A STUDY OF THE EFFECT OF ECONOMIC POLICIES ON THE DOMESTIC FILM MARKET

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EXECUTIVE SUMMARY

These days, the U.S. films' market share in the world is almost 70 percent and many countries have devised various means, including import quota, screen quota, subsidy, and tax concessions to protect the domestic film industry by preserving local film's market share against U.S. film domination. Retaining these policies has important symbolic reasons because market share of the domestic film is related to preserving each country's cultural sovereignty. However, the effectiveness of the economic policies is murky. If the policies do not bring any advantageous effect to the domestic film industry, there is no rational justification for sticking with them. Although these policies are permissible under current international trade agreements, quotas are not a promising means of protectionism because implementing those regulations can be problematic in trade and relationships with other countries, especially the U.S. Also, if subsidies and tax concessions do not have any positive impact on the domestic film industry, those policies may waste public money.

Thus, to examine the impact of the policies on the domestic film markets, this study explores the relationship between screen quotas, subsidies, tax concessions and market share of the domestic film, controlling for economic factors, such as GDP, the number of domestic films produced, and the average budget per film. Two years of data for 2004 and 2008 for 44 countries are used. On the basis of the result of OLS, fixed-effects, and random-effects regression, this study supports the following conclusions: First, there was little impact of economic policies of screen quota, subsidy, and tax concessions on the market share of domestic films whereas import quotas were found to have a significant impact on domestic film market shares. Also, when these regulatory factors were controlled, market size was not a significant determinant. Finally, as variables having an impact on the market share of the domestic film, the number of domestic films and the average budget per film were statistically significant. Based on the results, countries can take some options to increase their domestic films' market share by improving the average budget per film and by increasing the number of domestic films produced. This implies that film production support efforts should be balanced between quality and quantity. Import quotas also increase domestic film market shares, but at the risk of damaging trade relations.

The global spread of liberalization does not result in simple deregulation but rather in varieties of regulatory capitalism – Christopher R. Way (2005)

INTRODUCTION

U.S. film has dominated the international film market over several decades, and many countries have devised various means to protect their cultural sovereignty and domestic film industry. In the case of European countries, which are most directly affected by U.S. film, between 1916 and the 1920s, the German government had banned the importing of foreign movies, followed by France which set an import quota in the domestic film market. Also, the U.K. and Portugal had implemented from the mid-1920s a screen quota which required theaters to screen domestic films for a minimum number of days a year. Besides these quotas, many countries had introduced subsidies and tax concessions to promote local film production in the world, and the EC suggested some policies like domestic content regulation and market access restriction (Wasco, 1994).

However, the U.S. and the Motion Picture Association of America (MPAA) have pressed for removing the most aggressive policies in film markets, such as the screen quota, by emphasizing globalization, although the General Agreement on Tariffs and Trade (GATT) and Organization for Economic Cooperation and Development (OECD) Deregulation Agreement allow the screen quota in international trade (CDMI, 2000). As a result, quotas have been abandoned by many countries because they have been extremely problematic in trade with the U.S. For example, Argentina tried to impose a reciprocity system on American imports and Brazil attempted something similar in the late 1940s, respectively, but the efforts fell through because of severe pressure from MPAA and the U.S. government.

However, Levi-Faur and Jordana (2005) said "the era of Neoliberalism is also the golden era of regulation." As well, the phenomenon of strengthening protection of the domestic film market around the globe also seems to move in tandem with the recent global order of regulatory capitalism. Lately, the effort of countries to support their film industries and cultural diversity is moving away from quotas, but is more often attempted with passive regulatory policies such as government subsidies and tax concessions. Indeed, amidst conflict between trade liberalization and domestic cultural policy measures, there exist many kinds of economic policies in the film market: subsidies, domestic content regulation, market access restriction, tax concessions, border measures, and film co-production agreements (Footer and Graber, 2000). Among them, screen quotas, subsidies, and tax concessions have attracted the attention of policy makers around the world as effective devices to protect the domestic film market. However, although these policies in the film market are diffusing, there is little empirical evidence of their effectiveness.

