PROTECTIVE TRADE POLICY AND GLOBAL FILM MARKET: A CROSS-SECTIONAL ANALYSIS OF REGULATORY TRADE BARRIERS AND THEIR IMPACTS ON THE COMPETITIVE STATUS OF NATIONAL FILM INDUSTRIES 2000-2007

by

CUNFANG REN

(Under the Direction of Spencer F Tinkham)

ABSTRACT

Acknowledging the economic and cultural significance of developing national film industries, and in responding to the debate concerning cultural protectionism in the international community, this study aimed to investigate one key issue that would shed some light on the practical function of cultural protectionism, namely, do trade protectionism methods work? How do they work? Do they work toward their stated objectives? The research was conducted based on an investigation of six trade protective policies on the development of national film industries in 78 countries over an eight-year period from 2000 to 2007. It developed two composite TB indices and ten film performance measurement dimensions. The result found the criticisms on the negative impact of protective trade policies were exaggerated. Trade protective policies showed positive composite long-term effects on increasing film productions, market share, box office revenues, and film screens over the studied years. They also had short-term

contributions to increase film import diversity. The largest negative impact of trade protections was on export, but the impact was for a short-term only.

Individually, quota was the most beneficial variable that showed significant contribution on eight film performance indicators. Subsidy was another contributing factor, but it was also most affected by time. Investment restrictions showed sustaining negative effects on consumer spending and admissions. The main negative impact of service restrictions was on film export. Taxation reduced audience spending. Tariff played double roles in increasing film admission and screens, but reduced consumer spending and import diversity.

Overall, increasing the quality of trade protections mattered. Because economic development played the single most important role in determining national film performances, for countries with less developed national economies or unfavorable cultures for competing in current market environments, qualitative trade protections might help in promoting domestic production and market share. Depending on the combination of different protective methods, regulatory trade policies can play an important role toward benefiting the local film industry.

INDEX WORDS: Protective Trade Policy, Regulatory Trade Barriers, National Film Industry, Culture Protectionism, Trade, Effect, Effectiveness, Impact

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by

CUNFANG REN

B.A., Hebei University, Hebei, China, 1993

M.A., Peking University, Beijing, China, 1996

M.M.C., University of Georgia, Georgia, USA, 2004

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

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CUNFANG REN

Major Professor:	Spencer F. Tinkham
Committee:	Louise Benjamin Santanu Chatterjee C. Ann Hollifield

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
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DEDICATION

This dissertation is dedicated to the people whose work adds value and enrichment to the cultural property of human beings.

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TABLE OF CONTENTS

Pages

CHAPTER 1 INTRODUCTION

Background

In the year of 1921, Germany became the first nation to put into effect a quota on film import, followed by Austria (1925), Britain and Italy (1927), France and UK (1928), and other European countries including Czech (Segrave, 1997). The protection was established in view of the increasing penetration of Hollywood films from the U.S. and was aimed to protect domestic film industries, along with the political interest of government who viewed the motion picture as a major tool for ideological and propaganda purposes. Since then, history only sees the tensions escalate between Hollywood and the film industries of other nations.

Accompanying the dominance of, and resistance to, Hollywood industry are enormous debates in the international arena and scholastic community concerning the justification of trade protectionisms in the film industry. The debates were integrated in larger discussions about the validation, effect, and effectiveness of cultural protectionism. Beginning in the last two decades of the twentieth century, the huge movement toward trade liberation and the increasing incorporation of domestic industries into international trade regimes made trade protections even more controversial. Countries feel the increasing needs to protect their own industries, while at the same time face increasing pressures when exercising their powers to protect their cultures. Under these circumstances, a review of the current debates toward cultural protectionism and an

exploration of the effect of trade protections might provide valuable insight for cultural policy makers.

Trade Liberation and Worldwide Hollywood

Hollywood emerged as a world film leader after World War I (Ulff-Møller, 2001). In 1926, about 90 percent of the world film screens were captured by U.S. films (Segrave, 1997, p. 66). Hollywood dominance accelerated with the U.S. government's increasing commitment to free trade since after World War II. In the 1960s and 1970s, the open market campaign in the communication field, under the slogan of 'free flow of information', encountered the most heated debate and resistance in the third world nations who called for a New World Information and Communication Order (NWICO) (Herman & McChesney, 1997). In the 1970s and 1980s, driven by the findings of the UNESCO studies (Nordenstreng & Varis, 1974; Varis, 1984) about the one-way flow of television and feature film programs from the U.S. to the rest of the world, the fear of the third world over American hegemony and cultural imperialism intensified.

Throughout the 1980s and 1990s, liberal trade ideology was globally campaigned (Comor, 1997) and opening export markets became major policy goals of the U.S. government (Pearson, 2004). Led by the U.S. and through rounds of multilateral talks under General Agreement on Tariffs and Trade (GATT), the World Trade Organization (WTO), as well as other regional and bilateral trade negotiations, the world saw a swift trend of trade liberalization, privatization, and commercialization (Hufbauer & Warren, 1999). The heavily regulated media industry did not avoid this change. In the film sector: Eastern Europe was liberated in late 1980s; Korea opened its distribution market in 1987; India relaxed restrictions on film import, foreign ownership, and dubbing in 1993;

Canada opened film productions to private capitals and U.S. investment in the late 1970s and the early 1980s; Britain reduced screen quota in 1981; Switzerland deregulated the film imports and theater ownership restrictions in 1993; Mexico totally repealed screen quotas in 1994 (Segrave, 1997). From Asia to Europe, from North America to Latin America, the film markets gradually opened, under both economic and political pressures (Herman & McChesney, 1997). The structural changes were also felt in the broadcasting and telecommunications industry where commercialized and privatized systems were established worldwide (Herman & McChesney, 1997).

Corresponding to this process of media liberalization was the increased dominance of U.S. films and the decline of domestic films in other nations. According to Segrave (1997), the domestic share of Korea fell from 50 percent in 1980 to less than 40 percent in 1990s; Most European countries had a domestic share under 20 percent.[1] In Korea, allowing foreign direct distribution resulted in 80 percent of box office revenues went to the U.S. films in 1988. Canada's opening of film productions to foreign investment resulted in a huge flow of U.S. investment and productions of Hollywood-styled films. Mexico's repeal of its screen quota in 1994 led to a total collapse of film productions in the years that followed. Productions fell from 100 to 4 films per year. And similar situations occurred in Germany, Britain, France, Spain, Turkey, and elsewhere.

The market share of foreign films in the U.S. had also declined dramatically over the years, falling from 10 percent in 1960s to 7 percent in 1986, less than 2 percent in 1991, and 1/3 of 1 percent in 2005 (Marvasti & Canterbery, 2005; Segrave, 1997). In 2004, the top 10 foreign language films took only one percent of the U.S. national box office revenues, according to *Screen Digest* (2005). This made the U.S. market almost

[1] Except France that has a market share of 35% in the same period of time.

close for foreign competition, even though the U.S. claimed to be a market free of regulatory barriers.

Over the same period of time, exports of the U.S. films increased dramatically (Scott, 2002b). In the 1970s, Hollywood earned 1/3 of revenue from overseas (Thussu, 2007). In 1991, 43 percent of its total revenue came from foreign markets (Wasko, 1994). In 2000, the revenues from overseas markets exceeded domestic box office receipts. Compared with the 1986 level, export revenues grew at a rate of 426 percent, far exceeding (151 times) the growth rate of gross domestic revenues at 28.3 percent (Scott, 2002a). By 2005, more than half of box office revenues came from foreign markets (Thussu, 2007) and the U.S. owned between 40 percent and 90 percent of the movies shown in most parts of the world (Miller, Govil, Richard, & John, 2005).

Therefore, Wasko (1994) declared, deregulation and technological innovation mainly fostered the competitive advantages of Hollywood. And in the long run, the trend "has clearly favored Hollywood's increasing domination" (Rosen, 2003, p. 119).

The Cultural Protection Movement

Originating in Europe in the 1920s, the resistance to the U.S. film dominance from other countries has never stopped. In the 1930s, protection of domestic media industry became formal legislations in Canada (Herman & McChesney, 1997). In the 1960s and 1970s, the campaign for NWICO constituted the most intense struggle over 'free flow of information' from the first world (Ó Siochrú, Girard, & Mahan, 2002). In 1989, the EU "Television without Frontiers Directive" (the "Directive") went into effect with the aim of limiting U.S. television and films in the European market. The movement of resistance culminated in the fall of 1993 when North America Free Trade Agreement

(NAFTA) and GATT negotiations were concluded with cultural exclusions became the focal point of the negotiations (McAnany & Wilkinson, 1996). Therefore, in association with the increased movement toward trade liberalization, the drive for cultural protections also helped shape the rules concerning treatment of cultural industries in international and regional free trade regimes.

Cultural Exceptions in GATT

GATT, under the very basic principles, the most-favored-nation requirement (Article I) and national treatment provision (Article III), requires members to conduct trade on a nondiscrimination basis (Kim, 2000; Pearson, 2004; Pool & Stamos, 1990). However, concerns over the U.S. hegemony in film productions and its cultural influences (Duarte & Cavusgil, 1996) and the insistence of the European countries in continuing import restrictions on films (Galperin, 1999) finally led the cinematograph films exempted from free trade requirement at the signing of GATT. As a result, Article IV of the GATT, *Special Provisions Relating to Cinematograph Films*, allowed using screen quotas to reserve screen times for locally produced films (Kim, 2000). The aim was to limit the negative effect of U.S. dominance rather than promote local productions, according to Duarte & Cavusgil (1996). Protection measures were also allowed temporarily, according to Cahn and Schimmel (1997), "…when international competition threatens the survival of a domestic industry…" under Article XIX "Emergency Action on Imports of Particular Products" (p. 3), or when concerning "national treasures of artistic…value…" (pp. 2-3) under Article XX (f). The latter includes literary, pictorial, musical works, and audiovisual works (Cahn & Schimmel, 1997).

"Cultural Exclusions" under WTO-GATS

As an important agreement included in the WTO framework, General Agreement on Trade in Service (GATS) was governed by the same principles as GATT: most-favored nation requirement, national treatment, and free market access (Galperin, 1999). During the negotiations that led to the establishment of GATS, enormous debates occurred over the treatment of the audiovisual industry, mainly between the European Union (EU) and the U.S. (Kim, 2000). The EU wanted to exclude the sector from GATS, and the United States disagreed. Finally, the members reached an "agreement to disagree," which in effect excluded the industry sector from GATS provisions (Cahn & Schimmel, 1997, p. 8). As a result, countries are free to use quotas, subsidies, Co-production treaties, and other methods to promote domestic productions unless they make special commitments to liberalize audiovisual sectors (Bernier, 2004). This "positive approach" (Bernier, 2004) allows countries to liberalize the sector progressively, according to their own conditions. Up to now, the majority of the countries reserve the sector from making any specific commitment.[2]

Bilateral FTA and U.S. New Strategies

Although GATT and WTO-GATS framework offer legitimate cause for culture protections, the protections can only be considered a temporary reconciliation rather than a final resolution. According to Article IV(d) of GATT, screen quotas, although permitted, were subject to further negotiations for their final elimination (Kim, 2000).

[2] According to Kim (2000) and (Bernier, 2003)**,** 14 countries made specific commitments in the audio-visual sector at the conclusion of Uruguay negotiations, including Dominican Republic, Hong Kong, India, Israel, Japan, Kenya, Korea, Malaysia, Mexico, New Zealand, Nicaragua, Singapore, Thailand and the United States. 13 developing countries made commitment when joining WTO, including Albania, Armenia, Central African Republic, China, Dominican Republic, El Salvador, Gambia, Georgia, Jordan, Kyrgyzstan, Lesotho, Oman, Panama.

Similarly, under Article XIX GATS, the audiovisual sector was included in "mandated sectors," which means they are automatically included in new round of trade liberating negotiations (Chiang, 2007; Ó Siochrú, Girard, & Mahan, 2002), and the negotiations are actually already underway between EU and the U.S., according to Galperin (1999).

Furthermore, the U.S. has been more successful in continuing its effort to liberalize trade in media products at regional and bilateral level. Disappointed by the cultural exclusions under GATS, the United States has become more active in regional and bilateral Free Trade Agreements (FTAs). Regional and bilateral negotiations over cultural trade are relatively less complex compared to those at the multilateral level (Ó Siochrú, Girard, & Mahan, 2002). Using economic power, political pressures, and sometimes the threat of retaliations (Cahn & Schimmel, 1997) are common tricks in forcing foreign governments to comply. As a result, the majority of bilateral FTAs include cultural issues (Ó Siochrú, Girard, & Mahan, 2002).

Canada provides an example of exception. Under NAFTA, Canada was able to exempt cultural industries from the agreement. However, retaliation from the U.S. was permitted in responding to the exception under the "notwithstanding" clause specified in Article 2005 (Beale, 2002). It means that any restrictions from Canada could lead to U.S. retaliations with a method equivalent to the loss by the U.S. companies (Ó Siochrú, Girard, & Mahan, 2002). This retaliation clause makes the exception, at practice, meaningless because the possible price for any restrictions could be high.

Negative List Approach

Bernier (2004) examined the FTAs that the U.S. concluded with Chile, Singapore, Central American States, Australia, and Morocco from 2002 to 2004 and found several

new strategies the U.S. developed in dealing with cultural trade. Among them, one apparent change of the U.S. strategies is a shift from GATS positive list approach to a negative list approach to scheduling commitments. In this approach, unless countries make reservations/exceptions on their schedule, all members are included in the agreement. Therefore, the burden is shift to countries who wish to exclude sectors from trade agreements.[3]

Electronic Commerce

Another important change is the shift of attention to digital communication networks. In these FTAS, existing protections in the traditional audiovisual sector are more tolerated. More focus is put on preventing future protections in digital networks and electronic commerce (Bernier, 2004). Therefore, even if current protections could remain as status quo, countries lose the power of setting up protections for the industry as it continues to develop digitally, which is the key to future development.

IP Right

Although cultural industry was temporarily excluded from the GATS agreement, the completion of the Uruguay round of trade negotiations "marked a big milestone of trade liberalization" (Pearson, 2004, p.13). As a result of the negotiation, service industry, intellectual property rights, and trade-related investment issues were all included within the free trade regime, the WTO. And these three aspects all have significant potential impacts on cultural trade.

[3] According to Bernier (2004), countries who wish to exclude certain sectors must explain and to obtain the consent of the other contracting State or States. The result would quite depend on individual country's negotiation power and adequacy in preparation and expressions.

Of particular importance is the inclusion of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in the agreement, which is highly related to the audiovisual sector. Due to U.S. producers' increasing complaints about loss of revenues from audiovisual piracy, strengthening copyright protection has been a recent priority of the U.S. The integration of TRIPs into WTO regime marked a big victory for industrialized countries (Ó Siochrú, Girard, & Mahan, 2002). As a result of TRIPs, developing countries are forced to apply IP standards of the industrialized nations and lose the right of adjusting their standards according to their own schedules and development status.

Copyright protections and IP rules are also highlighted in regional and bilateral FTAs. By joining FTAs with the U.S., countries must agree to make changes in their legal frameworks, enact copyright and IP laws, and ensure the enforcement of laws, as seen in the case of Mexico, for instance, when the country prepared itself for signing into NAFTA (McAnany & Wilkinson, 1996).

The Cultural Diversity Movement

Unsatisfied with the progress under the "cultural exception" movements, the UNESCO (United Nations Educational, Scientific and Cultural Organization) Convention on the Protection and Promotion of the Diversity of Cultural Expressions was adopted in 2005. This declared a new wave of cultural protection movement under the cultural diversity strategy. The convention emphasizes the significance of preserving cultural diversity and the sovereign right of national states to protect/promote their cultural expressions through policy measures (Chiang, 2007; Jin, 2008). However, the convention

does not provide binding rules or generate rights, therefore offers little help for countries to compete in the market (Nurse et al., 2006).

How Far Can Cultural Protections Go?

Overall, cultural exception, cultural exclusions, and cultural diversity movement legitimize cultural protections currently exercised in many countries (Ó Siochrú, Girard, & Mahan, 2002). However, the protection is only short-term. Under the increasing move toward global economic integration, how far cultural protections can go is not clear. Further, due to the changing media environment and new U.S. strategies on cultural protections, the effectiveness of the protectionism is also in question.

Statement of Problem

"Economic globalization has called into question the traditional basis for state intervention in the cultural sphere" (Raboy, Bernier, Sauvageau, & Atkinson, 1994, p. 1). As cultural trade was introduced into international free trade regimes, the power of individual nations to exercise cultural protections is restricted. By joining multilateral, regional, bilateral FTAs, countries agree to abide by rules that limit their right to pass laws and regulations concerning market and trade relations (Ó Siochrú, Girard, & Mahan, 2002). They also must make sure their domestic regulations conform with certain international standards, which many criticize tend to favor the most powerful governments and corporations (Ó Siochrú, Girard, & Mahan, 2002). The U.S. can also topple foreign protections through WTO rulings (Crane, 2002), such as in the Sports

Illustrated Case (Beale, 2002).[4] Wide-spread economic integration makes protections further invisible. As an example, Canada obtained a cultural exclusion in its 1988 U.S.-Canada FTA and NAFTA. However, as revealed by Martin (1996), Canada's cultural market is very open. Therefore, U.S. capitals can flow freely into the market and easily control the capital investment in the film market. This actually makes the cultural exclusions useless.

Quite often, the policy goals of nation states to protect their domestic cultures contradict with the interest of pursuing greater economic integration with the U.S. As a result, the nation states often prefer to sacrifice cultural interests in order to achieve the economic goals. This is the case in Korea during its FTA negotiations with the U.S. In the year 2007, Korea was forced to halve its film screen quota under extreme pressure from the United States (Sung-Jin, 2006). This case bears some symbolic meanings, since Korea has been at the forefront in resisting Hollywood dominance and also has made great achievement and success (Jin, 2008). Korea has been considered a banner for other nations to follow. If previous protections on films have been effective, what would the impact of this rapid policy change in screen quotas be on its film industry?

Historically, the U.S. imposed various restrictions on media investment and ownership (Wasko, 1994) and provided extensive legal and financial aid during Hollywood's development and expansion (Segrave, 1997). Governments of other nations, however, find them hard to do the same under the current trend of global liberalization. Development of digital communications networks further challenges traditional protection techniques.

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[4] In late December 1995, Canada enacted an 80 percent excise tax on Canadian advertising on non-Canadian magazines. The U.S. suit Canada to WTO. In 1999, Canada was ruled to withdraw the tax under WTO ruling. 40% loss of Canadian magazine titles was reported in the following years.

Under these circumstances, trade protective policies met increasing criticism. The necessity for, and effectiveness of, such protection is being questioned (Wildman, 1995; Wildman & Siwek, 1988, 1993). Many countries are struggling to balance the need between protecting domestic cultural productions and participating in the international economy. These countries face increasing challenges as they try to establish effective cultural policies that can balance national interests while increasing social well-being. In these circumstances, answers to the question of how far can cultural protectionisms go, or should protective trade policies in cultural products and services continue, should be based on a comprehensive examination of the impact and effectiveness of current protective techniques in this new era.

Purpose of the Study

This dissertation investigated the impact of various widely-used policies for protecting one important aspect of cultural industry, the national theatrical film industry. Motion pictures are capable of "portraying each nation's unique culture and lifestyle," (Wildman & Siwek, 1988, p. 136) and affect people's attitudes, beliefs, and ways of living. The unique ideological and social-cultural functions of films get them special treatment from current international free trade regime. Due to Hollywood's large scale of penetration, however, the existence and development of film industries in many nations are seriously threatened. The huge revenues at stake for U.S. filmmakers have encouraged the U.S. government to seek reduction and elimination of trade barriers. This makes the task of seeking effective protective methods even more pressing.

Despite the enormous debate over cultural protections and the pressing task of evaluating the effectiveness of current protective policies, empirical studies on the impact

and effectiveness of policies protecting cultural industries are limited (Dupagne & Waterman, 1998; Hanson & Xiang, 2006; Lee & Bae, 2004; H. Lee, 2008; Lee, Kim, & Kim, 2008). Further, these studies are mostly based on small numbers of sample countries and employ time-invariant measures. These make their findings hard to generalize. Studies on international trade in films are especially sparse (Hanson & Xiang, 2006; Jayakar & Waterman, 2000), with fewer studies on protective trade policies in the film industry (Lee & Bae, 2004; Lee, Kim, & Kim, 2008). Findings from these studies are also inconsistent.

The study investigated the effect and effectiveness of trade protective policies on national film development over the eight year period from 2000 to 2007. It took a deep look at the different trade barrier variables and their functions in the development of local film industries. It also identified several key factors that are significant in determining the development of national films in three functional areas and ten different measurement dimensions. Understanding the functions of these key factors, together with an understanding of the direction and significance of different trade barrier variables, hopefully, will offer constructive input for countries that are under the way of forming strategic plans for future cultural development. Results from this study will also have implications for researchers, cultural activists, and policymakers who are interested in the connections between trade integration and development of domestic media industries with diverse cultural output.

Dissertation Organization

The dissertation was organized as follows: Chapter 2 reviewed literature on the debate over cultural protectionism. This included a review of the theoretical frameworks

for the cultural debate, rationale for and against cultural protections, and research on the impact and effectiveness of protective policies. The chapter ended with a summary of the gap of existing literature and introduction of the dissertation research. Chapter 3 detailed the research questions, hypothesis, and methodologies used to conduct the research. Findings were presented in Chapter 4, followed by conclusions and discussions in Chapter 5.

CHAPTER 2 LITERATURE REVIEW

Overview

The conflicting interests surrounding the production of the motion picture industry and other cultural industries are highlighted much more in the debates on cultural protectionism. This chapter reviews existing scholastic works and arguments toward cultural protectionism. Specifically, the review was based on arguments from two theoretical frameworks, and mainly covers scholastic arguments toward cultural protectionism in three aspects:

1. Why do cultural industries matter?
2. Should cultural industries be protected?
3. Do protective policies over cultural industries work?

This review will not only help to put the current research in a historical background of previous scholastic research, but also help provide a basis for this study in forming research questions, defining research variables, constructing research methodologies, and conducting data analysis.

Why Do Cultural Industries Matter?

What is the nature of films? What are the differences of films from other products, such as cars or shoes? Answers to these questions reflect basic theoretical differences in considering the nature of cultural products and services by the different parties involved.

In the report prepared for the Caribbean Community and Common Market (*CARICOM*), Nurse et al. (2006) defined cultural industries as industries that produce "aesthetic, identity and copyrightable goods, services and intellectual property" (p. 22).

The definition reveals four distinct characteristics of cultural products and services (INCP, 2003; Sanghera, 2000). First, cultural goods and services are the creative output of individuals and organizations. Second, cultural products and services are intellectual properties. The products are knowledge-based, adding value to current knowledge base of society, and are protected by intellectual property rights. Third, cultural goods are dual-products: they are commodities, but they also convey values, cultures, symbolic meanings, and identities. Fourth, cultural goods and services are representative of a country's unique identity, not substitutable with products or services from another culture (Diversity, 2004).

The contribution of cultural industries also lies in two aspects; that of economic and that of social cultural in nature. Economically, cultural industries create income, employment, and export earnings. Cultural industries include printing media, music, cinema, audiovisual and multimedia productions, and often incorporate creative industries and cultural heritage such as performing arts, museums, and cultural tourism (INCP, 2003; Nurse, et al., 2006; UNESCO, 2005, 2006). They are important factors for economic development. The contribution of cultural industry in economy is intensified with knowledge-based industries being the key driving force of development. In the U.S., for instance, cultural and other copyright-based industries account for 11.12 percent of the gross domestic product (GDP) and 12.96 percent of the growth achieved in 2005, and remains the largest and fastest growing economic sector (Siwek, 2006). Cultural

industries are among the fastest growing industries in the world. According to UNESCO (2005), culture and creative industry account for more than 7 percent of global gross product and will reach 10 percent in the following years. They are also important in keeping trade balanced internationally. In the U.S., for instance, the film industry is among the few industries that enjoy a trade surplus. An empirical examination (Disdier, Tai, Fontagne, & Mayer, 2007) revealed cultural exchanges helped raise overall trade volume,[5] implying trade in cultural goods affect overall awareness and perceptions of the importing countries.

Cultural industries are also linked with heritage and tourism. They benefit the economy by attracting visitors, businesses, residences, and investments (Guetzkow, 2002). Cultural tourism accounts for 40 percent of the total annual visitors in some major cities and they appear to spend more, according to Nurse, et al. (2006). Exploiting cultural heritage to improve national image (Tomooka, Kanno, & Kobayashi, 2002), revitalize cities, neighborhoods, and communities (Guetzkow, 2002; Kwok & Low, 2002), to promote tourism and economic prosperity have been documented as successful strategies in cultural economic studies (Coy, 2000; Guetzkow, 2002). For instance, using cultural symbols to improve national prestige proves successful for the modernization of Japan (Tomooka, Kanno, & Kobayashi, 2002) and Singapore (Kwok & Low, 2002).

Cultural industries also create social capital, an intangible value to society. Cultural industries produce symbolic goods that involve collective experiences and public expressions (Guetzkow, 2002; Martin, 2004). For a country, cultural products create the symbols that define the identity of the country and its inhabitants. They increase the sense

[5] The study found 10 percent increase in cultural trade lead to 3.2 percent increase in overall trade, indicating cultural trade as a significant facilitating factor over non-cultural trade.

of collective identity and social cohesion, promote psychological ties and build social networks (Sanghera, 2000, p. 4). An examination of China's media development since 1979 (P. S.-n. Lee, 1994) suggests that social consensus, integration, and stability were obtained more through cultural interaction than through political or educational communications. This integrative function reinforces economic growth.

Finally, consumption of cultural products has network externalities (Rauch & Trindade, 2006). Current consumption of cultural goods not only facilitates future cultural productions, but also fosters innovation and creativity that enhance future economic performance (Bernier, 2003c; Sanghera, 2000; UNESCO, 2006). Therefore, the value and impact of cultural products goes "far beyond their economic dimension" (Moo-Hyun, 2003, p. 1). Preserving cultural expression, maintaining the viability of domestic culture, and promoting cultural diversity is a "fundamental human right" (Moo-hyun, 2003, p. 2).

Two Theoretical Frameworks

The dual nature of cultural products as both commodity and "bearers of identity, values and meaning," (UNESCO, 2005, p. 1) often gives rise to tensions between countries who emphasize one versus the other in cultural policy-making at the international level. At the center of the disputes is the disagreement on how cultural products should be classified (J. Kim, 2000). Different approaches are taken based on two different paradigms: the free market paradigm and the political economic paradigm. The two paradigms differ, not only in viewing the nature of cultural products, but also in evaluating cultural trade, explaining U.S. dominance in cultural trade, and in viewing of cultural protections.

The Free Market Paradigm

The free market paradigm is based on economic analysis of trade and U.S. dominance. It derives mainly from pure economic perspective and is constrained to economic explanations of trade. It argues media products are like other commodities, and should be regulated by market forces (Renaud, 1993). The uneven international flow of cultural products is mainly a result of free-market laws. Trade in media products and services should apply the same principles of the GATT or GATS. Free trade without government intervention is most desirable (Wildman & Siwek, 1988).

Trade Economics and Free Trade Rationale

Free trade ideology is mainly based on economic analyses of trade that shows free trade leads to a greater benefit than no trade (Pugel & Lindert, 2000, p. 121). The idea originated in Britain in the 18th century (Oatley, 2006), and is best expressed in classic trade theory (Adam Smith's theory of absolute advantage, David Ricardo's Principle of comparative advantage in the early 19th century). The theory emphasized relative production cost as a cause for trade. A country should specialize in producing goods that it makes at absolute, or relatively low cost, and trade for goods its trade partner produces at a lower price. Trade benefits both countries, as it allows countries to consume beyond their production capability at lower prices (Pugel & Lindert, 2000). Therefore, classic theory concludes that a market-based system for resource allocation can maximize profit and utility. Free trade without government intervention allows for the highest social welfare (Oatley, 2006).

Developments after Ricardo focus on different aspects of trade, but the general consensus that free trade is greater than no trade stays the same. For instance, Heckscher-

Ohlin Model, developed in 1933, focuses on differences in relative factor endowment, such as each country's stock of labor, and capital, as a basis for trade. Basically, the model predicts countries will export commodities that are produced using more of the countries' abundant factor(s) in exchange for imports of goods that use more of their scarce factor(s) (Appleyard, Field, & Cobb, 2006). In this case, factors used in export industries and consumers of import goods gains. Factors used in import competing industries and consumers of export goods lose. Countries are still better-off overall, as gains are greater than losses (Pugel & Lindert, 2000). The H-O model mainly describes trade in goods that are produced using static factors. It implies, however, that countries with larger stocks of skilled and efficient cultural workers and financial support will export more of their goods.

Overall, classic trade theories focus on a two-country world, and are based on unrealistic assumptions of perfect competition, identical preferences, constant return to scale, homogenous goods, and inter-industry trade (Schultz, 1999). The theories cannot explain the increasing volume of intra-industry trade (exports and imports of the same goods), nor can it explain trade with product differentiation and under economies of scale, such as trade of cultural products.

In contrast, modern trade theory focuses on explaining monopolistic competition, product differentiation, scale economies, and intra-industry trade (Pugel & Lindert, 2000; Schulze, 1999), and therefore are more applicable to cultural trade. For instance, according to the Linder Theory (1961), product differentiation (a different variety of the same product) can be a basis for trade because consumer tastes differ. Trade occurs between similar countries for differentiated products that cater to audience tastes and

preferences that are not being served in the importing country. Product differentiation can also result from a technological gap. According to Vernon's Product Life-Cycle Theory (1966), trade generally flows from technologically advanced countries to technologically lagging countries. The latter catch-up when industry develops and technologies diffuse. The cycle ends with an industry's decline. In both cases, trade is beneficial. It allows consumer access to greater variety of products, and at lower product prices.

Most cultural trade occurred among similar economies for heterogeneous products (Schultz, 1999), therefore, can be explained by the Linder Theory. Cultural industries, such as film, depend on specialized production technologies. Countries with advanced production technologies may also export more of their cultural products. However, since cultural production involves creative content production, technology by itself may not determine the direction of export.

Modern trade theory also emphasizes the role of scale economy. Economies of scale occur when unit production cost falls as the size of the output increases. Scale economy can happen at the firm level (internal economies of scale), and at the industry or country level (external economies of scale) (Appleyard, Field, & Cobb, 2006). When operating under increasing returns to scale, firms or industries tend to focus on producing different product varieties at large scale. Intra-industry trade occurs when countries specialize in producing different varieties of goods at large scale, and trade for goods that do not have similar advantages in production (Krugman, 1980). In this case, total output increases and price decreases. Consumers have access to a greater product variety and diversity. Producers enter more markets. Therefore, trade enhances social welfare in

general. This rationale of trade is often used by media economists in explaining the benefit of trade, as illustrated later in this dissertation.

Modern theory extends classic theory in considering more complex trade conditions. However, the consensus favoring free trade remains the same as classic trade theories. According to their arguments, free trade is optimal. The more trade, the more benefit. This provides the basic rationale for international free trade regimes such as GATT and the WTO.

Economics of Media Trade

Several economic characteristics of media products make free trade rationale applicable:

First, strong economies of scale exist in media productions. Media goods enjoy scale economies because of high first copy costs that are spread across each subsequent unit of output. While the cost of producing the master copy of a film is extremely high, each additional copy can be manufactured at an extremely low cost, using the latest digital technologies. Therefore, producers benefit by increasing the scale of production. Countries with larger production scale in media products, such as films, will benefit from concentrating on manufacturing and exporting more products.

Second, economies of scale also exist in distribution. Media products are public goods. A public good is not "used-up" by a single consumer, and therefore can be sold and resold to different consumers (Hollifield, 2004; Hoskins, McFadyen, & Finn, 1997; Priest, 1994; Wildman & Siwek, 1988). Each new sale adds more profit than cost, because most of the cost of production is incurred in producing the master copy, and the cost to reach additional consumers is insignificant (Duarte & Cavusgil, 1996). Therefore,

increasing exports and addition of new consumers enhance economies of scales, lower the unit cost of the products, and help production companies to overcome the soaring cost (Hoskins, et al., 1997; Marvasti & Canterbery, 2005). Thus, for media products such as a movie, once created, the profit is directly related to the consumer numbers they reach (Duarte & Cavusgil, 1996). International sale is a natural extension of home market. It allows media companies to reach the largest possible number of consumers and benefit from external economies of scale.

Third, media productions involve high risk. All investments in productions are upfront (Hollifield, 2004), yet, consumer demand is hard to predict. Research indicated the lifespan of a film in theaters was short, and the majority of the box office revenues were earned during the first three weeks of screening (De Vany & Walls, 1999). The risk in production is intensified with rising competition and soaring production costs. Media products compete with available substitutes for limited consumer income and time. The "experience good" nature of media products means consumers cannot evaluate the value of the good until it is consumed (Chang & Ki, 2005). Media companies attempting to differentiate their products using various strategies, such as using famous stars and intensive marketing, which leads to soaring cost of productions. The high risk of production and uncertain audience demand means media producers have an incentive to cash-in on a few successful products, spreading the cost by distributing those products to more markets. In the past two decades, the U.S. not only benefited from growth in secondary market (DVD, VOD, Pay TV, etc.), but also from expanding to overseas markets (Marvasti & Canterbery, 2005).

Therefore, a combination of scale economies, public good nature, and high production risk makes large-scale production and global trade economically efficient.

Economic Analysis of U.S. Dominance

The free market paradigm also uses an "economically inspired analysis" (Biltereyst, 1996, p. 5) to explain the US media dominance. According to this paradigm, several free market rules offer competitive advantages to larger nations and lead to the U.S. dominance in media trade.

The Home Market Effect (HME)

HME, sometimes referred to as the new economic geography model, was derived from Krugman (Helpman & Krugman, 1985; Krugman, 1980, 1991). The HME is the tendency for industries with economies of scale, differentiated product and trade costs concentrated in large countries, making them the net exporters of these goods (Hanson & Xiang, 2004). The HME implies a link between a country's market size and direction of trade. The model was advanced by some media economists (Hoskins & Mirus, 1988; Waterman, 1988; Wildman & Siwek, 1988) to explain the dominance of large, wealthy countries, mainly the U.S., in world media trade. According to them, large market size offers competitive advantages in several aspects.

First, market size enhances both internal and external economies of scale. Marvasti's empirical study (Marvasti, 1994) found countries with greater population and higher income export more films and recorded music. A later study of U.S. trade in motion pictures from 1961-1988 (Marvasti, 2000) confirmed that trade surplus is directly enhanced by population size (scale of domestic market). Therefore, market size provides U.S. producers comparative advantages to enjoy economies of scale.

Second, large and wealthy countries have larger consumer demand. According to Wildman & Siwek (1988), producers respond to larger consumer demand with higher production budgets, which results in higher quality and more competitive products. Therefore, market size increases quality, quantity, and variety of products.

Third, Waterman (1988) emphasized consumer spending as a driving force for media development. According to Waterman (1988), large wealthy markets have greater consumer spending. Greater consumer spending leads to more developed media infrastructure, which in turn, increases audience demand, investment, productions and exports. The relationship between consumer spending and media development are empirically supported by researchers (Dupagne & Waterman, 1998; Jayakar & Waterman, 2000; Waterman, 1988, 1993, 2005; Waterman & Jayakar, 2000; Waterman & Lee, 2007; Waterman & Rogers, 1994).

Fourth, large wealthy countries have more capabilities in creating high-budget films. Using famous stars, recorded directors, sequels, special effects, and intensive marketing are common in the U.S. films. These strategies effectively differentiate Hollywood films, drive consumer demand, and enhance box office performance. The capability of the U.S. companies in bearing the soaring production and distribution cost is incomparable by other nations, and proves to be the greatest barrier for foreign competition (Marvasti & Canterbery, 2005).

Finally, large markets have less cultural discount in trade. Audiences have the tendency to prefer media products that use their own culture or language, due to language barriers (Wildman & Siwek, 1988) and cultural discount (Hoskins & Mirus, 1988) in media consumption. U.S. films enjoy less language barrier due to large English

populations worldwide. Cultural discounts also asymmetrically favor large, wealthy countries (Schulze, 1999, 2003). This is because products from large countries have larger potential markets.[6] Producers enjoy scale economies and are more likely to recoup investment at home and make a profit abroad. U.S. producers are also good at overcoming cultural discount by producing common denominator products with low cultural value (Hoskins & Mirus, 1988), as well as using localization strategies (Crane, Kawashima, & Kawasaki, 2002). Therefore, U.S. films are well-received worldwide.

