasy, adventure, animated, mystery, and horror all performed significantly better in foreign countries. Family performed significantly worse. For the other five genres, the coefficients were not significant.

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**Country Groups Effect**

The combined effect of cultural distance and language suggests that it would be useful to analyze the data by three language groupings: English, Spanish, and German. We performed a likelihood ratio test to determine whether there was a significant difference between the overall equation and separate equations for the three language groupings. The chi-squared test statistic,  $(2[3094.537 - 526.765 - 510.283 - 1680.854] = 753.27, \text{d.f.} = 44)$ , indicates that, indeed, there are significant differences between the country groupings. (The critical value for 95% significance is 60.48.) We dropped cultural distance from the equations for the language groupings because each movie and time-invariant variable becomes equivalent to a country dummy variable in the equation; with a constant and McDonald's per capita already in the equation, the presence of cultural distance creates a "dummy variable trap." As in the aggregate analysis, the per capita U.S. box office was a strong predictor of performance in each of the country language groupings (see Table 1).

The number of McDonald's per capita remains a strong predictor of a film's performance for all three language groupings. Genre effects revealed some important differences that were not evident in the all-country analysis. Genre effects were most pronounced in German-speaking countries, in which 9 of the 12 genres had a significant effect. In English-speaking and Spanish-speaking countries, only four genres had an impact on performance, and only one of these, animated, was common to both. These effects are somewhat different from those of Neelamegham and Chintagunta (1999), but they reflect the same mixed pattern of certain genres being significant in some countries and not in others.



Consistent with the findings of previous studies (Elberse and Eliashberg 2003; Neelamegham and Chintagunta 1999), we found that performance of films in the U.S. domestic market was a strong predictor of their success in foreign markets. More significant, U.S. films were substantially more successful in culturally proximate countries than in countries that were culturally distant. This was reinforced by the finding that U.S. films performed better in other English-speaking countries. Not only are the non-English-speaking countries more culturally distant, but the films are also either dubbed or subtitled. This could lessen their appeal and enhance the perception that they are from another culture. This provides support for  $H_1$  and  $H_3$  and confirms that cultural context is an important factor in determining the success of culturally sensitive products. Thus, not only does the cultural connotation of a product need to be considered in evaluating its likely success, but so must its compatibility with the cultural context in which it is launched.

We found support for  $H_2$  in that the greater the degree of Americanization of a culture, as reflected in the number of McDonald's per capita, the more likely U.S. films were to be successful. Insofar as U.S. films reflect American culture, they are more likely to be successful in cultures that have already embraced symbols of American culture. This is a rather intriguing finding resulting from the use of an innovative measure of Americanization that may ultimately prove useful as a more general surrogate for the likely success of products with a strong U.S. identity. This is not the first novel use of McDonald's presence in other countries. As we indicated previously, *The Economist* (2005) finds that the price of Big Macs is a useful measure of currency disparities.

Culture is an important factor that influences the success of products in foreign markets. The three components of culture—values and beliefs, material artifacts, and communications—are important for other products with significant cultural content. Cultural similarity or affinity among markets provides a favorable context for culturally rich products. At the same time, receptivity to material goods that come from a given country may provide a precursor to the flow of other products from that country. Finally, language often constitutes an important factor because it is a key conduit for the transmission of culture.

Although the data for the current study are related to the film industry, the findings have broader implications for products that have substantial cultural content. Products with cultural content range from other forms of entertainment to food, clothing, and home furnishings. Managers in such categories are likely to find receptive audiences in countries that are

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## DISCUSSION

### Film Performance

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### Managerial Implications

culturally and linguistically similar to the home country. However, as Trompenaars and Woolliams (2004) note, assessing cultural similarity and fit is complex. They develop a framework based on recognition, respect, and reconciliation of cultural differences to help understand why some products succeed and others fail.

Within the film industry, the findings have several implications for studio executives and film distributors in terms of where U.S. films are most likely to be successful and which genre of film is likely to be most successful depending on the language grouping. International film distribution is through either independent or studio-owned distributors. Independent distributors focus on a specific country or region of the world. Studios may use their own distribution (e.g., Disney with Buena Vista International), distribute through a joint venture (e.g., Universal and Paramount through United International Pictures), or use a mixed-distribution system across different territories. Enhanced knowledge of how a film is likely to perform in a foreign market can strengthen a studio's bargaining position with independent distributors.

For films that a studio distributes itself, the knowledge of likely performance can help it effectively allocate promotional efforts. It is particularly important to take into account the popularity of different genres. This is especially the case in German-speaking countries, in which 9 of the 12 genres were significantly more or less successful. In German-speaking countries, romance, action, fantasy, mystery, science fiction, and horror were all likely to be more successful than other genres, whereas drama, animated, and thriller genres were likely to be less successful.

In English-speaking countries, 8 of the 12 genres enjoyed the same degree of success as they did in the United States. Romance, fantasy, and animated films were more likely to be successful. However, as in Germany, drama was less likely to be successful. This is somewhat surprising, but it may indicate that the type of drama is uniquely American. In Spanish-speaking countries, two of the genres, comedy and family, were less likely to be successful, and two other genres, animated and mystery, were more likely to be successful. This may reflect differences in the concepts of comedy and family between the U.S. and Spanish cultures. In particular, Spanish concepts of family tend to focus on the extended family as opposed to the U.S. focus on the nuclear family. Likewise, concepts of comedy may differ.

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## CONCLUSION

Culture matters in important ways that are salient for products with significant cultural content. The current study focuses on films, quintessential experience goods that are rich in cultural content and symbolic meaning. However,

films are not the only product with cultural content and symbolic meaning. Entertainment products, such as television shows, music, theater, dance, and opera, are equally replete with cultural content. In addition, products such as sports, games, and household decor can reflect strong cultural influences (Costa and Bamossy 1995; Gannon 2001). Other products and brands, such as Coca-Cola, Marlboro, sushi, futons, and fish and chips, are all considered symbols of the culture from which they emanate (Ritzer 2002). Although cultural context has largely been neglected to date, the results of this study suggest that it is an important factor to consider both in understanding and in explaining the success of culturally embedded products. In particular, cultural distance from the United States and the degree of Americanization appear to be fruitful avenues of exploration in explaining the success of U.S. products that contain significant cultural content.

1. We define success in terms of theatrical box office revenue.
2. This is a one-sided test of the hypothesis that the two variances are zero. Accommodating this would entail an adjustment of the critical value used for the test. However, the test value of 390.9 is so large that no such adjustment would be consequential.

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## NOTES

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