The Effect of Screen Quotas on the Self-Sufficiency Ratio in Recent Domestic Film Markets

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This study examined the impact of the screen quota system and other determinants on the self-sufficiency ratio. The regression models show the quota system is not a significant predictor of the self-sufficiency ratio, suggesting the system may not be an effective mechanism to limit the number of foreign film screenings in domestic theaters. Gross domestic product, box office revenue, and production investment were found to be strong predictors, and cultural discount and English-speaking language are not significant determinants.

The powerful influence of U.S. film distribution on the international film market makes many other countries regard it as a serious threat to their cultural sovereignty and domestic film industry. The dominance of U.S. film in the international film market has been maintained by several factors, such as the largest domestic market, production in English, characteristics of its industry and market, and the Hollywood system (Hoskins, McFadyen, & Finn, 1997). Various economic and institutional barriers have been used by different countries as mechanisms to protect domestic markets from U.S. films. These means include “funding state corporations, direct subsidy to film production, content regulation, quotas, tax conces-
sions, entry barriers, licensing conditions, and international co-productions treaties” (Hoskins, McFadyen, & Finn, 1997, p. 89).

The screen quota system is a means of governmental support and protection for the domestic film industry, obliging exhibitors to set aside a minimum number of screenings of domestic movies. The General Agreement on Tariffs and Trade (GATT) and the Deregulation Agreement of Organization for Economic Cooperation and Development (OECD) allow the screen quota system in international trade (Coalition for Diversity in Moving Images [CDMI], 2000). Despite U.S. pressure for removal of the system, it still operates in dozens of countries around the world, including France, Hungary, Italy, Korea, and Spain. France requires cinemas to screen domestic films 5 weeks per quarter, while Italy requires 100 days a year and Korea at least 106 days a year to present domestic films. Spain sets the screen quota requiring exhibitors to show 1 day of EU films for every 3 days of non-EU films (Terra Media, 2002).

The purpose of this study is to explore the economic impact of the screen quota system on the self-sufficiency ratio in domestic film markets. The self-sufficiency ratio, defined as the proportion of domestic film’s share in gross box office revenues, is affected by various factors (Oh, 2001). While empirical studies on the antecedents that can influence the film market are abundant (e.g., Hoskins, McFadyen, & Finn, 1997; Litman, 1982; Marvasti, 2000; Oh, 2001; Wildman, 1995; Wildman & Siwek, 1993), very few studied the impact of regulatory factors, such as the screen quota system, on the film industry. Even though literature shows several studies on the effect of television program quotas in the international broadcasting market (e.g., Dupagne & Waterman, 1998; Waterman & Rogers, 1994), there have been very few studies on the effect of screen quotas in the international film market. The findings of Dupagne and Waterman (1998) failed to support a hypothesis that the presence of television program quota in a country would be negatively related to the percentage of U.S. fiction imports. As such, it is expected this study might provide empirical evidence on whether the screen quota system has functioned well as an institutional mechanism to protect domestic film markets from the dominance of U.S. films.

**LITERATURE REVIEW AND HYPOTHESES**

**Screen Quota System and Self-Sufficiency Ratio**

The screen quota system is a governmental regulation that makes it compulsory for movie theaters to screen the feature films of national origin for a specified period of time (for details about screen quotas, see Terra Media, 2002). In general, the screen quota system is regarded as a cultural exception in various international trade agreements even though it goes against the principle of national treatment,
which prohibits discrimination between locally produced and imported goods (Kim, W., 2000). This reasoning is based on the assumption films are both cultural products and content products that differ from many other goods or products.

In the economic aspect of media products, it is also considered that films are different from general goods and traditional services because films are content products. While the first-copy production cost is very high, costs after production are relatively low as they can be easily copied (Litman, 2000). A combination of the nature of motion pictures as a cultural product and the dominance of the U.S. films in the international film trade may threaten other countries’ cultural identity and domestic film industry. The reason why U.S. motion picture distributors have been so powerful depends primarily on the relative size and strength of the U.S. market compared to those of other countries. U.S. motion picture and television producers can largely make up for their production costs from the domestic market alone, and given the public goods nature of the mass media and the fact that the greatest expense is the first-copy production cost, distribution prices to foreign countries only need cover the incremental expenses (Litman, 2000).