Over time, the wide spread of Hollywood films further reduced the cultural discount. Researchers (Disdier, Tai, Fontagne, & Mayer, 2007; Schulze, 2003) indicate that cultural consumption is addictive: the more one consumes a particular product, the more one's ability to appreciate the products, the more one demands the product. This implies that cultural discount decreases with accumulation of consumption capital. As U.S. films are widely consumed at a global level, cultural discount for the films are further decreased. In contrast, foreign films are still widely resisted by the U.S. audiences because of low consumption experiences. Therefore, cultural discount between two countries are not asymmetric (Disdier, Tai, Fontagne, & Mayer, 2007). The cultural discount factor tends to favor the dominant films and disadvantages films from non-dominant cultures.

The importance of market size in determining trade directions has been tested empirically. The studies generally confirm market size as an important determinant of motion picture exports (Marvasti, 1994, 2000), market share of domestic films (Lee & Bae, 2004; Oh, 2001), and consumer movie spending and market share of film industries

[6] The potential markets for products from large countries are large home market with no cultural discount plus small foreign market with discount.

(Jayakar & Waterman, 2000; Waterman, 2005; Waterman & Jayakar, 2000; Waterman & Lee, 2007). In *International Trade in Art,* Schulze (1999) found countries with a higher GDP not only have higher volume of art trade, but also have higher art trade-to-total-trade ratio.

Industry structure and market characteristics

In addition, researchers have pointed out other competitive characteristics of the U.S. industry and market. For instance, Hoskins and McFayden (1991), using Porter's theory of competitive advantages (Porter, 1986, 1990), identified factors for U.S. success, such as first mover advantages, technological leaders in production, cost leaders resulting from vertical integration and economies of scale and scope, and a powerful global distribution network. Highly developed commercialized infrastructure and specialized financing service provides favorite investment conditions (Waterman, 1993). Competitive domestic market, a large pool of talented personnel, and diverse population yield products with high quality and a broad appeal (Hoskins, McFadyen, & Finn, 1997). Furthermore, the geographical concentration in Hollywood provides the U.S. film industry an easily accessible market for specialized services and labor pools at low cost, allowing the industry to enjoy high external economies of scale (Schulze, 1999).

The Political Economy Paradigm

Economic analysis provides a basis for understanding media industry and international trade. However, the analysis focuses mainly on profit and utility maximization of individuals, and ignores the important political and cultural implications of the media industry (Renaud, 1993). Furthermore, ascribing the U.S.'s success in the international media market to mere free market force is not confirmed by history.

Political economy studies social and power relations within the production, distribution, and consumption of resources (Mosco, 1996). It argues "pure markets, unencumbered by political intervention and regulation, do not exist and is impossible" (Maswood, 2000, p. 1). An important theory developed from political economic paradigm is the cultural imperialism thesis that emerged in the 1960s. According to the thesis, the U.S. cultural dominance is purposeful, with political and capitalist interest involved (Crane, 2002). The free flow of media products allows U.S. media corporations to control media production and dissemination in other countries. This, in turn, promotes American ways of life and social values, leading to American hegemony over other people's social, political and ideological lives (Schiller, 1969, 1976). Therefore, free trade is considered "the mechanism by which a powerful economy penetrates and dominates a weaker one," (Schiller, 1969, pp. 8-9) and thus, an instrument for cultural and media imperialism. It not only harms cultural industries in developing countries, but also reduces cultural diversity. From this point of view, cultural policy to prevent the harmful effects of free trade is needed.

The Process of U.S. Dominance

From the political economic perspective, trade dominance by the United States is not merely the result of competitive advantages or product appeal/quality, but also the result of complex interactions between political, cultural, and economic forces. For instance, Schiller (1969, 1976) considered U.S. media dominance the result of a purposeful and careful plan of the government, who wanted to promote U.S. television programs and films that disseminate American political, ideological and cultural values and used the media as a tool for mind-controling people in the other countries.

Historically, the rise and dominance of the Hollywood film industry in the 1910s were due to the partnership between MPEAA, the film industry's export cartel, and U.S. government (Segrave, 1997; Ulff-MØller, 2001). In the book *Hollywood's film wars with France: film-trade diplomacy and the emergence of the French film quota policy*, Ulff-MØller (2001) traced the key diplomatic history between France and the U.S. using government and industry archival documents. The study revealed the wide presence of diplomatic, economic, political and legal maneuverings during the history of Hollywood's foreign expansion. During the process, the State Department, the U.S. embassy, and the Department of Commerce worked together, providing government support "at the highest executive level" (Ulff-Møller, 2001). Similarly, Pendakur (1985) documented diplomatic support of the U.S. government in forcing India's government to relax import restrictions. Guback (1969, 1974) also outlined the U.S. government's legal, monetary, and financial assistance to the film industry during its international expansions, from the passage of Webb-Pomerene Export Trade Association Act of 1918,[7] Informational Media Guaranty Program of 1948, to Overseas Private Investment Corporation of 1971. Therefore, the role of the U.S. government in promoting its businesses can be widely observed.

The Consequence of U.S. Dominance

Scholars also worry about the long-term social-cultural impact of free trade, globalization, and U.S. media dominance. Cultural products reflect and promote producers' culture. Free trade allows transmission of western life styles and value

[7] The Webb-Pomerene Export Trade Association Act of 1918 legalized MPEAA export cartels and export collusions which was illegal domestically under Sherman Antitrust Act. This Act is crucial for U.S. overseas success, according to Ulff-MØller (2001) and Guback (1969, 1974).

systems, such as western commercialism and consumerism (Schiller, 1969, pp. 8-9). Therefore, the dominance of western/U.S. cultural product is translated into a new kind of Western colonialism or imperialism. Global spread of commercialized culture would also destroy the rich diversity of world cultures (Seo, 2005), alienate local cultures (Biltereyst, 1996), and lead to cultural homogenization or standardization (Crane, 2002).

Foreign cultural penetration also threatens national identity and cultural sovereignty (Seo, 2005). Lozano (1996) examined the effect of Mexico border youths' heavy exposure to the U.S. media on their self-perceptions and national identity. The study found that exposure to U.S. music and films moderately increased the degree of dissatisfaction of nationality and preference to be U.S. citizens among Mexico border youth. Since U.S. films were so dominant in Mexico youths' film consumption, the influence of foreign values and ideologies could be considerable. The study also implied that influence would be further increased with rising English language fluency.

The cultural imperialism argument has faced increasing criticism since the early 1990s (Jin, 2004). Prompted by the globally liberalized and commercialized media systems, media developed in many part of the world, resulting in emerging regional and national cultural industries, such as the industries in Latin America, India, and Korea (Thussu, 2007). This seems to challenge the imperialism argument. In addition, the acknowledgement of audiences' active role in selecting cultural proximate programming (Straubhaar, 1991) and interpreting western content (Liebes & Katz, 1990) also challenges the media effects advocated by cultural imperialism thesis and helps explain and predict a further flourishing of national/regional productions. Straubhaar (1991) stated development could happen asymmetrically. UNESCO World Culture Report

(UNESCO, 1998) also argued development resulting from media globalization could lead to greater diversity.

Under the above circumstances, some scholars prefer a multi-level (Straubhaar, 1996), multi-directional (Thussu, 2007) approach in analyzing global media structures and flows. For instance, Straubhaar (1996) argued development occurred at four different levels; global, regional, national and sub-national. Although the U.S. still dominated at the global level, growth at the other three levels could not be neglected. The result of media globalization would be regionalization rather than cultural homogenization (Straubhaar, 1996; Straubhaar, Fuentes, Giraud, & Campbell, 2002).

Similarly, Crane (2002) reviewed several cultural globalization models and suggested the global networking model as a useful tool in evaluating the roles and importance of regional cultural developments. According to Crane (2002), in the global networking model, there is no concentrated center. Cultural products flow from multiple directions, interact, and are mutually influenced. This leads to a "cultural hybridization" instead of cultural hegemony.

However, does cultural hybridization or regionalization conclude the cultural imperialism thesis? Many argued not (Iwabuchi, 2007; Schulze, 2003; Thussu, 2007). Cultural hybridization is the result of two underlying forces: glocalization and local globalization (the author). Glocalization is a globalization strategy that tailors "cultural products to local conditions" (Iwabuchi, 2007, p. 70). Investing in local productions, forming alliances with local partners through joint ventures, and producing using local cultural resources all help localize products. These practices do not reduce U.S. dominance, but help increase the dominance, as Iwabuchi (2007) argued.

At the same time, the hegemonic culture is increasingly integrated into local productions due to its increasing influences on non-U.S. media (Thussu, 2007). The influences are strengthened through consumption of U.S. media products, adoption of commercial operation and administration systems, financial investments, cross-border cooperation, as well as national integration into global networks (Iwabuchi, 2007),[8] until gradually the U.S. films become part of national culture (Schulze, 2003). The result is the production of hybridized version of local products.

For instance, according to Rego & Pastina (2007), Latin American Telenovelas borrow production formulas from the U.S. programs which talked about universal themes. Similarly, in Korea, the success of its domestic film industry is mostly explained by its structural transformation in production, distribution, and exhibition that models that of Hollywood (Seo, 2005). The result of the transformation is the production of Hollywood-styled Korean blockbuster films.

The process is self-enforced, driven by commercial interest. The process sometimes is also planned with the strategy of local globalization. Local globalization refers to the strategy of adapting local production for global distribution, or reframing national/local cultures for global consumers (Crane, 2002). The result is the production of globalized version of local products. In this process, the cultural values in local productions are often decreased.

Overall, the cultural imperialism process is "multi-faceted" (Sreberny-Mohammadi, 1997a, p. 51). Direct export of goods, adopting foreign capitals, production formulas, as well as organizational structures and business operation models all help

[8] Iwabuchi (2007) called Sony's purchase of Columbia Pictures an example of national integration into global networks.

institutionalize western commercial systems and commercialism cultural values and strengthen the influence of dominate cultures (Schiller, 1996; Sreberny-Mohammadi, 1997b). In addition, the export of religious, educational, language, travel and tourism, media and the transfer of technologies all help "laid the ground for the ready acceptance and adoption of mediated cultural products which came much, much later" (Sreberny-Mohammadi, 1997a, p. 51). Iwabuchi (2007) called glocalization and local globalization a "restructuring" (p. 81) process of media globalization in which the global media market was decentralized and dispersed, but the western dominance and the uneven transnational cultural flows were intensified. Therefore, Schiller (1991) said that although the cultural domination thesis had originally been formulated in the early 1960s, "the acknowledgement of and the struggle against cultural imperialism are more necessary than ever" (Schiller, 1991, p. 26).

Concluding Marks on the Two Perspectives

Collins (1993) argues both perspectives on trade in media products have value. The free market paradigm helps explain industry structure and trade flows (Maswood, 2000), but fails to account for the social and cultural impact of trade on importing countries. The media imperialism perspective acknowledges the economic and ideological impact of imported media, but ignores how media imports increase the diversity of choices available to consumers. A combination of the two perspectives would be helpful in cultural policy making, since it takes into consideration political, cultural, and economic forces (Collins, 1993; Maswood, 2000).

Should Culture Be Protected?

Based on the above two perspectives, arguments for and against cultural protectionism are also advanced**.** The debate focuses on different views of cultural products and different strategies that should be used to promote cultural development.

The Cultural Protection Rationale

Non-Economic Argument for Protection

Cultural researchers and policy makers argue that trade theories should not be applied to media products without accounting for their unique properties (UNESCO, 2006). Cultural products shape our view of the world (Hesmondhalgh, 2002). They are fundamental parts of people's life in a democratic society (Raboy, Bernier, Sauvageau, & Atkinson, 1994). The special role of cultural industries suggests a purely economic analysis may ignore important costs from trade in cultural products.

Preservation of cultural productions concerns national sovereignty and cultural identity. Culture is unique because it cannot be substituted by culture from another country (Diversity, 2004). Nations have the sovereignty to adopt policies that guarantee domestic cultural productions and exclude messages that threaten local cultures (Duarte & Cavusgil, 1996). This makes traditional theories of comparative advantage and specialization non-applicable to cultural industries.

Preservation of domestic cultures also concerns the diversity of world cultures (J. Kim, 2000). Unregulated markets naturally favor production concentration, multinational conglomerates, and mass-appeal products because they can maximize producers' profits. This will ultimately lead to homogenous products, reduced cultural diversities, and fewer

choices for consumers (Collins, 1993; Seo, 2005). In this sense, government intervention may be necessary to promote diverse productions and to increase consumer choices (Hoskins, McFadyen, & Finn, 1997).

Economic Argument for Protections

According to strategic trade theory, deviation from free trade may be beneficial, under certain circumstances (Maswood, 2000). The first case is when short-term protections lead to long-term gains, such as in infant industry protections. Protecting infant industry becomes important when economies of scale exists (Appleyard, Field, & Cobb, 2006). Trade protections allow late starters to expand operations until they realize sufficient economies of scale and become competitive. This argument, however, only supports short-term protections that would expire once the industry becomes competitive. It does not support protections for industries that are not true "infants."

Protections are also needed for industries that rely on protections for survival, such as the weak, declining, or dying industries (Pugel & Lindert, 2000). For instance, protections are essential when firms in small countries cannot compete head-to-head with large companies from larger countries. According to Marvasti & Canterbery (2005), trade barriers are determined endogenously in responding to growing U.S. exports. As previously illustrated, strong economies of scale and HME give large countries incomparable advantages in production and competition. The public goods nature of media products, and low incremental cost in production and distribution allow international U.S. sales at a lower-than-cost price, similar to dumping (Hoskins, Mirus, & Rozeboom, 1989). Producers in small countries, on the other hand, can not recoup production costs in the domestic market and must rely on additional support for existence.

This makes direct competition difficult, if not impossible. U.S. control of distribution networks makes competition even more difficult. Countries must resort to protections for survival and development. Therefore, the existence of economies of scale and HME adjust for protections in the media industry (Bernier, 2003c; Papandrea, 1998).

Strategic trade policies are also justified when some industries have strategic value, can generate positive externalities, or are critical to national interest (Maswood, 2000; Pugel & Lindert, 2000), such as in the case of cultural industries. Cultural industries produce national symbols and increase national pride. Cultural and media consumptions generate external benefits in strengthening national identity, increasing national pride, making viewers better informed citizens (Hoskins, McFadyen, & Finn, 1997). Therefore, governments have the sovereignty to guarantee domestic cultural protections. Cultural protections are further justified because of market failure. Because external benefits are not accounted for in calculating producers' revenues, producers do not have incentives to provide products that offer such benefits. Therefore, mere market mechanisms do not lead to productions that bring the most social welfare. In this case, government interventions can remedy the market failures in cultural productions.

Therefore, "showing free trade is better than no trade is not the same thing as showing free trade is better than sophisticated government intervention," as Krugman (Krugman, 2000, p. 23) has argued. The economic arguments for protections suggest trade barriers will help countries develop cultural industries if they lack natural competitive advantages (Hoskins, McFadyen, & Finn, 1997). The alternative of no protection means that less developed media industries may not be able to compete with foreign firms, leading to a loss of domestic cultural production and the associated artistic

and cultural benefits (Peltzman, 1976). This may lead to economic and cultural dependency on foreign media, reducing domestic control over cultural expression and government policy. Given the increasingly important role of the media in distributing knowledge, the arguments also suggest that protections will create more chances for general economic development.[9]

Counter Argument for Intervention

Criticisms of the Non-Economic Argument

Economists are generally skeptical of the arguments for cultural protections. They emphasize cross-cultural exchanges and markets with monetary and material incentives as the best mechanisms for cultural innovation and vitality (Seo, 2005). They also question the notion of national identity (Noam, 1993) and the role of cultural productions in reinforcing national identity (Bernier, 2003c). Noam (1993) referred national culture as the political tool of government to reinforce social norms, group loyalty, and state control. The notion of national culture ignores the differences among ethnic groups, social classes, and people of different ages and genders in tastes and preferences. Moreover, the impact of foreign cultural products on another culture is limited because consumers connect the foreign message from their own cultural backgrounds, according to the 1990 study of Katz and Liebes.

For profit and utility maximization purposes, the free market paradigm emphasizes consumers' rights as individuals more than the nations'. In this view, the

[9] Other common arguments for trade protections include producing tax revenue for governments, production of goods that are invaluable for national defense, improving the balance of trade, improving terms of trade, increasing employment, fostering national pride, and the presence of external benefits (Hoskins, McFadyen, & Finn, 1997).

freedom of people to express opinions and make choices without intervention is a more fundamental human right in democratic societies. Trade protections deprive people of the right to enjoy diverse cultural products from other countries. Therefore, trade protections are also criticized as reducing cultural diversities (Collins, 1993; Noam, 1993).

Criticisms of the Economic argument for protections

Infant industry argument. In general, it is difficult to identify the long-term growth potentials of an industry (Appleyard, Field, & Cobb, 2006). If protection is granted to an industry that is not a "true infant," the cost can be extremely high. The media industries in many countries are not true infants. Furthermore, even if an industry has the potential to grow, according to Wildman and Siwek (1988), competition will only help the industry become healthy. Protections may end up being costly and long-lasting, without actually helping the industry.

Externality argument. The existence of externality is elusive, hard to verify and to measure (Pugel & Lindert, 2000). It is also difficult to evaluate whether the benefits of trade protections are worth the cost (Krugman, 2000). Difficulties also lie in identifying and implementing effective policies (Pugel & Lindert, 2000). In the media industry, protections are often criticized, leading to productions with no external value (Hoskins, McFadyen, & Finn, 1997; Wildman & Siwek, 1988).

Strategic theory and the need for protection. According to Noam (1993), comparisons between the marginal cost of distribution for foreign media products, and the total cost of production for domestic products, is inappropriate. Foreign and domestic media are not close substitutes, and therefore do not compete directly with each other.

Therefore, the argument for protections due to U.S. competition and domination is not justified.

Protections are also unnecessary because, based on the *product life cycle* theory, the U.S. dominance in media productions will eventually wane and other nations will catch up. Trade barriers will slow the process by blocking cultural exchanges that are essential in promoting the development of domestic media industries (I. Pool, 1977). They also negatively affect domestic cultural industries by reducing the growth of sales, leaving consumers with fewer choices, and shrinking industry infrastructure and finances (Collins, 1993; Waterman, 1988, 1993; Wildman & Siwek, 1988; Noam, 1993). In the absence of trade barriers, however, local and regional media productions will increase, due to the development of new production technologies (Waterman, 1988, 1993; Wildman, 1995; Wildman & Siwek, 1993). This has been observed in the emergence of regional television productions in Latin America (Antola & Rogers, 1984; Straubhaar, Campbell, & Cahoon, 1994; Straubhaar & Viscasillas, 1991; Waterman, 1988, 1993; Waterman & Rogers, 1994). Therefore, the dominance of U.S. media products is not a concern in the long-run. Eventually, cultural production will shift from one center to multiple centers, and the one-way flow of trade will be replaced with multi-directional flows (Pool, 1977).

Counter-Protection Rationale

The cost of protections. Economists also evaluate protections based on a calculation of cost and benefit. According to Pugel and Lindert (2000), the cost of protections can be very high if measured as percentage of protections. These include the cost of administering and enforcing protections, the cost of losing incentive for

innovations and developing new technologies. Consumer welfare is also reduced by consuming less variety at higher prices. The cost is especially high if trade restrictions provoke retaliation and trade war by trade partners, which is harmful to all countries involved (Pool & Stamos, 1990; Pugel & Lindert, 2000).

Protection of interest group. Protections are also criticized as benefiting special interest groups. According to the capture theory of regulation (Peltzman, 1976), trade protections are often designed to benefit special interest groups at the expense of the national interest. This is because politicians are under pressure from various interest groups whose support is essential for them to win an election/reelection. Therefore, politicians are "captured," and have the tendency to make regulations favorable to the industries' interests. In this case, the cost of protections would be high, but the benefit would be low.

Benefit from Opening Market. On the other hand, the benefit from opening market is high. According to Oatley (2006), a 2005 study of the World Bank found that eliminating trade barriers and increasing international trade, since the Second World War, dramatically decreased the world's transportation and telecommunications costs, raised national income and growth rate, and reduced poverty and global inequality in poverty. In the media industry, commercialization and privatization help improve media infrastructures, drive consumer demands and financial investments (Waterman, 1988, 1993; Wildman, 1995; Wildman & Siwek, 1993).

Difficulty in protection. Finally, increasing technological and economic integrations make restricting media import restrictions increasingly impractical. Methods to protect a specific national culture will not work when consumers can access media

using multiple channels and technologies. Further, transaction of media products involves selling of both physical and intangible products (Duarte & Cavusgil, 1996). In international trade, a tariff is easy to count when film reels pass the border, but taxing on Internet movies is difficult. With media content increasingly represented by bits and bytes through digital technologies, the difficulties of monitoring intangible transactions rise.

Effectiveness of Protectionism Policies

Argument over cultural protections also includes the debate on the impacts and effectiveness of protections. Theoretically, welfare implications of protections differ with different protection instruments. According to the "*Specificity Rule*," policy tools that are closest to the cause of distortions are the most efficient (Pugel & Lindert, 2000).

Trade Protection Instruments and Their Welfare Effects

Historically, both industrialized and developing countries have applied various trade barriers (TB) to protect their domestic industries. Commonly used methods of trade interventions include tariff and non-tariff barriers (NTBs).

Tariff

A tariff is a monetary tax imposed on imported goods at the border (Appleyard, Field, & Cobb, 2006). Generally, a tariff benefits import competitors at the burden of consumers. Consumers pay higher prices for imported goods due to tariffs but government gets tax revenues. Tariff barriers have been greatly reduced as a result of multiple trade negotiations. Current trade negotiations have shifted to NTBs, which are more complicated, more common in cultural trade, and more concerned by trade partners.

NTBs in media industry include quantitative restrictions (QRs), subsidies, investment and service barriers, government censorship, licensing, monopoly, and taxes (Acheson, Maule, & Filled, 1989; Hoskins, McFadyen, & Finn, 1997; MPAA, 2006).

Quota

Quota is the most common quantitative restriction method. Import quota sets the quantity limits allowed for entry into a country, normally by year (Pugel & Lindert, 2000). Content quota requires a certain percentage of content be of domestic origin. For instance, audiovisual quota is used in the film (as screen quotas), television, and radio sectors (as broadcast quotas), which requires a minimum of days or proportions of time devoted to domestic films/programs, or restrict the days or proportions of time for imported films/programs (Bernier, 2003b). Screen quota is the oldest form of quantitative protections and, as noted in Chapter 2, is currently allowed under Article IV of GATT, although subject for further negations for elimination under GATS.

Quota is considered a more "…damaging form…of government intervention…" (Bernier, 2003b, p. 8). Economically, quota leaves consumers with products of less desirable, less variety, or at higher costs (Pool & Stamos, 1990)**.** Government gets no revenue from quota. The benefit goes to domestic producers (Pugel & Lindert, 2000) or import licensees (Pool & Stamos, 1990). Productions are not higher with quotas (Pool & Stamos, 1990). Depending on the methods government used to grant import licenses or define local productions, quota can be costly, subjective, and not efficient (Pugel & Lindert, 2000).

Subsidy

Subsidy provides direct funding for domestic productions. The funds are normally from government revenues, industry taxes, or loans, grants, or prizes (Hoskins, McFadyen, & Finn, 1997). According to Bernier (2003a), subsidy was exempt from MFN treatment under GATS (Annex on Article II exemptions). Therefore, unless members make specific commitments, they remain free to subsidize their audiovisual industry. In practice, most countries have subsidies on audiovisual productions and services. Subsidies are most visible in western European countries, such as in France and Sweden (Toepler & Zimmer, 2002). Even for countries that make commitments to open audiovisual sectors, the majority of them reserve subsidies from the commitments, including the U.S. (Bernier, 2003a).

In international policies, subsidy is generally preferred to tariff and quota because the impact of subsidy on imports is smaller compared to tariff and quota (Tomooka, Kanno, & Kobayashi, 2002). Subsidy also leads to fewer consumer losses because they influence only producers. According to the *"Specificity Rule,"* a subsidy directly supports domestic productions and is a more positive method to promote national industries (Collins, 1993; Renaud, 1993). However, countries differ in their capacities to subsidize industries. Developing countries may suffer from limited financial resources to promote their cultural industries (Bernier, 2003a).

Service Restriction

Service restrictions in trade exist in many countries**.** According to Marvasti and Canterbery (2005), service barriers are especially widespread in North America, Western Europe and South America. Commonly existing service barriers include dubbing

restrictions, local printing requirements, distribution restrictions, etc. But they are less visible and often transparent (Appleyard, Field, & Cobb, 2006). Therefore, the welfare effects are hard to analyze.

Trade-Related Investment Measure

Investment restrictions consist of various policies that restrict foreign investment within a country, such as foreign ownership restrictions, performance requirement,[10] and restrictions on remittance. Arguments for investment/ownership restrictions mainly lie in the belief that enterprises controlled by local investors would more likely generate local products (Bernier, 2003b). Media industries also play too important a role in democratic societies to allow for foreign ownership in production. Under GATS, countries that reserve the audiovisual sector or foreign investment from free market access can exercise control over foreign investment activities. However, countries that have made commitments without restrictions, or countries that join the WTO after the signing of GATS can no longer set up the restrictions concerning market access for foreign investors (Bernier, 2003b).[11] The welfare effects of investment restrictions are also hard to analyze. Countries need to balance the needs for foreign investment capitals and the need to protect domestic industries.

In addition to the above methods, government can also establish entry barriers through various tax policies, licensing requirements, censorship, or controls of import distribution (Hoskins, McFadyen, & Finn, 1997). They can also control foreign entry

[10] Performance requirement mandate foreign investor to export certain percentage of output, or require certain percentage of domestic inputs, according to (Appleyard, Field, & Cobb, 2006)

[11] Most developed countries reserve audiovisual industry from market access or reserve investment restrictions on media sector even if commit free market access in the sector, including the U.S. See (Bernier, 2003b) for details.

through government procurement provisions,[12] administrative classification,[13] or through trading preferences such as regional trading blocs (Pugel & Lindert, 2000). Overall, the economic analysis on the welfare effects of cultural protectionisms need to be evaluated based on a combination of factors and on the balance of cost and benefits (Appleyard, Field, & Cobb, 2006).

Economic Literature on the Impact of Trade Protectionism Policies

Research on the impact of trade restrictions is abundant in economics (Bureau, Chau, Fare, & Grosskopf, 2003; Chau, Färe, & Grosskopf, 2003; Dardis, 1986; Dardis & Cooke, 1984; Kalirajan, 2001; Lee & Swagel, 1997; Nwaokoro, 2008; Syropoulos, 1992; Tyers, 1985; Winkelmann & Winkelmann, 1998). Added to the literature are studies on the effect of trade liberalization (Boyd, Doroodian, & Abdullatif, 1993; Cramer, Wailes, & Shui, 1993; Heien & Sims, 2000; Jensen & Tarr, 2008; Mehta, 2000; OECD, 2003; Santos-Paulino, 2002; Tekle, Kameyama, & Ito, 2008; Zhua, Buongiorno, & Brooks, 2001) and openness (Dardana, 2004; Rattso & Torvik, 1998). These studies span various agricultural and manufacturing industry sectors.

Mixed results are derived from these studies. For instance, some research found trade restrictions policies mainly increased the cost for food distribution service, (Kalirajan, 2001) and consumers (Dardis, 1986; Dardis & Cooke, 1984). Winkelmann & Winkelmann (1998) also found that quotas negatively affected term-of-trade. Dardana (2004), however, found fewer trade restrictions lowered the speed of economic growth.

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[12] Government Procurement Provisions restrict purchase of foreign products by home government agencies and give preferences toward domestic suppliers.

[13] Administrative classification refers to tariffs on imported goods differ by type of good, the actual tax charged vary according to classification.

Syropoulos (1992) also demonstrated that, in certain circumstances, quotas can increase competition and welfare.

Research on trade liberalization found tariff liberalization brought little welfare impact on the lumber trade (Boyd, Doroodian, & Abdullatif, 1993) and the trade of forest products (Zhua, Buongiorno, & Brooks, 2001). Removing of QRs was found related to increased imports in India (Mehta, 2000). Relaxation of local content requirement and foreign investment restrictions, however, were found leading to welfare gains in the oil and gas industries in Kazakhstan (Jensen & Tarr, 2008). Liberalization of trade was also found positively related to export performances (Santos-Paulino, 2002).

Therefore, general conclusions are hard to make from existing literature due to the differences in measurements, circumstances, and focuses of trade policy aspects. Although, theoretically, free trade will increase total output, improve quality, and lower prices, the effect may differ by country and by industry. According to Hufbauer & Warren (1999), opening market generally favors firms with competitive advantage at the expense of others. Study of Tomooka, et al. (2002) also confirmed that restrictive trade policies made small countries less well-off, but could be beneficial for large countries under certain circumstances.

Effectiveness of Protectionisms in the Media Industry

An empirical study of Marvasti (1994) found trade barriers (TB) effective in some media industries. For instance, the study found quantitative restrictions (QR) increased net export of books. Subsidies also raised export of books and pre-recorded music. Another study of Marvasti (2000) found U.S. tariff protections effectively improved the

film industry's trade surplus. However, as TBs were not endogenously determined in the US, the implications of the result for other countries may be limited.

Francois & Ypersele (2002) indicated trade restrictions in the film industry could support heterogeneous productions rather than Hollywood-styled productions that appealed to the mass audiences. However, taking consideration of audience demand and competitions, the heterogeneous productions may not guarantee a space in the markets. Therefore, the effect of trade restrictions, or the effectiveness of trade restrictions, in achieving the stated goals in the film industry is not clear. Marvasti & Canterbery (2005) argued protections were endogenously determined in the film industry, i.e., the protections were established due to U.S. large-scale penetration. The protections were mostly ineffective due to the formidable competitions from the U.S. films, with its huge production scale, production and marketing cost, and tight control of distribution networks. Hanson & Xiang (2006), however, examined U.S. motion picture export to 33 Europe countries and found policy trade barriers effectively raised trade cost, and therefore reduced film imports from U.S.

Therefore, findings from the studies are also inconsistent, varying by industry sectors and circumstances. Debates on the effectiveness of protectionisms also exist concerning which policy instrument should be used or is more effective.

Quota

In the audiovisual industry, quotas are mostly criticized as ineffective. First of all, quotas affect competition only if set higher than the share of domestic products without protection (Hoskins, McFadyen, & Finn, 1997). Otherwise, quotas will not help domestic producers such as the failure of French screen quotas, according to Ulff-MØller (2001).

Second, administration of the quota policies can be complex and costly. One difficulty exists in classifying national films. In practice, the nationality of films can be defined using three methods: by nationality of inputs, cultural identity of content, or by financial presence (Chiang, 2007). The first method defines a product by the nationality of its key personnel. This method can hardly ensure product contains national content or external cultural values, as is the case in Canada (Acheson & Maule, 1990, 1992; Acheson, Maule, & Filled, 1989). Increasing international co-production arrangements make the nationality of products even harder to define. The second method defines nationalities of products by content. This leads to content analyses of the products, which are more subjective, less transparent, and more easily being used as a censorship tool (Chiang, 2007). The last method determines nationalities of products by financial presence. This mostly favors U.S. products, since U.S. capitals are presented worldwide.

Third, the impact of quotas depends on their implementation and enforcement. Theater owners or broadcasters worry more about profits than product externalities. Without strict monitoring mechanisms, they tend to choose imported films that attract more viewers and have higher profit potentials. They also tend to show domestic programs with low cultural values, or at non-peak hours. Therefore, loose enforcement will allow them to sidestep the quota requirements. This is the case in Korea when screen quotas were not effectively enforced before 1994, according to Lee, Kim and Kim (2008). This is also the case in EU when the "where practicable" clause makes the broadcasting quota requirement ineffective in practice (Middleton, 2003). [14] In many countries, it is

[14] The European Television without Frontier Directive ("Directive") requires members to reserve, "where practicable," 60 percent of prime time for European programming. The "where practicable" clause is considered as a loophole which makes enforcement of the quotas optional in practice.

also hard to impose sanctions because domestic productions are not sufficient to meet audience needs (Segrave, 1997).

Fourth, whether quotas help increase the value and quality of local productions is not clear. Critics argue that quotas often lead to production of quota-quickies (low-quality, low-cost films) with low cultural and external values (Hoskins, McFadyen, & Finn, 1997; Wildman & Siwek, 1988). Archeson et al. (Acheson & Maule, 1990, 1992; Acheson, et al., 1989) argued the costly Canadian content rules failed to bring in quality domestic productions. A similar case occurred with film quotas in Europe in the 1920s, according to the above authors. Further, the restricted audiences for foreign programs do not necessarily transfer to domestic programs (Crane, 2002), because "even a single film may have the ability to saturate the market" (Ulff-Møller, 2001, p. 138). Theater owners can make extended use of limited titles, thus making import quotas not effective (Segrave, 1997).

Finally, quota enforcements become increasingly impractical with multiple distribution technologies (Hoskins, McFadyen, & Finn, 1997). Quotas are more effective when audiences have fewer choices (Acheson & Maule, 1992). New ways of distributing and consuming media contents give viewers more power of control and selection, and thus limit the effect of quotas (Middleton, 2003).

Instead, quotas are criticized for restricting domestic media development by cutting financial support for media infrastructure (Wildman & Siwek, 1988). Long-term use of quotas creates a downward development cycle within an industry and reduces domestic productions (Waterman, 1993). Quotas are also blamed for decreasing

consumption diversity (Cowen, 1998) and leading to the rise of piracy (Wildman and Siwek, 1988).

Empirically, the effectiveness of quota is not clear. General trade restrictions seem lead to less program diversity. For instance, Richardson (2006), using a two-station model, found quotas led to less diversity in radio stations programming. Similarly, on a two-country analysis, Rauch & Trindade (2006) found restrictions in trade resulted in products that imitated goods of dominant cultures, and therefore reduced product diversity in the long-run. According to Seo (2005), the successful Korean films did not lead to culturally diverse products, but led to Korean films that modeled after Hollywood blockbusters.

Several studies found television quotas failed to increase domestic productions (Peltier, 1999) or decrease imports from the U.S. (Dupagne & Waterman, 1998). For example, Dupagne & Waterman (1998) examined 17 Western European countries and found no link between the existence of television program quotas and television fiction imports from the U.S. Peltier (1999) found French television quotas ineffective in increasing production and consumption of French and European television programs. Mixed results were found for radio quotas in the same study.

Two studies on the radio industry found quotas highly related to local productions. For instance, Mason (2003) found the Australian radio quota has increased local productions since 1942. On the other hand, liberalizing quota policy in New Zealand reduced local music productions from 1996 to 2001.[15]

[15] Also refer to Bernier (2003c) for the study of Peltier (1999) and Mason (2003).

Among the few studies on the impact of regulatory factors on the film industry, Lee & Bae (2004) examined 20 sample countries and found screen quotas not related to the domestic film's SSR. S. Y. Lee, et al. (2008) found the effectively enforced screen quota could not explain Korean films' improved performance in the box office. Therefore, the limited studies seem to indicate that screen quotas are not effective in protecting or promoting domestic media industries.

Subsidy

As previously stated, according to the *"Specificity Rule,"* the policy tools that are close to the source of distortions are usually considered more efficient (Pugel & Lindert, 2000). Many scholars (Collins, 1993; Noam, 1993; Rauch & Trindade, 2006; Renaud, 1993) favor subsidy as a more positive and direct method to spur productions. Renaud (1993) also argued that quotas would only be efficient when accompanied by subsidies.

In practice, however, the effect of subsidies depends. The criteria for granting subsidies are crucial. As with quotas, subsidies may not guarantee the production of programs with quality and external benefits if awarded based on national origin. Standards such as producers' records or artistic merit also potentially discourage competition, innovation, and reduce diversity (Cowen, 1998). The efficiency of subsides also depends on government efficiencies in delivering the subsidies. Political corruption and bureaucratic inefficiency can harm the mechanism (Crane, 2002). With increasing Hollywood co-productions, subsidies may also end up benefiting foreign investors (Cowen, 1998; Hoskins, McFadyen, & Finn, 1997).

Subsidies are also criticized for reducing producers' motivation to work efficiently (Crane, 2002). Subsidized films sometimes do not ensure exhibition

opportunities and box office success. One empirical study (Bagella & Becchetti, 1999) examined the box office performance of Italian films produced between 1985 and 1996. The study found subsidized films had a significantly lower number of admissions than non-subsidized films.

Problems also exist with other protection methods. For instance, tax incentives do not guarantee the production of programs with external benefits. Entry barriers and licensing conditions do not stimulate productions (Hoskins, McFadyen, & Finn, 1997). Investment/ownership restrictions also do not necessarily lead to productions with national cultural value and external benefit.