Therefore, this study begins with the following questions: Do screen quotas, subsidies, and tax concessions for domestic film producers increase their share of the domestic film market relative to U.S. films? Or is the diffusion of film market regulation based on the misguided belief that regulatory policies can protect the domestic film industry? To answer these questions, this paper defines the theoretical concepts involved, and summarizes the existing theoretical arguments about the effect of screen quotas, subsidies and tax concessions on domestic film's market share. Next, the paper describes the data and the method to explore the impact of these policies on film markets. Finally, the paper discusses the findings of the research. With these procedures, this study tries to enhance understanding of the effectiveness of the economic policies in the domestic film market and to suggest policy implications for the film markets in the international context.

REVIEW OF LITERATURE AND THEORY

The Diffusion of Economic Policies in the Film Market

Most countries consider the dominance of U.S. films in the international film market as a threat not only to their domestic film industry but also to their cultural sovereignty. Figure 1 depicts the market share of U.S. film in some countries. For example, U.S. film's market share is almost 90 percent in Canada, and is more than 70 percent in France. Hoskins, McFayden, and Finn (1997) explain that US film's several characteristics including the largest domestic film market, production in English, and the Hollywood system have caused these situations. On this, many countries have used various means to protect domestic film market from U.S. films.

Figure 1. Market Share of U.S. Film in Some Countries in 2008
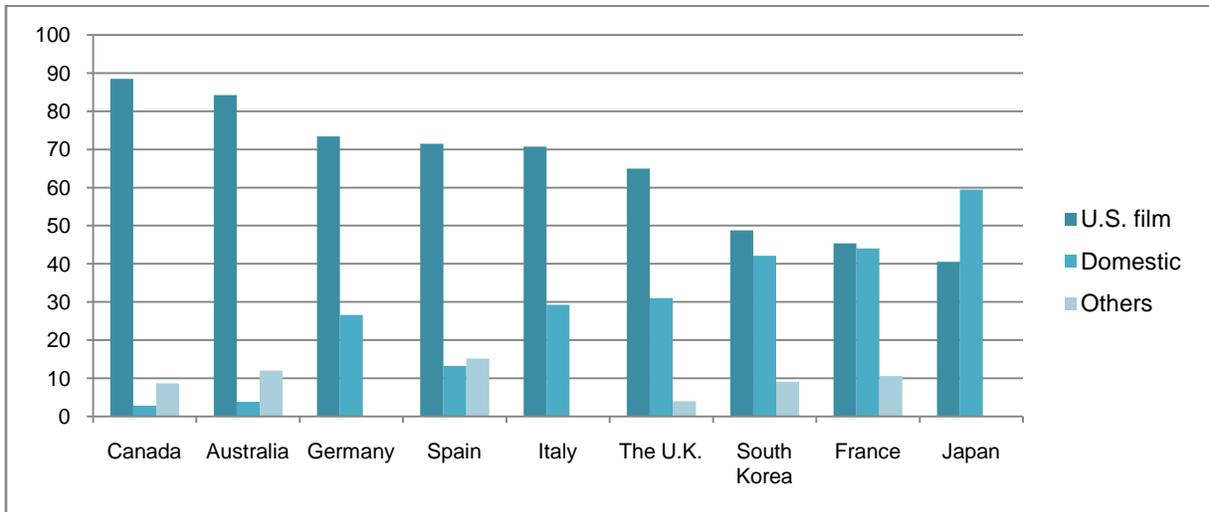
However, as conflict on cultural protectionism grows, United Nations Educational, Scientific and Cultural Organization (UNESCO), a specialized agency of the UN, approved economic and institutional barriers such as screen quotas to protect the domestic film industry for

preserving cultural diversity through "Convention on the Protection and Promotion of the Diversity of Cultural Expression" in 2005 (Lee, Choi, and Kim, 2008). Interestingly, whereas 148 parties of UNESCO agreed to this convention, the U.S. and Israel did not (Hahn, 2006). But still, there is a severe conflict between trade liberalization and domestic cultural policy measures, especially import quotas and screen quotas around the world. The conflict continues because neither the U.S. nor UNESCO has legal force.