The windowing process through multiple outlets may help U.S. films aggregate money for investment and exercise its market power in the global film market. The Windows Model, according to Litman (2000), refers to the exhibition sequence of films to maximize the present value of profits across the many new exhibition windows, such as theater, VCR, pay-per-view, pay cable, and broadcast television. As Litman (1998) addressed, the prevalence of an elaborate and dynamic windowing process in the United States allows additional funds for upfront investment, and in turn this added budgetary flexibility is a key factor in intensifying the strong market power of the U.S. motion picture distributors in the international film trade.

The screen quota system is the hottest issue in the Korean film industry. The current screen quota system rules that all theaters in Korea are required to show domestic products at least 106 days a year. While the U.S. government criticized the system as being counter to free trade, the Korean industry groups called for a cultural exception to allow for protection of local cinema (Paquet, 2002). The Coalition for Cultural Diversity in Moving Images (CDMI), a group seeking to enforce the screen quota system, argued the screen quota system has functioned as an appropriate institutional mechanism to protect the Korean film industry from the dominance of U.S. film distribution since 1993 (CDMI, 2000). According to CDMI, although the screen quota system in Korea was adopted in 1966, the system has become more effective since 1993 (CDMI, 2000).

It seems domestic films’ market share in Korea has increased since 1993, even though the number of imported U.S. films has continuously increased. In 2000, the government decided to defer initiating any talks about abolishing the screen quota system until domestic films’ market share accounts for more than 40% of the film market inside Korea (Lee, 2002). In 2002, however, the domestic market share accounted for nearly 50% of the market (Korean Film Commission, 2002), and in Janu-
ary, 2002, the Korean government announced that the bilateral investment treaty (BIT) between the United States and Korea will be settled in the first half of 2002. According to a Korean government officer, the government has not yet reviewed the abolishment of the screen quota system. But they are leaning toward reducing the number of days that Korean films play at theaters (Kim, S., 2002). Thus, the current success of Korean films convinced the Korean government to liberalize the screen quota system, and the government is proposing again to sign the BIT with the U.S. However, Korean filmmakers and distributors argued even though their market share exceeded 45%, this is simply an example of statistical prosperity, because most movie attendance concentrated on only two or three movies. Finally, it seems conflict between the Korean government looking to abolish or change the screen quota system and CDMI seeking to defend the system is unavoidable.

The case of Mexico illustrates support for the argument the screen quota system is necessary to protect the domestic film industry. The screen quota system of Mexico has been discontinued since January 1993 as a reaction to the dramatic decrease of the number of domestic film productions, from 100 products a year up until 1990 to 30–40 products a year after that (CDMI, 2000). Some defenders of the screen quota system argue since the abolition of the screen quota system in 1993 when the Mexican government signed the BIT with the United States following the peso crisis, the Mexican film industry collapsed during the following three years (Kim, J., 2000).

Accordingly, at the heart of the screen quota system controversy is the question of whether the screen quota system affects the domestic film industry. The first hypothesis examines the relationship between the screen quota system and the self-sufficiency ratio. The self-sufficiency ratio is calculated from the formula, \( \frac{D}{D + F} \), where \( D \) is domestic films’ revenues in a given country and \( F \) is foreign films’ revenues in the same country. This study predicted that the screen quota system would increase the self-sufficiency ratio:

\[
H1: \text{The presence of the screen quota system will be positively associated with the self-sufficiency ratio.}
\]

Determinants of the Self-Sufficiency Ratio

*Market size and production investment.* Economic factors that affect the self-sufficiency ratio can be explained by the Industrial Organization (IO) model. The IO model posits market structure affects conduct that subsequently influences media performance. Market structure is determined by market size positively correlated with production budgets (Wildman, 1995). As the growth of market size makes the market highly competitive, increased production investment would be required. Market competition is positively related to the diversity of film content (Litman, 1992). Thus, as market competition leads to the increase of production in-
vestment, it also affects both diversity and production quality. Both diversity and production quality in the form of films by the increase of production investment shift the demand curve for domestic films upward (Oh, 2001). This shift consequently leads to an increase in the self-sufficiency ratio, because it increases overall box office revenue and substitutes domestic films for foreign films (Oh, 2001). Distinguishing the market size as the level of gross domestic product (GDP) as a potential market size and the box office revenue as a realized market size, Oh (2001) found support for the hypothesis that market size is positively related to the self-sufficiency ratio.