Effects of Changing Policies

Despite the above empirical findings, several cases prove interesting. The first case is Korea. Korea is one of the few countries that has successfully resisted Hollywood dominance over the past decades (Jin, 2008). Many contribute Korea's film success to government support and the use of screen quotas (Bernier, 2003b; Thussu, 2007b), although existing empirical tests (Lee & Bae, 2004; Lee, Kim, & Kim, 2008) fail to establish the link between screen quotas, domestic film's market share, and box office performances, as indicated earlier. Others argue that Korea's success is due to the free market economy (Seo, 2005) and the open-up policy (Y. Kim, 2007) that allows complete transformation of the industry, or to a combination of open market and protective trade policies (H. Lee, 2008). Whatever the cause(s), the cut of screen quotas by half in 2007 seems related to a falling market share for Korean films a year later (Jin, 2008).

Similarly, liberal cultural policies seem harmful for several other countries, including Mexico, New Zealand, and Canada. For instance, as mentioned in the previous

chapter, Mexico repealed screen quotas in 1994 in accordance with Mexico-U.S. BIT and the following NAFTA. Even with screen quotas reintroduced in 1997 (drop from 50 percent to 10 percent), the policy change proved destructive for Mexican film industry (Jin, 2008; Lee & Bae, 2004).[16]

Canada is another victim of NAFTA. Under the context of wider economic integration within North America, the film market is quite open to foreign investments, causing the theatrical exhibition business to actually be controlled by U.S. capital (Martin, 1996). In 2002, Canadian domestic films had a market share of 1.4 percent due to Hollywood's massive penetration (Oh, 2001).

During the Uruguay Round of trade negotiations, New Zealand committed to not use QRs in its audiovisual sectors (Bernier, 2003c). This resulted in a great reduction in market share for domestic broadcasting content, even with subsidies. New Zealand attempted to reintroduce broadcasting quotas in 2001, but was unable to do so under the WTO agreement.

Empirically, Huhmann & Saqib (2007) reported the result of ending protective policies for Canadian magazines since 1999 when the government decided to open the advertising market under pressure from the WTO and the U.S. The study found leading domestic competitors lost market share, not to leading importers, but to the thriving smaller magazines targeting niche audiences. This seemed to indicate an increase of product diversity with easing of protections. However, it is not clear whether domestic industries, large or small, can sustain the long-term competition from foreign imports.

Summary of Current Literature

[16] Its annual production dropped from 100 in 1992 to 3 in 1998, and 14 in 2003, according to Jin (2008) and B.K. Lee (2004).

Overall, empirical studies on the impact and effectiveness of protectionism are limited, especially on the theatrical film industry. Further, results from the studies are inconsistent. Based on a small number of sample countries, these studies mostly do not incorporate the time variance (Disdier, Tai, Fontagne, & Mayer, 2007). Existing studies mostly concentrate in European countries (Dupagne & Waterman, 1998; Hanson & Xiang, 2006; Lee & Bae, 2004; Oh, 2001) and on U.S. exports (Dupagne & Waterman, 1998; Hanson & Xiang, 2006). The small sample sizes (17 in Dupagne & Waterman, 1998; 20 in Lee & Bae, 2004, and 33 in Hanson & Xiang, 2006) violate the sample to variable ratios of 15:1 normally recommended for regression analyses (Stevens, 1992), which limits the reliability and generalizability of the studies.

The effects of trade protections also depend on how the protections are designed and implemented. Studies using dummy variables as trade barrier indicators (Dupagne & Waterman, 1998; Lee & Bae, 2004) did not take into consideration particular policy specifications and implementations. This may also limit the explaining power of the existing research.

Studies such as that of Lee and Bae (2004) were mainly concerned with how cultural protections increase a country's domestic media production. The effects of protections on a country's participation in international trade, and how barriers affect the diversity of domestic media consumptions remain unexplored.

Chapter Summary

Review of existing literature indicated that market force and free trade will benefit cultural productions with economy scale and scope. This would put countries without

competitive advantages in danger of their own productions. In this sense, trade protections were desirable to protect cultural expressions and national cultural identities.

However, economists who advocate the free market paradigm normally wanted to apply pure economic theories and free trade models to media trade. These scholars emphasize the negative impact of trade protective methods in limiting the development of media industries. However, media products produce symbolic meaning and cultural values far beyond pure economic analysis and market standards. That means that cultural policies have wider concerns that are beyond the economic analysis.

Despite the debates on cultural protectionism, the welfare implications of various trade protection methods are not clear. Empirically, studies on the impact and effectiveness of protectionism are extremely limited, especially on the theatrical film industry. They are based on small sample countries, use methodologies that do not consider the specification of trade protection techniques, and provide inconsistent results. These studies also do not incorporate the time variance, and therefore cannot answer whether trade protections are less effective over time. In addition, evaluation of the impact of trade protections should also be multi-dimensional. Therefore, further study exploring the function of cultural protections would have both practical and political implications.

Based on the current literature, this study aimed to further explore the effect and effectiveness of trade protection techniques. A detailed research questions and methodology for carrying the research are reported in the next chapter.

CHAPTER 3 METHODOLOGY

Overview

A review of existing literature on the effect of trade protectionism was used to inform the researcher of the research design for the current study. Based on previous research, this study investigated the effect and effectiveness of various trade protection technologies. The following chapter provides detailed research design, including research questions, hypotheses, and methodologies used to conduct the research.

Research Questions

This study examines the impact of various trade protective policies on the development and competitive status of national film industries. Questions based on criticisms of trade barriers are:

RQ1: How do policy trade barriers affect the performance of a country's domestic film industry?

Since the possible effect of trade barriers on a country's domestic film industry may fall into several aspects, including both its effect on domestic film productions and national and international competitiveness, the research question was further divided into several subset questions:

RQ1a: Do trade barriers improve a country’s domestic film production volume?

RQ1b: Do trade barriers improve domestic film’s market share?

RQ1c: Does the use of trade barriers affect domestic film exports?

The second research question examines the possible link between trade barriers and the operation and investment scale of national film industries:

RQ2: How do trade barriers affect film industry's operation scale and financial input?

RQ2a: Do trade barriers reduce the operation scale of domestic film industries?

RQ2b: Do trade barriers reduce countries' investment on domestic film production?

The third research question explores the possible effect of trade barriers on audiences' film consumption in a country. It asked:

RQ3: How do trade barriers affect a country's film consumption?

The research question was subdivided into three questions:

RQ3a: Does the use of trade barriers affect the overall volume of films that audiences consume?

RQ3b: Does the use of trade barriers affect the variety of films supplied in the market?

RQ3c: Are there any relationships between the use of trade barriers and a country's motion picture piracy activities?

The fourth question examines the effects of different protective policy instruments and asked:

RQ4: Do various trade protection techniques vary in their effects on the development of national film industry? Which protection method(s) is (are) more effective?

The final research question addresses the criticism that trade barriers are not

effective and are obsolete in the new technological environment. It mainly asked:

RQ5: Does the effectiveness of trade barriers in protecting domestic film industries decrease with the development of multiple film distribution technologies?

Answers to these questions will shed light on the current debates over cultural protectionism and trade liberalization under the changing media environment. The studies also tried, hopefully, to offer constructive input for nations who are forming strategic action plans relating to cultural development.

Hypotheses

Output performance

Hypothesis 1 examines the effects of trade barriers on the output performance of a country's film industry. Researchers (Collins, 1993; Noam, 1993; Waterman, 1993; Wildman & Siwek, 1988; 1993) have expressed doubts that quotas would increase domestic television productions and sales, arguing restricting television imports limits financing for domestic television infrastructure. These arguments can be applied to films. Wildman and Siwek (1988) argued that trade restrictions cause a "downward spiral" (p. 124) in film and television productions, revenues, and employment. Empirical studies found that quotas did not increase the market share of domestic television productions (Dupagne & Waterman, 1988) and market performances of films (Lee & Bae, 2004; Lee, Kim, & Kim, 2008). Subsidies were also found not helpful in spurring domestic film admissions in France (Bagella & Becchetti, 1999). Hypotheses 1a and 1b state:

H1a: The use of trade barriers is negatively related to a country's domestic film production volume.

H1b: The use of trade barriers is negatively related to the market share of a

country's domestic films.

Trade restrictions may increase a country's negotiation powers over international transactions. However, these restrictions can also lead trade partners to take retaliation measures, which will hurt both parties involved. One consequence of such retaliation would be a reduction in export income (Appleyard, Field, & Cobb, 2006). Although several previous empirical studies have directly (Marvasti 1994, 2000), or indirectly (Hanson & Xiang, 2006), examined the relationship between trade protection and trade surplus, [17] the impact of a country's trade barriers on its film export, however, is not tested. Hypothesis 1c tests the relationship between trade barriers and a country's export performance in films, which is not examined in previous literature:

H1c: The use of trade barriers is negatively related to a country's film export.

Operation Scale

Trade barriers are criticized for reducing the financial input in film productions and reducing the overall scale of operation of a country's film industry (Wildman & Siwek, 1988). Hypothesis 2 examines the relationship between trade barriers and their links with a country's film operating and financing scale.

H2a: The use of trade barriers is negatively related to the operation scale of a country's film industry.

H2b: The use of trade barriers is negatively related to a country's financial input in films.

[17] An empirical study of Marvasti (1994) found TB effectively promoted exports for books and recorded music industry. The U.S. tariff protection was also found effectively improving the industry's trade surplus (Marvasti, 2000). Hanson & Xiang (2006) tested the effects of trade barriers on resisting U.S. film export and found policy barriers from European countries helped reducing U.S. film export revenues.

Consumption

Hypothesis 3 explores the possible impact of trade barriers on film consumption. Scholars (Collins, 1993; Wildman and Siwek, 1988) argue that trade protections hinder cultural diversity and deprive people of the right to enjoy diverse cultural products. Renaud (1993), however, argues that competition does not necessarily improve consumer choices because unregulated markets tend to be dominated by a few companies producing homogeneous programs. Moreau and Peltier (2004) found that countries with strong public support for domestic film industry had higher diversity in film production and consumption. Hypothesis 3a looks at the relationship between trade barriers and the quantity and variety of programs audiences can enjoy.

H3a: The use of trade barriers is negatively related to the quantity of films people consume in a country.

H3b: The use of trade barriers is negatively related to the variety of films people consume in a country.

Wildman and Siwek (1988) argued that trade restrictions, especially quantitative restrictions, in motion pictures and television programs restricted audience consumption and led to high video piracy activities. Study of McCalman (2005) however, showed that piracy enhanced the diffusion speed of new movies, and therefore indicated a link between piracy and satisfied audience demand. Therefore, the links among trade restrictions, consumption satisfaction, and piracy are not clear. The above two hypotheses on consumption volume and variety may shed some light on audience satisfaction, the actual measure of audience satisfaction and worldwide comparison is not currently

available. For that reason, hypothesis 3c tests only the relationship between protection policies and piracy activities, and it states:

H3c: The use of trade barriers is positively related to piracy of films in a country.

Effectiveness of Different Protective Policies

The fourth question compares the effects of various protective policy instruments. As previously illustrated, researchers (Collins, 1993; Noam, 1993; Rauch & Trindade, 2006; Renaud, 1993) mostly support subsidy as a more positive and effective approach than quota in promoting film productions. Some (Syropoulos, 1992) consider subsidy plus quota as a combined method more effective than quota alone. Empirical studies comparing the effectiveness of different policy methods, however, do not currently exist. The research question of this study is explorative in nature. Therefore, no hypotheses are made.

Effect over Time

The development of new distribution technologies multiply the ways that media content is distributed. Media consumption is more readily available using techniques such as the Internet and satellite. Under this context, the effectiveness of using traditional trade barriers to restrict media distribution and media access may seem impractical and ineffective (Waterman, 1993). The final hypothesis tests the effectiveness of trade barriers over time.

H4: The effectiveness of trade barriers in improving domestic productions decreases with the development of new distribution technologies.

Defining Variables

The study examines impacts of policy trade barriers. It identified several trade protectionism measures currently applied in motion pictures industries and investigated the impacts of these measures on the development of the motion picture industry. The unit of analysis is individual nations engaged in international trade. The independent variables are the regulatory trade barriers being utilized across nations. The study also involved various dependent and control variables. Details on these variables and data sources were discussed as follows.

Independent variables

TB Indices

Previous studies (Dupagne & Waterman, 1998; Lee & Bae, 2004) used dummy variables to indicate whether trade barriers exist in a certain country. The dummy-variable-method simplified the analysis process, but excluded both the quantitative and qualitative information of trade barriers. The current study included both the quantity and quality information of trade barriers for each country. This allows for a measure that not only reveals the existence of trade barriers, but also the degree of protections trade barriers grant. Marvasti & Canterbery (2005) constructed trade barrier indices for 33 countries in the early 1990s. The current research followed the same method as used by Marvasti & Canterbery in the above-mentioned study. It created two trade barrier indices, TBN and TBI, for each country as indicators of the regulatory trade barriers. TBN is the numerical index that shows the number of trade barriers to U.S. film exports in each country. TBI is a qualitative index that specifies the degree of protections from U.S.

export through the trade barriers. The lower the number of the TB indices is in a country, the more open is its film market.

Information on TB in various countries concerning the film industry was gathered from the annual report of Motion Picture Association of America (MPAA). The report contains descriptions of various trade restrictions on U.S. filmed entertainment industry existing in various countries. The MPAA reports from 2004-2007, are the most recent reports that are available for the study.

Method for Calculating TB Scores

Content analysis was conducted in order to calculate the trade barrier (TB) scores. MPAA reports contain both quantitative and qualitative information on trade barriers (TBs). Sorting through the information, however, can be very complex and time-consuming, since the reports are mainly descriptive in nature. Data needs to be extracted by careful reading of the text in each section of the reports. The reports also cover a wide range of TBs, for which the details change from year to year. For instance, the screen quota in Brazil was 28 days per year, per screen before 2003. The quota changed to 35 days in 2003 and an average of 63 days in 2004, but varying by the number of screens in theater or theater complex (1-5 screens, 47.6 days; 6-7 screens, 63 days, 8-11 screens, 48.3 days). This makes quantification and qualification of the regulation tricky and risky. Judgments on the qualitative nature of the information for each country are especially difficult and run the risk of being subjective. Final evaluations were made based on careful reading of the details of regulations. A scale was used to determine the degree of the restriction. In most cases, several rounds of reading and scaling were conducted until

final agreements were reached. In cases where decisions were hard to make, the researcher had several other readers to read the text and compromised their evaluations.

The MPAA reports group the regulatory trade barriers from various countries into 10 categories: import policies, standards-testing-labeling-certification, government procurement, export subsidies, lack of intellectual property protections, service barriers, investment barriers, anticompetitive practices, electronic commerce, and other barriers. Detailed descriptions on these categories can be found in Figure 3-1.

1. Import Policies (e.g., tariffs and other import charges, quantitative restrictions, import licensing, customs barriers).
2. Standards, Testing, Labeling and Certification (including unnecessarily restrictive application of sanitary and phytosanitary standards, refusal to accept U.S. manufacturers' self-certification of conformance to foreign product standards, and environmental restrictions).
3. Government Procurement (e.g., "buy national" policies and closed bidding).
4. Export Subsidies (e.g., export financing on preferential terms and agricultural export subsidies that displace U.S. exports in third country markets).
5. Lack of Intellectual Property Protection (e.g., inadequate patent, copyright and trademark regimes).
6. Services Barriers (e.g., limits on the range of financial services offered by foreign financial institutions, regulation of international data flows, restrictions on the use of data processing, quotas on imports of foreign films, and barriers to the provision of services by professionals such as lawyers, doctors, accountants, engineers, nurses, etc.).
7. Investment Barriers (e.g., limitations on foreign equity participation and on access to foreign government-funded R&D consortia, local content, technology transfer and export performance requirements, and restrictions on repatriation of earnings, capital, fees and royalties).
8. Anticompetitive Practices (with trade effects tolerated by foreign governments including anti-competitive activities of both state-owned and private firms that apply to services or to goods and that restrict the sale of U.S. products to any firm, not just to foreign firms, that perpetuate the practices).
9. Electronic Commerce (e.g., tariff and non-tariff measures, burdensome and discriminatory regulations and standards, and discriminatory taxation).
10. Other Barriers (i.e., barriers that encompass more than one category listed above, e.g. bribery and corruption, or that affect a single sector).

Figure 3-1: Trade Barrier Categories Reported by MPAA

Source: MPAA (2006). *Trade barriers to exports of U.S filmed entertainment. Report to the United States Trade Representative*. Washington, D.C.: Motion Picture Association.

This division of categories is, however, not clear-cut and mutually exclusive. Information on a particular TB is not necessarily constrained within a specific category. It can be found under several different categories, or sometimes spread across the text of the report. Further, information under one particular TB category also contains information for other TB categories. For instance, information on quotas can normally be found under the "import policy-quantitative restrictions" category, but under the "Service Barrier" category, one can also find lots of information on quotas. Similarly, taxation information can be found under "Import Policies", as well as "Other Barriers" and "Service Barriers." In other words, there is not a clear-cut division of information categories. All the information is intertwined and needs to be sorted out through careful readings. Determination on the nature of the information requires several rounds of reading, comparison and judgment.

Marvasti (2005) calculated TBI and TBN scores based on six trade barrier categories: tariffs, quantitative restrictions, lack of property rights, video levy, subsidies, and service barriers. Based on reading of the MPAA reports, the author selected six of the most widely utilized and most concerned TB categories as the focus for this study. They are tariffs, quotas, investment/ownership restrictions, service barriers, tax/levies, and subsidies. Information on these TBs was used as basis for calculating TB indices scores.

Specifically, tariffs include both tariff and other import charges or custom duties. It can be a fixed money value which does not vary with the price of the good. Or it can be an *ad valorem* tariff which is set as a percentage of the value of the imported good. In the film industry, the value of film imports can be estimated based on the actual value of the reel of film that crosses country borders. It can also be valued based on estimations of the

films' potential royalties in importing countries. Since U.S. films normally generate high royalties abroad, tariff based on potential royalties always charges a higher money amount and, therefore, is scored higher in the current study. This tariff stipulation also is challenged more by the MPAA members than other tariff methods.

Quotas take account of all quantitative restriction methods used in countries included in this study. These include screen quotas, broadcast quotas, cable/pay television quotas, import quotas, home video quotas, distribution quotas, production quotas, and hiring quotas. Qualitative scores of quotas were determined by reading the specifications of quota requirements and finding out their degree of restrictiveness. The scores also took consideration of the combination of different quota policies in each country, i.e., if a country has a mixture of different quota varieties, it is considered more restrictive than others who have only one quota policy.

Investment/ownership restrictions refer to the limitations set by the hosting countries on foreign capital participations in the filmed entertainment industry. These limitations can be investment restrictions or/and foreign acquisition restrictions. They are set for one or more of the following areas of businesses: theaters, film production and distribution networks, broadcasting, and pay television business. In calculating the TBI scores, the study considered both the degree of the limitations and spectrum of the limitations these restrictions cover.

Service barriers refer to a wide range of barriers that industry professionals encounter when providing film entertainment services within a foreign country. These restrictions on service provisions cover areas from release window arrangements, distribution and retailing limitation, to earning repatriation and remittance requirements.

Imported films are also subject to dubbing and local printing requirements, as well as government censorship in some countries. To protect domestic industries, many countries set out certain blackout periods for imported films. In addition, film rental terms, investment requirements, and export performance requirements are examples of other barriers service providers can come across in hosting countries.

Tax/Levies refer to various national taxation policies concerning the filmed entertainment industry. Governments collect taxes from the film industry in a variety of forms. Among them, entertainment tax on box office and cinema, income tax, tax on television and video, value-added tax, and discriminatory tax are very common. Levies, another form of tax, can also be imposed on advertising, blank video tape, video, or appear as stamp/sticker requirement under different classification/laboring standards. Qualitative evaluation of taxation policies is based upon the complexity of the taxation policy in each country, as well as the scope and rate of taxation specified in these taxation policies.

Finally, governments provide direct financial support to domestic film industries in the form of subsidies. In many countries, subsidies come from government taxation and levies. Although in most countries, subsidies come in various forms, the study only concerns those listed in the MPAA reports as barriers for U.S. film exports.

As indicated previously, the study created two TB indices: a numerical index, TBN, and a qualitative index, TBI. TBN was calculated based on the numerical count of trade barriers existing in importing countries under each TB category, with 1 indicating existence of TB for that category and 0 indicating non-existence. The final TBN score

was the added-up for the six TB categories included in the study. Therefore, the possible range of scores for TBN is from 0 to 6.

The qualitative index, TBI, was created based on examinations of the TB regulation, evaluations of the degree of complexity of the regulation, and estimations of its implementation and degree of protections the TB can offer. Each TB category was scored using a scale of 1-5. Therefore, if a country has highly protective TB in all of the six categories, it can score as high as 30 for the TBI. The lowest possible value for TBI would be 0, if no TB exists in the country. For the purpose of this study, a law that exists but not implemented was considered as non-exist. [18] In the same sense, proposed law, draft law, and laws under consideration were also not included in the calculation.

Dependent Variables

Output Variables

The first research question explores the relationship between regulatory factors and output performance of national film industries. The output performance can be measured both quantitatively and qualitatively. The quantitative measure of the output performance was represented by the number of feature films produced annually in each country. The data on annual national film productions was from Screen Digest, 2001-2008.

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[18] This include the followings:

Colombia: screen quota, passed in 2003, not implemented

Brazil: video quota law passed in 1994, but never been implemented

Indonesia: import quota of 160 (never implemented), Screen Quota (listed as not effective)

Korean: screen quota, effectively enforced since 2000. In 2007, the quota was reduced by half to 73 days: extreme significant opening of quota restrictions

Romania: broadcast quota was, before June 02, 40 percent, after June 02, quota of "a majority proportion" of EU works from the day Romania accedes to the EU

Numerical production numbers reveal only part of the story of national films. They tell little about how those films perform in the market. Some productions may not even be publicly shown. Or even if they are, their share of audiences may be very low. Studies of Hanson & Xiang (2006) showed U.S. film dominance was led by only a small number of high-budget films. Ulff-MØller (2001) also pointed out that "even a single film may have the ability to saturate the market" (p. 138). To remedy this, the study also used a qualitative method to show the competitiveness of national films in the market. Previous studies (Lee & Bae, 2004; Oh, 2001) used the self-sufficiency ratio (SSR) as an index of the strength of a country's domestic film industry. SSR measures the proportion of the total box office revenues that goes to domestic films. It indicates the competitiveness of domestic films in terms of market share. The current study adopted the same measurement as used in the above studies. Information on domestic film market share was obtained from Screen Digest, 2001-2008.

In addition to competing with imported films in domestic market, national films also compete on a global level when they are exported. Export performance of a country's national films reflects its global competitiveness when trading abroad. Revenues from export are also important in supporting domestic film industries' continued growth. The study used export revenues as indicators of export performances. Data on film exports for each country was gathered from the International Trade Centre (2000-2007) (http://www.intracen.org/) and UN Comtrade database (2000，2006, 2007 data) (http://comtrade.un.org/). The two databases report trade in motion pictures in the value of cinematographic film exposed or developed, under Standard Industrial Trade Classification (SITC) code 883 and commodity code HS 3706.

The data has several shortcomings, according to Hanson & Xiang (2006)**.** First of all, trade in motion pictures is measured as exchanges of merchandise. The value of trade is counted by the physical prints of films that are shipped across borders. The potential revenues films get in importing markets are not considered. Second, film trade through other channels and trade in motion picture services are also excluded. Nurse, et al. (2006) point out that cultural products have several "transaction networks" and multiple income flows. These include revenues from the sale of both visible products (film prints, video tapes, etc.) and invisible products such as services and intellectual property rights (as royalties, license fees, etc.). Sales in services and IP rights are increasingly important in motion picture trade. Furthermore, transaction of motion picture products and services through digital networks are increasingly common. These transactions are not recorded through the border. Therefore, actual value of motion picture trade would be greater than the data provided from the above databases. However, these are the only official data on motion picture trade that are available at the time of the study.

Operation Scale

The second research question examines the possible link between trade barriers and domestic film industries' operation scale. The operation scale of a country's film industry was measured by four variables: the total number of screens, total revenues from theaters, the investment in film productions, and domestic movie spending. While the screen numbers a country has reflects the actual operation size of the film market, the box office revenues, domestic movie spending, and product investment measures the realized value of the market. Oh (2001) used the box office revenues as the actual market size for the film industry and found it a strong predictor of SSR. The result was confirmed by a

later study of Lee and Bae (2004)**.** Lee and Bae (2004) further distinguished box office revenues as potential film market size with direct production investment as realized market size and found the latter also a significant predictor of SSR. The study of S. Y. Lee, et al. (2008) confirmed increased production budget as a significant contributor to Korea films' box office success. Therefore, if there is a link between policy barriers, production variables (domestic production and market share), and operation scales, the links between TB and productions may function through TB's effect on operation scales. In other words, operation variables may function as intermediate variables between TB and production variables. Data on film screens, box office revenues, and production investment were from Screen Digest 2002-2008 issues.

Besides, the home market effect model implies domestic movie spending as a key factor in maintaining a viable film industry and for the development of domestic film infrastructure. For instance, Dupagne & Waterman (1998) found broadcast television economic infrastructure (BTEI, or the available economic resources that go to television broadcasters) are important in lowering U.S. program share in importing countries. Therefore, the study also included consumer theatrical spending as an indicator of the operation scale, which may have implications also for the production variables. Data on average annual cinema spending per head of population was gathered from Screen Digest 2002-2008 issues. Total consumer spending was calculated according to the population size of that country for each year.

In addition, increasing production budgets has proved to be an effective competition and differentiation strategy. Film industries operating on a large scale have the capability to compete using high-budget films. Therefore, how much financial input

was invested in film production also reflected the operation scale of a country's film industry. The scale of financing was measured by total investment in film productions. All data on operation scales was gathered from The Screen Digest 2003-2008 issues.

Consumption

The third research question asks the impact of trade barriers on a country's film consumption. The film consumption was operationalized by three variables: audience admissions, consumption diversity, and piracy rate in motion pictures. Audience admissions reflect the audience size for particular films. They indicate the degree that audience demand for certain films and the number of audiences that actually purchase tickets and consume the films. The study used annual admissions as an indicator of the audience size for theatrical films. The data was gathered from Screen Digest 2002 to 2004 issues.

Having access to a variety of choices directly relates to audience satisfaction in film consumption and indicates a higher consumption quality. Moreau and Peltier (2004) measured diversity of films in both genre and geographical origins. The study adopted the second measurement and measured consumption diversity in terms of diverse sources for a country's film imports. The source diversity for import films was measured using Herfindahl–Hirschman Index (HHI). HHI is widely used in measuring the concentration ratio of a market. It is the sum of the squares of the market shares of the largest firms in a market. Fu (2006) measured the concentration ratio of import sources by considering the share of imports from different countries. The study adopted the same measurement. Source of import was identified by the imported film's country of origin. The *UNESCO Statistical Yearbook* lists the total number of

long film imports, as well as imports from nine major countries, the U.S., Italy, France, UK, India, Russia, Germany, Japan, HK, and others, and thus was used as the major data source for this study. The share of imports from each country source was calculated as a basis for calculating the HHI. The most recent data from UNESCO is from 1995 to 1999. Since the import share for each country is relatively stable over the year, the study used the most recent available year (1999) as an indicator of consumption diversity for the sample countries, supplemented with earlier data if the 1999 data was not available.

Having access to films through regular and normal channels is another indicator of film consumption qualities. If normal channels fail to satisfy audience demands, consumers might seek such satisfactions through piracy. The study examines the link between piracy and trade restrictions. The level of video piracy activities was measured by the piracy rate in each country. The data was from the U.S. Trade Representative (USTR), IIPA, and MPAA reports. USTR identifies countries that do not have sufficient protections of IPR or deny market access to the U.S. and reported the piracy rates in various copyright-based industries for these countries in their annual "Special 301" report. Those data are compiled and submitted by corresponding industries within the International Intellectual Property Alliance (IIPA), a collusion of seven major copyright industry associations. MPAA is responsible for submitting the video piracy rate. Particularly, video piracy rate for year 2003-2004 was obtained from MPAA reports. Data for the rest of the years for motion picture piracy rate are from the 2002-2004 and

the 2007 report that IIPA submitted to USTR for inclusion in the "Special 301" report.[19] In this study, video piracy includes piracy of optical discs, videocassettes, and laser discs.

Effectiveness of Different Protective Policies

The fourth question asks the effects of different protective policies. Answers to the question were based on the result of the previous three questions, using each of the six TB categories (tariff, quotas, investment/ownership restrictions, service barriers, tax/levies, and subsidies) as independent variables.

Effects over time

The final research question asks the effectiveness of trade barriers across time. This was tested using time as a control variable in the regression analysis using the above dependent and independent variables.

Control Variables

The impact of trade barriers must be evaluated within a broader social economic context. Besides the cultural environment and national tradition, the development of the motion picture industry was largely determined by the social economic structure of a country. Therefore, the study also included several control variables.

Market Size Variables

The HME model indicates a link between a country's market size and its productions and exports. As illustrated in Chapter 2, the importance of market size as a determinant of the pattern of trade and production is widely tested. In the film industry,

[19] In 2006, MPAA changed its methodology in calculating the video piracy rate by including Internet piracy activities. This results in the inconsistence in the reported piracy rate with previous year, according to IIPA (2007).

countries with more developed economies and higher income have more capabilities to finance their film productions. Wealthier countries also have larger market sizes that attract more investments in film productions (Wildman & Siwek, 1988). Therefore, Wildman and Siwek (1988) argued both quantity and quality of motion pictures improve directly with a country's market size. A study of Marvasti (2000) confirmed the significance of the HME in the film industry due to strong economies of scale. Two market size indicators are commonly used in existing research: GDP and population.

GDP is an important determinant in both film productions and trade. For instance, Schulze (1999) found a higher GDP led to more arts trade and higher art trade ratio. Empirical studies in the film industry (Oh, 2001; Lea & Bea, 2004) found domestically produced movies account for larger shares of total box office revenues in countries with higher levels of GDP. Hanson & Xiang (2006) confirmed that in European countries, smaller GDP are related to increased U.S. dominance in films.

Population is another indicator of domestic market size. Marvasti (1994) found countries with greater populations exported more films. A later study of U.S. trade in motion pictures from 1961-1988 (Marvasti, 2000) found trade surplus was directly enhanced by population size.

As previously indicated, researchers (Oh, 2001, Lee & Bea, 2004, S. Y. Lee, et al., 2008) have distinguished potential market size (GDP, population) with realized market size (operation scale). GDP and population are general market size indicators that reflect the potential size of a market for the film industry to grow. Consumer spending and box office revenues are the realized value of a market. Film production investment is the actual financial input in film productions. These variables are all direct indicators of a

country's actual film market size. The potential market size has a direct effect on film production, operation, and export, and must be taken consideration when examining TBs' effect on the actual operation of film market. Data on GDP and population were gathered from the International Monetary Fund (IMF). The GDP data was adjusted by actual purchasing power of a country.

Market Structure

Economic Freedom. Wildman and Siwek (1993) argued commercialization and privatization helped increase financial investment in media infrastructure, and thus enhanced media development. This created less need for trade protections. Following the same rationale, countries with highly commercialized and privatized film industries are expected to have more developed film industries. The study introduced the Economic Freedom of the World Index (the EFW Index) as one control variable indicating the level of commercialization and privatization. The EFW index measures the degree to which government and regulations support the freedom of economic activities. A free market will allow more room for the industry to grow. The data was gathered from Fraser Institute 2008 Report on Economic Freedom of the World.

Trade Relations. Disdier, Tai, Fontagne, and Mayer (2007) showed a link between art trade and total trade. Quite possibly, the volume of film export is affected by the overall trade relations a country has with other nations. Countries with more open markets are expected to have more trade relations with other countries. More open economies also allow more flows of international investment. Schulze (1999) found the degree of openness not significant in determining art trade. The significance of openness in film trade is not clear. The study used the Openness Index (OI) as one control variable

for the trade and production functions. OI is widely used in economic literature (eg., Kotcherlakota & Sack-Rittenhouse, 2000; Nourzad & Powell, 2003). It refers to the degree an economy opens to trade and is normally calculated as the ratio of a country's trade (IM+EP) to GDP. The study used the same methods. It calculated the OI as total trade volume/GDP. The total volume of export and import included trade in both commodities and services and were from WTO.

International co-production treaties allow for international collaborations in the production of media programs (Hoskins et al, 1997). Co-production is increasingly used as an effective way not only to accumulate investment and other resources, but also to overcome language and other cultural barriers and provide access to the partners' markets (Hoskins et al, 1997). Co-production also motivates partners to invest more in promotion and distribution, which, as researchers indicate, play more important roles in global markets than product attractiveness (Guback & Varis, 1986; Hoskins et al 1997; Straubhaar, 1991). A previous study (Ren, 2006a) found co-production positively related to a country's film export into the European Union markets. The current study used a country's level of participation in co-productions as a control variable that has influence on film productions and export. This is measured by the co-production ratios for each country in the study. Co-production ratio was calculated by dividing total annual production numbers by the number of co-productions. Data on co-productions was from Screen Digest issues.

Regulatory Variables

The effect of TB depends on the effectiveness of implementation. The study measured regulatory efficiency using the Government Effectiveness (GE) index. The GE

index is among one of the six dimensions of Kaufmann's worldwide governance indicators (WGI). It reflects the quality and efficiency of government regulation and implementation. The index has been widely used by researchers (e.g., Andrés, 2006; Shadlen, Schrank, & Kurtz, 2005). The study followed the same measurement and used the GE index as a control variable to indirectly indicate the degree of enforcement of trade barriers. The data is from Kaufmann, Kraay, & Mastruzzi (2008).

Culture Variables

Language and culture affect audience preferences and define the natural market for media products (Hoskins & Mirus, 1988; Wildman & Siwek, 1988). They also determine the scale and competitiveness of a country's film industry. The existence of cultural proximity (Antola & Rogers, 1984; Burch, 2002; Kim, 2004; Leung, 2004; Sora, 2004; Straubhaar, 1991; Straubhaar & Viscasillas, 1991; Straubhaar, Glorria, & Winter, 1991; Trepte, 2003; Yu & Lee, 2002) and cultural discount (Lee & Bae, 2004; F. Lee, 2006, 2008) in media consumption has been widely tested and supported empirically. Culture's role in determining trade volume and directions (Hester, 1973) has also been well examined in international trade literature using such cultural distance proxies as common language, religion, ethnicity (Boisso & Ferrantino, 1997; Frankel, Stein, & Wei, 1997), history similarities (Eichengreen & Irwin, 1998), immigration history (Hutchinson & Dunlevy, 2001; Tadesse & White, 2008a, 2008b), geographical distance (Kogut & Singh, 1988), and linguistic distance (Chiswick & Miller, 2005; Hutchinson, 2002; Hutchinson, 2005). It is generally agreed that cultural dissimilarities between nations has significant and consistent negative economic impact on trade flows (Tadesse & White, 2008b). Strong cultural ties lower trade cost and increase consumer taste similarities.

Culture's impact is stronger for trade in differentiated goods (Felbermayr & Toubal, 2007) such as cultural products (Disdier, et al., 2007; Tadesse & White, 2008a). This is supported by the study of U.S. motion picture services (Hanson & Xiang, 2006) and the study on international trade in art (Schulze, 1999).

Among the measurements of cultural distance, Hofstede's cultural dimensions are widely used in empirical studies. Hofstede et al. (Hofstede, 1980; Hofstede & Bond, 1988) developed four dimensions (individualism, power distance, masculinity, and uncertainty avoidance) of measuring national cultural differences.[20] The dimensions were developed based on attitude surveys of IBM employees around 1968 and 1972 for over 50 nations (Evans & Mavondo, 2006). Hofstede's dimensions are based on an organizational setting and focus mainly on work-related values. Many researchers have questioned the representativeness of the findings in reflecting the core aspect of cultures, as well as the generalizability of the study. Despite these arguments, however, Hofstede's dimensions are widely used in broad areas representing national cultural values and proved highly valid in different settings. They are also found highly stable over time (Evans & Mavondo, 2006). Based on Hofstede's framework, Kogut and Singh (1988) constructed a composite cultural distance index.[21] The composite index also becomes widely used in

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[20] Power Distance Index (PDI): the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally.
Individualism (IDV): the degree to which individuals are integrated into groups.
Masculinity (MAS) versus Femininity: assertiveness and competitiveness versus modesty and caring.
Uncertainty Avoidance Index (UAI) deals with a society's tolerance for uncertainty and ambiguity. It indicates to what extent a culture programs its members to feel either uncomfortable or comfortable in unstructured situations
Long-Term Orientation (LTO) versus short-term orientation: thrift and perseverance versus respect for tradition, fulfilling social obligations, and protecting one's 'face'. From http://www.geert-hofstede.com/, Full description and critique of Hofstede's cultural dimension and later CD index also see (Evans & Mavondo, 2006).