Existing economic policies in the film industry are divided into two major types: financial support for production, such as subsidies and tax concessions for suppliers, and the protection of the film market with screen quotas and import quotas (Kim et al., 2002; Lim, 2004). In this study, *subsidy* means direct public funding of and investment in the domestic film production, and *tax concession* includes tax deductions, exemptions and credits for the production of films. Also, *screen quota* is defined as a government regulation that requires theatre exhibitors to screen a minimum number of domestic movies with national origin, whereas *import quota* means to limit the number of imported foreign movies. However, those quotas have been abandoned by many countries as globalization has increased. For example, Argentina tried to impose a reciprocity system on American imports, and Brazil attempted something similar in the late 1940s, respectively, but the efforts fell through because of severe pressure from MPAA and the U.S. government. On the other hand, subsidies and tax concessions are used increasingly across the world.

Indeed, while some countries like South Korea and Spain still have screen quotas, several studies contend that some countries, including the United Kingdom and France, have benefited from establishing subsidies and tax concessions in their domestic film markets after the quotas were abolished. Moreover, in recent years, countries began to learn from others' policies

to protect the film market. Starting in 2004, France, Hungary, New Zealand, Taiwan, and the United States, for instance, joined the list of countries supporting tax concessions for local film production (Cho, 2005). Also, the Turkish government is planning to introduce a tax incentive policy for domestic film production in the coming year. In addition, Mexico and Brazil are increasing the public funding of local film production, and Morocco is providing funding support to push national film production volume (Marché du Film, 2009). These situations indicate that countries' policies for film industry are moving more toward financial incentives. However, all of countries in the world are not moving away from quotas. Egypt restricts foreign films to eight prints per title to help the market share for national films, and in Argentina, Instituto Nacional de Cine y Artes Audiovisuals (INCAA) even decided to introduce stiffer exhibition regulations, forcing exhibitors to screen domestic films for at least two weeks in order to secure screen space for domestic films from 2009 (Marché du Film, 2009).

However, the recent diffusion of these policies for the film industry in countries with poor performance of domestic films may rely on the misguided belief that the policies can bring prosperity to the domestic film industry and preserve cultural identity as in some successful countries. Although economic policies on the international film industry are diffusing, there is some controversy about their effects on the film markets and very few studies have investigated the impact of these policies. The ultimate purpose of quotas and financial supports on the film industry is to protect market share of the domestic film from being eroded by the dominance of U.S. films. Retaining these policies has important symbolic reasons because market share of the domestic film is related to protecting each country's cultural sovereignty. However, although these policies are permissible under current international trade agreement, if they do not bring any advantageous effect to the domestic film industry, there is no reason to stick with these

policies. Quotas are not a promising means of protectionism because implementing those

regulations can be problematic in trade and relationships with other countries, especially the

U.S.[1] Also, if subsidies and tax concessions do not have positive impact on the domestic film

industry, those policies may waste public money. Thus, it is important to figure out whether the

policies have any positive effect on the domestic film's market share. In the next section, this

study explores the existing literature, and tries to discover the impact of the regulatory policies

and other determinants on the domestic film market to assess policy implications.

Quota, Subsidy, Tax Concession and Market Share of the Domestic Film

While the import quota's effectiveness at achieving an increase in domestic films'

market share admits of no doubt, an intense controversy exists about whether screen quotas

positively affect the domestic film industry. Some insist that Mexico's film industry was

destroyed after screen quotas were abolished (Kim, 1999; Kim, 2003:41) and some literature

argues that the screen quota is the final fort to protect the domestic film industry (Kim, 2003). On

the other hand, some dispute this argument, citing instances that show it has no impact in Italy

and South Korea (Kang, 2000; Lee and Bae, 2004; Oh, 2001; 2003). Some empirical studies

examined the screen quota's effect on the self-sufficiency ratio which means "the proportion of

domestic film's share in gross box office revenues" (Lee and Bae, 2004). According to the

studies by Lee and Bae (2004) and Oh (2001), the screen quota system does not have economic

impact.