This study, however, separated direct production investment from potential production investment (market size). Even though the production investment is a direct antecedent variable of the self-sufficiency ratio, which is likely to mediate the effect of market size on it, the relationship between the production investment and the self-sufficiency ratio was not tested in Oh’s study (2001). As such, the following hypotheses were suggested to examine the relationships between the market size and the self-sufficiency ratio and production investment and the self-sufficiency ratio:

H2: The level of GDP will be positively associated with the self-sufficiency ratio.
H3: The level of box office revenue will be positively associated with the self-sufficiency ratio.
H4: The level of the investment in film productions will be positively associated with the self-sufficiency ratio.

Cultural distance and language. Cultural and linguistic factors also affect the self-sufficiency ratio. Unlike culturally neutral products, such as automobiles or camcorders, media products, especially movie or television programs, inevitably involve a cultural discount in the international trade. As the distance between the cultures of two countries is greater, viewers will watch less foreign programs or films than domestic ones of the same type and quality, and the value will be less to the foreign broadcaster or distributor. Cultural discount refers to the percentage reduction in value of the foreign television program or film (Hoskins & Mirus, 1988). The interaction of the cultural discount and market size can give an advantage to the U.S. film distribution on the international film market (Hoskins, McFadyen, & Finn, 1997). For example, the less the cultural distance between two countries, such as the United States and Canada, the greater the competitive advantage of U.S. film. In contrast, if the cultural distance between two countries, such as the United States and Japan, is great, the advantage is relatively low.

Oh (2001) examined the effect of cultural distance on the self-sufficiency ratio based on four cultural dimensions identified by Hofstede (1991): power distance, individualism, masculinity, and uncertainty avoidance. Power distance is defined as
“the extent to which the less powerful members of institutions accept and expect the power is distributed unequally” (Hofstede & Bond, 1984, p. 419). The results of Oh’s study (2001) partially supported the cultural distance hypotheses. He found that while the cultural distance of power distance between a country and the United States was a significant predictor, other dimensions were mostly not significant.

This study also examined the effect of cultural distance on the self-sufficiency ratio. In the initial analysis, however, this study identified a possibility of multicollinearity between the screen quota variable and each dimension of cultural distance. The value of tolerance was less than .15, and the value of Variance Inflation Factor (VIF) was relatively high (VIF = 6.57). Therefore, to investigate the impact of cultural distance, this study employed a composite index based on “the deviation along each of the four cultural dimensions of each country from the U.S. ranking” (Kogut & Singh, 1988, p. 422). The third hypothesis was suggested as follows:

**H5:** Cultural distance between a country and the U.S. will be positively related to the self-sufficiency ratio.

Language is also an important component of the cultural discount (Hoskins, McFadyen, & Finn, 1997). Several studies explored the role of language in international films and television programs (e.g., Dupagne & Waterman, 1998; Hoskins, Mirus, & Rozeboom, 1989; Oh, 2001). Hoskins and his colleagues (1997) found English-speaking countries were likely to pay more for U.S. television programs than non-English-speaking countries. On the contrary, Dupagne and Waterman (1998) unexpectedly identified English fluency as a significant negative predictor of U.S. television fiction imports. In the context of the film industry, the English-speaking language variable was not found to be a significant negative predictor of the self-sufficiency ratio (Oh, 2001). The final hypothesis of the study expected the linguistic factor would negatively affect the self-sufficiency ratio:

**H6:** English-speaking countries except the U.S. will have a lower self-sufficiency ratio than non-English-speaking countries.