[21] The index is written as $CD_J = \sum_{I=1}^{4} \{(I_{ij} - I_{iu})^2 / V_i\} / 4$ where *CDj* is the cultural differences of the *j*th country from the United States, *Iij* represents the index of the *i*th cultural dimension and the *j*th country, *u* stands for

subsequent empirical researches. For instance, Lea & Bea (2004), using the composite CD index, found cultural variables not significant in determining a country's domestic market share. A study of Oh (2001) found cultural difference to the U.S. in power distance affected a country's domestic market share. Ren's study (2007) found cultural distance in individualism affected a country's film export into the European Union market.

Researchers also developed alternative measures of cultural distance. For instance, Hoskins & Mirus (1988) measured CD by the price differences of programs sold abroad. Tadesse & White (2008a, 2008b) calculated CD based on the World Values Surveys (WVS) and the European Values Surveys (EVS). The surveys covered wide variety of topics including politics, economics, religion, science/technologies, as well as family values, gender roles, and ethnical concerns.[22] The authors found cultural differences reduced both cultural and non-cultural exports with cultural exports reduced at a greater degree.

The current study used cultural distance as a control variable for film productions and trade functions. It utilized both methods of calculating CD, the composite cultural distance score as developed by Kogut & Singh (1988), as well as the CD scores developed by Tadesse & White (2008a, 2008b).

Language is another culture factor that is broadly used in economic and media research. Studies found common language raised cultural exchanges in books, newspapers (Disdier, et al., 2007), and art products (Schulze, 1999). English language also

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the United States and *Vi* is the variance of the index of the *i*th dimension, see Kogut and Singh (1988) and (Evans & Mavondo, 2006) for details.

[22] For details of the surveys and calculations of CD see (Inglehart et al. 2004) and (Tadesse & White, 2008b).

showed to be positively related to film exports in general (Marvasti, 1994), U.S. film exports (Hanson & Xiang, 2006; Marvasti & Canterbery, 2005), and television fiction exports (Dupagne & Waterman, 1998) in particular. Other studies, (Lee & Bae, 2004; Oh, 2001) however, found that the English language did not significantly relate to the SSR of a county's films. Measurement differences of language may in part cause the inconsistent findings. Many studies use dummy variables indicating whether countries share a common language, (Schulze, 1999) or whether English is the primary language for a country (Lee & Bae, 2004; Marvasti, 1994; Oh, 2001). Dupagne and Waterman (1998) used the survey data on English Fluency in European countries that measured the percentage of people who reported to be fluent in English. Chiswick & Miller (2005) develops a quantitative measure of linguistic distance between English and non-English languages based on DOS Index that measures the difficulty Americans have learning foreign languages.[23] The Index was used by Hanson & Xiang (2006) in their study that found language distance reduced U.S. movie exports. This study used the Language Index developed by Chiswick and Miller to see whether measurement differences would result in differences in findings. The Language Index reflects the distance between English and other languages. The data was from Chiswick and Miller (2005).

Variables That Affect Piracy Rate

Studies on factors affecting piracy are abundant (Andrés, 2006; Banerjee, Khalid, & Sturm, 2005; Chiou, Huang, & Lee, 2005; Ki, Chang, & Khang, 2006). Previous

[23] The DOS Index is based on test scores of the Department of State employees in the earl 1990s. The employees took 24-weeks training before sent to foreign countries. Chiswick & Miller (2005) calculate language distance between English and 43 other languages using the average score of test takers. See Hanson & Xiang (2006) for details.

studies normally identify income (Banerjee, et al., 2005; Husted, 2000; Moores, 2003; Shin, Gopal, Sanders, & Whinston, 2004), education (Shadlen, et al., 2005), age (Al-Rafee & Cronan, 2006; Kwong, Yau, Lee, Sin, & Tse, 2003), IP protection (Banerjee, et al., 2005; Chiou, et al., 2005; Peace, Galletta, & Thong, 2003), and cultural dimension of individualism (Husted, 2000; Marron & Steel, 2000; Moores, 2003; Shin, et al., 2004) related to piracy rate. Ren (2007) studied the determinants of motion picture piracy rates across 57 countries and found income, education, strength of IP protection, and culture all significant factors. Among them, income and culture as measured by power distance played the most significant roles. These variables were also used in the function for examining the effects of TB on piracy. The MPAA reports contain descriptive information on IP regulations and enforcement. The information, however, is hard to quantify. The study assessed the effectiveness of IP protections using the IP protection index, a category of the Economic Freedom Index from the Fraser Institute as a control variable for piracy activities. Age was measured by the median age of populations and the data was from CIA World Factbook, 01-08. Education was measured using adult literacy rate (the literacy rate of adults years 15 and over). The data was from United Nations Development Program Human Development Report 2007/2008.

Because the ticket price also affect people's willingness to pay for films, another variable that reflects the price of ticket was also added to the piracy function--the cinema index. It measures the time taken to earn money for a cinema ticket. The data was obtained from Screen Digest.

Model Functions and Statistic Techniques

The study examined the impact of TBs on national film development across country sectors and spanning various years. Because the research involved multiple independent variables, dependent variables, and controlled variables, multiple regression techniques were used as the main study analysis method. In addition, due to the cross-sectional and cross-time nature of the study, different regression techniques were utilized in order to investigate the change of the effect of TBs over time. Preliminary regression was used mainly to investigate the TB effect across-sectional without considering the time effect. In addition to preliminary regressions, time-series regressions were run to investigate the changes of the TB variables' effectiveness over time.

Chapter Summary

The study identified six trade barrier variables widely used in the motion picture industry in various countries and investigated the effects of these trade barriers on the development of national film industry. This included the question of the effectiveness of protective trade policies in obtaining the stated goals. The study also addressed the question concerning the effectiveness of different protective policies and changes of their effects over time. To better answer the composite impact of trade barriers on film industries, the study also created two composite indices, TBI and TBN, as indicators of the quality and quantity aspects of trade protections.

To help answer the impact on national film industry, the study developed ten film development measurements as indicators for the development of national film industry in three aspects, the output level, operation level, and the consumption level. These include film production, market share, film export, total film screens, annual box office revenues,

film production investment, annual consumer spending and admission, diversity of film consumption, and level of film piracy. All of these indicators have special implications for the development of film industries.

Because film industries operate in a complicated social environment, the study also used several economic, market, regulation, and culture variables as control variables. All of the variables were defined based on previous literature.

The study was primarily empirical. It examined the effect of trade barriers using a larger number of countries to satisfy the case-to-variable ratio recommended for regression analyses. In addition, the study included time variance to see how the effect of trade protective measures changed over time. As a result, the study used both preliminary regression method and time-series regression analysis. Time-series regression analysis incorporates both cross-sectional and cross-time examinations. It provides a tool for analyzing the effect of trade policies across time. Through the combination of both the sectional and time variances, the study was able to explore whether the trade protective policies were becoming obsolete in the current media environment or should trade barriers continue to be used to protect media industries in the future. Results from the analyses were detailed in the next chapter.

CHAPTER 4 RESULTS

Overview

Using multivariate regression techniques as major research tools, the study investigated the use of six trade protection technologies and their impacts on ten national film development measurements. It incorporated both cross-sectional and cross-time variations to explore how trade protective measures functioned and changed over time.

In this chapter, the findings were organized mainly according to the results of the regression analyses on the ten film performance indicators. Implications of these results were also discussed.

Descriptive Statistics

The study used the MPAA report to obtain Trade barriers information. In 2007, MPAA decided to focus on countries that were most concerning, especially in the areas of electronic commerce and piracy. Countries with no dramatic changes in regulatory policies over the years were excluded. This resulted in a great reduction in the number of countries included in MPAA reports. As a result, only 30 countries were included in the 2007 report. So far, the MPAA 2006 report is the most comprehensive report among all available reports and was therefore used as the basis for collecting sample countries. As a result, 78 countries were included in the study. These countries were reported on for the years 2004-2006.

Although detailed MPAA reports were available only for the years between 2004 and 2007, these reports actually provided information that can be traced back to several years before. For instance, major policy changes concerning trade barriers information before and after 2000 can be found in the MPAA 2004 reports. Therefore, the content analysis of the MPAAA 04-07 reports yielded descriptive information of trade barriers for each country from 2000 to 2007. As a result, the study employed data for 78 countries that spanned an eight year period between 2000 and 2007. As a supplement, The *USTR National Trade Estimate Report on Foreign Trade Barriers* was also used as an alternative source for trade barrier information for the years 2000-2002. The USTR report includes information submitted by MPAA concerning motion picture industry, although in a much brief way.

As a result, the study yielded 624 observations from 78 countries over the time span between 2000 and 2007. A list of the countries and their major parameters were shown in the Appendix.

Table 4-1 shows the descriptive statistics of the major variables. As the table shows, for the sampled 624 observations, the TB variables range from 0 to 5, with 0 indicating the largest openness in film trade, and 5 indicating the least openness in that category. The numerical TB Index (TBN) shows a range of 0 to 6, with 6 indicating the existence of all six studied trade barrier categories within one country, and 0 indicating none of the six studied trade barrier categories existed in a country. The average of quantitative trade barriers is 1.3. The TBI index shows the degree of trade restrictions in a country. According to table 4-1, the value of the TBI index ranges from 0 to 17 in the

sampled countries, with lower numbers indicating less restriction in film trade and large numbers indicating more trade restrictions in the film industry. The average TBI is 2.9.

For the output variables, the annual production of films for the sampled countries range from 0 to 1200 a year, with an average of 60.3 films per year. The market share varies from 0.3 percent to 94.1 percent and the average market share among the 78 countries is 16.6 percent. For the sampled countries, every million people owns about 1.2 to 477 screens, with an average screen per million of 43.5. The total revenue coming from the box office ranges from 0.01 to 1950.2 million dollars for the countries. The average box office revenue is 235.6 million dollars. Revenue that comes from exporting films ranges from zero to 329, 370.7 thousand dollars per year, with an average of 7741.2 thousand dollars for the 78 countries. The total amount of money invested in films per year ranges from zero to 2108.1 million dollars for the countries. The average investment in films is 152.1 million dollars. According to the spending per head of population, and admission her head of population numbers in Table 4-1, average people spend about 0.09 to 52.51 dollars a year in films and goes to the theater to watch films about 0.08 to 5.62 times a year. The average spending and admission is 10.9 dollars and 1.6 times, respectively, per year.

As to the major control variables, the gross domestic product based on purchasing-power-parity (PPP) valuation of country's GDP is from 3.9 billion dollars to 4668.8 billion dollars, with an average of 353.6 billion dollars. The countries have an average population of 60.3 million, ranging from 0.283 million people as the smallest number to 1321.1 million people as the largest number.

Table 4-1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Tariff	624	0.00	5.00	0.31	0.93
Quota	624	0.00	5.00	0.61	1.19
Investment Restriction	624	0.00	5.00	0.57	1.24
Service	624	0.00	5.00	0.61	1.20
Taxation	624	0.00	5.00	0.56	1.17
Subsidy	624	0.00	5.00	0.24	0.80
TBI	624	0.00	17.00	2.90	3.84
TBN	623	0.00	6.00	1.27	1.37
Production	466	0.00	1200.00	60.31	142.07
Share (percent)	271	0.30	94.10	16.56	16.64
Export (in thousands)	555	0.00	329370.70	7741.68	34887.12
Screen per million	477	1.20	177.00	43.50	34.30
BO revenue (million)	451	0.01	1950.20	235.62	379.26
Invest (in million)	403	0.00	2108.10	152.08	345.85
Spending per head	349	0.09	52.51	10.91	10.05
Admission per head	460	0.08	5.62	1.61	1.29
HHI	360	2523.48	10000.00	5526.91	1719.14
Piracy	338	1.00	100.00	49.77	28.29
GDP (in billions)	624	3.85	4668.79	353.65	695.79
Population (millions)	624	0.28	1321.05	60.31	190.86
EFW Index	498	3.99	8.94	6.90	0.83
The Openess Index	542	0.00	6231.90	46.65	309.45
Co-production	309	0.00	1.00	0.34	0.26
Government	624	-1.10	2.41	0.61	0.90
Hcd	480	0.02	6.60	2.52	1.42
Language Score	584	1.00	5.00	2.35	0.96
Tcd	440	0.25	2.23	1.24	0.49
Valid N (listwise)	0				

Data was transformed using square root transformation and log transformation in order to better meet the normal distribution requirement for using multivariate statistic techniques. Linearity and homoscadasity were also tested using Q-Q plot and scatterplots.

Correlation Analyses

Table 4-2 lists the correlations between the TB variables, control variables and independent variables. The correlations were examined as follows.

Dependent Variables

Output variables

An examination of correlations found significant correlations between all major TB variables and output variables. For instance, all TB variables showed significant positive correlations with the film production. Among them, quota, investment restrictions, and subsidy showed slightly higher correlations (all over 30 percent) with film production than tariff, service restriction, and taxation (all over 25 percent). The compose TB indices showed even higher positive relations with film production level (TBI 52.3 percent, TBN 53.1 percent).

All of the TB variables also showed significant positive correlations with domestic market share (TBI 46.1 percent, TBN 42.2 percent). Among the six TB variables, quota showed the highest correlation with local film's market share (63.1 percent). Tariff and investment restrictions also showed moderate positive correlations with market share (30.4 percent and 30.7 percent, respectively). Both of the TB indices showed higher correlations with market share than that of individual trade barrier variable, 46.1 percent for TBI and 42.2 percent for TBN.

As to the export variable, except for tariff and taxation, all other TB variables showed significant positive correlations with film export. Among the four TB variables that showed significant positive correlations with film export, quota and subsidy, again, showed higher correlations with export (29.9 percent, and 25.8 percent, respectively) than investment restriction (15.5 percent) and service restriction (17.4 percent). As to the composite TB indices, they, again, showed higher positive relations with film export than individual trade barriers, a pattern similar with the above two observations.

All in all, the correlations between trade barriers and output performance variables were significantly positive. However, because the direction of impacts cannot be identified in the correlations, the possible effects of TB variables on the output performance variables would be discussed later, based on regression results.

Operation Scale

The operation scale reflects the market size for the film industry. It was measured by using screen numbers as the actual market size, and box office revenue as the realized market value. In addition, two other variables were used as indicators of financial input to support the market operations--the total investment on films and consumer annual film spending.

According to the correlation data in Table 4-2, except for quota and subsidy, which showed no significant correlations with film screens, all other TB variables showed significant negative correlations with the total number of film screens. Among the TB variables that showed significant negative correlations with film screens, investment restrictions and tariff showed the highest correlations (-37.1 percent, and -36.5 percent, respectively), followed by taxation (-2.1 percent) and service restrictions (-14.4 percent). The correlations of investment restrictions and tariff with screens were even higher than that of the composite TB variables (TBI -32.6 percentt, and TBN -31.8 percent).

Except for tariff, all other TB variables showed significant positive relations with box office revenue. Among them, service restrictions showed the highest correlation with box office revenues (37.1 percent), followed by quota (39.6 percent), subsidy (29.2 percent), investment restrictions (20.9 percent), and taxation (13.0 percent). The

composite TB indices had even higher positive correlations with box office revenues (TBI 42.6 percent, and TBN 42.5 percent).

With the total film investment, tariff, investment restrictions, and service restrictions showed no significant relations. All other TB variables showed significant positive correlations. Among them, subsidy showed higher positive relations with investment (30.0 percent) than others, followed by quota (22.3 percent), TBI (20.6 percent), TBN (20.3 percent), and taxation (12.9 percent).

Although TB variables didn't show negative correlations with the realized market value (box office and total investment), all of the TB variables showed negative correlations with audience spending, and except for service restrictions and subsidy, all of the correlations were significant. Among them, tariff showed the highest negative correlation (-37.9 percent), followed by investment restrictions (-36.0 percent), TBN (-32.4 percent), TBI (-32.9 percent), taxation (-21.0 percent), and quota (-15.8 percent).

Consumption

Similar with the correlations with audience spending, all TB variables also showed negative relations with audience admission, and except for service restriction, taxation, and subsidy, all of the rest of the correlations were significant. Among them, investment restrictions showed the highest correlations (-26.5 percent), followed by TBN (23.6 percent), tariff (-22.0 percent), TBI (-20.7 percent), and quota (-12.8 percent).

HHI was used as an indicator of film diversity in a market. Most of the trade barrier variables were positively correlated with HHI. As shown in Table 4-2, HHI was significantly correlated to tariff (27.6 percent), investment restrictions (19.4 percent), taxation (17.8 percent), and TBI (13.8 percent). Only service restrictions showed a

negative correlation with film diversity (-11.1 percent). Quota, subsidy, as well as TBI and TBN showed no significant correlations with film import diversity.

Subsidy showed a significant negative correlation (-10.7 percent) with piracy. Quotas also showed a negative correlation with piracy, but the correlation was not significant. Other than these two variables, all other TB variables showed significant positive correlations with piracy. Specifically, tariff showed the highest positive correlation with film piracy (30.4 percent), followed by investment restrictions (25.9 percent), TBI (19.7 percent), TBN (17.9 percent), service restrictions (17.1 percent), and taxation (14.1 percent).

Controlled Variables

Market Size Variables

All TB variables showed significant positive correlations with GDP and population. The correlations were even stronger for the composite TB indices. As shown in Table 4-2, the correlation between TBI and population was 71.5 percent, followed by that of TBN (68.5 percent). And the correlation between TBN with GDP was 55.0 percent, followed by that of TBI (54.2 percent).

As to individual trade barrier categories, more developed countries showed higher correlations with increased service restriction (39.0 percent), quota (36.9 percent), subsidy (31.9 percent), investment restrictions (30.8 percent), and taxation (22.8 percent). Tariff showed the least positive correlation with GDP among the six TB variables.

There were also strong correlations between most individual TBs and population including investment restrictions (56.5 percent), service restrictions (45.6 percent), quota (43.2 percent), tariff (41.0 percent), taxation (35.7 percent), and subsidy (24.8 percent).

The significant positive correlations between TB variables and GDP, as well as between TB variables and population seems to indicate that TBs are higher in developed countries and higher in bigger markets, as indicated by Marvasti & Canterbery (2005).[24]

Table 4-2: Correlations

		lg_tariff	sq_quota	sq_IVR	sq_service	sq_taxation	lg_subsidy	sq_TBI	sq_TBN
lg_production	Pearson Correlation	.268(**)	.328(**)	.327(**)	.281(**)	.272(**)	.310(**)	.523(**)	.531(**)
	Sig. (2-tailed)	0	0	0	0	0	0	0	0
	N	466	466	466	466	466	466	466	465
sq_share	Pearson Correlation	.304(**)	.361(**)	.307(**)	.183(**)	.218(**)	.200(**)	.461(**)	.422(**)
	Sig. (2-tailed)	0	0	0	0.003	0	0.001	0	0
	N	271	271	271	271	271	271	271	271
lg_export	Pearson Correlation	0.005	.299(**)	.145(**)	.174(**)	0.013	.258(**)	.310(**)	.349(**)
	Sig. (2-tailed)	0.911	0	0.001	0	0.755	0	0	0
	N	555	555	555	555	555	555	555	554
sq_screen	Pearson Correlation	-.365(**)	-0.078	-.371(**)	-.144(**)	-.210(**)	0.063	-.326(**)	-.318(**)
	Sig. (2-tailed)	0	0.087	0	0.002	0	0.167	0	0
	N	477	477	477	477	477	477	477	476
lg_bo	Pearson Correlation	0.081	.296(**)	.209(**)	.314(**)	.130(**)	.292(**)	.426(**)	.425(**)
	Sig. (2-tailed)	0.087	0	0	0	0.006	0	0	0
	N	451	451	451	451	451	451	451	450
lg_investmnet	Pearson Correlation	0.059	.223(**)	-0.052	0.062	.129(**)	.300(**)	.206(**)	.203(**)
	Sig. (2-tailed)	0.235	0	0.299	0.217	0.01	0	0	0
	N	403	403	403	403	403	403	403	402
sq_spending	Pearson Correlation	-.379(**)	-.158(**)	-.360(**)	-0.103	-.210(**)	-0.057	-.322(**)	-.324(**)
	Sig. (2-tailed)	0	0.003	0	0.056	0	0.285	0	0
	N	349	349	349	349	349	349	349	348
sq_admission	Pearson Correlation	-.220(**)	-.128(**)	-.265(**)	-0.03	-0.088	-0.011	-.207(**)	-.236(**)
	Sig. (2-tailed)	0	0.006	0	0.527	0.059	0.812	0	0
	N	460	460	460	460	460	460	460	459

[24] Marvasti & Canterbery (Marvasti & Canterbery, 2005) found TBN were highest in North America , West Europe, France (5), Argentina, Brazil, Canada, Indonesia, Italy, Mexico, Spain, and Switzerland, (4); and TBI were highest in North America, West Europe, Middle East, Asia. Below is the rank of TBI for individual countries: France, Italy 9.6, Indonesia 9.4, Canada and Saudi Arabia 9.0, Argentina, Mexico, Korea 8.6, India 8.4, Spain 8, Brazil 7.6. Countries with high scores also all have well-developed industry and have interest to preserve their industries.

HHI	Pearson Correlation	.276(**)	0.051	.194(**)	-.111(*)	.178(**)	-0.095	.138(**)	0.101
	Sig. (2-tailed)	0	0.338	0	0.035	0.001	0.072	0.009	0.056
	N	360	360	360	360	360	360	360	359
sq_piracy	Pearson Correlation	.304(**)	-0.055	.259(**)	.171(**)	.141(**)	-.107(*)	.197(**)	.179(**)
	Sig. (2-tailed)	0	0.309	0	0.002	0.01	0.049	0	0.001
	N	338	338	338	338	338	338	338	338
lg_gdp	Pearson Correlation	.120(**)	.369(**)	.308(**)	.390(**)	.228(**)	.319(**)	.542(**)	.550(**)
	Sig. (2-tailed)	0.003	0	0	0	0	0	0	0
	N	624	624	624	624	624	624	624	623
lg_populationulation	Pearson Correlation	.410(**)	.432(**)	.565(**)	.456(**)	.357(**)	.248(**)	.715(**)	.685(**)
	Sig. (2-tailed)	0	0	0	0	0	0	0	0
	N	624	624	624	624	624	624	624	623
EFWidx	Pearson Correlation	-.303(**)	-.185(**)	-.219(**)	-.154(**)	-.175(**)	-0.07	-.323(**)	-.324(**)
	Sig. (2-tailed)	0	0	0	0.001	0	0.12	0	0
	N	498	498	498	498	498	498	498	498
lg_Openness	Pearson Correlation	-.163(**)	0.055	0.014	0.023	-.156(**)	0.001	-0.012	0.001
	Sig. (2-tailed)	0	0.2	0.748	0.591	0	0.983	0.787	0.99
	N	542	542	542	542	542	542	542	541
sq_coproductionuction	Pearson Correlation	0.009	-.255(**)	-.311(**)	0.05	0.05	0.003	-.118(*)	-.115(*)
	Sig. (2-tailed)	0.869	0	0	0.383	0.383	0.955	0.038	0.043
	N	309	309	309	309	309	309	309	308
GE	Pearson Correlation	-.355(**)	-0.049	-.166(**)	-.087(*)	-.111(**)	-0.027	-.176(**)	-.145(**)
	Sig. (2-tailed)	0	0.226	0	0.031	0.005	0.502	0	0
	N	624	624	624	624	624	624	624	623
sq_Hcd	Pearson Correlation	.103(*)	-.110(*)	0.056	0.064	0.085	-.124(**)	-0.005	-0.025
	Sig. (2-tailed)	0.023	0.016	0.22	0.163	0.061	0.007	0.911	0.582
	N	480	480	480	480	480	480	480	479
lg_Language	Pearson Correlation	0.029	0.027	.129(**)	0.008	.240(**)	0.053	.137(**)	.125(**)
	Sig. (2-tailed)	0.477	0.518	0.002	0.841	0	0.199	0.001	0.002
	N	584	584	584	584	584	584	584	583
sq_Tcd	Pearson Correlation	.140(**)	0.035	0.068	-.175(**)	-0.037	-.130(**)	-0.06	-0.037
	Sig. (2-tailed)	0.003	0.461	0.157	0	0.441	0.006	0.211	0.435
	N	440	440	440	440	440	440	440	439

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Market Variables

Economic Freedom of the World (EFW) index is an indicator of the freedom of economic activities in a country. The Openness Index (OI) reflects the degree an economy opens to trade and a country's overall trade relations with other countries. Almost all TB variables showed negative correlations with the EFW index. But only tariff and taxation showed significant negative correlations with the OI. Other that the above two variables, none of the other TB variables showed significant correlations with the Openess Index.

In addition, the composite TB variables (TBI and TBN) showed significant negative correlations with co-production. Quota and investment restrictions showed even higher negative correlations with co-production (-25.5 percent and -31.1 percent, respectively). Tariff, subsidy, service and taxation restrictions showed no significant correlations with co-production.

Regulation Variable

Interestingly, all restrictive TB variables showed significant negative correlations with government effectiveness index, with tariff showing the strongest negative correlations (-35.5 percent). Only quotas and subsidy, as supporting methods, showed no significant correlations with the GE index.

Culture Variables

Significant positive correlations appeared between the composite TB indices and language score. Significant negative correlations were also found between quota, subsidy,

and Hofstede cultural distance, as well as between service restrictions, subsidy, and Tadesse & White's cultural distance score.

Summary of Correlations

In summary, the composite TB indices (TBI and TBN) showed significant positive correlations with all the output variables, and some of the operation and consumption variables. Negative correlations were shown mostly on consumer behavior variables including consumer admission and spending. Because consumer admission and spending have great implication for the development of industry infrastructure, the negative correlation was also shown on film screens. Similar patterns also appeared for the correlations between most of the individual TB variables and the dependent variables. Besides the negative correlations between individual TB variables and the dependent variables on film screen, consumer spending and admission, only three other negative correlations appeared between service restrictions and HHI, tariff and piracy, and subsidy and piracy. And again, because the direction of the correlations cannot be identified in the correlations, and because the film industry operates in a complicated social economic environment, the TB variables and their effects on national film industry were further tested in the regression analyses controlled for various social, economic, and cultural variables.

Regression Analyses

Regression analyses were conducted to further explore the possible effects of TB variables. The study utilized two multivariable regression techniques: the preliminary cross-sectional regressions and cross-time regressions. In the preliminary regressions,

each TB variable was entered into a separate regression model with all social-economic, regulatory and market variables used as control variables. The TB variables were also entered into the same regression function, in order to see how different TB variables interact with each other and what the combination effect of trade barriers was. In addition to preliminary regressions, time-series auto-regressions were run to investigate the changes of the TB variables' effectiveness over time. The dependent variables were the ten national film indicators that represent the development status of national film industries in three aspects including film output, operation, and consumption. This yielded ten film performance functions and twenty regression results.

Production function

Preliminary regressions

The preliminary regressions for the production function yielded nine regression models as a result of using different TB variables in each different regression analysis. The results are shown in Table 4-3.

The tariff-production function (model 1) explained 85.5 percent[25] of the production variations, and GDP alone explained 70.1 percent of the variation in film productions. Next to GDP, cultural value from Tadesse & White (2008a, 2008b) were also shown to be a strong factor in increasing film productions. This seemed to indicate that cultural approximate countries with the U.S. might face more market erosions, and had fewer productions as a result of the erosion. In addition, the openness of the trade market (OI), at .001 level of significance) and government efficiency (the GE Index,

[25] All of the percentage number reported here were unadjusted R^2 that were not showed in the tables.

at .05 level of significance) were also significant contributing factors. Tariff was not a significant contributor, as well as all other independent variables.

Table 4-3: Production Models

Preliminary Regressions							Time-series Autoregressions		
Models	Variables	B	ß	T-value	Adjusted R^2	F	Variables	Parameter Estimates	T-value
1	(Constant)	-1.560		-4.955***			Rho (AR1)	0.674	13.605***
	lg_tariff	0.004	0.001	0.020			lg_tariff	0.205	0.844
	lg_gdp	0.701	0.837	10.99***			lg_gdp	0.713	7.572***
	lg_population	0.072	0.072	1.021			lg_population	0.030	0.278
	EFWidx	0.035	0.064	1.093			EFWidx	-0.044	-1.102
	lg_openness	0.217	0.223	7.352***			lg_openness	0.157	4.028***
	sq_coproduction	-0.034	-0.016	-0.562			sq_coproduction	0.035	0.679
	goverment	0.081	0.144	1.982*			goverment	0.098	1.887
	sq_Hcd	-0.060	-0.073	-1.635			sq_Hcd	-0.102	-1.778
	lg_Language	0.008	0.002	0.057			lg_Language	-0.033	-0.154
	sq_Tcd	0.640	0.305	7.346***			sq_Tcd	0.518	3.734***
					0.848	116.396***	Constant	-0.765	-1.774
2	(Constant)	-1.621		-5.602***			Rho (AR1)	0.648	12.457***
	sq_quota	0.112	0.167	4.955***			sq_quota	0.117	3.879***
	lg_gdp	0.687	0.821	11.515***			lg_gdp	0.668	7.708***
	lg_population	0.013	0.013	0.202			lg_population	0.019	0.191
	EFWidx	0.051	0.093	1.819			EFWidx	-0.036	-0.956
	lg_openness	0.180	0.185	6.59***			lg_openness	0.117	3.174**
	sq_coproduction	0.004	0.002	0.078			sq_coproduction	0.040	0.810
	goverment	0.095	0.170	2.569*			goverment	0.138	2.761**
	sq_Hcd	-0.012	-0.015	-0.340			sq_Hcd	-0.057	-1.034
	lg_Language	0.015	0.004	0.122			lg_Language	-0.073	-0.361
	sq_Tcd	0.576	0.275	6.938***			sq_Tcd	0.475	3.63***
					0.865	133.359***		-0.758	-1.867
3	(Constant)	-1.567		-5.116***			Rho (AR1)	0.669	13.282***
	sq_IVR	0.024	0.024	0.742			sq_IVR	0.035	0.731
	lg_gdp	0.717	0.856	10.741***			lg_gdp	0.716	7.495***
	lg_pop	0.048	0.048	0.632			lg_population	0.025	0.222
	EFWidx	0.035	0.063	1.162			EFWidx	-0.037	-0.945
	lg_openness	0.214	0.219	7.600***			lg_openness	0.148	3.971***
	sq_coproduction	-0.027	-0.013	-0.438			sq_coproduction	0.041	0.790
	goverment	0.077	0.137	1.947			goverment	0.092	1.769
	sq_Hcd	-0.057	-0.069	-1.554			sq_Hcd	-0.090	-1.542
	lg_Language	0.000	0.000	0.001			lg_Language	-0.030	-0.141
	sq_Tcd	0.644	0.307	7.391***			sq_Tcd	0.525	3.804***
					0.848	116.776***	Constant	-0.827	-1.931
4	(Constant)	-1.521		-4.934***			Rho (AR1)	0.671	13.330***
	sq_service	-0.024	-0.034	-1.026			sq_service	0.004	0.114

	lg_gdp	0.696	0.832	11.009***			lg_gdp	0.697	7.567***
	lg_population	0.085	0.085	1.213			lg_population	0.059	0.558
	EFWidx	0.031	0.055	1.014			EFWidx	-0.037	-0.937
	lg_openness	0.226	0.232	7.72***			lg_openness	0.148	3.855***
	sq_coproduction	-0.028	-0.013	-0.457			sq_coproduction	0.036	0.697
	goverment	0.086	0.155	2.19*			goverment	0.094	1.821
	sq_Hcd	-0.051	-0.061	-1.343			sq_Hcd	-0.101	-1.708
	lg_Language	0.011	0.003	0.079			lg_Language	-0.024	-0.112
	sq_Tcd	0.607	0.290	6.579***			sq_Tcd	0.528	3.612***
					0.849	117.123***	Constant	-0.811	-1.885
5	(Constant)	-1.537		-4.900***			Rho (AR1)	0.680	13.758***
	sq_taxation	0.010	0.011	0.359			sq_taxation	0.049	1.279
	lg_gdp	0.696	0.831	10.752***			lg_gdp	0.678	7.227***
	lg_population	0.076	0.076	1.095			lg_population	0.069	0.667
	EFWidx	0.034	0.062	1.150			EFWidx	-0.041	-1.036
	lg_openness	0.216	0.222	7.719***			lg_openness	0.147	3.935***
	sq_coproduction	-0.032	-0.015	-0.534			sq_coproduction	0.042	0.830
	goverment	0.082	0.147	2.084*			goverment	0.095	1.834
	sq_Hcd	-0.065	-0.079	-1.663			sq_Hcd	-0.122	-2.021*
	lg_Language	-0.006	-0.002	-0.041			lg_Language	-0.070	-0.319
	sq_Tcd	0.638	0.305	7.332***			sq_Tcd	0.514	3.684***
					0.848	116.485***	Constant	-0.709	-1.629
6	(Constant)	-1.337		-4.487***			Rho (AR1)	0.643	12.264***
	lg_subsidy	0.334	0.140	4.288***			lg_subsidy	0.244	2.262
	lg_gdp	0.562	0.671	8.187***			lg_gdp	0.611	6.413***
	lg_population	0.151	0.151	2.206*			lg_population	0.114	1.137
	EFWidx	0.037	0.067	1.303			EFWidx	-0.034	-0.881
	lg_openness	0.200	0.205	7.42***			lg_openness	0.138	3.713***
	sq_coproduction	-0.031	-0.014	-0.532			sq_coproduction	0.030	0.596
	goverment	0.129	0.232	3.305**			goverment	0.135	2.559*
	sq_Hcd	-0.059	-0.072	-1.692			sq_Hcd	-0.097	-1.777
	lg_Language	0.002	0.000	0.013			lg_Language	-0.067	-0.325
	sq_Tcd	0.571	0.273	6.741***			sq_Tcd	0.512	3.861***
					0.861	129.096***	Constant	-0.720	-1.721
7	(Constant)	-1.501		-4.975***			Rho (AR1)	0.689	13.872***
	sq_TBI	0.057	0.113	2.728***			sq_TBI	0.091	3.164**
	lg_gdp	0.672	0.803	10.67***			lg_gdp	0.664	7.207***
	lg_population	0.031	0.031	0.444			lg_population	-0.026	-0.247
	EFWidx	0.039	0.072	1.350			EFWidx	-0.042	-1.080
	lg_openness	0.180	0.185	5.919***			lg_openness	0.104	2.658**
	sq_coproduction	-0.018	-0.008	-0.304			sq_coproduction	0.048	0.974
	goverment	0.095	0.170	2.451*			goverment	0.125	2.395**
	sq_Hcd	-0.071	-0.086	-1.972			sq_Hcd	-0.115	-2.006*
	lg_Language	-0.039	-0.011	-0.292			lg_Language	-0.125	-0.575
	sq_Tcd	0.649	0.310	7.589***			sq_Tcd	0.532	3.845***
					0.853	121.536***	Constant	-0.643	-1.504
8	(Constant)	-1.550		-5.089***			Rho (AR1)	0.670	13.331***
	sq_TBN	0.052	0.065	1.665			sq_TBN	0.066	1.778
	lg_gdp	0.676	0.808	10.483***			lg_gdp	0.674	7.329***
	lg_population	0.062	0.062	0.894			lg_population	0.041	0.396

	EFWidx	0.041	0.074	1.376			EFWidx	-0.032	-0.822
	lg_openness	0.198	0.203	6.606***			lg_openness	0.134	3.525***
	sq_coproduction	-0.020	-0.010	-0.338			sq_coproduction	0.048	0.942
	goverment	0.090	0.161	2.29*			goverment	0.109	2.102*
	sq_Hcd	-0.066	-0.080	-1.801			sq_Hcd	-0.101	-1.783
	lg_Language	-0.008	-0.002	-0.058			lg_Language	-0.032	-0.150
	sq_Tcd	0.631	0.301	7.283***			sq_Tcd	0.523	3.812***
					0.850	118.311***	Constant	-0.827	-1.945
9	(Constant)	-1.323		-4.394***			Rho (AR1)	0.636	11.894***
	lg_tariff	0.123	0.023	0.623			lg_tariff	0.269	1.062
	sq_quota	0.104	0.155	3.956***			sq_quota	0.132	3.727***
	sq_IVR	0.094	0.095	2.62**			sq_IVR	0.079	1.493
	sq_service	-0.026	-0.037	-1.112			sq_service	-0.016	-0.456
	sq_taxation	0.022	0.024	0.687			sq_taxation	0.042	0.957
	lg_subsidy	0.248	0.104	2.909**			lg_subsidy	0.084	0.679
	lg_gdp	0.637	0.761	8.66***			lg_gdp	0.683	6.821***
	lg_population	-0.009	-0.009	-0.103			lg_population	-0.070	-0.582
	EFWidx	0.030	0.054	0.964			EFWidx	-0.048	-1.253
	lg_openness	0.174	0.179	5.648***			lg_openness	0.124	3.197**
	sq_coproduction	0.039	0.018	0.675			sq_coproduction	0.054	1.082
	goverment	0.133	0.239	3.364***			goverment	0.157	3.035**
	sq_Hcd	-0.007	-0.009	-0.187			sq_Hcd	-0.046	-0.745
	lg_Language	-0.051	-0.014	-0.394			lg_Language	-0.159	-0.789
	sq_Tcd	0.511	0.244	5.896***			sq_Tcd	0.440	3.223***
					0.873	95.577***	Constant	-0.624	-1.518

- p<.05. **p<.01. ***<.001

Similarly, across all the models, GDP, OI, and Tadesse's cultural value (TCD) appeared to be three strongest contributors to film production. Government efficiency also appeared to be significant factors in improving film productions in most models, except in model 3.