In addition to the screen quota as a regulatory factor, some studies related to the

influences on the film market contend that the self-sufficiency ratio is affected by economic

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[1] See Pauwels and Loisen (2003: 293) and Footer and Graber (2000: 119-120).

factors. In economic terms, a government grant is a means to make up for the imperfect cultural market (DiMaggio, 1984; Throsby, 1994; Netzer, 1978). However, Jansen (2005) asserts that the film industry in Germany receives heavy public subsidization from the government but has only a small domestic market share. Also, some articles maintain that subsidy is not a fundamental scheme to develop the domestic film industry but temporarily relieves the low profit of film production (Jung & Lee, 2008). Another tool that many countries have used to protect the domestic film industry is tax concessions. Boryskavich and Bowler (2002) argued that government tax credits play an important role in attracting foreign film production to the country and help the domestic film industry improve, but there is no empirical research about the impact of tax concessions on the domestic film market.

These days, the U.S. films' market share in the world is almost 70 percent and the purpose of these policies is to protect the domestic film industry by preserving local film's market share against U.S. film domination. As shown in some empirical research, however, the effectiveness of the economic policies, including screen quota, subsidy and tax concession, is murky. Thus, this study examines whether the policies can help the governments to protect or develop their film industry.

Demand and Supply in the Domestic Film Market

Based on the conventional economic theory, subsidies and tax concessions shift the supply curve outward and increase the production of the quantity of goods and services. Also, when the supply of a good or service is increased, the quantity demand and the equilibrium quantity are increased. If a government introduces subsidies and tax concessions for domestic film producers, these policies would stimulate the domestic film production. Then, it will

increase equilibrium quantities of domestic movies, but it would not impact equilibrium prices

because the ticket price of movies in many countries is decided by domestic film association or

government department regardless of the quantity of film. Figure 2 shows the effect of subsidy

and tax concession on market equilibrium graphically based on demand and supply theory. *S* is

the traditional supply curve and *E* is the original equilibrium point in a given film market.

Subsidies and tax concessions shift the supply curve and the equilibrium toward the right to *S'*

and *E'*, respectively. Also, as indicated *Q'*, the demand of domestic films is increased as well. Of

course, theater operators can decide the ticket price in some countries like the U.S., and the price

could be affected after introducing subsidies and tax concessions for film producers. But the

quantity would be increased to some extent as long as the demand curve for domestic films is not

perfectly inelastic. That is, as the demand curve is more elastic, the equilibrium quantity is closer

to Q'.

Figure 2. Market Equilibrium with Subsidy and/or Tax Concession
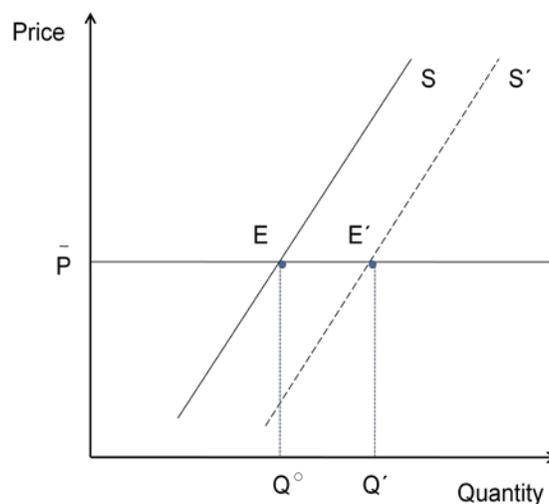
However, in open economies, even if subsidies and tax concessions increase quantity of domestic films, it does not guarantee increasing of domestic films' market share due to trade among the international community. If subsidies and tax concessions stimulate the domestic film production but people prefer U.S. films to their domestic films, then the domestic film's market share might not change. Also, because of this, subsidies and tax concessions could not stimulate domestic film production. Thus, to examine the impact of the policies on the domestic film markets, this study explores the relationship between screen quotas, subsidies, and tax concessions and market share of the domestic film. In this paper, the domestic film refers to the film produced by filmmakers and the filmmaking industries in a given country. Market share of the domestic film is defined by the proportion of domestic films' share on the basis of total number of admissions.[2]

Here, the study examines the following hypotheses:

H1: The existence of import quota will be positively related to market share of the domestic film.