**METHOD**

**Model Building and Predictions**

Due to the expected multicollinearity among two market size variables and product investment, three different multiple regression models were employed to test the hypotheses. While Model 1 included GDP as a potential market size variable in the equation, Models 2 and 3 entered box office revenue (BOX) as a realized mar-
ket size variable and film production investment (PI) into the equation, respectively. GDP, BOX, and PI were all logarithmically transformed because their scales varied across the countries sampled in this study, and logarithmic transformations are useful to remove heteroscedasticity of the variables. The financial measures were expressed in current U.S. dollars, and the unit of GDP was $1 billion and the unit of BOX and PI was $1 million.

All three models commonly used the presence of the screen quota system (SQ), cultural distance (CD), and English-speaking language (ES) as the predictors of the self-sufficiency ratio (SSR). The CD index between the United States and a given country was calculated using the following equation by Kogut and Singh (1988):

\[ CD_j = \sum_{i=1}^{4} \left( \frac{(I_{ij} - I_{iu})^2}{V_i} \right) / 4 \]

where \( I_{ij} \) is the index for cultural dimension \( i \) and country \( j \), \( I_{iu} \) stands for the index for cultural dimension \( i \) and the U.S., \( V_i \) is the variance of the index of dimension \( i \), and \( CD_j \) indicates the cultural distance for dimension \( i \) between country \( j \) and the United States. Among the sample, four English-speaking countries were identified: Australia, Canada, Hong Kong, and the United Kingdom.

SQ and ES were coded as dummy variables (yes = 1 and no = 0). The SSR was a percentage.

All unstandardized regression coefficients of predictors but ES were expected to be positive. The models were as follows:

Model 1: \( SSR = \hat{\alpha}_0 + \hat{\alpha}_1 SQ + \hat{\alpha}_2 LN \text{ GDP} + \hat{\alpha}_3 CD + \hat{\alpha}_4 ES + e; \)
\( \hat{\alpha}_1 > 0, \hat{\alpha}_2 > 0, \hat{\alpha}_3 > 0, \hat{\alpha}_4 < 0 \)

Model 2: \( SSR = \hat{\alpha}_0 + \hat{\alpha}_1 SQ + \hat{\alpha}_2 LN \text{ BOX} + \hat{\alpha}_3 CD + \hat{\alpha}_4 ES + e; \)
\( \hat{\alpha}_1 > 0, \hat{\alpha}_2 > 0, \hat{\alpha}_3 > 0, \hat{\alpha}_4 < 0 \)

Model 3: \( SSR = \hat{\alpha}_0 + \hat{\alpha}_1 SQ + \hat{\alpha}_2 LN \text{ PI} + \hat{\alpha}_3 CD + \hat{\alpha}_4 ES + e; \)
\( \hat{\alpha}_1 > 0, \hat{\alpha}_2 > 0, \hat{\alpha}_3 > 0, \hat{\alpha}_4 < 0 \)

Data Collection

Cross-sectional data from 1997 were collected from 20 countries using a convenience sampling method. Countries sampled in this study were Argentina, Australia, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Italy, Japan, Netherlands, Norway, South Korea, Spain, Sweden, Switzerland, and the United Kingdom. They were the most recent ones available in all the 20 countries at the time of study. The list of countries that utilized the screen quota system was obtained from CDMI: Brazil, France, Greece, Hong Kong, Italy, Japan, South Korea and Spain.
The data for the self-sufficiency ratio, the investment in film productions, and box office revenues were obtained from various issues of *Screen Digest* ("Film production," 2000; “World cinema,” 1996; “World film production,” 1998; “Worldwide cinema,” September, 1998) and *European Cinema Yearbook* (Media Salles, 1999, 2000, 2001). The GDP data were collected from the International Monetary Fund (2000). 1996 data for box office revenue and GDP were collected. Using previous data for these variables is more relevant than using current data because they function as a signal for determining the investment in film production (Oh, 2001). Data for calculating the cultural distance index between the U.S. and a given country was collected from Hofstede (1991).

**RESULTS**

This study used least squares multiple regression. All independent variables were entered simultaneously into three regression equations. Overall, as shown in Table 1, each model was significant accounting for 49% to 73% of the variance in the self-sufficiency ratio. The results of diagnostic tests and the examination of residuals showed no outlier or multicollinearity problems in the models.