As to the TB variables, quota and subsidy were all significant predictors (at .001 level of significance) of the film production variation. Investment, service barriers, and taxation were not significant predictors. TBI was also significant in predicting film production and TBN was not significant.

In model 9, the six TB variables were entered into one regression function. It turns out that, in addition to the significance of subsidy and quota, investment restriction

also turned to be statistically significant (at .01 level). This might indicate that the effect of investment restrictions on film production might depend on the composite effect of other policy variables, such as subsidy and quota.

Altogether, subsidy was the strongest contributor to domestic film productions (β =33.4 percent in model 6), followed by quota (β =11.2 percent in model 2) and investment restrictions (β =9.4 percent in model 9), a result that was consistent with the correlation analysis.

Time-Series Regressions

Autoregression analyses were used for each of the above different nine models in order to investigate the effects of the independent factors over the studied time period. The results showed similar patterns as the preliminary regression analyses. Across all of the nine models, gross domestic product, Tadesse's cultural value measure, and the Openness Index in trade remained three strongest contributors for domestic film production. This indicates the effect of these three variables was long-lasting over the studied period of time. Government Effectiveness index appeared significant in five of the nine models, the subsidy model (model 6), both of the TBI and TBN model (model 7 and model 8), and model 9 with all the TB variables. This indicated the effect of GE index was long-lasting, but the effect might reduce with time. As to the TB variables, quota and TBI remained significant in model 2 (β = 11.7%) and model 7 (β =9. 1%) . Quota was also statistically significant in model 9 (β =13.3%). Therefore, the function of quota in facilitating local film production was fairly consistent during the studied time period. However, in both the subsidy function (model 6) and the TB combination model

(model 9), subsidy seemed to lose its significance, indicating that the effectiveness of subsidy might decrease over time.

Market Share Function

Preliminary Regressions

Interestingly, more factors were statistically significant in determining national film's market share. Also, cultural factors played more important roles in the market share function. As a whole, the models explained less percentage of the variations in the dependent variable (around 56 percent to 65 percent).

As shown in Table 4-4, across the nine models, GDP, the EFW index, co-production, and the three culture variables were all strong predictors of market share. Similar as to local production, GDP was also the strongest booster to increase market share. Both the EFW Index and co-production, however, showed negative coefficients with market share. This indicated that opening the domestic market and having international cooperation with foreign partners might actually invite more cultural erosions.

As to the cultural variables, the results were mixed. The cultural dimension, as measured by Tadesse & White, showed a positive significant coefficient with market share variable, indicating that the closeness in social-cultural value with the US would negatively affect domestic film's market share. The negative relations between language score and market share also indicated increasing market erosions from language approximate countries. The negative relations between cultural dimension in Hcd and market share, however, indicated that closeness in Hofstede's cultural dimension with the U.S. would actually increase the market share of domestic films. This might indicate that

culture was complicated and multi-dimensional. Its effect on film market depends on how culture was measured.

The positive significant coefficient between Government control and market share indicated that the effectiveness of government in stipulating and enforcing regulations provide a favorable environment that, in turn, would enhance national film's market performance.

As to the TB variables, quota and subsidy were significant positive determinants (at .001 level of significance) of market share. Tariff and service barrier showed positive coefficients with market share, but the coefficients were not significant. Investment barrier and taxation barrier showed negative relations with market share, but the coefficients were not significant. For the composite TB indices, again, TBI was significant and TBN was not significant in their coefficients with market share.

Table 4-4: Market Share Models

Preliminary Regressions							Time-series Autoregressions		
Models	Variables	B	ß	T-Value	Adjusted R2	F	Variables	Parameter Estimates	T-value
1	(Constant)	5.220		2.221*			Rho (AR1)	0.664	11.093***
	lg_tariff	3.073	0.084	1.275			lg_tariff	3.762	1.432
	lg_gdp	1.460	0.580	3.215**			lg_gdp	1.832	3.014**
	lg_population	-0.244	-0.083	-0.446			lg_population	-0.651	-0.881
	EFWidx	-0.851	-0.379	-3.444***			EFWidx	-0.712	-2.352*
	lg_openness	0.242	0.077	1.137			lg_openness	0.194	0.777
	sq_coproduction	-1.320	-0.184	-3.059**			sq_coproduction	-0.770	-2.077*
	goverment	0.544	0.246	2.114*			goverment	0.156	0.485
	sq_Hcd	-0.642	-0.241	-2.705**			sq_Hcd	-0.610	-1.821
	lg_Language	-2.904	-0.273	-3.557***			lg_Language	-1.824	-1.503
	sq_Tcd	2.556	0.420	4.271***			sq_Tcd	2.624	3.012**
					0.535	17.547***	Constant	3.494	1.160
2	(Constant)	2.633		1.175			Rho (AR1)	0.616	9.410***
	sq_quota	0.666	0.349	4.740***			sq_quota	0.470	2.352*
	lg_gdp	1.258	0.500	3.105**			lg_gdp	1.510	2.761**
	lg_population	-0.311	-0.105	-0.655			lg_population	-0.378	-0.601
	EFWidx	-0.599	-0.267	-2.572*			EFWidx	-0.554	-1.905

	lg_openness	0.032	0.010	0.162			lg_openness	0.047	0.199
	sq_coproduction	-1.168	-0.163	-2.899**			sq_coproduction	-0.875	-2.366*
	goverment	0.762	0.344	3.166**			goverment	0.462	1.459
	sq_Hcd	-0.327	-0.123	-1.431			sq_Hcd	-0.386	-1.179
	lg_Language	-2.433	-0.229	-3.176**			lg_Language	-1.932	-1.704
	sq_Tcd	2.822	0.464	5.042***			sq_Tcd	2.871	3.536**
					0.597	22.302***	Constant	1.928	0.667
3	(Constant)	5.020		2.128*			Rho (AR1)	0.671	11.370***
	sq_IVR	-0.040	-0.012	-0.187			sq_IVR	0.203	0.636
	lg_gdp	1.271	0.505	2.790**			lg_gdp	1.662	2.761**
	lg_population	0.064	0.022	0.119			lg_population	-0.320	-0.455
	EFWidx	-0.811	-0.361	-3.282**			EFWidx	-0.653	-2.155*
	lg_openness	0.191	0.061	0.896			lg_openness	0.103	0.413
	sq_coproduction	-1.359	-0.189	-3.123**			sq_coproduction	-0.767	-2.053*
	goverment	0.589	0.266	2.285*			goverment	0.199	0.620
	sq_Hcd	-0.620	-0.233	-2.604*			sq_Hcd	-0.555	-1.615
	lg_Language	-2.882	-0.271	-3.493***			lg_Language	-1.777	-1.439
	sq_Tcd	2.565	0.422	4.257***			sq_Tcd	2.714	3.079**
					0.529	17.184***	Constant	2.942	0.972
4	(Constant)	5.140		2.179*			Rho (AR1)	0.665	11.162***
	sq_service	0.130	0.056	0.803			sq_service	0.046	0.213
	lg_gdp	1.322	0.525	3.017**			lg_gdp	1.585	2.695**
	lg_population	-0.038	-0.013	-0.074			lg_population	-0.199	-0.291
	EFWidx	-0.806	-0.359	-3.274**			EFWidx	-0.652	-2.157*
	lg_openness	0.122	0.039	0.548			lg_openness	0.107	0.423
	sq_coproduction	-1.393	-0.194	-3.199**			sq_coproduction	-0.801	-2.142*
	goverment	0.533	0.241	2.017*			goverment	0.205	0.634
	sq_Hcd	-0.672	-0.252	-2.726**			sq_Hcd	-0.609	-1.740
	lg_Language	-2.953	-0.278	-3.591***			lg_Language	-1.746	-1.427
	sq_Tcd	2.632	0.433	4.347***			sq_Tcd	2.787	3.113**
					0.531	17.323***	Constant	2.984	0.989
5	(Constant)	4.741		1.987*			Rho (AR1)	0.672	11.358***
	sq_taxation	-0.143	-0.051	-0.742			sq_taxation	0.103	0.390
	lg_gdp	1.368	0.544	3.054**			lg_gdp	1.533	2.554**
	lg_population	-0.037	-0.012	-0.072			lg_population	-0.148	-0.221
	EFWidx	-0.827	-0.369	-3.350**			EFWidx	-0.647	-2.131*
	lg_openness	0.240	0.076	1.078			lg_openness	0.101	0.402
	sq_coproduction	-1.412	-0.197	-3.208**			sq_coproduction	-0.763	-2.021*
	goverment	0.603	0.273	2.342*			goverment	0.187	0.575
	sq_Hcd	-0.552	-0.207	-2.172*			sq_Hcd	-0.630	-1.752
	lg_Language	-2.672	-0.251	-3.057**			lg_Language	-1.821	-1.443
	sq_Tcd	2.662	0.438	4.340***			sq_Tcd	2.671	2.966**
					0.531	17.301***	Constant	3.178	1.027
6	(Constant)	5.331		2.368**			Rho (AR1)	0.645	10.312***
	lg_subsidy	1.721	0.269	3.659***			lg_subsidy	1.143	1.756
	lg_gdp	0.470	0.187	0.992			lg_gdp	1.121	1.816
	lg_population	0.551	0.187	1.094			lg_population	0.132	0.200
	EFWidx	-0.708	-0.316	-2.987**			EFWidx	-0.602	-2.031*
	lg_openness	0.084	0.026	0.416			lg_openness	0.037	0.149
	sq_coproduction	-1.385	-0.193	-3.352**			sq_coproduction	-0.827	-2.231*

	goverment	0.926	0.419	3.534***			goverment	0.457	1.352
	sq_Hcd	-0.549	-0.206	-2.412*			sq_Hcd	-0.557	-1.703
	lg_Language	-2.888	-0.272	-3.689***			lg_Language	-2.010	-1.693
	sq_Tcd	2.301	0.378	3.976***			sq_Tcd	2.634	3.106**
					0.572	20.230***	Constant	3.235	1.101
7	(Constant)	4.505		1.980*			Rho (AR1)	0.644	10.424***
	sq_TBI	0.461	0.312	3.299**			sq_TBI	0.384	2.101*
	lg_gdp	0.939	0.373	2.161*			lg_gdp	1.355	2.373*
	lg_population	-0.093	-0.031	-0.189			lg_population	-0.394	-0.608
	EFWidx	-0.582	-0.260	-2.353*			EFWidx	-0.533	-1.784
	lg_openness	-0.248	-0.078	-1.033			lg_openness	-0.123	-0.463
	sq_coproduction	-1.181	-0.165	-2.813**			sq_coproduction	-0.785	-2.127*
	goverment	0.599	0.271	2.424*			goverment	0.321	1.020
	sq_Hcd	-0.641	-0.241	-2.800**			sq_Hcd	-0.604	-1.865
	lg_Language	-3.272	-0.308	-4.101***			lg_Language	-2.215	-1.861
	sq_Tcd	2.458	0.404	4.238***			sq_Tcd	2.729	3.250**
					0.564	19.659***	Constant	2.823	0.967
8	(Constant)	5.189		2.185*			Rho (AR1)	0.667	11.213***
	sq_TBN	-0.120	-0.050	-0.558			sq_TBN	-0.052	-0.234
	lg_gdp	1.364	0.542	3.000**			lg_gdp	1.598	2.687**
	lg_population	0.027	0.009	0.053			lg_population	-0.160	-0.241
	EFWidx	-0.861	-0.384	-3.299**			EFWidx	-0.665	-2.147*
	lg_openness	0.248	0.078	1.037			lg_openness	0.136	0.533
	sq_coproduction	-1.388	-0.193	-3.171**			sq_coproduction	-0.803	-2.142*
	goverment	0.580	0.262	2.259*			goverment	0.201	0.623
	sq_Hcd	-0.617	-0.231	-2.594*			sq_Hcd	-0.592	-1.745
	lg_Language	-2.841	-0.267	-3.438***			lg_Language	-1.717	-1.399
	sq_Tcd	2.622	0.431	4.309***			sq_Tcd	2.758	3.139**
					0.530	17.247***	Constant	3.027	0.997
9	(Constant)	3.551		1.571			Rho (AR1)	0.612	8.995***
	lg_tariff	2.428	0.066	0.923			lg_tariff	3.734	1.245
	sq_quota	0.595	0.312	3.510***			sq_quota	0.364	1.484
	sq_IVR	0.252	0.078	1.030			sq_IVR	0.335	0.945
	sq_service	-0.009	-0.004	-0.049			sq_service	-0.139	-0.600
	sq_taxation	0.133	0.048	0.606			sq_taxation	0.065	0.222
	lg_subsidy	1.257	0.197	2.336*			lg_subsidy	1.056	1.386
	lg_gdp	0.869	0.345	1.685			lg_gdp	1.452	2.210*
	lg_population	-0.252	-0.086	-0.435			lg_population	-0.674	-0.883
	EFWidx	-0.577	-0.257	-2.416**			EFWidx	-0.594	-2.001*
	lg_openness	-0.078	-0.025	-0.316			lg_openness	0.059	0.216
	sq_coproduction	-1.080	-0.150	-2.601*			sq_coproduction	-0.776	-2.044*
	goverment	0.919	0.416	3.493***			goverment	0.568	1.686
	sq_Hcd	-0.377	-0.141	-1.496			sq_Hcd	-0.347	-0.939
	lg_Language	-2.783	-0.262	-3.436***			lg_Language	-2.322	-1.980*
	sq_Tcd	2.529	0.416	4.298***			sq_Tcd	2.431	2.796**
					0.608	15.875***	Constant	2.969	0.995

* p<.05. **p<.01. ***<.001

Time-Series Regressions

Controlled for time, GDP, co-production, and Tcd remained significant predictors across the nine models. Among the six TB variables, however, only quota remained significant (at .05 level) in model 2. The qualitative composite index TBI also remained statistically significant (at .05 level) in model 7. Although subsidy was statistically significant in increasing market share in the preliminary model, its influence seemed to decrease over time. The EFW index was significant in all the models, except in model 2 which includes quota variable, and in model 7 which includes the TBI variable. This might indicate that the negative effect of opening market was offset by a well-regulated and protected market. Another interesting observation was that government control appeared to be a great contributor to market share across the nine models in the preliminary regressions. Controlled for time, however, the effectiveness of the GE factor was significantly lost. In the long run, the effects of some cultural factors, such as language factor and cultural factor in Hcd, were also becoming non-significant. However, the cultural values in Tcd seemed have long-lasting effect.

Export Function

Preliminary Regressions

The regression results for export function were reported in Table 4-5. In the preliminary functions, the export models explained around 87 percent to 89 percent of the export variations. In the tariff-export model (model 1), GDP, the Openess Index, and cultural value from Tadesse & White appeared to be three strongest predictors of film export. The EFW index and GE index were not statistically significant in their

coefficients with film export. This might because that these two factors focus more on the domestic market rather than on export relations. The cultural dimension in language proximity also showed a positive impact on film export, implying the importance of culture-language in foreign film consumptions. The cultural distance from Tadesse & White and cultural distance from Hofstede, again, showed impacts on film export in different directions. Tcd appeared to be a positive predictor of film export, but Hcd was a negative predictor of film export. The negative impact of Hcd on film export was consistent with its impact on production, and therefore, the negative impact on export might be explained by reduced productions. The positive impact of Tcd on film export was interesting, as it indicated that more films were imported from cultural different but language approximate countries. If that is the case, it is the language, and not the cultural values that limit consumptions of foreign films. Adding distance in social cultural values might increase the attractiveness of foreign films.

As to the TB variables, tariff was not statistically significant, therefore not an determinant of film export. Surprisingly, co-productions showed no significant impact on film export, implying that having co-productions does not necessarily increase a country's film export, as commonly believed by scholars.

Similar patterns appeared across all of the rest seven models (model 2 – model 9) in that GDP was the strongest predictor for film export. The market structure variable in the OI index, as an indicator of trade relations, showed significance positive coefficient with film export. The EFW index was, however, not statistically significant. This result was understandable because exports rely more on trade relations. The cultural dimensions in language and the cultural value from Tadesse & White were also strong positive

factors in film export in all of the nine models. In contrast, the Hofstede's cultural distance appeared an unstable predictor across the models.

As to the TB variables, in model 2 (the quota-export model), quota was not a significant predictor of film export. This result was reasonable in that quota restrictions deal more with domestic market that with foreign trade. In the investment-export function (model 3), investment restrictions appeared to be a significant negative factor for film export. Therefore, restricting foreign investment might deteriorate trade relations among partners.

In the service-export function (model 4) and taxation-export function (model 5), both service restrictions and taxation appeared to negatively affect film export. These two variables remained significant in model 9. Subsidy (in model 6) and TBN (in model 8) were not significant factors for film export. TBI (in model 7), however, showed to be a negative indicator of film export, indicating that increased trade barriers in degree would cause undesirable effect on film export.

Time-Series Regressions

Controlled for time, GDP, the Openness Index, and Tcd remained three strongest predictors in film export across all the models. The impact of two other cultural dimensions, the Hefstede's cultural dimension and language factor seemed decreased and became non-significant over time. For the three TB variables that showed significant impacts on film export in the preliminary analyses, only service restrictions remained significant when controlled for time. Therefore, the effect of investment and tax restrictions decreased over time. The effect of composite TB factor, TBI, which was significant factor in the preliminary analysis, also appeared non-significant over time.

Table 4-5: Export models

Preliminary Regressions							Time-series Autoregressions		
Models	Variables	B	ß	T-Value	Adjusted R2	F	Variables	Parameter Estimates	T-value
1	(Constant)	-4.541		-5.930***			Rho (AR1)	0.739	15.554***
	lg_tariff	-0.299	-0.022	-0.680			lg_tariff	0.245	0.404
	lg_gdp	1.353	0.620	8.719***			lg_gdp	1.139	4.809***
	lg_population	-0.138	-0.053	-0.802			lg_population	0.025	0.089
	EFWidx	0.145	0.101	1.842			EFWidx	0.137	1.404
	lg_openness	1.691	0.666	23.554***			lg_openness	1.662	17.693***
	sq_coproduction	0.052	0.009	0.351			sq_coproduction	0.089	0.767
	goverment	-0.014	-0.010	-0.143			goverment	0.141	1.120
	sq_Hcd	-0.249	-0.116	-2.787**			sq_Hcd	-0.221	-1.515
	lg_Language	0.876	0.092	2.679**			lg_Language	0.835	1.518
	sq_Tcd	1.128	0.207	5.327***			sq_Tcd	0.952	2.712**
					0.867	136.385***	Constant	-4.198	-3.950***
2	(Constant)	-4.458		-5.986***			Rho (AR1)	0.742	15.611***
	sq_quota	0.067	0.038	1.154			sq_quota	-0.053	-0.683
	lg_gdp	1.358	0.623	8.839***			lg_gdp	1.129	4.845***
	lg_population	-0.201	-0.077	-1.178			lg_population	0.084	0.320
	EFWidx	0.133	0.093	1.835			EFWidx	0.147	1.519
	lg_openness	1.685	0.663	23.937***			lg_openness	1.666	17.883***
	sq_coproduction	0.066	0.012	0.445			sq_coproduction	0.089	0.768
	goverment	0.013	0.009	0.138			goverment	0.117	0.901
	sq_Hcd	-0.227	-0.106	-2.465*			sq_Hcd	-0.233	-1.575
	lg_Language	0.870	0.092	2.670**			lg_Language	0.881	1.589
	sq_Tcd	1.095	0.201	5.119***			sq_Tcd	0.979	2.762**
					0.868	137.073***	Constant	-4.299	-4.026***
3	(Constant)	-4.378		-5.962***			Rho (AR1)	0.725	14.608***
	sq_IVR	-0.203	-0.079	-2.608**			sq_IVR	-0.109	-0.906
	lg_gdp	1.232	0.565	7.698***			lg_gdp	1.076	4.575***
	lg_population	0.041	0.016	0.222			lg_population	0.158	0.561
	EFWidx	0.133	0.093	1.868			EFWidx	0.140	1.470
	lg_openness	1.731	0.682	25.647***			lg_openness	1.653	18.492***
	sq_coproduction	-0.018	-0.003	-0.124			sq_coproduction	0.076	0.649
	goverment	0.036	0.025	0.379			goverment	0.143	1.144
	sq_Hcd	-0.281	-0.131	-3.187**			sq_Hcd	-0.251	-1.712
	lg_Language	0.930	0.098	2.883**			lg_Language	0.860	1.597
	sq_Tcd	1.098	0.201	5.257***			sq_Tcd	0.962	2.795**
					0.872	141.397***	Constant	-4.174	-3.984***
4	(Constant)	-3.931		-5.608***			Rho (AR1)	0.691	12.999***
	sq_service	-0.292	-0.161	-5.491***			sq_service	-0.228	-2.761**
	lg_gdp	1.311	0.601	9.114***			lg_gdp	1.127	5.229***
	lg_population	-0.019	-0.007	-0.118			lg_population	0.164	0.664
	EFWidx	0.061	0.043	0.897			EFWidx	0.124	1.346
	lg_openness	1.820	0.717	27.327***			lg_openness	1.708	19.304***

	sq_coproduction	0.120	0.022	0.871			sq_coproduction	0.101	0.869
	goverment	0.077	0.053	0.860			goverment	0.147	1.227
	sq_Hcd	-0.140	-0.065	-1.639			sq_Hcd	-0.129	-0.930
	lg_Language	0.900	0.095	2.956**			lg_Language	0.846	1.670
	sq_Tcd	0.740	0.136	3.526***			sq_Tcd	0.687	2.000*
					0.885	159.849***	Constant	-4.067	-4.059***
5	(Constant)	-5.024		-6.813***			Rho (AR1)	0.728	15.764***
	sq_taxation	-0.239	-0.103	-3.821***			sq_taxation	-0.039	-0.420
	lg_gdp	1.490	0.683	9.795***			lg_gdp	1.143	4.943***
	lg_population	-0.260	-0.100	-1.582			lg_population	0.047	0.180
	EFWidx	0.155	0.108	2.200*			EFWidx	0.143	1.493
	lg_openness	1.725	0.679	26.227***			lg_openness	1.651	18.403***
	sq_coproduction	0.002	0.000	0.011			sq_coproduction	0.085	0.732
	goverment	-0.037	-0.025	-0.400			goverment	0.135	1.081
	sq_Hcd	-0.131	-0.061	-1.425			sq_Hcd	-0.202	-1.356
	lg_Language	1.202	0.126	3.669***			lg_Language	0.879	1.606
	sq_Tcd	1.161	0.213	5.674***			sq_Tcd	0.965	2.786**
					0.876	147.561***	Constant	-4.292	-4.053***
6	(Constant)	-4.326		-5.711***			Rho (AR1)	0.737	15.213***
	lg_subsidy	0.143	0.023	0.721			lg_subsidy	-0.009	-0.033
	lg_gdp	1.307	0.599	7.488***			lg_gdp	1.123	4.574***
	lg_population	-0.131	-0.050	-0.755			lg_population	0.059	0.224
	EFWidx	0.125	0.087	1.721			EFWidx	0.143	1.481
	lg_openness	1.700	0.669	24.770***			lg_openness	1.652	17.879***
	sq_coproduction	0.044	0.008	0.300			sq_coproduction	0.090	0.778
	goverment	0.025	0.017	0.254			goverment	0.137	1.029
	sq_Hcd	-0.256	-0.119	-2.873**			sq_Hcd	-0.219	-1.504
	lg_Language	0.863	0.091	2.643**			lg_Language	0.847	1.533
	sq_Tcd	1.103	0.202	5.119***			sq_Tcd	0.957	2.727**
					0.867	136.431***	Constant	-4.236	-3.946***
7	(Constant)	-4.706		-6.762***			Rho (AR1)	0.695	13.628***
	sq_TBI	-0.270	-0.204	-5.566***			sq_TBI	-0.151	-2.196
	lg_gdp	1.501	0.689	10.339***			lg_gdp	1.211	5.529***
	lg_population	0.032	0.012	0.199			lg_population	0.166	0.657
	EFWidx	0.106	0.074	1.572			EFWidx	0.142	1.528
	lg_openness	1.878	0.740	26.715***			lg_openness	1.723	18.654***
	sq_coproduction	-0.032	-0.006	-0.234			sq_coproduction	0.071	0.608
	goverment	-0.065	-0.044	-0.723			goverment	0.070	0.571
	sq_Hcd	-0.203	-0.095	-2.437*			sq_Hcd	-0.199	-1.455
	lg_Language	1.085	0.114	3.540***			lg_Language	1.015	1.960
	sq_Tcd	1.088	0.199	5.518***			sq_Tcd	0.952	2.892***
					0.885	160.510***	Constant	-4.460	-4.399***
8	(Constant)	-4.477		-6.156***			Rho (AR1)	0.731	15.066***
	sq_TBN	-0.247	-0.117	-3.282			sq_TBN	-0.046	-0.524
	lg_gdp	1.481	0.679	9.617***			lg_gdp	1.140	4.940***
	lg_population	-0.113	-0.043	-0.685			lg_population	0.071	0.274
	EFWidx	0.099	0.069	1.402			EFWidx	0.139	1.445
	lg_openness	1.796	0.707	25.099***			lg_openness	1.661	18.159***
	sq_coproduction	-0.021	-0.004	-0.146			sq_coproduction	0.081	0.694
	goverment	-0.041	-0.028	-0.432			goverment	0.126	0.992

	sq_Hcd	-0.229	-0.107	-2.634**			sq_Hcd	-0.219	-1.519
	lg_Language	0.939	0.099	2.941**			lg_Language	0.848	1.561
	sq_Tcd	1.174	0.215	5.678***			sq_Tcd	0.960	2.763**
					0.874	144.535***	Constant	-4.216	-4.004***
9	(Constant)	-4.177		-5.757***			Rho (AR1)	0.675	12.996***
	lg_tariff	0.777	0.057	1.630			lg_tariff	0.412	0.653
	sq_quota	-0.083	-0.048	-1.319			sq_quota	-0.079	-0.906
	sq_IVR	0.053	0.021	0.618			sq_IVR	-0.004	-0.032
	sq_service	-0.299	-0.164	-5.302***			sq_service	-0.228	-2.634**
	sq_taxation	-0.293	-0.126	-3.864***			sq_taxation	-0.092	-0.848
	lg_subsidy	0.211	0.034	1.028			lg_subsidy	0.205	0.658
	lg_gdp	1.454	0.667	8.201***			lg_gdp	1.158	4.652***
	lg_population	-0.161	-0.062	-0.802			lg_population	0.146	0.481
	EFWidx	0.030	0.021	0.398			EFWidx	0.113	1.209
	lg_openness	1.897	0.747	25.504***			lg_openness	1.739	18.270***
	sq_coproduction	0.037	0.007	0.268			sq_coproduction	0.080	0.673
	goverment	0.088	0.060	0.916			goverment	0.150	1.172
	sq_Hcd	-0.030	-0.014	-0.315			sq_Hcd	-0.121	-0.771
	lg_Language	1.261	0.133	4.068***			lg_Language	0.919	1.801
	sq_Tcd	0.790	0.145	3.787***			sq_Tcd	0.717	2.080*
					0.891	113.847***	Constant	-4.097	-4.003***

* p<.05. **p<.01. ***<.001

Screen Function

Preliminary Regressions

The screen models explained around 88 percent to 90 percent of the screen variations (Table 4-6). Across the nine models, population and gross domestic product appeared to be two of the strongest contributors for national film screens. This seemed to support the market size effect in that, bigger markets with more developed economies and large population have more developed film industries. The GE index was also significant (at .001 level of confidence) in its coefficient with film screens, indicating that the strong government control in reinforcing regulations would enhance the development of film industry. As to the market structure variables, the EFW index was statistically significant in determining the development scale of films. The coefficient was negative and the

results were consistent across all of the nine models. The negative coefficient between an open market and the scale of film operations seemed to suggest that open countries may encounter more market erosions from imported films. The OI index was significant in most models (except in model 2, model 7, and model 9). The results suggested that trade outflow might play a positive role in increasing domestic operations.

Among the six TB variables, tariff, quota, subsidy, and TBI were all positively related to film screens. Investment restrictions, service restrictions, taxation, and TBN were negatively related to film screens. The directions of these above relations were understandable because tariff provides extra revenues for film development. Both quota and subsidy provide direct support for domestic film development. Investment, service, and tax restrictions affect domestic development. However, the coefficients were only significant for quota (at .001 level of significance) and subsidy (at .05 level of significance). The result seemed to support the claim that quota and subsidy are more direct way of supporting local film development. Considering the composite effect of various trade barriers as a whole, however, none of the TB Indices showed significant coefficients with film screens. Therefore, increasing the number of TBs and increasing the quality and degree of trade barriers would have no significant impact on national film screens. In model 9, quota and investment restrictions appeared to have significant positive coefficients with film screens. The significance of investment restrictions on film screens might indicate that the interaction of different TB variables might provide a more positive effect on national film development. The combination of investment restrictions and quotas might actually help more with national film infrastructures in screens.

As to the three cultural variables, only the cultural dimension in Hcd was significantly correlated with film screens, and the effect was negative. This, again, suggested that the closeness of culture in Hcd dimensions would actually help with the development of national infrastructure. While cultural proximity in social economic values and language were positively associated to a larger screen numbers, their effects were not significant (except in model 7 where Tcd was significant). Cultural effects on screens became even less significant when considering all the regulatory variables in model 9.

Table 4-6: Total Screen

Preliminary Regressions							Time-Series Autoregressions		
Models	Variables	B	ß	T-Value	Adjusted R^2	F	Variables	Parameter Estimates	T-value
1	(Constant)	0.781		5.259***			Rho (AR1)	0.976	103.328***
	lg_tariff	0.033	0.012	0.374			lg_tariff	0.640	8.372***
	lg_gdp	0.207	0.488	6.879***			lg_gdp	0.151	5.209***
	lg_population	0.228	0.450	6.804***			lg_population	0.317	8.894***
	EFWidx	-0.038	-0.136	-2.482*			EFWidx	-0.030	-2.888**
	lg_openness	0.038	0.075	2.702**			lg_openness	0.032	3.468***
	sq_coproduction	-0.008	-0.007	-0.265			sq_coproduction	0.000	-0.033
	goverment	0.081	0.285	4.226***			goverment	0.065	4.786***
	sq_Hcd	-0.060	-0.143	-3.454***			sq_Hcd	0.002	0.098
	lg_Language	0.029	0.015	0.450			lg_Language	0.454	6.428***
	sq_Tcd	0.081	0.076	1.965			sq_Tcd	-0.056	-1.345
					0.868	136.813***	Constant	0.637	5.017***
2	(Constant)	0.737		5.517***			Rho (AR1)	0.948	61.052***
	lg_gdp	0.199	0.468	7.205***			lg_gdp	0.109	3.275***
	lg_population	0.197	0.390	6.451***			lg_population	0.395	10.080***
	EFWidx	-0.027	-0.098	-2.080*			EFWidx	-0.036	-2.884**
	lg_openness	0.016	0.032	1.266			lg_openness	0.010	0.880
	sq_coproduction	0.014	0.013	0.541			sq_coproduction	-0.002	-0.146
	goverment	0.087	0.308	5.107***			goverment	0.081	4.822***
	sq_Hcd	-0.033	-0.079	-1.995*			sq_Hcd	-0.015	-0.730
	lg_Language	0.034	0.018	0.583			lg_Language	0.370	4.464***
	sq_Tcd	0.046	0.043	1.200			sq_Tcd	-0.050	-1.012
	sq_quota	0.062	0.182	5.926***			sq_quota	0.019	1.999*
					0.888	164.7078***	Constant	0.749	5.257***
3	(Constant)	0.770		5.317***			Rho (AR1)	0.954	65.475***

	lg_gdp	0.202	0.475	6.377***			lg_gdp	0.115	3.439***
	lg_population	0.237	0.468	6.536***			lg_population	0.398	9.594***
	EFWidx	-0.036	-0.127	-2.497*			EFWidx	-0.031	-2.501*
	lg_openness	0.037	0.074	2.744**			lg_openness	0.015	1.383
	sq_coproduction	-0.009	-0.008	-0.298			sq_coproduction	-0.001	-0.049
	goverment	0.080	0.282	4.294***			goverment	0.069	4.330***
	sq_Hcd	-0.060	-0.144	-3.459***			sq_Hcd	-0.008	-0.342
	lg_Language	0.032	0.017	0.499			lg_Language	0.412	4.997***
	sq_Tcd	0.080	0.075	1.929			sq_Tcd	-0.042	-0.839
	sq_IVR	-0.006	-0.013	-0.410			sq_IVR	0.012	0.626
					0.868	136.8356***	Constant	0.675	4.683***
4	(Constant)	0.788		5.410***			Rho (AR1)	0.954	65.920***
	lg_gdp	0.204	0.480	6.808***			lg_gdp	0.116	3.487***
	lg_population	0.236	0.467	7.142***			lg_population	0.391	9.774***
	EFWidx	-0.038	-0.137	-2.666**			EFWidx	-0.033	-2.683**
	lg_openness	0.041	0.081	2.907**			lg_openness	0.011	1.071
	sq_coproduction	-0.004	-0.003	-0.129			sq_coproduction	-0.003	-0.213
	goverment	0.082	0.289	4.392***			goverment	0.070	4.420***
	sq_Hcd	-0.055	-0.131	-3.081**			sq_Hcd	-0.018	-0.839
	lg_Language	0.031	0.017	0.492			lg_Language	0.425	5.174***
	sq_Tcd	0.065	0.062	1.495			sq_Tcd	-0.012	-0.230
	sq_service	-0.011	-0.032	-1.037			sq_service	0.021	1.715
					0.869	137.5595***	Constant	0.671	4.753***
5	(Constant)	0.713		4.853***			Rho (AR1)	0.956	67.552***
	lg_gdp	0.218	0.515	7.171***			lg_gdp	0.109	3.247**
	lg_population	0.221	0.436	6.713***			lg_population	0.408	10.424***
	EFWidx	-0.033	-0.120	-2.367*			EFWidx	-0.033	-2.648**
	lg_openness	0.038	0.077	2.901**			lg_openness	0.014	1.356
	sq_coproduction	-0.011	-0.010	-0.392			sq_coproduction	0.000	-0.010
	goverment	0.076	0.266	4.098***			goverment	0.067	4.181***
	sq_Hcd	-0.047	-0.113	-2.588*			sq_Hcd	-0.016	-0.736
	lg_Language	0.062	0.034	0.954			lg_Language	0.406	4.955***
	sq_Tcd	0.084	0.079	2.061*			sq_Tcd	-0.045	-0.912
	sq_taxation	-0.023	-0.050	-1.825			sq_taxation	0.014	1.126
					0.870	139.359***	Constant	0.704	4.960***
6	(Constant)	0.826		5.681***			Rho (AR1)	0.955	67.452***
	lg_gdp	0.171	0.402	5.091***			lg_gdp	0.115	3.402***
	lg_population	0.250	0.495	7.473***			lg_population	0.408	10.385***
	EFWidx	-0.035	-0.127	-2.525*			EFWidx	-0.032	-2.542*
	lg_openness	0.032	0.064	2.399*			lg_openness	0.015	1.389
	sq_coproduction	-0.006	-0.005	-0.208			sq_coproduction	-0.001	-0.105
	goverment	0.092	0.322	4.787***			goverment	0.067	3.979***
	sq_Hcd	-0.059	-0.141	-3.463***			sq_Hcd	-0.011	-0.526
	lg_Language	0.028	0.015	0.450			lg_Language	0.415	4.937***
	sq_Tcd	0.063	0.060	1.530			sq_Tcd	-0.046	-0.935
	lg_subsidy	0.085	0.070	2.227*			lg_subsidy	-0.013	-0.375
					0.871	140.6584***	Constant	0.679	4.682***
7	(Constant)	0.781		5.398***			Rho (AR1)	0.952	63.111***
	lg_gdp	0.199	0.469	6.578***			lg_gdp	0.109	3.312**
	lg_population	0.222	0.438	6.651***			lg_population	0.373	9.155***

	EFWidx	-0.035	-0.124	-2.444*			EFWidx	-0.035	-2.854**
	lg_openness	0.028	0.056	1.876			lg_openness	0.006	0.580
	sq_coproduction	-0.003	-0.003	-0.106			sq_coproduction	0.000	-0.003
	goverment	0.082	0.289	4.412***			goverment	0.080	4.921***
	sq_Hcd	-0.062	-0.147	-3.561***			sq_Hcd	-0.020	-0.940
	lg_Language	0.019	0.011	0.306			lg_Language	0.373	4.555***
	sq_Tcd	0.082	0.078	2.005*			sq_Tcd	-0.028	-0.578
	sq_TBI	0.013	0.049	1.230			sq_TBI	0.023	2.533*
					0.869	137.9091***	Constant	0.736	5.246***
8	(Constant)	0.769		5.305***			Rho (AR1)	0.953	65.340***
	lg_gdp	0.207	0.487	6.708***			lg_gdp	0.112	3.360***
	lg_population	0.231	0.456	7.031***			lg_population	0.404	10.169***
	EFWidx	-0.036	-0.129	-2.517*			EFWidx	-0.032	-2.605**
	lg_openness	0.037	0.074	2.537*			lg_openness	0.014	1.263
	sq_coproduction	-0.007	-0.007	-0.249			sq_coproduction	-0.001	-0.048
	goverment	0.079	0.278	4.221***			goverment	0.071	4.383***
	sq_Hcd	-0.059	-0.141	-3.410***			sq_Hcd	-0.012	-0.564
	lg_Language	0.030	0.016	0.476			lg_Language	0.409	4.979***
	sq_Tcd	0.081	0.076	1.962			sq_Tcd	-0.043	-0.876
	sq_TBN	-0.002	-0.004	-0.110			sq_TBN	0.006	0.570
					0.868	136.7115***	Constant	0.687	4.847***
9	(Constant)	0.758		5.311***			Rho (AR1)	0.976	103.451***
	lg_gdp	0.234	0.552	6.702***			lg_gdp	0.146	5.010***
	lg_population	0.143	0.283	3.617***			lg_population	0.301	7.824***
	EFWidx	-0.039	-0.140	-2.660**			EFWidx	-0.036	-3.419***
	lg_openness	0.024	0.047	1.611			lg_openness	0.025	2.615**
	sq_coproduction	0.018	0.016	0.643			sq_coproduction	-0.001	-0.144
	goverment	0.092	0.325	4.910***			goverment	0.076	5.120***
	sq_Hcd	-0.018	-0.044	-0.979			sq_Hcd	-0.016	-0.719
	lg_Language	0.049	0.026	0.801			lg_Language	0.431	5.998***
	sq_Tcd	0.046	0.044	1.127			sq_Tcd	-0.038	-0.862
	lg_tariff	0.178	0.063	1.866			lg_tariff	0.643	8.098***
	sq_quota	0.064	0.188	5.144***			sq_quota	0.027	2.776**
	sq_IVR	0.034	0.067	1.975*			sq_IVR	-0.019	-0.885
	sq_service	-0.005	-0.014	-0.443			sq_service	0.020	1.795
	sq_taxation	-0.022	-0.048	-1.473			sq_taxation	0.009	0.691
	lg_subsidy	0.011	0.009	0.278			lg_subsidy	-0.032	-0.847
					0.889	110.7961***	Constant	0.702	5.366***

* p<.05. **p<.01. ***<.001

Time-Series Regressions

In the long run, quota (in model 2 and model 9) remained statistically significant in increasing national film screens, suggesting a long-lasting effect of quota in protecting

local film development. The coefficient between subsidy and film screen became non-significant with the time effect, indicating that the positive effect of subsidy decreased over the studied time period. The effect of investment restrictions also became non-significant in model 9. Interestingly, controlled for time, tariff became a significant (at .001 level of significance) contributor to local screen development (in model 1 and model 9). Considering the insignificance of tariff in the preliminary regressions, it indicated that the effect of tariff on the development of market scale was not an immediate one. It might take time for the effect to be shown. Another TB variable that increased its effect over time is TBI. Results showed that, during the studied time period, increasing the quality of TB (TBI) but not the quantities of TB (TBN) would also significantly increase film screens.