H2: The existence of screen quotas will be positively related to market share of the domestic film.

H3: Subsidies for the film industry will be positively associated with market share of the domestic film.

H4: Tax concessions for the film industry will be positively associated with market share of the domestic film.

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[2] The market share of the domestic film in a given year is calculated by the following formula:
$$Market\ Share\ of\ the\ Domestic\ Film = D\ /\ (D + F)x100$$
In the formula, D is the number of domestic films' admission, and F is the number of foreign films' admission in a given country.

Other Determinants of Market Share of the Domestic Film

Abundant studies provide evidence that a film's performance is positively related to its budget (Litman and Ahn, 1998; Mulligan and Motiere, 1994; Prag and Casavant, 1994; Sochay, 1994; Wyatt, 1991; Smith and Smith, 1986). Also, if production investment increases, films' diversity and production quality are improved and thus, the demand curve for domestic films shifts upward (Litman, 2000; Oh, 2001; Lee and Bae, 2004). Furthermore, Lee and Bae (2004) emphasize that cultural and linguistic factors are not significant determinants but box office revenue and GDP are significant predictors in addition to production investment. However, since film production investment increases through subsidies, and box office revenue and GDP are in close relation with each other, multicollinearity is predicted between them. Therefore, among economic factors, GDP is examined in this study.

H5: The amount of GDP will be positively associated with market share of the domestic film.

An increase in the number of domestic films might have a separate effect increasing the domestic market share. Thus, the number of domestic films produced is added to the independent variables. In contrast, on the basis of the idea that the quality of film is more important than the quantity of the domestic film, average budget per film is examined as well. Therefore, this study finally examines the following hypotheses.

H6: As long as the number of domestic films increases, market share of the domestic films will positively change.

H7: Higher average budget per film will be positively related to market share of the domestic film.

DATA AND METHOD

Modeling

To test the hypotheses, a multiple regression model is employed in this study. The model includes the presence of import quota (IQ) and screen quota (SQ), the existence of subsidies on film producers (SD), the presence of tax concessions on film production (TC), the number of domestic films produced (DF), the level of an average budget per film (AB), and the Gross Domestic Product (GDP) as the independent variables. The market share of the domestic film (MS) is the dependent variable. In this study, import quota, screen quota, subsidy, and tax concession are dummy variables, and are coded 1 for their presence, 0 otherwise. Also, the number of domestic films, average budget per film, and GDP are transformed logarithmically because their scales varied across the sample countries and transformations of the variables are helpful to reduce heteroscedasticity. The units of AB and GDP are 1 million U.S. dollars and the market share of the domestic film is indicated as percentages. In addition, two years of data (YEAR) for 2004 and 2008 are used in order to control fixed or random effects in the cross sectional data and obtain larger sample size. The data for 2008 is coded as YEAR=1, 0 otherwise. The model employed in this study is the following:

$$MS = \beta_0 + \beta_1 IQ + \beta_2 SQ + \beta_3 SD + \beta_4 TC + \beta_5 \ln(DF) + \beta_6 \ln(AB) + \beta_7 \ln(GDP) + \beta_8 YEAR + \varepsilon$$

Data Collection

For cross-sectional study, 44 countries were selected in this study because these are the countries that have their own film industries. Economic policies for the domestic film industry

have meaning only in the countries that have their own film industry.[3] In sampling, the intent was to collect as many countries as possible; the only countries with their own film industry that were excluded are those for which data are lacking. But note that only 36 countries' data are available for the year of 2004 and 44 countries' for 2008, 36 being in both.