<table>
<thead>
<tr>
<th>Variables</th>
<th>(B^a)</th>
<th>(\beta)</th>
<th>(t) Value</th>
<th>Adjusted (R^2)</th>
<th>(F)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-45.34</td>
<td>-2.65*</td>
<td></td>
<td>.49</td>
<td>5.63**</td>
</tr>
<tr>
<td>LN GDP</td>
<td>8.50</td>
<td>.72</td>
<td>3.46**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen quota(^b)</td>
<td>4.04</td>
<td>.17</td>
<td>0.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural distance</td>
<td>4.75</td>
<td>.41</td>
<td>1.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English speaking(^b)</td>
<td>2.51</td>
<td>.09</td>
<td>0.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Model 2</strong></td>
<td></td>
<td></td>
<td></td>
<td>.51</td>
<td>5.86**</td>
</tr>
<tr>
<td>Constant</td>
<td>-44.82</td>
<td>-2.71*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN box office</td>
<td>9.50</td>
<td>.80</td>
<td>3.55**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen quota(^b)</td>
<td>0.84</td>
<td>.04</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural distance</td>
<td>5.21</td>
<td>.45</td>
<td>1.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English speaking(^b)</td>
<td>-2.26</td>
<td>-.08</td>
<td>-0.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Model 3</strong></td>
<td></td>
<td></td>
<td></td>
<td>.73</td>
<td>13.87***</td>
</tr>
<tr>
<td>Constant</td>
<td>-22.63</td>
<td>-3.42**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN investment</td>
<td>7.04</td>
<td>.85</td>
<td>5.97***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen quota(^b)</td>
<td>3.88</td>
<td>.16</td>
<td>1.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural distance</td>
<td>3.78</td>
<td>.33</td>
<td>1.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English speaking(^b)</td>
<td>-5.05</td>
<td>-.17</td>
<td>-1.26</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* LN GDP = logarithm of gross domestic product.
\(^a\)Unstandardized regression coefficients. \(^b\)Dummy variable as yes = 1 and no = 0.
\(p < .05. **p < .01. ***p < .001\) (one-tailed).
Hypothesis 1 predicted a positive relationship between the screen quota system and the self-sufficiency ratio. According to the results of bivariate correlation analysis (see Table 2), there was a relatively high, positive relationship between the screen quota system and the self-sufficiency ratio ($r = .52$). Table 1 showed, however, the regression coefficients of the screen quota system were not statistically significant in all three regression models. This suggests the screen quota system was not a significant predictor for the self-sufficiency ratio even when controlling for other independent variables such as GDP, cultural distance, and English-speaking language. Thus, Hypothesis 1 was not supported.

Hypotheses 2 and 3 predicted that market size would affect the self-sufficiency ratio. Table 2 shows the results of bivariate correlation analysis that LN GDP was highly related to the self-sufficiency ratio ($r = .62$). Models 1 and 2 show a 100% increase in GDP and box office revenue would lead to an increase of 8.5% and 9.5% in the self-sufficiency scale, respectively (see Table 1). The beta coefficients of LN box office revenue and LN GDP were very high, and the coefficient of the former ($\beta = .80$) was greater than that of the latter ($\beta = .72$). These results were consistent with the findings of Oh (2001). As such, the results suggested that GDP and box office revenue were strong predictors of the self-sufficiency ratio. Thus, Hypotheses 2 and 3 were supported.

The results also showed that LN investment was strongly correlated with the self-sufficiency ratio ($r = .73$). The third regression model showed that a 100% increase in production investment would lead to an increase of 7.04% in the self-sufficiency ratio. In Model 3, the beta coefficient of LN investment indicated that it was the strongest predictor of the self-sufficiency ratio. Hypothesis 4, the level of the investment in film productions would be positively associated with the self-sufficiency ratio, was supported.