As to other social economic factors, GDP, population, and government effectiveness index remained the strongest positive predictors of film screens and The EFW Index remained negatively correlated with film screens. Notably, as shown by the increased coefficients between population and the dependent variable, the impact of population size on the development of film screens became stronger during the time period. The OI index was significant only in model 1 and model 9, showing a limited effect of trade factor on film screens in the long run.

Among the culture variables, only language variable was significant across the nine models, indicating an increasing importance in language proximity on screen development. This result coincided with the formation of worldwide cultural-language market. The importance of Hcd on screen development became non-significant. This might suggest that the negative effect of Hcd might be overcome in the long-run.

Box Office Function

Preliminary Regressions

The box office models explained around 95 percent of the box office variations. Across all of the nine models, GDP was the most important contributing factor, with its adjusted coefficient (β) ranging from 78 percent to 83 percent (Table 4-7). This result, again, seemed to support the market size effect on film development.

The market structure variable in Economic Freedom (the EFW Index) had a small positive effect on box office revenue, as shown by its significant positive coefficient with the dependent variable. Because the EFW Index showed a negative effect on film screens in the screen functions, it implied that those increased box office revenues may not have come from domestic films, and the revenue was therefore not used to improve local film screens. The OI index was not a significant factor in any of the nine models.

Another noticeable significant factor was the social cultural values from Tadesse & White. Although the three cultural variables were all negatively correlated with box office revenues, the effect of language factor was not significant. The cultural dimension in Hefstede's cultural distance was significantly correlated with box office revenues in most models, but the coefficient was weak (at .05 level of significance). Further, Hefstede's cultural distance showed not significant in model 2 (with quota included) and model 5 (with taxation included as one variable). The cultural values from Tadesse & White (Tcd) was significant (at .001 level) in reducing box office revenues across all of the nine models, indicating an erosion in box office performance from cultural-proximate imports.

As to the six TB variables, tariff, investment restrictions, and taxation showed negative coefficients with box office revenue, but the coefficient for tariff and taxation were not statistically significant. Only investment restrictions (in model 3) showed a significant impact (at .05 level) on the box office performance. Taxation barely missed the level of significance (at .052) in model 5. Quota, subsidy, and service restrictions showed positive correlations with box office revenue. However, the correlation between service restriction and box office revenue was not significant in model 4, but was significant in model 9. This indicated that service restrictions might function best when working with other TB methods. Quota was significant (at .001 level) in contributing to box office revenue in both model 2 and model 9. Subsidy by itself could contribute to box office revenue (at .05 level of significance in model 6), but the effect was offset by other negative TB factors listed above in model 9 (tariff, investment restrictions, taxation). Therefore, subsidy becomes less effective in increasing box office revenues when all the TB variables work together (in model 9). As to the composite TB indices, TBI showed a positive coefficient with box office performance in model 7. TBN was also positively correlated with box office revenue in model 8, but the coefficient was not significant.

Table 4-7: Box Office Models

Preliminary Regressions							Time-Series Autoregressions		
Models	Variables	B	ß	T-Value	Adjusted R2	F	Variables	Parameter Estimates	T-value
1	(Constant)	-0.174		-0.659			Rho (AR1)	0.849	27.747***
	lg_tariff	-0.081	-0.011	-0.530			lg_tariff	-0.051	-0.268
	lg_gdp	0.963	0.833	17.780***			lg_gdp	0.928	12.244***
	lg_population	-0.002	-0.001	-0.030			lg_population	0.024	0.264
	EFWidx	0.060	0.078	2.217*			EFWidx	0.052	1.794
	lg_openness	-0.002	-0.002	-0.085			lg_openness	0.012	0.432
	sq_coproduction	-0.055	-0.018	-1.070			sq_coproduction	-0.041	-1.326
	goverment	0.012	0.015	0.338			goverment	0.016	0.422

	sq_Hcd	-0.076	-0.066	-2.463*			sq_Hcd	-0.017	-0.360
	lg_Language	-0.036	-0.007	-0.321			lg_Language	0.200	1.120
	sq_Tcd	-0.375	-0.129	-5.131***			sq_Tcd	-0.364	-3.272**
					0.945	351.725***	Constant	-0.292	-0.904
2	(Constant)	-0.193		-0.789			Rho (AR1)	0.835	25.899***
	sq_quota	0.087	0.093	4.517***			sq_quota	0.051	2.281
	lg_gdp	0.960	0.830	18.794***			lg_gdp	0.921	12.734***
	lg_population	-0.059	-0.042	-1.033			lg_population	-0.010	-0.121
	EFWidx	0.067	0.087	2.793			EFWidx	0.046	1.610
	lg_openness	-0.026	-0.019	-1.118			lg_openness	-0.001	-0.055
	sq_coproduction	-0.025	-0.008	-0.505			sq_coproduction	-0.041	-1.333
	goverment	0.027	0.034	0.854			goverment	0.042	1.080
	sq_Hcd	-0.041	-0.036	-1.353			sq_Hcd	-0.015	-0.323
	lg_Language	-0.032	-0.006	-0.302			lg_Language	0.123	0.703
	sq_Tcd	-0.421	-0.145	-5.986***			sq_Tcd	-0.391	-3.588***
					0.950	389.797***	Constant	-0.175	-0.547
3	(Constant)	-0.137		-0.539			Rho (AR1)	0.848	27.725***
	sq_IVR	-0.056	-0.039	-2.028*			sq_IVR	-0.059	-1.497
	lg_gdp	0.934	0.808	16.813***			lg_gdp	0.913	12.222***
	lg_population	0.042	0.030	0.660			lg_population	0.066	0.720
	EFWidx	0.057	0.074	2.313*			EFWidx	0.048	1.679
	lg_openness	0.009	0.007	0.392			lg_openness	0.012	0.457
	sq_coproduction	-0.070	-0.023	-1.381			sq_coproduction	-0.046	-1.509
	goverment	0.024	0.031	0.726			goverment	0.018	0.493
	sq_Hcd	-0.085	-0.074	-2.780			sq_Hcd	-0.038	-0.788
	lg_Language	-0.020	-0.004	-0.184			lg_Language	0.191	1.076
	sq_Tcd	-0.381	-0.131	-5.263***			sq_Tcd	-0.374	-3.377***
					0.946	358.974***	Constant	-0.229	-0.709
4	(Constant)	-0.166		-0.640			Rho (AR1)	0.853	28.654***
	sq_service	0.015	0.015	0.732			sq_service	0.024	0.858
	lg_gdp	0.969	0.838	18.074***			lg_gdp	0.933	12.559***
	lg_population	-0.016	-0.011	-0.266			lg_population	0.002	0.023
	EFWidx	0.057	0.075	2.280*			EFWidx	0.052	1.784
	lg_openness	-0.003	-0.003	-0.142			lg_openness	0.010	0.371
	sq_coproduction	-0.061	-0.020	-1.193			sq_coproduction	-0.042	-1.365
	goverment	0.013	0.017	0.392			goverment	0.015	0.412
	sq_Hcd	-0.083	-0.073	-2.641**			sq_Hcd	-0.023	-0.490
	lg_Language	-0.041	-0.008	-0.362			lg_Language	0.216	1.202
	sq_Tcd	-0.354	-0.122	-4.577***			sq_Tcd	-0.329	-2.773**
					0.945	352.209***	Constant	-0.316	-0.974
5	(Constant)	-0.251		-0.962			Rho (AR1)	0.855	28.492***
	sq_taxation	-0.043	-0.035	-1.956			sq_taxation	0.016	0.572
	lg_gdp	0.989	0.856	18.222***			lg_gdp	0.925	12.314***
	lg_population	-0.026	-0.019	-0.445			lg_population	0.020	0.229
	EFWidx	0.060	0.078	2.416*			EFWidx	0.051	1.759
	lg_openness	0.006	0.004	0.239			lg_openness	0.014	0.545
	sq_coproduction	-0.065	-0.022	-1.271			sq_coproduction	-0.039	-1.266
	goverment	0.009	0.012	0.274			goverment	0.014	0.382
	sq_Hcd	-0.055	-0.048	-1.697			sq_Hcd	-0.021	-0.431
	lg_Language	0.022	0.004	0.189			lg_Language	0.199	1.106

	sq_Tcd	-0.368	-0.127	-5.089***			sq_Tcd	-0.362	-3.240**
					0.946	358.430***	Constant	-0.278	-0.855
6	(Constant)	-0.051		-0.199			Rho (AR1)	0.843	27.128***
	lg_subsidy	0.137	0.042	2.029*			lg_subsidy	0.121	1.508
	lg_gdp	0.911	0.788	15.197***			lg_gdp	0.904	11.913***
	lg_population	0.022	0.016	0.363			lg_population	0.025	0.290
	EFWidx	0.055	0.072	2.232*			EFWidx	0.048	1.674
	lg_openness	-0.005	-0.003	-0.195			lg_openness	0.004	0.136
	sq_coproduction	-0.055	-0.018	-1.088			sq_coproduction	-0.043	-1.404
	goverment	0.036	0.047	1.066			goverment	0.035	0.896
	sq_Hcd	-0.077	-0.068	-2.552*			sq_Hcd	-0.021	-0.459
	lg_Language	-0.041	-0.008	-0.370			lg_Language	0.146	0.816
	sq_Tcd	-0.401	-0.138	-5.453***			sq_Tcd	-0.372	-3.377***
					0.946	358.981***	Constant	-0.194	-0.595
7	(Constant)	-0.092		-0.363			Rho (AR1)	0.848	27.844***
	sq_TBI	0.047	0.066	2.650**			sq_TBI	0.051	2.416*
	lg_gdp	0.943	0.816	17.629***			lg_gdp	0.917	12.523***
	lg_population	-0.043	-0.030	-0.719			lg_population	-0.043	-0.488
	EFWidx	0.057	0.075	2.347*			EFWidx	0.048	1.681
	lg_openness	-0.028	-0.020	-1.076			lg_openness	-0.005	-0.204
	sq_coproduction	-0.045	-0.015	-0.884			sq_coproduction	-0.037	-1.204
	goverment	0.029	0.037	0.875			goverment	0.037	0.970
	sq_Hcd	-0.087	-0.076	-2.863**			sq_Hcd	-0.028	-0.603
	lg_Language	-0.077	-0.015	-0.690			lg_Language	0.133	0.747
	sq_Tcd	-0.366	-0.126	-5.099***			sq_Tcd	-0.341	-3.099**
					0.946	364.475***	Constant	-0.210	-0.657
8	(Constant)	-0.132		-0.519			Rho (AR1)	0.848	27.683***
	sq_TBN	0.047	0.042	1.799			sq_TBN	0.022	0.870
	lg_gdp	0.946	0.818	17.317***			lg_gdp	0.927	12.505***
	lg_population	-0.020	-0.014	-0.337			lg_population	0.005	0.063
	EFWidx	0.059	0.077	2.380*			EFWidx	0.053	1.819
	lg_openness	-0.015	-0.011	-0.593			lg_openness	0.010	0.388
	sq_coproduction	-0.044	-0.015	-0.869			sq_coproduction	-0.037	-1.196
	goverment	0.025	0.032	0.756			goverment	0.021	0.556
	sq_Hcd	-0.083	-0.073	-2.713**			sq_Hcd	-0.017	-0.362
	lg_Language	-0.053	-0.010	-0.472			lg_Language	0.201	1.128
	sq_Tcd	-0.381	-0.132	-5.254***			sq_Tcd	-0.360	-3.240**
					0.945	357.313***	Constant	-0.304	-0.940
9	(Constant)	-0.280		-1.071			Rho (AR1)	0.855	28.235***
	lg_tariff	0.027	0.004	0.156			lg_tariff	-0.074	-0.357
	sq_quota	0.087	0.094	3.816***			sq_quota	0.048	1.764
	sq_IVR	-0.035	-0.025	-1.116			sq_IVR	-0.091	-1.864
	sq_service	0.042	0.043	2.059*			sq_service	0.039	1.309
	sq_taxation	-0.011	-0.009	-0.388			sq_taxation	0.057	1.594
	lg_subsidy	-0.012	-0.004	-0.159			lg_subsidy	-0.041	-0.400
	lg_gdp	0.956	0.827	14.895***			lg_gdp	0.875	11.020***
	lg_population	-0.054	-0.039	-0.740			lg_population	0.065	0.642
	EFWidx	0.077	0.100	2.848**			EFWidx	0.041	1.418
	lg_openness	-0.035	-0.026	-1.307			lg_openness	-0.006	-0.226
	sq_coproduction	-0.049	-0.016	-0.967			sq_coproduction	-0.044	-1.429

goverment	0.020	0.026	0.578			goverment	0.033	0.829
sq_Hcd	-0.057	-0.050	-1.653			sq_Hcd	-0.075	-1.356
lg_Language	-0.012	-0.002	-0.105			lg_Language	0.144	0.791
sq_Tcd	-0.367	-0.127	-4.863***			sq_Tcd	-0.336	-2.831**
				0.950	260.480***	Constant	-0.104	-0.313

* p<.05. **p<.01. ***<.001

Time-Series Regressions

Auto-regression results showed that, in the long run, only GDP and cultural value from Tadesse & White were significant in determining national box office revenue. GDP was a positive contributor, confirming with the market size theory. Proximity in cultural value decreased box office revenue, indicating an erosion of film market from cultural proximate nations. In the previous regressions, quota, subsidy, and the quality composite index of trade barriers (TBI) were all significant contributor to box office revenue. Controlled for time, however, both quota and subsidy lost their level of significance. Only TBI remained significant (at .05 level), indicating that increasing the overall quality of TB still would increase box office performance. Therefore, strong enforcement of trade barriers might lead to better domestic products, as well as better quality imports, and, therefore, improved the financial performance of the films on screen.

Investment Function

Preliminary Regressions

The regression models (Table 4-8) explained around 88 percent to 90 percent of the overall investment variations. Understandably, GDP was still the most remarkable significant factor in contributing to film investment across all of the nine models. In all of the models, the three market structure variables, the EFW Index, the OI Index, and co-

production rate, were all significant factors in the investment functions. Therefore, a country with more economic freedom, international trade, as well as more international cooperation, will introduce more investment. The GE index showed a negative coefficient with film investment, but the coefficient was not significant.

As to the cultural variables, all of the three cultural variables showed statistically significant effects on film investment. The cultural dimension in Hcd showed a negative impact on investment. The cultural dimension in language closeness showed a positive impact. The results of the two factors indicated that proximity in the Hofstede's cultural dimension and language seemed to attract more investment. The cultural dimensions in Tcd, however, showed a positive coefficient with film investment. This implied that, proximity in culture values with western countries would actually reduce the value of a market, and therefore decrease total investment.

In the investment functions, more TB variables appeared to be significant factors. Among the six TB variables, investment restriction (model 3), service restriction (model 4), and taxation (model 5) again showed negative coefficients with film investment, and the correlations were all statistically significant. This was obvious, because all of the three TB variables were restrictive in nature for local business operations, and therefore tended to discourage film investment.

Tariff, quota, and subsidy, again, were all positively correlated with film investment, but the coefficient for tariff was not significant. Instead, both quota and subsidy were significant contributors (at .001 level) to film investment. The reason that subsidy would enhance film investment was obvious. The fact that quota was also contributing to film investment seemed to indicate that with quota restrictions in film

screenings and with stimulation in subsidizing local productions, foreign investors seemed more likely to partner with local producers to produce films that qualify both for quotas and film subsidies. However, when all the TB variables were considered in model 9, only subsidy was the significant contributor to film investment. The effect of quotas might offset by other negative factors. The composite indices, both TBI and TBN, were not significant in their functions.

Table 4-8: Investment Models

Preliminary Regressions							Time-Series Autoregressions		
Models	Variables	B	ß	T-Value	Adjusted R2	F	Variables	Parameter Estimates	T-value
1	(Constant)	-3.787		-8.148***			Rho (AR1)	0.737	16.912***
	lg_tariff	0.056	0.002	0.090			lg_tariff	0.406	0.623
	lg_gdp	1.199	0.881	12.695***			lg_gdp	1.270	9.269***
	lg_population	-0.142	-0.088	-1.344			lg_population	-0.288	-1.768
	EFWidx	0.217	0.243	4.384***			EFWidx	0.114	1.886
	lg_openness	0.120	0.073	2.776**			lg_openness	0.062	1.143
	sq_coproduction	0.255	0.073	2.787**			sq_coproduction	0.075	1.022
	goverment	-0.018	-0.019	-0.289			goverment	-0.033	-0.436
	sq_Hcd	-0.227	-0.167	-4.183***			sq_Hcd	-0.273	-3.230**
	lg_Language	0.788	0.135	3.994***			lg_Language	0.638	2.029*
	sq_Tcd	0.830	0.245	6.392***			sq_Tcd	0.639	3.106**
					0.877	143.419***	Constant	-2.546	-4.078***
2	(Constant)	-3.817		-8.584***			Rho (AR1)	0.730	16.102***
	sq_quota	0.142	0.131	4.128***			sq_quota	0.109	2.396*
	lg_gdp	1.183	0.869	13.200***			lg_gdp	1.237	9.345***
	lg_population	-0.222	-0.137	-2.225*			lg_population	-0.306	-2.025*
	EFWidx	0.230	0.257	4.844***			EFWidx	0.112	1.898
	lg_openness	0.080	0.049	1.900			lg_openness	0.035	0.658
	sq_coproduction	0.306	0.087	3.456***			sq_coproduction	0.081	1.119
	goverment	0.010	0.010	0.164			goverment	0.025	0.335
	sq_Hcd	-0.169	-0.125	-3.158**			sq_Hcd	-0.239	-2.873**
	lg_Language	0.782	0.134	4.137***			lg_Language	0.565	1.832
	sq_Tcd	0.747	0.221	5.943***			sq_Tcd	0.612	3.067**
					0.888	158.043***	Constant	-2.512	-4.143***

3	(Constant)	-3.799		-8.384***			Rho (AR1)	0.725	16.125***
	sq_IVR	-0.143	-0.090	-3.064**			sq_IVR	-0.120	-1.717
	lg_gdp	1.099	0.807	11.346***			lg_gdp	1.188	8.633***
	lg_population	0.009	0.006	0.083			lg_population	-0.125	-0.759
	EFWidx	0.234	0.261	4.809***			EFWidx	0.126	2.135*
	lg_openness	0.133	0.081	3.162**			lg_openness	0.059	1.122
	sq_coproduction	0.215	0.061	2.380*			sq_coproduction	0.061	0.828
	goverment	-0.004	-0.004	-0.068			goverment	-0.018	-0.249
	sq_Hcd	-0.241	-0.178	-4.538***			sq_Hcd	-0.300	-3.563***
	lg_Language	0.829	0.142	4.292***			lg_Language	0.663	2.158*
	sq_Tcd	0.795	0.235	6.267***			sq_Tcd	0.652	3.282*
					0.883	151.475***	Constant	-2.607	-4.298***
4	(Constant)	-3.665		-7.964***			Rho (AR1)	0.727	16.287***
	sq_service	-0.081	-0.072	-2.387*			sq_service	-0.034	-0.669
	lg_gdp	1.181	0.867	12.778***			lg_gdp	1.247	9.313***
	lg_population	-0.097	-0.060	-0.949			lg_population	-0.224	-1.446
	EFWidx	0.203	0.227	4.122***			EFWidx	0.120	2.009*
	lg_openness	0.149	0.091	3.396***			lg_openness	0.065	1.209
	sq_coproduction	0.277	0.079	3.053**			sq_coproduction	0.080	1.085
	goverment	0.000	0.000	0.004			goverment	-0.022	-0.302
	sq_Hcd	-0.193	-0.143	-3.509***			sq_Hcd	-0.256	-2.984**
	lg_Language	0.799	0.137	4.109***			lg_Language	0.645	2.084*
	sq_Tcd	0.721	0.213	5.318***			sq_Tcd	0.617	2.900**
					0.881	148.306***	Constant	-2.616	-4.272***
5	(Constant)	-3.913		-8.502***			Rho (AR1)	0.729	16.400***
	sq_taxation	-0.103	-0.067	-2.390*			sq_taxation	-0.028	-0.483
	lg_gdp	1.261	0.926	13.153***			lg_gdp	1.268	9.243***
	lg_population	-0.197	-0.122	-1.906			lg_population	-0.258	-1.694
	EFWidx	0.204	0.228	4.157***			EFWidx	0.118	1.977*
	lg_openness	0.144	0.088	3.311***			lg_openness	0.061	1.133
	sq_coproduction	0.222	0.063	2.428*			sq_coproduction	0.073	0.978
	goverment	-0.008	-0.009	-0.134			goverment	-0.022	-0.297
	sq_Hcd	-0.180	-0.133	-3.169**			sq_Hcd	-0.260	-3.009**
	lg_Language	0.925	0.158	4.564***			lg_Language	0.667	2.125*
	sq_Tcd	0.860	0.254	6.709***			sq_Tcd	0.668	3.321**
					0.881	148.317***	Constant	-2.668	-4.328***
6	(Constant)	-3.469		-7.610***			Rho (AR1)	0.730	16.124***
	lg_subsidy	0.434	0.114	3.751***			lg_subsidy	0.322	2.070*
	lg_gdp	1.015	0.746	9.902***			lg_gdp	1.157	8.216***
	lg_population	-0.039	-0.024	-0.382			lg_population	-0.199	-1.313

	EFWidx	0.216	0.242	4.535***			EFWidx	0.117	1.975*
	lg_openness	0.100	0.061	2.405*			lg_openness	0.038	0.708
	sq_coproduction	0.259	0.074	2.929**			sq_coproduction	0.072	0.983
	goverment	0.051	0.053	0.808			goverment	0.027	0.350
	sq_Hcd	-0.226	-0.167	-4.327***			sq_Hcd	-0.270	-3.264**
	lg_Language	0.770	0.132	4.045***			lg_Language	0.563	1.811
	sq_Tcd	0.737	0.218	5.784***			sq_Tcd	0.632	3.163**
					0.886	155.498***	Constant	-2.435	-3.966***
7	(Constant)	-3.786		-8.174***			Rho (AR1)	0.741	16.899***
	sq_TBI	-0.029	-0.035	-0.878			sq_TBI	0.025	0.592
	lg_gdp	1.215	0.892	12.742***			lg_gdp	1.248	9.103***
	lg_population	-0.122	-0.076	-1.178			lg_population	-0.277	-1.751
	EFWidx	0.209	0.233	4.142***			EFWidx	0.117	1.940
	lg_openness	0.142	0.087	2.861**			lg_openness	0.046	0.815
	sq_coproduction	0.242	0.069	2.611**			sq_coproduction	0.078	1.054
	goverment	-0.018	-0.019	-0.294			goverment	-0.020	-0.261
	sq_Hcd	-0.222	-0.164	-4.100***			sq_Hcd	-0.276	-3.244**
	lg_Language	0.811	0.139	4.083***			lg_Language	0.612	1.915
	sq_Tcd	0.832	0.246	6.435***			sq_Tcd	0.662	3.240**
					0.878	144.074***	Constant	-2.562	-4.123***
8	(Constant)	-3.731		-8.100***			Rho (AR1)	0.735	16.763***
	sq_TBN	-0.096	-0.072	-1.946			sq_TBN	0.006	0.117
	lg_gdp	1.248	0.916	12.985***			lg_gdp	1.254	9.197***
	lg_population	-0.129	-0.080	-1.270			lg_population	-0.253	-1.654
	EFWidx	0.192	0.215	3.799***			EFWidx	0.118	1.969
	lg_openness	0.163	0.099	3.405***			lg_openness	0.057	1.037
	sq_coproduction	0.217	0.062	2.342*			sq_coproduction	0.077	1.031
	goverment	-0.019	-0.020	-0.313			goverment	-0.025	-0.335
	sq_Hcd	-0.220	-0.162	-4.086***			sq_Hcd	-0.271	-3.224**
	lg_Language	0.814	0.139	4.155***			lg_Language	0.643	2.049*
	sq_Tcd	0.858	0.253	6.651***			sq_Tcd	0.660	3.256**
					0.880	146.664***	Constant	-2.616	-4.239***
9	(Constant)	-3.515		-7.685***			Rho (AR1)	0.720	15.469***
	lg_tariff	0.734	0.031	1.138			lg_tariff	0.575	0.793
	sq_quota	0.063	0.058	1.533			sq_quota	0.059	1.054
	sq_IVR	-0.041	-0.026	-0.736			sq_IVR	-0.072	-0.853
	sq_service	-0.058	-0.051	-1.571			sq_service	-0.028	-0.512
	sq_taxation	-0.052	-0.034	-1.075			sq_taxation	-0.004	-0.060
	lg_subsidy	0.317	0.083	2.440*			lg_subsidy	0.205	1.075
	lg_gdp	1.065	0.782	9.429***			lg_gdp	1.156	7.640***

lg_population	-0.092	-0.057	-0.723			lg_population	-0.201	-1.086
EFWidx	0.207	0.231	4.201***			EFWidx	0.114	1.909
lg_openness	0.133	0.081	2.778**			lg_openness	0.045	0.808
sq_coproduction	0.267	0.076	2.953**			sq_coproduction	0.070	0.937
goverment	0.059	0.063	0.967			goverment	0.034	0.434
sq_Hcd	-0.158	-0.117	-2.659**			sq_Hcd	-0.257	-2.685**
lg_Language	0.864	0.148	4.416***			lg_Language	0.562	1.806
sq_Tcd	0.639	0.189	4.735***			sq_Tcd	0.544	2.485*
				0.891	109.810***	Constant	-2.352	-3.762***

* p<.05. **p<.01. ***<.001

Time-Series Regressions

In the long-run and across the models, GDP remained the most important factor in increasing production investment. The EFW index was significant (at .05 level) in some models (model 3, 4, 5, 6), but not in all of the models. Both of the two other market structure variables, the OI Index and the co-production rates, became non-significant in their coefficients with film investment. These all indicated a decreased significance of open market and trade relations in attracting investment during the eight year period. As to the cultural variables, the cultural value factor from Tadesse & White and cultural dimension in language remained strong predictors of film investment in all of the nine models. The impact of culture in Hofstede's cultural distance was also significant in most of the models including models 1, 3, 4, 5, and model 8. Therefore, countries with culture close to the U.S. in Hofstede's dimension and language or with culture dissimilar with the U.S. would attract more investment. The effects were all considerable during the studied time period. For the TB variables, the effects of the three restrictive factors (investment restriction, service restriction, and taxation) became non-significant. Quota and subsidy, the two supportive TB factors that were both significant in the preliminary analyses,

remained significant determinants, although at a decreased level of significance (at .05 level). In model 9 where all TB variables were entered, only quota remained significant.

Spending Function

Preliminary Regressions

The models (Table 4-9) explained around 87 percent (model 1-model 8) to 91 percent (model 9) of the variations in consumer film spending. Understandably, economic development as indicated by the gross domestic products was the most important factor in examining consumer spending on films in all of the nine models. People in wealthy countries have more to spend. The market structure variables in both the Economic Freedom (the EFW Index) and trade relations (the OI Index) showed significant positive coefficients with consumer spending in all of the nine models[26], indicating that an open market with more trade flows might enhance consumers' willingness to pay for film entertainment. Population was positively correlated with spending, but the correlation was only significant in models 3, 6, and model 9.

For the individual TB variables, tariff, investment restrictions, service restrictions, and taxation all had negative coefficients with film spending, but the coefficients were only significant for investment restrictions (at .001 level) and taxation (at .01 level). To the contrary of common beliefs, quota and subsidy both showed strong (at .001 level and .01 level respectively), positive and significant coefficients with film spending. The results suggested that the restrictive method of TBs will decrease people's willingness to spend on films, but the supportive method of TBs might work to stimulate people's

[26] In model 9, the coefficient between the OI index and consumer spending was not significant due to some of the interactions between TB variables.

willingness to pay. This might also imply that people actually want to spend more when the government provides more positive resolutions to protect local films. In model 9 with all TB variables entered, only quota (positive) and investment restrictions (negative) appeared to be significant factors. TBI showed a positive coefficient with consumer spending and TBN showed negative coefficient, but none of the coefficients were significant.

Co-production was commonly believed an efficient way to attract more audiences. Interestingly, co-production appeared to have a significant impact in increasing film spending only in models that had significant TB variables. For instance, in model 2 with quota as an independent variable, in model 6 with subsidy as an independent variable, and in model 9 with all of the six TB variables entered. This was understandable because, in some countries, co-production was only used to overcome market restrictions with the aim of qualifying for quota or subsidy. With the co-produced films promoted as local (for quota and subsidy purposes), it might attract more audiences. Considering together with the fact that co-productions showed non-significant negative relations with total box office revenues, however, audiences might increase their spending on co-produced films, but decrease even more their spending on local films. In either case, it does not contribute to the overall box office revenue, confirming with the result in the Box office revenue regressions.

As to the cultural variables, only Hcd showed a significant negative effect on film spending. Tcd and language showed positive correlations with film spending, but the correlations were not significant. Therefore, closeness in cultural dimensions as defined by Hofstede might increase people's willingness to pay for films.