Among the countries, the existence of import quotas was confirmed in Egypt, India and China (Han and Roh, 2008, Marché du Film, 2006; 2009). Also, the source of data on screen quotas among the 44 countries was obtained from Lee and Bae's study (2002) and *Focus 2006* and *Focus 2009* (Marché du Film, 2006; 2009). The countries are Brazil, China, Hong Kong, Japan, South Korea, and Spain. Previous empirical research included France and Italy in the file of countries having screen quotas (Lee and Bae, 2004; Oh, 2001), but this study does not include France and Italy because the screen quota has been a dead letter in France actually and in Italy, it has been ignored by theatre owners and the government (Lee et al., 2008).

The data for market share of the domestic film were obtained from Screen Australia web site[4], and the data on subsidies for film production and tax concessions were found from *FOCUS 2005* and *2009* (Marché du Film, 2005; 2009), and a Korean Film Council annual report (Cho, 2005), respectively. The number of domestic films produced in 2004 and 2008 was collected from and the average budget per film for each year was calculated from Screen Digest (2006) and Screen Australia web site. Lastly, 2004 and 2008 GDP data were obtained from the World Bank.

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[3] Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Czech Republic, Denmark, Egypt, Finland, France, Germany, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, Japan, Malaysia, Mexico, The Netherlands, Norway, Poland, Portugal, Romania, Singapore, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, the U.K., the U.S., and Venezuela.

[4] http://www.screenaustralia.gov.au/gtp/acompboxofficeozshare.html

RESULTS

Descriptive Findings

This study used OLS, fixed-effects, and random-effects regressions to estimate the equation. As shown in Table 1, the regression model was significant, accounting for 71 percent of variation in market share for the domestic films. Also, based on the result of diagnostic tests and the examination of residuals, there was no multicollinearity problem and no outlier in the model.

Table 1. Multiple Regression Model for Predicting Market Share of the Domestic Film

Explanatory Variables	B[a]	S.E.	t Value
Constant	2.59	22.73	0.11
Import quota[b]	53.75	8.86	6.07[***]
Screen quota[b]	9.43	5.10	1.85[*]
Subsidy[b]	-3.59	3.48	-1.03
Tax[b]	-4.12	3.77	-1.09
LN domestic film	6.83	2.70	2.76[**]
LN average budget	2.51	0.43	5.20[***]
LN GDP	-1.27	2.31	-0.55
YEAR 2008[b]	4.30	2.87	1.50
Number of observations	80		
Adj R-squared	.71		
F	25.55		
P > F	< 0.001		

[a] Unstandardized regression coefficients

[b] Dummy variable

[***]$P < 0.01$, [**]$P < 0.05$, [*]$P < 0.1$, two-tailed.

LN domestic film = logarithm of the number of domestic film

LN average budget = logarithm of average budget per film

LN GDP = logarithm of gross domestic product

As might be expected, the import quota was highly related to the market share of the domestic film according to the result of bivariate correlation analysis in Table 2 (r = .60). Also, the import quota was statistically significant in the model. The model shows that a 100% increase in the import quota would lead to an increase of approximately 54% in market share of the domestic film. Therefore, Hypothesis 1, which predicted a positive relationship between the import quota and the market share of the domestic film, was supported.

Also, Table 1 exhibited that the regression coefficient of the screen quota was statistically significant in the model. It means screen quotas were a significant predictor for market share of the domestic film even when other independent variables such as import quota, subsidies, tax concessions, average budget per film, and national film were controlled. The result was not consistent with the findings of Lee and Bae (2004) and Oh (2001). Thus, Hypothesis 2, which predicted a positive relationship between the screen quota and market share of the domestic film, was supported.

Also, Hypotheses 3 and 4 predicted that subsidies and tax concessions would be positively associated with market share of the domestic film, respectively. However, Table 2 shows there are no positive relationships between subsidies and the market share for domestic films and tax concessions and market share for domestic films. Also, they were not statistically significant in the model. This suggests that subsidies and tax concessions were not significant predictors for the market share of the domestic film when other independent variables in the model were controlled. Based on the results, Hypotheses 2 and 3 were not supported.