### Table 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>SSR</th>
<th>SQ</th>
<th>LN GDP</th>
<th>LN BOX</th>
<th>LN PI</th>
<th>CD</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQ$^a$</td>
<td>.523**</td>
<td>.248</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN GDP</td>
<td>.615**</td>
<td>.335</td>
<td>.936**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN BOX</td>
<td>.618**</td>
<td>.216</td>
<td>.848**</td>
<td>.903**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN PI</td>
<td>.726**</td>
<td>.459*</td>
<td>−.355</td>
<td>−.389*</td>
<td>−.341</td>
<td></td>
</tr>
<tr>
<td>CD$^b$</td>
<td>.195</td>
<td>−.153</td>
<td>.022</td>
<td>.222</td>
<td>.274</td>
<td>−.473*</td>
</tr>
<tr>
<td>ES$^a$</td>
<td>−.120</td>
<td>−.153</td>
<td>.022</td>
<td>.222</td>
<td>.274</td>
<td>−.473*</td>
</tr>
</tbody>
</table>

*Note.* SSR = self-sufficiency ratio; SQ = screen quota; LN GDP = logarithm of gross domestic product; LN BOX = logarithm of box office revenue; LN PI = logarithm of product investment; CD = cultural distance; ES = English-speaking language.

$^a$Dummy variable as yes = 1 and no = 0. $^b$Higher value means greater distance between a country and the United States.

*$p < .05$. **$p < .01$. 

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Hypothesis 5 predicted cultural distance between a country and the United States would positively affect the self-sufficiency ratio. Even though the results of a bivariate correlation analysis showed a weak relationship between them ($r = .20$), the regression coefficients were not statistically significant. Hypothesis 5 was not supported. However, Model 3 showed it barely missed statistical significance even with the small sample size ($b = 3.78$, $p = .067$). Thus, the cultural distance index could be associated with an increase of almost 3.8% in the self-sufficiency scale. As such, this suggested that cultural distance could remain a moderate predictor for the self-sufficiency ratio even when controlling for other independent variables.

Finally, Hypothesis 6 predicted an English-speaking country, excluding the United States, would be negatively related to the self-sufficiency ratio. Bivariate correlation ($r = -.12$) showed a weak, negative relationship between the self-sufficiency ratio and English-speaking language, but the regression coefficients were not statistically significant. Therefore, hypothesis 6 was not supported.

Overall, the three models showed that while among the variables in the equation, market size (GDP and box office revenue) and product investment were strong predictors, screen quota, cultural distance, and English-speaking language were not significant determinants. Among the three regression models, Model 3 emerged as the best model, accounting for more than 70% of the variance (adjusted $R^2 = .73$).

**DISCUSSION**

This study attempted to examine the effect of the screen quota system on the self-sufficiency ratio and identify other determinants that explain the variance of the self-sufficiency ratio in a country. This study included the screen quota system and production investment in the regression equation, not included in the Oh (2001) study.

First of all, this data shows the screen quota system is not a significant predictor of the self-sufficiency ratio. This suggests the system should not be an effective mechanism to limit the number of foreign cinemas screened in its own territory, although the countries have employed the system due to low self-sufficiency ratio. Actually, the screen quota requirement is often ignored by local exhibitors who seek to make more profits in some countries. For example, in Italy, theater owners did not comply with a 1965 law mandating a 25 days per quarter screen quota (U.S. Department of State, 1994). Throughout the 1990s such requirement was regularly ignored by Korean exhibitors, screening local cinemas for up to 50 days per year less than the level stipulated by the law (Paquet, 2002). Thus, both defenders and opponents of the screen quota system need to pay attention to the findings of the present study: the screen quota system is not a protective measure for domestic film markets, as well failing to provide a barrier to free international trade of films.
Consistent with previous studies, this study found that market size was the strongest predictor of the self-sufficiency ratio. Both GDP as a potential market size and box office revenue as a realized market size strongly determine the self-sufficiency ratio. That is, countries whose GDP is lower and whose market size is smaller tend to depend on imported cinemas more than countries with higher GDP and a larger market. Also, it seems valid that as an indigent economic condition brings about the lack of investment for domestic film, the self-sufficiency ratio gets lower. The findings on the relationship between product investment and the self-sufficiency ratio strongly support this reasoning.