Table 4-9: Consumer Spending

Preliminary Regressions							Time-Series Autoregressions		
Models	Variables	B	ß	T-Value	Adjusted R^2	F	Variables	Parameter Estimates	T-value
1	(Constant)	-38.012		-5.482***			Rho (AR1)	0.913	39.420
	lg_tariff	-7.612	-0.064	-1.724			lg_tariff	-14.539	-2.504*
	lg_gdp	14.068	0.775	9.243***			lg_gdp	13.262	7.499***
	lg_population	2.372	0.115	1.431			lg_population	2.341	1.113
	EFWidx	2.027	0.157	2.763**			EFWidx	1.522	2.119*
	lg_openness	1.498	0.077	2.393*			lg_openness	1.254	2.198*
	sq_coproduction	2.715	0.058	1.966			sq_coproduction	0.129	0.173
	goverment	-1.307	-0.106	-1.495			goverment	-0.362	-0.450
	sq_Hcd	-2.511	-0.147	-2.970**			sq_Hcd	-0.174	-0.159
	lg_Language	0.776	0.011	0.280			lg_Language	4.530	1.179
	sq_Tcd	1.524	0.036	0.802			sq_Tcd	1.186	0.475
					0.866	106.001***	Constant	-36.230	-4.601***
2	(Constant)	-37.728		-5.867***			Rho (AR1)	0.903	36.341***
	lg_gdp	14.477	0.797	10.309***			lg_gdp	13.523	7.615***
	lg_population	0.078	0.004	0.051			lg_population	0.416	0.209
	EFWidx	1.935	0.150	2.998**			EFWidx	1.146	1.610
	lg_openness	1.208	0.062	2.109*			lg_openness	1.171	1.963
	sq_coproduction	3.442	0.074	2.630**			sq_coproduction	-0.099	-0.130
	goverment	-0.698	-0.057	-0.872			goverment	0.374	0.421
	sq_Hcd	-2.037	-0.119	-2.557*			sq_Hcd	-0.307	-0.280
	lg_Language	0.570	0.008	0.219			lg_Language	1.990	0.504
	sq_Tcd	1.059	0.025	0.596			sq_Tcd	0.255	0.101
	sq_quota	2.293	0.170	4.831***	0.882	121.9265***	sq_quota	1.054	1.817
							Constant	-31.103	-3.931***
3	(Constant)	-35.667		-5.687***			Rho (AR1)	0.894	34.300***
	lg_gdp	12.273	0.676	8.575***			lg_gdp	12.650	7.666***
	lg_population	4.972	0.241	3.148**			lg_population	4.448	2.216*
	EFWidx	1.739	0.135	2.776**			EFWidx	0.981	1.477
	lg_openness	2.450	0.126	4.414***			lg_openness	1.249	2.330*
	sq_coproduction	1.993	0.043	1.569			sq_coproduction	-0.457	-0.634
	goverment	-0.505	-0.041	-0.643			goverment	-0.055	-0.072
	sq_Hcd	-3.135	-0.183	-4.086***			sq_Hcd	-1.909	-1.807
	lg_Language	2.188	0.032	0.855			lg_Language	2.822	0.790
	sq_Tcd	1.334	0.031	0.771			sq_Tcd	0.020	0.009
	sq_IVR	-3.686	-0.178	-5.632***	0.887	128.4853***	sq_IVR	-4.382	-5.052***
							Constant	-28.716	-3.916***
4	(Constant)	-35.292		-5.022***			Rho (AR1)	0.915	41.123***
	lg_gdp	14.529	0.800	9.623***			lg_gdp	14.223	8.033***
	lg_population	1.654	0.080	1.023			lg_population	-0.191	-0.091
	EFWidx	1.469	0.114	2.060*			EFWidx	1.193	1.666
	lg_openness	1.941	0.100	3.071**			lg_openness	1.351	2.349*

	sq_coproduction	2.660	0.057	1.894			sq_coproduction	-0.097	-0.129
	goverment	-0.879	-0.071	-1.009			goverment	-0.201	-0.246
	sq_Hcd	-2.688	-0.157	-3.140***			sq_Hcd	-0.543	-0.483
	lg_Language	0.802	0.012	0.287			lg_Language	4.680	1.197
	sq_Tcd	1.706	0.040	0.856			sq_Tcd	2.529	0.915
	sq_service	-0.242	-0.017	-0.467	0.864	103.8455***	sq_service	1.027	1.588
							Constant	-34.910	-4.393***
5	(Constant)	-39.370		-5.762***			Rho (AR1)	0.908	37.407***
	lg_gdp	15.302	0.842	10.250***			lg_gdp	14.379	8.216***
	lg_population	1.062	0.052	0.675			lg_population	0.727	0.364
	EFWidx	1.667	0.129	2.482*			EFWidx	1.250	1.762
	lg_openness	2.054	0.106	3.491***			lg_openness	1.353	2.374*
	sq_coproduction	2.333	0.050	1.715			sq_coproduction	-0.095	-0.126
	goverment	-1.124	-0.091	-1.341			goverment	-0.024	-0.029
	sq_Hcd	-1.826	-0.107	-2.064*			sq_Hcd	0.301	0.266
	lg_Language	3.101	0.045	1.087			lg_Language	4.736	1.225
	sq_Tcd	1.949	0.046	1.053			sq_Tcd	0.760	0.305
	sq_taxation	-1.554	-0.089	-2.813**	0.880	109.8644***	sq_taxation	-1.431	-2.168*
							Constant	-35.366	-4.492***
6	(Constant)	-32.035		-4.952***			Rho (AR1)	0.903	36.425***
	lg_gdp	11.157	0.614	7.102***			lg_gdp	13.631	7.473***
	lg_population	3.290	0.160	2.144*			lg_population	0.769	0.381
	EFWidx	1.847	0.143	2.873**			EFWidx	1.141	1.590
	lg_openness	1.678	0.087	3.006**			lg_openness	1.343	2.262*
	sq_coproduction	2.808	0.060	2.165*			sq_coproduction	-0.084	-0.110
	goverment	0.214	0.017	0.256			goverment	0.052	0.058
	sq_Hcd	-2.769	-0.162	-3.539***			sq_Hcd	-0.464	-0.419
	lg_Language	-0.294	-0.004	-0.113			lg_Language	2.693	0.677
	sq_Tcd	0.408	0.010	0.227			sq_Tcd	0.707	0.280
	lg_subsidy	7.967	0.171	4.842***	0.882	122.01***	lg_subsidy	1.813	1.000
							Constant	-31.759	-3.964***
7	(Constant)	-36.089		-5.259***			Rho (AR1)	0.907	37.325***
	lg_gdp	14.306	0.788	9.435***			lg_gdp	13.969	7.871***
	lg_population	1.101	0.053	0.672			lg_population	0.184	0.087
	EFWidx	1.722	0.133	2.469*			EFWidx	1.192	1.659
	lg_openness	1.463	0.075	2.176*			lg_openness	1.358	2.236*
	sq_coproduction	2.712	0.058	1.951			sq_coproduction	-0.032	-0.041
	goverment	-0.866	-0.070	-1.012			goverment	-0.106	-0.124
	sq_Hcd	-2.926	-0.171	-3.456***			sq_Hcd	-0.449	-0.400
	lg_Language	0.076	0.001	0.027			lg_Language	3.095	0.772
	sq_Tcd	2.124	0.050	1.122			sq_Tcd	0.970	0.379
	sq_TBI	0.588	0.059	1.228	0.865	104.8552***	sq_TBI	0.373	0.680
							Constant	-32.888	-4.140***
8	(Constant)	-35.878		-5.225***			Rho (AR1)	0.905	37.197***
	lg_gdp	14.936	0.822	9.723***			lg_gdp	14.119	7.968***
	lg_population	1.727	0.084	1.076			lg_population	0.639	0.314
	EFWidx	1.417	0.110	2.035*			EFWidx	1.181	1.639
	lg_openness	2.154	0.111	3.282**			lg_openness	1.506	2.601*
	sq_coproduction	2.412	0.052	1.731			sq_coproduction	-0.019	-0.025
	goverment	-1.068	-0.087	-1.241			goverment	-0.305	-0.366

	sq_Hcd	-2.630	-0.154	-3.111***			sq_Hcd	-0.343	-0.309
	lg_Language	1.205	0.017	0.428			lg_Language	3.686	0.947
	sq_Tcd	2.123	0.050	1.121			sq_Tcd	0.662	0.261
	sq_TBN	-0.792	-0.049	-1.124	0.865	104.6636***	sq_TBN	-0.114	-0.206
							Constant	-33.148	-4.175***
9	(Constant)	-38.759		-6.106***			Rho (AR1)	0.929	46.456***
	lg_gdp	10.134	0.558	6.286***			lg_gdp	12.129	7.309***
	lg_population	5.480	0.266	3.099**			lg_population	5.279	2.487*
	EFWidx	2.940	0.228	4.244***			EFWidx	1.200	1.850
	lg_openness	1.115	0.058	1.773			lg_openness	0.686	1.274
	sq_coproduction	2.487	0.054	2.027*			sq_coproduction	-0.491	-0.730
	goverment	-0.512	-0.042	-0.623			goverment	-0.306	-0.370
	sq_Hcd	-3.141	-0.183	-3.817***			sq_Hcd	-3.041	-2.613***
	lg_Language	0.480	0.007	0.189			lg_Language	6.101	1.679
	sq_Tcd	0.851	0.020	0.488			sq_Tcd	4.535	1.826
	lg_tariff	-8.507	-0.071	-1.879			lg_tariff	-18.632	-3.178**
	sq_quota	1.349	0.100	2.589*			sq_quota	0.705	0.990
	sq_IVR	-3.646	-0.176	-4.703***			sq_IVR	-5.995	-5.579***
	sq_service	1.039	0.073	2.066*			sq_service	2.594	4.183***
	sq_taxation	0.645	0.037	1.032			sq_taxation	0.943	1.222
	lg_subsidy	3.330	0.071	1.883	0.901	99.64125***	lg_subsidy	-3.778	-1.627
							Constant	-34.298	-4.668***

* p<.05. **p<.01. ***<.001

Time-Series Regressions

Controlled for time, gross domestic products (GDP) was still the most significant determinant for film spending. People are willing to spend on entertainment only when they have enough to spare on necessity products. Another factor that showed consistent significance was the market structure variable in trade relations (the OI Index). The OI Index showed positive coefficient with consumer spending across the models. The market variable in economic freedom (the EFW Index) showed positive coefficients only in model 1 where tariff was included as an independent variable. Considering the significant contribution of EFW Index in the preliminary regression, it indicated that commercialization and privatization did have significant contribution to consumer spending, however, the significance decreased greatly over the studied period of time.

The negative impact of cultural variable in Hcd was not significant except in model 9, indicating a reduced significance of cultural distance.

As to the TB variables, the significant restrictive TB variables in the preliminary analyses, investment restriction and taxation, remained significant. This indicated that the negative impacts of the above two TB variables on consumer spending was long-lasting. The supportive TB factors, quota and subsidy, however, became non-significant in their positive contributions to film spending during the eight year period. Therefore, the positive effects of quota and subsidy on film spending were only for short-term.

Interestingly, the negative coefficient between tariff and film spending that was not significant in the preliminary regression (model 1), but became statistically significant when controlled for time. This suggested that the negative impact of tariff on consumers might not be felt in the beginning, but revealed in the long-run.

Admission Function

Preliminary Regressions

The admission models in Table 4-10 explained 82.7 percent to 84.3 percent of the film admission variations. The strong coefficient between population and film admissions was obvious and reasonable in the models. The positive contribution of gross domestic product (GDP) in helping with film admission was consistent with its effect on film spending. The significance of GDP and population again confirmed with the effect of market size on the film industry. Another factor that was significant across the nine models was the government efficiency index (the GE index). This suggested that government played an important role in regulating the market. The overall effectiveness of government in handling and reinforcing regulations provides a positive market image

for consumers, and therefore boosts consumer confidence in consumption. Also, people in a well-regulated market might be more likely to consume films through regular channels.

None of the three market structure variables showed significant coefficients with film admission. As to the cultural variables, both language and the cultural dimension from Tadesse & White were significant in examining film admissions. Language proximity showed a consistent positive effect on film admission, indicating the popularity of English language and the importance of cultural-language market. Cultural distance in social economic values (Tcd) showed consistent negative effect on film admission. This again indicated market erosion from cultural proximate countries.

Among the six TB variables, only quota (model 2 and 9) and investment restrictions (model 3) showed significant coefficients with film admission. Quota was a positive contributor (at .01 level), and investment restriction (at .05 level) was a negative factor. None of the quality and quantity TB indices (TBI and TBN) showed significant impacts on audience admission.

Table 4-10: Admission Models

Preliminary Regressions							Time-Series Autoregressions		
Models	Variables	B	ß	T-Value	Adjusted R^2	F	Variables	Parameter Estimates	T-value
1	(Constant)	0.234		0.746			Rho (AR1)	0.883	32.346***
	lg_gdp	0.289	0.295	4.816***			lg_gdp	0.089	1.009
	lg_population	0.713	0.602	10.370***			lg_population	0.856	7.976***
	EFWidx	-0.008	-0.011	-0.261			EFWidx	-0.037	-1.029
	lg_openness	-0.013	-0.011	-0.492			lg_openness	0.035	1.189
	sq_coproduction	-0.019	-0.007	-0.331			sq_coproduction	-0.003	-0.086
	goverment	0.121	0.166	3.133**			goverment	0.158	3.622***
	sq_Hcd	-0.060	-0.060	-1.774			sq_Hcd	0.010	0.181
	lg_Language	0.260	0.061	2.143*			lg_Language	0.428	2.080*
	sq_Tcd	-0.504	-0.206	-6.086***			sq_Tcd	-0.738	-5.754***
	lg_tariff	0.111	0.017	0.645			lg_tariff	0.488	2.191*

					0.913	208.393***	Constant	0.699	1.786
2	(Constant)	0.070		0.231			Rho (AR1)	0.880	32.586***
	lg_gdp	0.271	0.276	4.625***			lg_gdp	0.065	0.745
	lg_population	0.696	0.588	10.500***			lg_population	0.940	9.157***
	EFWidx	0.017	0.022	0.552			EFWidx	-0.032	-0.871
	lg_openness	-0.040	-0.035	-1.547			lg_openness	0.027	0.901
	sq_coproduction	-0.002	-0.001	-0.042			sq_coproduction	-0.004	-0.109
	goverment	0.129	0.176	3.533***			goverment	0.139	2.975**
	sq_Hcd	-0.024	-0.025	-0.710			sq_Hcd	0.007	0.129
	lg_Language	0.276	0.065	2.329*			lg_Language	0.468	2.226*
	sq_Tcd	-0.527	-0.215	-6.499***			sq_Tcd	-0.723	-5.580***
	sq_quota	0.069	0.087	3.135**			sq_quota	-0.029	-1.096
					0.917	219.7429***	Constant	0.643	1.614
3	(Constant)	0.214		0.702			Rho (AR1)	0.877	31.434***
	lg_gdp	0.243	0.247	3.925***			lg_gdp	0.027	0.312
	lg_population	0.786	0.664	10.885***			lg_population	1.021	9.610***
	EFWidx	0.001	0.001	0.029			EFWidx	-0.049	-1.358
	lg_openness	-0.010	-0.009	-0.402			lg_openness	0.014	0.484
	sq_coproduction	-0.033	-0.013	-0.576			sq_coproduction	-0.015	-0.449
	goverment	0.124	0.170	3.374***			goverment	0.162	3.736***
	sq_Hcd	-0.067	-0.067	-2.004*			sq_Hcd	-0.041	-0.721
	lg_Language	0.286	0.067	2.375*			lg_Language	0.399	1.963
	sq_Tcd	-0.517	-0.211	-6.314***			sq_Tcd	-0.761	-5.968
	sq_IVR	-0.068	-0.057	-2.310*			sq_IVR	-0.124	-2.712***
					0.915	214.3239***	Constant	0.897	2.273*
4	(Constant)	0.196		0.636			Rho (AR1)	0.869	29.999***
	lg_gdp	0.287	0.292	4.732			lg_gdp	0.068	0.786
	lg_population	0.719	0.607	10.261***			lg_population	0.910	8.670***
	EFWidx	-0.001	-0.002	-0.041			EFWidx	-0.036	-0.996
	lg_openness	-0.020	-0.017	-0.727			lg_openness	0.018	0.592
	sq_coproduction	-0.018	-0.007	-0.306			sq_coproduction	-0.005	-0.137
	goverment	0.113	0.154	2.945**			goverment	0.156	3.532***
	sq_Hcd	-0.059	-0.059	-1.672			sq_Hcd	0.001	0.015
	lg_Language	0.264	0.062	2.167*			lg_Language	0.414	2.011*
	sq_Tcd	-0.503	-0.206	-5.882***			sq_Tcd	-0.716	-5.256***
	sq_service	0.003	0.003	0.130			sq_service	0.007	0.203
					0.913	207.9111***	Constant	0.704	1.782
5	(Constant)	0.070		0.224			Rho (AR1)	0.868	29.455***
	lg_gdp	0.309	0.315	5.104***			lg_gdp	0.074	0.856
	lg_population	0.704	0.595	10.434***			lg_population	0.915	9.054***
	EFWidx	0.005	0.006	0.160			EFWidx	-0.035	-0.967
	lg_openness	-0.013	-0.012	-0.529			lg_openness	0.018	0.621
	sq_coproduction	-0.028	-0.011	-0.485			sq_coproduction	-0.008	-0.232
	goverment	0.107	0.147	2.911**			goverment	0.161	3.626***
	sq_Hcd	-0.032	-0.033	-0.909			sq_Hcd	0.013	0.233
	lg_Language	0.332	0.078	2.644**			lg_Language	0.424	2.066*
	sq_Tcd	-0.498	-0.203	-6.053***			sq_Tcd	-0.726	-5.650***
	sq_taxation	-0.048	-0.044	-1.901			sq_taxation	-0.029	-0.795
					0.914	212.2494***	Constant	0.673	1.698
6	(Constant)	0.242		0.783			Rho (AR1)	0.878	32.438***

	lg_gdp	0.242	0.246	3.561***			lg_gdp	0.080	0.893
	lg_population	0.748	0.632	10.686***			lg_population	0.920	9.009***
	EFWidx	0.001	0.002	0.038			EFWidx	-0.032	-0.885
	lg_openness	-0.023	-0.020	-0.915			lg_openness	0.027	0.896
	sq_coproduction	-0.019	-0.007	-0.323			sq_coproduction	-0.003	-0.081
	goverment	0.130	0.178	3.354***			goverment	0.140	2.987***
	sq_Hcd	-0.056	-0.057	-1.684			sq_Hcd	0.010	0.180
	lg_Language	0.264	0.062	2.185*			lg_Language	0.466	2.212*
	sq_Tcd	-0.522	-0.213	-6.265***			sq_Tcd	-0.728	-5.637***
	lg_subsidy	0.102	0.036	1.347			lg_subsidy	-0.100	-1.005
					0.913	210.0795***	Constant	0.629	1.566
7	(Constant)	0.224		0.728			Rho (AR1)	0.875	31.049***
	lg_gdp	0.272	0.277	4.497***			lg_gdp	0.065	0.744
	lg_population	0.702	0.593	10.224***			lg_population	0.949	8.885***
	EFWidx	0.001	0.001	0.031			EFWidx	-0.034	-0.926
	lg_openness	-0.037	-0.032	-1.284			lg_openness	0.027	0.866
	sq_coproduction	-0.010	-0.004	-0.165			sq_coproduction	-0.006	-0.162
	goverment	0.120	0.164	3.230**			goverment	0.149	3.285**
	sq_Hcd	-0.062	-0.063	-1.860			sq_Hcd	0.011	0.194
	lg_Language	0.242	0.057	1.983*			lg_Language	0.448	2.143*
	sq_Tcd	-0.503	-0.206	-6.098***			sq_Tcd	-0.740	-5.703***
	sq_TBI	0.027	0.045	1.368			sq_TBI	-0.021	-0.809
					0.914	210.1456***	Constant	0.670	1.688
8	(Constant)	0.194		0.631			Rho (AR1)	0.878	31.758***
	lg_gdp	0.273	0.278	4.434***			lg_gdp	0.066	0.754
	lg_population	0.717	0.606	10.620***			lg_population	0.947	9.217***
	EFWidx	0.002	0.003	0.073			EFWidx	-0.038	-1.045
	lg_openness	-0.028	-0.025	-1.022			lg_openness	0.025	0.835
	sq_coproduction	-0.010	-0.004	-0.179			sq_coproduction	-0.011	-0.302
	goverment	0.119	0.162	3.172**			goverment	0.147	3.316**
	sq_Hcd	-0.060	-0.060	-1.782			sq_Hcd	0.006	0.114
	lg_Language	0.257	0.060	2.113*			lg_Language	0.417	2.021*
	sq_Tcd	-0.510	-0.208	-6.158***			sq_Tcd	-0.743	-5.757***
	sq_TBN	0.026	0.027	0.886			sq_TBN	-0.041	-1.418
					0.913	208.8363***	Constant	0.741	1.877
9	(Constant)	0.122		0.385			Rho (AR1)	0.936	52.754***
	lg_tariff	0.277	0.042	1.385			lg_gdp	0.048	0.540
	sq_quota	0.059	0.074	2.265*			lg_population	1.048	8.984***
	sq_IVR	-0.041	-0.034	-1.140			EFWidx	-0.055	-1.544
	sq_service	0.023	0.026	0.946			lg_openness	0.042	1.409
	sq_taxation	-0.031	-0.029	-0.959			sq_coproduction	-0.021	-0.658
	lg_subsidy	-0.001	0.000	-0.011			goverment	0.105	2.254*
	lg_gdp	0.282	0.288	3.851***			sq_Hcd	-0.073	-1.073
	lg_population	0.686	0.580	8.307***			lg_Language	0.655	2.997**
	EFWidx	0.002	0.003	0.065			sq_Tcd	-0.741	-5.496***
	lg_openness	-0.025	-0.022	-0.800			lg_tariff	0.621	2.599*
	sq_coproduction	-0.029	-0.011	-0.505			sq_quota	-0.052	-1.689
	goverment	0.137	0.187	3.276**			sq_IVR	-0.252	-3.935***
	sq_Hcd	-0.035	-0.035	-0.876			sq_service	0.061	1.728
	lg_Language	0.316	0.074	2.532*			sq_taxation	0.021	0.430

sq_Tcd	-0.498	-0.204	-5.883***			lg_subsidy	-0.126	-1.084
				0.917	147.277***	Constant	0.833	2.050*

* p<.05. **p<.01. ***<.001

Time-Series Regressions

Controlled for time, population became the most important factor in determining audience admission. GDP, however, lost its significant impact. Considering the previous finding that GDP was strongly associated with consumer spending, it suggested audience admission might be affected by factors other than economic consideration.

Government Effectiveness (GE) Index remained a strong predictor of film admission, indicating a long-lasting effect of overall regulatory environment on film consumptions. Language and cultural proximity in Tadesse remained positive contributors to film admission.

Interestingly, over the time, tariff became a significant positive contributor of film admission (at .05 level of significance in both model 1 and model 9). This might occur because tariff acts as a screening window that only allow films that promise to attract more audience or films that showed box office successes to enter. Or, considering the negative effect of tariff on spending, with less foreign films entered that are often more expensive, it seems that audiences tend to spend more on less-expensive local films. During the studied time period, the significant effect of quota in increasing film admissions was lost. Within the time period, investment restrictions remained significant negative factors of film admissions (model 3 and model 9). Again, none of the TBI and TBN showed significant impacts on film admission controlled for time, the direction of the coefficients with film admission, however, changed from positive to be negative.

Therefore, the long-term effect on increasing TB quality or quantity might have the potential of decreasing audience admission, but the impact was not significant for the studied time period.

HHI Function

Preliminary Regressions

The models explained around 61 percent (model 1 to model 8) to 78 percent of the HHI variations. The results were presented in Table4-11.

Surprisingly, gross domestic product (GDP) appeared a negative determinant of film diversity across all the HHI models. It meant that economically developed countries actually have less film diversity. This confirmed that economic developed markets tend to have more commercialized but homogeneous products. The market structure variable in both economic freedom (the EFW index) and trade relations (the OI index) showed significant positive coefficients with film diversity. It implied that more open markets turned out to be more diverse in film imports. But only the EFW index appeared to be significant determinant of HHI. The OI index was only significant in model 3 with the investment restriction as an independent variable, and in model 9 with all of the TB variables entered as independent variables. Market structure variable in co-production was negatively correlated with film diversity and, except for model 3 and model 9, the correlation was significant. It was reasonable that countries that have co-production treaties have favorable policies toward each other on film imports. That, in turn, decreases the diversity of films that are entered into the partners' market.

Government Efficiency Index was another strong significant determinant across all models, next to gross domestic product. Interestingly, the GE index also showed a

negative coefficient with HHI. It meant that countries with a more efficient government also turned out to have less film diversity. This might because of strong government control on film imports.

As to the TB variables, all of the six TB variables showed positive coefficients with film diversity, except for taxation and subsidy. Higher taxation might discourage imports from certain sources. Subsidy encouraged local production and might discouraged imports also. However, the coefficients for tariff (model 1), and service restrictions (model 4) were not significant. Therefore, their impacts on films were considerably small. Only the coefficients for quota (model 2 and model 9) and investment restriction (model 3 and model 9) were significant. The coefficient between TBI and film diversity was also significant and the direction was positive (model 7). Therefore, the overall effect of improving the quality of trade barriers was positive in enhancing the diversity of film consumption.

None of the three cultural variables showed serious impacts on film diversity. The cultural variable in language showed a positive significant impact in model 3 with investment restriction as one independent variable, and in model 9 with all TB variables entered, but the effect was mostly non-significant in all of the other models. Cultural distance in Hofstede's dimension showed a positive coefficient with film diversity, and the cultural dimension from Tadesse & White showed negative coefficient with HHI. This again reflected the different functions of the business aspect of culture and social value aspect of culture in affecting import diversity. However, none of the coefficients was significant.

Table 4-11: HHI Models

Preliminary Regressions							Time-Series Autoregressions		
Models	Variables	B	ß	T-Value	Adjusted R2	F	Variables	Parameter Estimates	T-value
1	(Constant)	2754.250		1.521			Rho (AR1)	0.989	147.570***
	lg_tariff	500.785	0.041	0.572			lg_tariff	-1253.517	-2.336*
	lg_gdp	-1339.226	-0.664	-3.588***			lg_gdp	-295.498	-1.416
	lg_population	784.962	0.319	1.688			lg_population	-43.188	-0.168
	EFWidx	787.780	0.456	4.161***			EFWidx	144.211	1.724
	lg_openness	208.291	0.082	1.335			lg_openness	79.247	1.168
	sq_coproduction	-758.267	-0.148	-2.498*			sq_coproduction	-1.441	-0.022
	goverment	-936.059	-0.615	-4.427***			goverment	-654.072	-6.428***
	sq_Hcd	37.581	0.016	0.193			sq_Hcd	698.914	4.063***
	lg_Language	992.090	0.103	1.410			lg_Language	3528.263	5.364***
	sq_Tcd	-693.530	-0.130	-1.578			sq_Tcd	467.491	1.210
					0.579	21.634***	Constant	2698.378	2.287*
2	(Constant)	1950.809		1.114			Rho (AR1)	0.991	153.376***
	sq_quota	415.162	0.251	3.058**			sq_quota	291.458	4.138***
	lg_gdp	-1472.445	-0.730	-4.069**			lg_gdp	-396.846	-1.959
	lg_population	725.257	0.295	1.621			lg_population	-236.677	-0.977
	EFWidx	888.027	0.513	5.057***			EFWidx	164.894	2.066*
	lg_openness	-117.002	-0.046	-0.692			lg_openness	71.416	1.123
	sq_coproduction	-709.503	-0.139	-2.418*			sq_coproduction	-18.072	-0.285
	goverment	-859.665	-0.565	-4.320***			goverment	-480.818	-4.568***
	sq_Hcd	272.168	0.119	1.368			sq_Hcd	691.796	4.187***
	lg_Language	1229.986	0.128	1.791			lg_Language	2913.171	4.490***
	sq_Tcd	-591.164	-0.111	-1.390			sq_Tcd	749.824	2.001*
					0.604	23.925***	Constant	2681.227	2.293*
3	(Constant)	871.144		0.556			Rho (AR1)	0.988	134.107***
	sq_IVR	1220.863	0.412	6.960***			sq_IVR	495.022	2.492*
	lg_gdp	-806.624	-0.400	-2.443*			lg_gdp	-128.674	-0.611
	lg_population	12.148	0.005	0.029			lg_population	-434.326	-1.581
	EFWidx	875.306	0.506	5.635***			EFWidx	185.405	2.218*
	lg_openness	363.230	0.143	2.854**			lg_openness	131.324	2.026*
	sq_coproduction	-136.763	-0.027	-0.497			sq_coproduction	34.689	0.517
	goverment	-1095.616	-0.720	-6.261***			goverment	-618.612	-6.054***
	sq_Hcd	131.403	0.057	0.792			sq_Hcd	827.664	4.591***
	lg_Language	1655.926	0.173	2.694**			lg_Language	4071.978	5.864***
	sq_Tcd	-645.036	-0.121	-1.712			sq_Tcd	250.456	0.626
					0.687	33.853***	Constant	2041.493	1.776
4	(Constant)	2443.482		1.368			Rho (AR1)	0.990	150.162***
	sq_service	215.001	0.090	1.441			sq_service	-69.177	-0.549
	lg_gdp	-1373.277	-0.681	-3.719***			lg_gdp	-215.379	-1.016
	lg_population	759.642	0.309	1.653			lg_population	-142.032	-0.548
	EFWidx	856.621	0.495	4.751***			EFWidx	164.201	1.940
	lg_openness	154.052	0.060	1.071			lg_openness	132.013	1.978*
	sq_coproduction	-763.764	-0.149	-2.538*			sq_coproduction	5.585	0.083
	goverment	-1010.438	-0.664	-4.997***			goverment	-674.952	-5.738***
	sq_Hcd	-11.159	-0.005	-0.057			sq_Hcd	748.107	3.748***

	lg_Language	987.664	0.103	1.412			lg_Language	3645.062	5.172
	sq_Tcd	-593.541	-0.112	-1.340			sq_Tcd	458.091	1.126
					0.584	22.078***	Constant	2334.238	1.921
5	(Constant)	2466.587		1.366			Rho (AR1)	0.989	150.559***
	sq_taxation	-94.552	-0.040	-0.657			sq_taxation	-304.916	-2.930**
	lg_gdp	-1299.249	-0.644	-3.395***			lg_gdp	-187.374	-0.914
	lg_population	754.242	0.307	1.598			lg_population	-225.282	-0.901
	EFWidx	822.718	0.476	4.578***			EFWidx	186.796	2.261
	lg_openness	164.212	0.064	1.134			lg_openness	154.652	2.386*
	sq_coproduction	-770.870	-0.151	-2.526*			sq_coproduction	-18.932	-0.288
	goverment	-990.350	-0.651	-4.866***			goverment	-625.605	-6.207***
	sq_Hcd	108.933	0.048	0.524			sq_Hcd	723.274	4.243***
	lg_Language	1097.318	0.114	1.520			lg_Language	3249.945	4.944***
	sq_Tcd	-688.758	-0.130	-1.567			sq_Tcd	811.908	2.057*
					0.579	21.661***	Constant	2007.620	1.718
6	(Constant)	2233.954		1.230			Rho (AR1)	0.989	147.554***
	lg_subsidy	-522.557	-0.093	-1.165			lg_subsidy	-51.234	-0.220
	lg_gdp	-1137.414	-0.564	-2.731**			lg_gdp	-216.609	-0.992
	lg_population	716.407	0.291	1.532			lg_population	-163.744	-0.638
	EFWidx	827.357	0.478	4.617***			EFWidx	166.581	1.955
	lg_openness	225.272	0.088	1.500			lg_openness	130.262	1.906
	sq_coproduction	-676.136	-0.132	-2.204*			sq_coproduction	4.012	0.060
	goverment	-1059.521	-0.697	-4.940***			goverment	-651.921	-5.964***
	sq_Hcd	-4.647	-0.002	-0.023			sq_Hcd	696.279	3.972***
	lg_Language	911.632	0.095	1.294			lg_Language	3542.166	5.247
	sq_Tcd	-617.907	-0.116	-1.391			sq_Tcd	516.478	1.314
					0.582	21.896***	Constant	2367.038	1.931
7	(Constant)	2674.290		1.544			Rho (AR1)	0.989	145.470***
	sq_TBI	342.011	0.269	3.230**			sq_TBI	46.217	0.630
	lg_gdp	-1687.962	-0.837	-4.528***			lg_gdp	-257.588	-1.197
	lg_population	756.274	0.308	1.699			lg_population	-203.475	-0.769
	EFWidx	870.827	0.504	4.996***			EFWidx	163.528	1.931
	lg_openness	4.766	0.002	0.032			lg_openness	112.735	1.623
	sq_coproduction	-716.006	-0.140	-2.450*			sq_coproduction	3.237	0.048
	goverment	-812.952	-0.534	-4.045***			goverment	-612.252	-5.311***
	sq_Hcd	93.992	0.041	0.506			sq_Hcd	676.343	3.810***
	lg_Language	1022.008	0.107	1.503			lg_Language	3422.722	4.975***
	sq_Tcd	-763.854	-0.144	-1.811			sq_Tcd	505.570	1.286
					0.607	24.201***	Constant	2533.523	2.090*
8	(Constant)	2446.926		1.378			Rho (AR1)	0.990	147.937***
	sq_TBN	302.803	0.153	1.865			sq_TBN	-7.361	-0.092
	lg_gdp	-1550.911	-0.769	-4.068***			lg_gdp	-226.256	-1.061
	lg_population	809.651	0.329	1.778			lg_population	-160.086	-0.620
	EFWidx	883.395	0.511	4.885***			EFWidx	164.303	1.939
	lg_openness	97.086	0.038	0.655			lg_openness	127.284	1.906
	sq_coproduction	-720.248	-0.141	-2.406*			sq_coproduction	3.014	0.045
	goverment	-894.743	-0.588	-4.391***			goverment	-647.082	-5.985***
	sq_Hcd	79.377	0.035	0.417			sq_Hcd	694.152	3.946***
	lg_Language	967.571	0.101	1.390			lg_Language	3524.113	5.259***
	sq_Tcd	-840.066	-0.158	-1.926			sq_Tcd	520.309	1.317

					0.588	22.434***	Constant	2412.019	1.996*
9	(Constant)	-85.544		-0.059			Rho (AR1)	0.989	141.930***
	lg_tariff	4153.873	0.342	4.581***			lg_tariff	-616.314	-1.108
	sq_quota	493.750	0.299	4.180***			sq_quota	372.849	3.578***
	sq_IVR	1488.132	0.502	8.420***			sq_IVR	620.114	3.244**
	sq_service	-18.968	-0.008	-0.153			sq_service	-217.747	-1.593
	sq_taxation	-393.262	-0.167	-2.706**			sq_taxation	-111.034	-0.890
	lg_subsidy	-568.708	-0.102	-1.488			lg_subsidy	-461.338	-1.318
	lg_gdp	-147.029	-0.073	-0.412			lg_gdp	-175.730	-0.890
	lg_population	-995.202	-0.405	-2.357*			lg_population	-503.768	-1.946
	EFWidx	690.631	0.399	4.529***			EFWidx	206.557	2.684**
	lg_openness	360.144	0.141	2.392*			lg_openness	102.105	1.611
	sq_coproduction	-125.789	-0.025	-0.495			sq_coproduction	16.400	0.268
	goverment	-854.590	-0.562	-4.832***			goverment	-567.083	-5.084***
	sq_Hcd	412.901	0.180	2.328*			sq_Hcd	1043.763	5.162***
	lg_Language	2457.349	0.256	4.211***			lg_Language	3883.478	5.605***
	sq_Tcd	26.421	0.005	0.071			sq_Tcd	377.056	0.944
					0.750	31.034***	Constant	1602.006	1.476

* p<.05. **p<.01. ***<.001

Time-Series Regressions

Over the studied time period, the negative effect of an efficient government (the GE Index) on HHI remained significant across the 9 models. However, the effects of both gross domestic product (GDP) and co-production became non-significant. The significance of market structure variables in EFW index was also reduced. The coefficient between the EFW index and film diversity was only significant in models 2, 3, 4, 5, and model 9, at a reduced level (.05 level of significance). To the contrary, the significance of market structure variable in trade relation (the OI index) became a little stronger. Its impact was significant in model 3, model 4, and model 5. The negative impact of co-production on film diversity also became non-significant when considering the time effect. As to the TB variables, quota and investment restrictions remained significant and positive on their coefficients with the dependent variables (in model 2, model 3 and model 9), implying positive effects of these two variables in maintaining

local productions. Interestingly, tariff and taxation, which all showed no significant coefficients with film diversity, showed significant negative impacts on HHI (in model 1 at .001 level of significance and in model 5 at .01 level of significance, respectively).

The effect of cultural variables became more significant with time, especially for Hefstede's cultural dimension. Hefstede's cultural dimension showed positive coefficients with film diversity and its impact was significant (at .001 level of significance) in all of the nine models. This implied that cultural closeness in Hofstede's dimension might result in more culture erosion and a decrease in diversity. Language, however, showed positive impact on diversity and the impact was significant in most models (at .001 level of significance), except in model 4 (with service restriction) and model 6 (with subsidy).

In addition, the effect of cultural dimension in Tadesse & White on film diversity was significant in the quota model (model 2), and the taxation model (model 5). This seemed to indicate that the impact of Tadesse's cultural dimension was only serious when certain trade barriers were applied, such as quota and taxation. That is, when quota and taxation were applied, importers tended to import films from more diverse sources in order to satisfy the TB criteria. Overall, cultural variables and GE index became strong indicators on film import diversity.

Piracy Function

Preliminary Regressions

The piracy models added more independent variables (Table 4-12). Among them were education, population median age, cinema index, and degree in IP protection. These were all believed to have significant impacts on film piracy. The models explained

around 75 percent to 77 percent of the piracy variations. Across the nine models, the regulation variable in government efficiency (the GE index) appeared to be a strong negative predictor of film piracy (at .001 level of significance). This indicated that the efficiency of government in reinforcing regulations actually work to decrease piracy activities. The effect of IP protection (the EFWip index) was significant (at .05 level) except for the tariff model and the quota model (model 1 and model 2), but the coefficients were positive. This implied that the government efficiency in providing an overall regulatory environment might help to reduce piracies.

Another strong predictor of film piracy was the median age of population (significant at .001 level of significance). The result showed that countries with younger populations tended to have more piracy activities in film. This was reasonable, because movie-going was more of an activity for younger people. And younger people also tended to have less income and more information and technological sources for piracy compared with people of older age.

The market variable in Economic Freedom was a moderate positive predictor (at .01 level of significance) of film piracy. An open economy had more information flow, which might increase the chances for exchange of information and pirated products publicly.

Culture showed relative weak impacts on film piracy (at .05 level of significance). Among the three cultural variables, the most significant one was the cultural dimension in langue. Language showed negative impact on piracy in all of the nine models

The cultural dimension from Tadesse & White showed a positive impact on film piracy, except in the tariff model (model 1), TBN model (model 8), and model 9. This

implied that countries with language or culture values close to the U.S. tended to have less films pirated. This might be because western culture values personal properties more and is more likely to have intellectual properties protected. The culture distance in Hofstede showed no significant impact.