Meanwhile, using GDP, this result found little evidence of an effect of market size on the market share of the domestic film. Lee and Bae (2004) suggested that GDP is a strong predictor of the self-sufficiency ratio. Although according to the result of Table 2, there was a positive

relationship between GDP and the market share of the domestic film (r = .53), the regression

coefficient of GDP was not statistically significant. Thus, Hypothesis 5 was not supported.

This paper also assessed whether the number of domestic films produced in a given year

and the average budget per film are positively related to the market share of the domestic film.

The model showed that these two variables were strongly correlated with the market share of

domestic films. Especially, according to the result, a 100% increase in the number of domestic

films and average budget per film would lead to an increase of about 6.8% and 2.5% respectively,

in the market share of domestic films. Thus, Hypotheses 6 and 7 were supported.

Table 2. Pearson Correlation Matrix Among Variables

Variables	MS	IQ	SQ	SD	TC	LN DF	LN AB
IQ [a]	.599**						
SQ [a]	.165	-.087					
SD [a]	.156	-.092	.266*				
TC [a]	.058	-.164	.110	.311**			
LN DF	.702**	.412**	.328**	.470**	.258*		
LN AB	.444**	-.130	-.029	.300**	.446**	.429**	
LN GDP	.526**	.177	.234	.507**	.470**	.839**	.526**

MS = market share of the domestic film; IQ = import quota; SQ = screen quota; SD = subsidy; TC = tax concession;

LN DF = logarithm of the number of domestic films; LN AB = logarithm of average budget per film; LN GDP =

logarithm of gross domestic product

[a] Dummy variable

[*] P < .05, [**] P < .01

The following Table 3 presents the results of fixed-effects regression. The only difference

between the OLS regression and the fixed-effects regression is that the latter includes 44

country-specific dummy variables. Rho was 0.88, which implies that 88% of the variance of

disturbance is explained by country fixed effects. The variables of import quota, screen quota, subsidy, and tax concessions were dropped because they have not changed during the period from 2004 to 2008. Based on the results, change in average budget per film and GDP do not have statistically significant relationship with market share of the domestic film, while change in numbers of domestic films produced is significantly correlated with domestic film's market share.

Table 3. Fixed Effects Model for Predicting Market Share of the Domestic Film

Explanatory Variables	B[a]	S.E.	t Value
Constant	-19.71	50.96	-0.39
Import quota[b]	(Dropped)		
Screen quota[b]	(Dropped)		
Subsidy[b]	(Dropped)		
Tax[b]	(Dropped)		
LN domestic film	9.93	5.25	1.89[*]
LN average budget	1.02	1.42	0.72
LN GDP	0.05	2.99	0.02
YEAR 2008[b]	1.73	2.14	-0.39
Number of observations	80		
Corr (*fixed effects, explanatory*)	0.12		
F $(43, 32)$	5.73		
P > F	< 0.001		
rho	0.88	(fraction of variance due to *fixed effects*)	

[***]$P < 0.01$, [**]$P < 0.05$, [*]$P < 0.1$, two-tailed.

In addition, random-effects GLS regression in the following Table 3 shows somewhat different results compared to OLS regression as well. Based on the results, screen quota is not statistically significant. Also, interestingly, the results indicate that market share of the domestic film is slightly increased in 2008 comparing with 2004. After 2005, U.S. film production volume has plummeted year-on-year. For example, the number of U.S. films produced continued its

downward trend from 699 feature films in 2005 to 656 in 2007 and to 520 in 2008. This significant decline in the number of films produced in the U.S. may partly depend on the strike by the Writer's Guilds of America in 2007 and partly on the difficult economic environment in the U.S.