Although the impact of cultural discount on the self-sufficiency ratio was not significant, it could affect the self-sufficiency ratio, given it barely missed statistical significance even with the small sample size. The findings showed the increase of cultural distance could decrease the demand for foreign films, especially, U.S. films. As Oh (2001) addressed, this finding could explain why some countries show a relatively high self-sufficiency ratio even though they have a small domestic market size. Thus, it seems that the high cultural discount between two nations might diminish the market advantage (or market power) of the country that has a great market size in the international film market.

Finally, the three regression models indicated the language factor did not influence the self-sufficiency ratio, which meant there was no difference in the self-sufficiency ratio between English-speaking and non-English-speaking countries.

All the findings of this study considered, because market size, cultural distance and language cannot be controlled, a given country has only two options to improve the self-sufficiency ratio in its own motion picture market: increase product investments or operate the screen quota system effectively with other protective mechanisms. While the former is an active incentive, the latter acts as passive protection. Korea’s case shows that production investment and good domestic movies attract local cinema fans. Four elements—talented filmmakers, remarkable technological innovation, effective marketing strategies, and virtual abolition of government censorship—have worked for a renaissance of the Korean movie industry since 2000. The market share of local movies skyrocketed to nearly 50% and the number of Korean films exported swelled to 38 in 2000 from 15 in 1995 (Park, 2002).

However, because production investment is also affected by market size, it would be required to keep the balance between the two options. To the countries with small market sizes and low GDP, the screen quota system will serve as not an ultimate method of preserving their film markets, but the least protective means to keep their markets from foreign major film producers and distributors.

A reality check supports this argument. In Asia, Taiwan has an import quota, which limits the number of foreign films entering the country. But the quota has been reduced every year due to Taiwan’s annual trade negotiation with the United States. Taiwanese film directors and scholars have been concerned that the glut of Hollywood films on Taiwan’s theater screens threatens the survival of its local film industr-
try if Taiwan joins the World Trade Organization (WTO; Yu, 1999). The case of Mexico is more dramatic. Due to 1994’s North American Free Trade Agreement (NAFTA), the Mexican government reduced a screen quota from 30% to 10% dedicated to domestic films. In 1998, Mexico only produced three films (CDMI, 2000).

For the previous 3–5 years, only a few countries have been successful in capturing a market share of more than 25% for their domestic films. France with its broadcasting quotas and financial subsidies, Japan with its massive subsidies and support in the sixties to form a network of theaters that screen only Japanese motion pictures and its competitiveness in animation, and Korea with its screen quotas (“Calling for,” 2002).

This study has several limitations. First, the small sample size of this study may have resulted in nonsignificance of such predictors as screen quotas, cultural distance, and English-speaking language. If the sample size in this study was increased to more than 30 countries, screen quotas, cultural distance, and English-speaking language might emerge as significant predictors of the self-sufficiency ratio. It should be noted, however, that this study used a nonprobability sample. In addition, the sampling of countries with the quota system consists of almost the entire population of the countries employing the system. In this case, careful consideration is required in using inferential statistics and interpreting the results. Statistical significance and practical (or substantive) significance are conceptually quite distinct. Therefore, as some scholars have indicated, the concept of statistical significance should not be confused with practical significance (Mansfield, 1987; Moser & Kalton, 1972).

Using cross-sectional data might limit the validity of the findings of this study. A longitudinal study is suggested as an avenue for future research. Also, the sampling limitation weakens the findings. Most countries sampled in this study were European countries. As more samples from other regions, such as Asia, the Middle East, South America, and Africa, are included, the findings about the relationship between the cultural discount and the self-sufficiency ratio will be more meaningful.

In addition, dummying the language variable might make it difficult for this study to identify the impact of the linguistic factor on the self-sufficiency ratio. As an alternative measurement, it is suggested an English fluency index (e.g., Dupagne & Waterman, 1998) be used. Finally, future research might address not only the screen quota system, but also other regulatory variables (e.g., import quotas, tariffs, and licensing procedures), which could be incorporated into an institutional protection factor.

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