Table 4. Random Effects Model for Predicting Market Share of the Domestic Film

Explanatory Variables	B[a]	S.E.	Z Value
Constant	-8.42	20.68	-0.41
Import quota[b]	47.79	9.98	4.79[***]
Screen quota[b]	6.28	7.05	0.89
Subsidy[b]	-3.82	4.83	-0.79
Tax[b]	-5.20	5.08	-1.02
LN domestic film	7.89	2.47	3.19[***]
LN average budget	2.05	0.52	3.96[***]
LN GDP	-0.45	1.93	-0.23
YEAR 2008[b]	2.97	1.61	1.84[*]
Number of observations	80		
Corr (*random effects, explanatory*)	0 (assumed)		
Wald chi2 (8)	116.62		
P > chi2	< 0.001		
Rho	0.79	(fraction of variance due to *random effects*)	

[***]$Z < 0.01$, [**] $Z < 0.05$, [*]$Z < 0.1$, two-tailed.

SUMMARY AND POLICY IMPLICATIONS

In summary, import quotas strongly increase market share of the domestic film, but there is weaker evidence for screen quotas, and no evidence that subsidies and tax concessions increase the market share of the domestic film. Also, through including GDP data in the model, this study found little evidence that market size is positively associated with market share of domestic films. Furthermore, the study indicates that the average budget per film and the number

of domestic films are important determinants of the market share of the domestic film. On the

other hand, it should be considered here that the presence of a subsidy is positively related to the

number of domestic films and the average budget per film, and the presence of a tax concession

is strongly correlated with the average budget per film. If subsidies and tax concessions affect the

number of domestic films and the average budget per film, they may affect the market share of

the domestic film indirectly.

If subsidies and tax concessions meet the purpose of those policies to improve the

number of domestic films and the average budget per film, they may not waste public money, but

protect the domestic film industry. However, additional analyses using another two regression

models showed that subsidies and tax concessions are not significant predictors for the number

of domestic films and the average budget per film. Rather, GDP and import quota were

statistically significant variables in the regression models. That means subsidies and tax

concessions might not be promising tools to improve the domestic films' market share.

CONCLUSION

Economic policies on the international film industry are diffusing but very few empirical

studies have investigated the impact of these policies. Researchers who have studied the effect of

screen quota have concluded that it has no impact on the self-sufficient ratio and thus, it is not a

promising policy to protect the domestic film industry. In addition, they contended that market

size such as GDP, box office revenue, and investment in film production is an important factor to

predict a successful film industry. Meanwhile some argued that economic policies can help

countries protect and promote their domestic film industry. However, the literature did not

provide evidence about other regulations' effectiveness and did not control other possible factors that have influence. Thus, this study explored the effect of regulatory policies on the market share of domestic films and tried to discover other determinants which can explain the variance of the market shares. In order to do this, the study included other economic and regulatory factors such as import quota, subsidy, and tax concession in the regression equation, also it examined other variables such as the number of domestic films and the average budget per film in the model.

On the basis of the result of the multivariate regression model, this study supports the following conclusions: First, import quotas were found to have a significant impact on market share of domestic films. There was little impact of the economic policies of screen quota, subsidy, and tax concessions on the market share of domestic films. Also, when these economic factors were controlled, GDP was not a significant determinant. Finally, as variables that have an impact on the market share of the domestic film, the number of domestic films and the average budget per film were statistically significant. Based on the results, there are alternatives to import quotas that countries can take to increase their domestic films' market share by improving the average budget per film and by increasing the number of domestic films produced. It draws a precept that film production support efforts should be balanced between quality and quantity. Also, it will be important to make favorable environment to produce films.

Import quotas are the strongest policy available here, but is should be noted that import quotas lead to retaliation and worse relationships with other countries, especially the U.S. Thus, both the benefits and the costs of import quotas must be considered.

Despite its findings, there are several important limitations of this study. First, the cross-section design and two years of data used in this study do not embrace all the history or

intervening events. A longer panel study could help to address this limitation. Also, dummying subsidies and tax concessions might make it difficult for this study to identify their impact on market share of the domestic film. In addition, future research about the factors on the average budget per film and the number of domestic films produced could be useful.

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