Education showed negative impact (at .05 level) on piracy only in five of the models that with quota, investment restriction, taxation, subsidy, and TBI as independent variables, respectively. This implied that higher education had limited effect on reducing film piracy.

As to the TB variables, only quota and subsidy showed negative coefficients. All of the other TB variables, including TBI and TBN, showed negative coefficients with piracy, but none of the coefficients were significant in the nine models.

Table 4-12: Piracy Models

Preliminary Regressions							Time-Series Autoregressions		
Models	Variables	B	ß	T-Value	Adjusted R^2	F	Variables	Parameter Estimates	T-value
1	(Constant)	29.635		5.469***			Rho (AR1)	0.697	9.319***
	lg_tariff	3.666	0.138	2.051*			lg_tariff	3.969	1.895
	lg_gdp	0.313	0.107	0.564			lg_gdp	0.389	0.536
	lg_population	-0.050	-0.014	-0.092			lg_population	-0.328	-0.429
	EFWidx	0.756	0.373	3.043**			EFWidx	0.378	1.304
	lg_openness	0.172	0.042	0.581			lg_openness	-0.154	-0.468
	sq_coproduction	-0.700	-0.080	-1.289			sq_coproduction	-0.615	-1.307
	goverment	-2.321	-1.032	-4.975***			goverment	-1.524	-3.334**
	sq_Hcd	0.167	0.049	0.522			sq_Hcd	-0.269	-0.669
	lg_Language	-3.120	-0.186	-2.446*			lg_Language	-3.837	-2.322*
	sq_Tcd	1.777	0.224	1.749			sq_Tcd	1.509	1.177
	lg_age	-17.643	-0.638	-6.064***			lg_age	-14.062	-3.448***
	IP	0.347	0.319	1.946			IP	0.085	0.51
	Education	-0.584	-0.229	-1.902			Education	-0.248	-0.654
	Cinema idx	-1.566	-0.148	-1.099			Cinema idx	-0.416	-0.245
					0.716	17.969***	Constant	26.786	3.579***
2	(Constant)	29.684		5.214***			Rho (AR1)	0.721	10.547***
	sq_quota	-0.182	-0.074	-0.85			sq_quota	-0.212	-0.794

	lg_gdp	0.275	0.094	0.486			lg_gdp	0.289	0.384
	lg_population	0.300	0.085	0.542			lg_population	0.231	0.295
	EFWidx	0.727	0.359	2.865**			EFWidx	0.324	1.091
	lg_openness	0.153	0.037	0.506			lg_openness	-0.289	-0.872
	sq_coproduction	-0.797	-0.091	-1.43			sq_coproduction	-0.660	-1.39
	goverment	-2.337	-1.039	-4.902***			goverment	-1.528	-3.257**
	sq_Hcd	0.082	0.024	0.234			sq_Hcd	-0.366	-0.842
	lg_Language	-3.347	-0.200	-2.558*			lg_Language	-4.017	-2.322*
	sq_Tcd	2.142	0.270	2.098*			sq_Tcd	1.976	1.516
	lg_age	-17.177	-0.621	-5.436***			lg_age	-13.335	-3.037**
	IP	0.330	0.303	1.761			IP	0.068	0.402
	Education	-0.643	-0.252	-2.057*			Education	-0.324	-0.836
	Cinema idx	-1.940	-0.183	-1.345			Cinema idx	-0.802	-0.462
					0.704	17.989***	Constant	26.564	3.333***
3	(Constant)	29.088		5.269***			Rho (AR1)	0.722	10.789***
	sq_IVR	0.457	0.143	1.751			sq_IVR	0.560	1.614
	lg_gdp	0.591	0.202	1.002			lg_gdp	0.674	0.869
	lg_population	-0.324	-0.092	-0.533			lg_population	-0.536	-0.642
	EFWidx	0.666	0.329	2.632*			EFWidx	0.283	0.958
	lg_openness	0.143	0.035	0.481			lg_openness	-0.303	-0.925
	sq_coproduction	-0.369	-0.042	-0.627			sq_coproduction	-0.453	-0.933
	goverment	-2.371	-1.054	-5.050***			goverment	-1.530	-3.309**
	sq_Hcd	0.307	0.090	0.937			sq_Hcd	-0.077	-0.178
	lg_Language	-3.186	-0.190	-2.483*			lg_Language	-4.062	-2.379*
	sq_Tcd	2.132	0.269	2.119*			sq_Tcd	1.934	1.501
	lg_age	-17.321	-0.626	-5.862***			lg_age	-13.902	-3.313**
	IP	0.380	0.349	2.119*			IP	0.091	0.549
	Education	-0.628	-0.246	-2.045*			Education	-0.368	-0.967
	Cinema idx	-1.845	-0.175	-1.3			Cinema idx	-0.741	-0.433
					0.713	17.648***	Constant	26.902	3.485***
4	(Constant)	26.253		3.714***			Rho (AR1)	0.758	12.516***
	sq_service	0.261	0.108	1.053			sq_service	0.571	1.919
	lg_gdp	0.197	0.067	0.347			lg_gdp	0.200	0.258
	lg_population	0.185	0.052	0.343			lg_population	-0.043	-0.056
	EFWidx	0.704	0.347	2.759**			EFWidx	0.275	0.929
	lg_openness	-0.042	-0.010	-0.122			lg_openness	-0.531	-1.556
	sq_coproduction	-0.678	-0.078	-1.216			sq_coproduction	-0.624	-1.354
	goverment	-2.383	-1.059	-5.009***			goverment	-1.402	-3.025**
	sq_Hcd	0.079	0.023	0.23			sq_Hcd	-0.567	-1.282
	lg_Language	-3.105	-0.186	-2.381*			lg_Language	-3.893	-2.208*
	sq_Tcd	2.048	0.259	2.002*			sq_Tcd	2.115	1.605
	lg_age	-15.636	-0.566	-4.140***			lg_age	-9.946	-2.063*
	IP	0.406	0.372	2.195*			IP	0.092	0.56
	Education	-0.584	-0.229	-1.818			Education	-0.176	-0.447
	Cinema idx	-1.407	-0.133	-0.901			Cinema idx	0.188	0.103
					0.706	17.098***	Constant	19.902	2.228*
5	(Constant)	30.700		5.535***			Rho (AR1)	0.735	11.366***
	sq_taxation	0.105	0.028	0.417			sq_taxation	0.208	0.699
	lg_gdp	0.211	0.072	0.364			lg_gdp	0.213	0.27
	lg_population	0.244	0.069	0.44			lg_population	0.135	0.171

	EFWidx	0.749	0.370	2.925**			EFWidx	0.329	1.095
	lg_openness	0.115	0.028	0.376			lg_openness	-0.345	-1.029
	sq_coproduction	-0.703	-0.080	-1.238			sq_coproduction	-0.582	-1.206
	goverment	-2.335	-1.038	-4.853***			goverment	-1.430	-3.022**
	sq_Hcd	0.150	0.044	0.44			sq_Hcd	-0.368	-0.843
	lg_Language	-3.346	-0.200	-2.510*			lg_Language	-4.204	-2.349*
	sq_Tcd	2.114	0.267	2.052*			sq_Tcd	1.932	1.449
	lg_age	-18.109	-0.655	-6.093***			lg_age	-14.161	-3.296**
	IP	0.368	0.338	2.018*			IP	0.064	0.381
	Education	-0.659	-0.258	-2.100*			Education	-0.325	-0.835
	Cinema idx	-1.907	-0.180	-1.282			Cinema idx	-0.693	-0.391
					0.702	16.835***	Constant	27.810	3.520***
6	(Constant)	28.435		4.968***			Rho (AR1)	0.719	10.961***
	lg_subsidy	-1.062	-0.124	-1.438			lg_subsidy	-0.359	-0.396
	lg_gdp	0.704	0.241	1.097			lg_gdp	0.437	0.534
	lg_population	-0.068	-0.019	-0.121			lg_population	-0.008	-0.01
	EFWidx	0.789	0.389	3.104**			EFWidx	0.335	1.121
	lg_openness	0.191	0.047	0.632			lg_openness	-0.281	-0.842
	sq_coproduction	-0.748	-0.086	-1.361			sq_coproduction	-0.661	-1.386
	goverment	-2.625	-1.166	-5.173***			goverment	-1.575	-3.102**
	sq_Hcd	0.237	0.069	0.729			sq_Hcd	-0.264	-0.629
	lg_Language	-3.373	-0.202	-2.606*			lg_Language	-3.923	-2.269*
	sq_Tcd	2.080	0.263	2.052*			sq_Tcd	2.023	1.551
	lg_age	-17.146	-0.620	-5.690***			lg_age	-13.885	-3.193**
	IP	0.379	0.348	2.100*			IP	0.083	0.488
	Education	-0.675	-0.264	-2.195*			Education	-0.348	-0.9
	Cinema idx	-1.927	-0.182	-1.351			Cinema idx	-0.901	-0.519
					0.709	17.368***	Constant	27.123	3.358***
7	(Constant)	30.566		5.309***			Rho (AR1)	0.741	11.627***
	sq_TBI	0.049	0.025	0.234			sq_TBI	0.163	0.644
	lg_gdp	0.223	0.076	0.379			lg_gdp	0.263	0.335
	lg_population	0.172	0.049	0.314			lg_population	-0.089	-0.113
	EFWidx	0.734	0.362	2.877**			EFWidx	0.312	1.037
	lg_openness	0.091	0.022	0.258			lg_openness	-0.393	-1.116
	sq_coproduction	-0.700	-0.080	-1.175			sq_coproduction	-0.586	-1.218
	goverment	-2.349	-1.044	-4.898***			goverment	-1.402	-2.921**
	sq_Hcd	0.188	0.055	0.576			sq_Hcd	-0.314	-0.734
	lg_Language	-3.214	-0.192	-2.454*			lg_Language	-3.940	-2.235*
	sq_Tcd	2.131	0.269	2.064*			sq_Tcd	2.051	1.547
	lg_age	-17.983	-0.650	-5.945***			lg_age	-13.918	-3.207**
	IP	0.380	0.349	2.005*			IP	0.073	0.433
	Education	-0.663	-0.260	-2.094*			Education	-0.306	-0.78
	Cinema idx	-1.958	-0.185	-1.297			Cinema idx	-0.690	-0.388
					0.702	16.801***	Constant	27.187	3.390***
8	(Constant)	28.861		5.081***			Rho (AR1)	0.754	12.109***
	sq_TBN	0.413	0.124	1.331			sq_TBN	0.565	1.546
	lg_gdp	0.103	0.035	0.179			lg_gdp	0.104	0.131
	lg_population	0.092	0.026	0.17			lg_population	-0.111	-0.142
	EFWidx	0.784	0.387	3.080**			EFWidx	0.352	1.171
	lg_openness	-0.020	-0.005	-0.064			lg_openness	-0.430	-1.286

	sq_coproduction	-0.505	-0.058	-0.869			sq_coproduction	-0.563	-1.204
	goverment	-2.350	-1.044	-4.966***			goverment	-1.316	-2.782**
	sq_Hcd	0.208	0.061	0.643			sq_Hcd	-0.259	-0.602
	lg_Language	-2.936	-0.176	-2.238*			lg_Language	-3.682	-2.069*
	sq_Tcd	1.992	0.252	1.95			sq_Tcd	1.979	1.493
	lg_age	-17.690	-0.640	-5.976***			lg_age	-13.908	-3.216**
	IP	0.419	0.385	2.269*			IP	0.061	0.367
	Education	-0.601	-0.235	-1.917			Education	-0.312	-0.798
	Cinema idx	-1.601	-0.151	-1.091			Cinema idx	-0.771	-0.438
					0.708	17.284***	Constant	27.012	3.381***
9	(Constant)	24.330		3.235**			Rho (AR1)	0.703	9.258***
	lg_tariff	3.390	0.127	1.743			lg_tariff	3.422	1.477
	sq_quota	-0.039	-0.016	-0.167			sq_quota	-0.131	-0.445
	sq_IVR	0.426	0.133	1.373			sq_IVR	0.438	1.068
	sq_service	0.153	0.063	0.574			sq_service	0.380	1.22
	sq_taxation	-0.207	-0.055	-0.72			sq_taxation	-0.186	-0.542
	lg_subsidy	-0.479	-0.056	-0.55			lg_subsidy	0.253	0.24
	lg_gdp	0.883	0.302	1.307			lg_gdp	0.551	0.626
	lg_population	-0.714	-0.202	-1.005			lg_population	-0.700	-0.701
	EFWidx	0.666	0.329	2.503*			EFWidx	0.293	0.982
	lg_openness	0.142	0.035	0.407			lg_openness	-0.300	-0.832
	sq_coproduction	-0.408	-0.047	-0.679			sq_coproduction	-0.497	-1.001
	goverment	-2.513	-1.117	-4.787***			goverment	-1.532	-3.032**
	sq_Hcd	0.289	0.085	0.732			sq_Hcd	-0.285	-0.563
	lg_Language	-2.875	-0.172	-2.148*			lg_Language	-3.683	-2.128*
	sq_Tcd	1.765	0.223	1.715			sq_Tcd	1.564	1.198
	lg_age	-14.860	-0.537	-3.685***			lg_age	-10.616	-2.112*
	IP	0.379	0.347	1.971			IP	0.116	0.677
	Education	-0.517	-0.203	-1.609			Education	-0.167	-0.425
	Cinema idx	-1.234	-0.117	-0.778			Cinema idx	0.266	0.147
					0.713	13.278***	Constant	20.442	2.219*

* p<.05. **p<.01. ***<.001

Time-Series Regressions

Over the studied years, government efficiency and age remained two strong negative predictors of film piracy (at .001 level of significance). To a lesser degree (at .05 level of significance), language proximity was another significant negative predictor. This indicated a consistent and strong effect of government efficiency, population age, and language proximity in reducing piracy activities. The culture closeness in Tadesee's dimension became non-significant. Interestingly, in both the preliminary analyses and the

time-series regressions, neither the economic variables, gross domestic products and cinema index, showed significant impacts on film piracies. And the impact of education on reducing piracies was also limited.

Summary of Results

This study asked how regulatory trade barriers affect film performance. The research was conducted based on the following four research questions:

RQ1: How do policy trade barriers affect the performance of a country's domestic film industry?

RQ2: How do trade barriers affect film industry's operation scale and financial input?

RQ3: How do trade barriers affect a country's film consumptions?

RQ4: Do various trade protection techniques vary in their effects on the development of national film industry? Which protection method(s) is (are) more effective?

RQ5: Does the effectiveness of trade barriers in protecting domestic film industries decrease with the development of multiple film distribution technologies?

To answer the above five questions, the research developed ten film development indicators and explored the effect of eight trade barriers variables on the ten film development functions, including six individual trade barrier variables and two composite TB indices. The regressions yielded ten different film performance functions, both cross-section and cross-time. The research questions were answered and hypotheses were tested based on these regression results. Model 9 of each regression function represented the combination effect of using the six TB variables. It revealed how different TB variables

worked together and what the effects the interactions of these TB variables brought to the local film industry. The model also provided information on the effectiveness of each TB variables. The composite indices, TBI and TBN, took into consideration of the quality aspect and quantity aspect of the overall TB protections. Therefore, the overall effect of TB variables was tested based on the results of both model 9 and the regression results of the TB indices.

RQ1 asked the effect of trade barriers on the performance of a country's domestic film industry. Hypothesis 1 was used to examine the effects of trade barriers on the output performance of a country's film industry. Three parameters were used as indicators of a country's output performances, film production, domestic market share, and film export to other countries.

Hypothesis 1a predicted a negative relationship between the use of trade barriers and a country's domestic film production volume. Hypothesis 1b predicted that the use of trade barriers was negatively related to local films' domestic market share. According to the correlation data from Table 4-2, all TB variables were significantly and positively related with film productions and domestic market share. Further, neither of the regression analyses showed any significant negative impacts of TB variables on film productions and market share. Using the TB indices as indicators of the composite trade barrier effect, the results showed that the quality TB index (TBI) had positive impacts on both film production and market share. The impacts were also long-lasting over the studied time period (2000-2007). Therefore, depending on the combination of different trade protection techniques, reinforcing trade protections would have an overall positive influence on increasing local production and the market share of domestic films. As to

the individual trade barriers variables, quota and subsidy especially showed positive contributions to increase film production and market share. The impact of quota was also long-lasting.

Overall, TB variables showed a positive effect on increasing national film productions and market share. No negative effect was identified for individual trade barrier variables, either. Therefore, neither hypothesis 1a nor hypothesis 1b was supported.

Hypothesis 1c predicted a negative relationship between trade barriers and a country's export performance in films. The correlation data showed significant positive correlations between most TB variables and film export. The regression result showed, however, increasing the quality of trade barriers (TBI) did have negative impact on film export. But, the significance of the impact decreased over the studied time period. Increasing the quantity of trade protections had no significant impact on film export. Individually speaking, three TB variables appeared to be most harmful for reducing film export. They were investment barrier, service barrier, and taxation barrier. But only the negative impact of service restrictions sustained over the studied years. The impact of service restrictions and taxation was not significant controlled for time.

Therefore, the positive correlations between TB variables and film export might indicate that countries with more export were more likely to establish various trade protection methods to protect their industries. However, with three of the trade barrier variables being negative predictors of film export and the rest of the TB variables showing no significant impact on film export, the use of these trade barriers appeared to have an overall negative effect on film export. In the long-run, however, increasing the

quality and quantity of trade protections showed no impact on film export. Therefore, hypothesis 1c was only partially supported in this study.

RQ2 asked the impact of TBs on national film industry's operation scale and financial input. Hypothesis 2 examined the relationship between trade barriers and their links with a country's film operating and financing scale in four aspects, the total number of film screens, the box office revenues, annual investment on films, and consumer annual spending on films.

H2a predicted that the use of trade barriers was negatively related to the operation scale of a country's film industry. The correlation result showed that most of the TB variables showed negative correlations with total film screens, but positive correlations with total box office revenues. The regression result showed that, overall, the quality indicator of TB variables, the TBI, showed positive impact on screen development over the studied period of time. TBI also showed significant contribution to box office revenues in both cross-sectional and cross-time analyses, indicating the positive impact lasted throughout the studied period of time. Compare with TBI, the quantitative indicator of trade variables, TBN, showed no significant impact on both film screens and box office revenue. Therefore, the negative correlation between film screens and the TB variables must be explained by countries with less screen scales in film operations having more motives to use various TBs to protect their industries.

As to the individual variables, quota especially had sustaining contributions to increase film screens and box office revenues over the eight-year period. Subsidy also showed significant contribution to the above two film operation variables, although the impact was not lasting through the years. Only investment restrictions showed negative

impact on box office revenue, but the impact was for the short-term only. Further, when working with other TB variables in model 9, the impact of investment restrictions was not significant. In the long-run, the impact of TB variables on film screens and box office revenues was positive. Therefore, hypothesis 2a was not supported.

H2b predicted that the use of trade barriers was negatively related to a country's financial input in films. The correlation data revealed that most TB variables had negative correlations with consumer spending on films and positive correlations with total film investment. In the regression analyses, mixed results were found for individual TB variables. Specifically, quota and subsidy showed long-term positive impact on film investment and short-term impact in increasing consumer spending. Investment restriction, service restriction, and taxation appeared to have negative impacts on film investment, although the impacts were for the short-term only. Investment restriction and taxation also appeared to have negative impact on consumer spending and the impact was sustained over the years. And because the different directions that individual trade barrier variables pulled, the overall effect of trade protections, both quality aspect (TBI) and the quantity aspect (TBN), showed no significant impact on either consumer spending or on film investment. In the long-run, however, only the positive impact of quota and subsidy in the individual models and subsidy in model 9 appeared significant on film investment. As to consumer spending, the negative impacts of investment restrictions and taxation were all significant. In addition, tariff has increased the effect on total screens over the studied period of time as shown by its significant coefficients in the time-series regression analysis. When controlled for all TB variables, the negative impact of tariff and investment restrictions remained over the years. Therefore, mixed results were found

considering TBs' impact on the financial input of national films. The composite impact of trade barriers was not significant. Hypothesis 2b that predicted a negative impact of TBs on a nation's film production investment was not supported.

RQ3 asked the impact of TBs on film consumptions. Hypothesis 3 explored the possible effect of trade barriers on film consumptions in three areas including the effect on film admissions, film diversity, and film piracy activities.

Hypothesis 3a predicted a negative connection between trade barriers and audience film consumption quantity. The total quantity of films that were consumed was operationalized by the total number of admissions. The correlations data showed negative results between most TB variables and audience admissions. In the regressions, however, only investment restrictions appeared to have sustaining negative impact on film admissions. Two variables showed positive impacts on admissions, including quota that showed a positive short-term impact and tariff that showed a long-term positive impact. And again, because of the different directions in the function of individual trade barrier variables, the overall impact of both the quality and quantity aspect of TB protections was not significant. Therefore, hypothesis 3a was not supported.

Hypothesis 3b predicted a negative link between TBs and film diversity. The diversity of films was reported as the diverse source of film imports.

The results showed that, quota and investment restrictions could significantly increase import diversities of films, and the impact was long-lasting during the years. Therefore, the composite index of TBI appeared to contribute to an increased level of film diversity. Controlled for all TB variables in model 9, quota and investment restrictions still appeared to be positive predictors of film diversity. However, the

negative impacts of tariff and taxation on film diversity were not shown immediately. In the long-run, their negative impacts might counter-balance the positive effect of quota and investment restrictions. Therefore, in the long-run, the composite impact of TBs on film diversity was also not significant. Hypothesis 3b that predicted a negative relation between TBs and film diversity was not supported.

Hypothesis 3c stated that the use of trade barriers was positively related to piracy of films in a country. The correlation data showed mostly positive links between TBs and piracy, except for quota and subsidy. Regression results showed, however, that no TB variables had any significant impact on film piracy. Further, increasing either the quality or quantity of TB protections also had no significant impacts on piracy. Therefore, hypothesis 3c was not supported.

RQ4 investigated the variations in the effects of different protective policy instruments. It tried to find the protective method(s) that appear more effective in the development of national film industry.

As the tables show, tariff showed no significant impact on the dependent variables on any particular year, however, its impacts showed up through the years. Over the years, tariff showed positive impacts on film admissions and film screens, and negative impacts on film diversity and audience spending.

Quota turned out to be the TB variable that had the most significant effect on almost all the dependent variables (except export and piracy). In addition, all of the effects were positive and most of the effects remained significant across the time period (except for its effect on spending and admission).

Among all the TB variables, investment barrier showed the most negative significant effect on the dependent variables. It could significantly reduce film export, box office revenues, national film investment, total film spending, and film admission, and the negative effects were long-lasting over the time period in this study for both audience admission and film spending. It could also significantly increase film piracy levels, although the negative impact might not be significant over the studied period of time. However, investment restriction did contribute to the diversity of film imports of a country and the effect was enduring over the studied time period, although this diversity of available films might not turn into more audiences and revenues.

Service barriers showed negative and long-lasting significant impact on film export. It also significantly reduced film investment, but the impact was not significant over the time period of the study.

Taxation also showed a negative significant impact on film spending, and the impact remained over the years. Taxation also significantly reduced film investment and export, but the negative impact was not significant over the years.

Subsidy was another TB variable that showed most significant impact on the dependent variables, second only to quotas among the six TB variables. It could significantly increase film production and investment, and the positive effect remained significant over the studied period. Subsidy also had significant positive impact on film market share, film spending, and box office revenues, but those effects were not significant over the time period of the study. Interestingly, the productions, investment, and audience spending in subsidized films didn't seem to contribute to national film

screens, which might explain why the positive effects of subsidies on film investment and production were not long-lasting over time.

RQ5 addressed the question of the effect of trade protective techniques over time. Hypothesis 4 predicted a decreased effectiveness of TBs with the development of new distribution technologies.

As the regression results showed, for the positive contributors, such as quota and subsidy, quota lost its impact on increasing film spending and film admission. Subsidy's contribution in increasing film market share, box office revenues and consumer spending was also lost. As a whole, while the effect of trade barriers on the dependent variables did change over time, the change was not dramatic, at least for the studied period (2000-2007). In addition, the change was not even one-directional. For some TBs, for instance, tariff, the effect increased over the studied years. Therefore, hypothesis 4 was not supported.

Overall, the quality aspect of trade barriers (TBI) matters more than the quantity aspect. As the tables show, if trade barriers were well-regulated and effectively reinforced, they could contribute to the development of national films and increase production, box office revenues, as well as market share and the effects were long-lasting over the years. As a result of the above positive effects on film production, market share, and box revenue, increasing quality trade protections also showed positive effect on increasing film screens. TBI also showed positive effects on film diversity, but the effect became less significant over the years. However, TBs did show a short-term negative impact on film export. The reduction of film export might occur due to retaliations from export partners.

In comparison, the effect of TBN was generally not significant except for its negative impact on film export. Over the studied time period, increasing the numerical aspect of trade barriers had almost no impact on the dependent variables.

CHAPTER 5 CONCLUSION AND DISCUSSION

Overview

This chapter discusses the major findings of the study based on the research questions and in relation to previous research literature. It started with a discussion of the overall impacts of trade protections on ten national film indicators. Then, it talked about the welfare effects of individual and composite trade barrier variables developed in this study. It also acknowledged the impacts of some important control variables. The chapter ended with a discussion of its limitations, recommendations for potential future studies, and followed by closing remarks.

Effect of Trade Protections on National Film Performances

Based on the common criticisms in previous literature on trade barriers and their negative impacts on national film development, the study predicted negative relations between all TB variables and dependent variables in production, market competitiveness, operation scale, and consumer consumption. Contrary to common criticisms toward trade restrictive policies and trade barriers, however, this study failed to find the all-negative relations between most of the TB variables and the dependent variables. Mixed results were found instead. The function of individual trade barrier variables differed and the directions of their impact on national films also varied. Some of them were more positive, and others were more negative. However, trade protective policies as a whole showed mostly positive long-term impacts on increasing productions, market share, box office

revenues, and national film screens over the studied years. They also had short-term contributions to increased film diversity in a market. The only negative impact was on export. The impact, however, was for a short-term only. Therefore, criticisms on trade protective policies and their negative impacts were mainly exaggerated.

The study developed ten measurement dimensions as indicators of the development of national film industries. Trade protections played different roles on these different measurement dimensions. Countries seeking to promote their domestic industries not only need to carefully evaluate their markets based on different measurement dimensions, but also need to look at how different policy measures interact with the different film indicators, in order to come up with the policies that best suit their market conditions, needs, and national interests.

Domestic Production

Film represents a unique form of cultural expression. Preservation of domestic film productions concerns national sovereignty and cultural identity. Countries differ in their production capabilities due to economic factors such as financial capability and production scale, different levels in production technologies, and historical and cultural reasons, such as fewer creative talents. In the context of rising production cost and increased competition from the U.S., maintaining a viable local film industry becomes a focal concern for cultural policy makers.

Media economists such as Wildman and Siwek (1988) showed strong objections to trade protective policies and argued that they resulted in reduced film productions, revenues, and employment. This study, however, found no evidence to support such an announcement. In the correlation analyses, all of the trade barrier variables, including

tariff, quota, investment restrictions, service barriers, taxation, and subsidy, showed significant positive correlations with the film production quantity. Further, in the regression analyses, none of the above TB variables showed significant negative impacts on film production. To the contrary, both quota and subsidy showed significant contribution to increase film productions. The contribution of subsidy might decrease over the studied time. Overall, quality trade protection policies, as shown in the significant contribution of TBI to production, seemed to have a significant positive impact on increasing film productions.

Market Share

Market share measures the portion of the total box office revenues obtained by domestic films. It indicates the strength of domestic films in market competition in terms of capturing audiences and turning the audience spending into monetary value. Earlier studies (Lee & Bae, 2004; Oh, 2001) used market share as an indicator of self-sufficiency ratio (SSR), i.e., to what degree domestic industry can satisfy market need. Countries with strong market share will also have more potential in increasing financial inputs to local film infrastructure and local productions.

Although in reality, examples of losing market share as a result of easing trade barriers were abundant, as mentioned earlier in the case of Koran, Canada, New Zealand, and Mexico, existing studies (Lee & Bae, 2004; Lee, et al., 2008) did not find a connection between trade protective policies and domestic market shares in the film industry. Studies of Huhmann & Saqib (2007) also reported no significant change in domestic market share in the Canadian magazine industry following the end of protective policies.

The current study found that, over all, increasing the quality aspect of trade protections significantly increased the market share of domestic films, and the impact remained significant over the studied time period. Further, none of the TB variables showed significant negative impact on film market share. Contrarily, quota and subsidy showed significant contributions to increase domestic film market share. The claim that trade protective policies would harm film's market performance was not supported in this study.

Export

Export extends film market to overseas and adds film consumers from abroad. Export market not only provides additional revenue sources for films, but also helps producers to reach largest possible audiences, and therefore lower unit production cost through external economies of scale (Hoskins, et al., 1997; Marvasti & Canterbery, 2005). In export market, domestic films compete at a global level with not only the films of the importing country, but also with the films from other exporting countries. Therefore, export performance of a country's national films reflects these films' global competitiveness when trading abroad. Export revenues are also important in supporting domestic film industries' continued growth.

The effect of trade protections on a country's participation in international trade is relatively less explored in the media industry. Theoretically, if export is merely driven by audience demand and the competitiveness of films, trade protective methods should increase the export potential and international competitive status for local films also, given the fact that these protective methods increased domestic productions and market share as discussed earlier. In reality, however, researchers (Appleyard, Field, & Cobb,

2006) believe that trade restrictions may result in trade retaliations, which in turn, resulted in a reduction in export revenues. Empirically, previous studies by Marvasti (Marvasti 1994, 2000) found that trade barriers actually contribute to the exports of books and recorded music.

This study addressed the impact of trade protections on a country's film exports. It did found that, when considering only the correlations between each individual TB variables and export, the correlations were all positive. But, with all the control variables entered, none of the positive correlations were significant. Therefore, factors other than the TB variables played much larger roles than the TB variables. The regression results did show that increasing the quality of trade protections (TBI) had a negative impact on film export. The composite negative effect was mainly due to the significant negative impact of three restrictive TB variables, the investment restrictions, service restrictions, and taxation.

Screens

The total number of screens a country has reflects the actual operation size of the film market. The quantity of screens also reflects audience demand and the degree to which film revenues are used to support industry development. A flourishing film market would have more theaters and screens to satisfy consumer needs. Although the world as a whole witnesses a shrinking in the operation scale of theaters and screens due to the emerging new consumption channels for films, exploring the possible relationship between trade protective methods and the screen size might provide interesting implications for policy makers in terms of promoting local film market.

In response to media economics' criticism that trade protections as a whole would decrease a country's overall scale of operation (Wildman & Siwek, 1988), this study did found negative correlations between most TB variables. Controlled for other variables, however, none of those negative correlations were significant. To the contrary, quota and subsidy showed significant contributions to increase national film screens. Tariff was not a significant factor in the preliminary analysis, but showed positive impact on increasing film screen over the studied period of time. And considering the negative coefficients between the restrictive TB variables, investment restrictions, service restrictions, and taxation, the overall effect of trade barrier indices (both TBI and TBN) showed no significant impact on national film screens. Therefore, the positive impacts of supportive trade barrier techniques might be countered by the possible negative effect of the restrictive trade protection method, resulting in an overall non-significant effect of trade barriers on screen development. The other control variables might also show much larger impacts on film screens that the small possible effects of TB variables became not significant. Therefore, the criticism on trade protections in reducing film operation scale in screens was not supported.

Box Office Revenue

Oh (2001) used the box office revenues as the actual market size for the film industry. While screen numbers indicate the actual operation size of a country's film industry, the total box office revenues showed the realized monetary value of a country's film market. Normally, countries with more screens might have more audiences coming to the theaters, and therefore spend more on films which turns into more box office revenue. But, the link between film screens and total box office revenue may not always

be linear. How the theater market operates and what film contents go onto screens may also count for how much revenues the theatrical market can obtain.

Because box office revenue can be translated partly to future development of film infrastructure and product investment, exploring the link between trade protective method and box office revenues was also meaningful for policy making purposes. The correlations showed mostly positive relations between TB variables and box office revenues. Controlled for other variables in the regressions, however, quota and subsidy showed to be the positive predictor of box office revenue and both of these two TB variables became non-significant controlled for time. The only variable that did show negative impact on box office revenue was the investment restriction variable, and the impact was non-significant controlled for time. And overall, increasing the quality of trade protections (TBI) showed positive impact on increasing box office revenues. Therefore, no evidence was found for the negative composite effect of trade barriers on theatrical film revenues.

Product Investment

Not all the money from box office revenues goes to reinvestment on local productions. Therefore, box office revenue only offers potential financial source for film productions. Lee and Bae (2004) considered box office revenue as potential film market size and direct production investment as realized market size.

The soaring cost for film production and the widespread use of high-budget films as an effective differentiation strategy to drive consumer demand and enhance box office performance has made increased product investment vital in both national and international competition. However, countries differ in their capabilities to finance local

films. If the positive impact of TB variables in increasing production, market share, and box office revenues translates into product investment, developing economies might find a potential solution to finance its own film productions.

Wildman and Siwek (1988) criticized that trade protection reduced the financial investment in domestic film productions. The study investigated the effect of trade barriers on product investment. Mixed results were found. According to the regression results, the supporting TB variables, namely, subsidy and quota, showed significant positive contributions to increase product investment, but the restrictive TB variables, i.e., investment restrictions, service restrictions, and taxations showed negative impact on decreasing film financial input. Further, the contribution of the supporting TB variables sustained during the studied years, but the negative impacts of the three restrictive TB variables became non-significant through the years. Overall, due to the different directions various trade barrier variables had on film investment, the overall effect of the composite TB indices showed no significant impact on the financial input in film productions.

Consumer Spending and Admission

Audience admission reflects the actual audience size for theatrical films. Consumer spending is the total amount of money that consumers spend on theatrical films. Consumer admission and spending are the direct supports for the development of the film industry. Scholars (Waterman, 1988; Wildman & Siwek, 1988) emphasized consumer spending as a driving force for media development. Producers estimate consumer demand based on audience admission and spending. Large consumer spending will create a virtuous circle that leads to better media infrastructure, more product

investment, higher quality films, and more export. Empirical studies seemed to support the relationship between consumer spending and media development (Dupagne & Waterman, 1998; Jayakar & Waterman, 2000; Waterman, 1988, 1993, 2005; Waterman & Jayakar, 2000; Waterman & Lee, 2007; Waterman & Rogers, 1994).

Because of the importance of audience demand and audience spending in driving the development of the film industry, exploring their links with trade protections should bring insight on how trade protections affect the development of film industry. The study of Bagella & Becchetti (1999) found subsidized films have lower admissions than non-subsidized films. The study, however, does not explore the relations between subsidy and the total film admission, i.e., do people in general watch more films as a result of subsidy?

The correlation analyses of the current study showed that all TB variables had negative correlations with audience admissions and spending. Controlled for other variables, however, only investment restrictions and taxation showed significant negative impact on audience consumption and spending. Quota and subsidy worked in improving consumer film consumption and spending. Tariff and service restrictions showed negative coefficients with audience consumption, but the impact was not significant. Therefore, the TB variables function within a large social economic environment. The actual effects of the TB variables depend on how they worked with other social economical variables, which have even larger influences on the film industry. Overall, none of the composite TB indices showed significant impact when considering the controlled variables. Therefore, no evidence was found to support the claim that trade protective methods actually discourage audience consumption.

Diversity

Trade protections often encounter criticism for reducing the variety of films that audiences can choose from. Having choices to diverse films represents consumer rights and consumption quality, even though the films might not be competitive in the market and not demanded by many audiences. In addition, it is the cultural value itself, not the market value, that determines the meaning for the existence of film diversity. This in itself indicated that advocating the diversity of films may counter the market rationale. If there is a value for supporting film diversity, government might need to intervene. Scholars (Renaud, 1993; Seo, 2005) did point out that an unregulated market tended to encourage domination, production concentration, and homogenous products, however, trade protections also encounter criticism for reducing cultural diversities, restrict audience consumptions, and deprive people of the rights to enjoy cultural products from other countries (Collins, 1993; Cowen, 1998; Noam, 1993; Wildman & Siwek, 1988). Some empirical research (Francois & Ypersele, 2002; Moreau and Peltier, 2004; Rauch & Trindade, 2006) found that trade restrictions could support diverse productions. Others (Richardson, 2006), however, found trade restrictions resulted in less program diversity. Therefore, mixed results were also found in empirical research.

This study explores the diversity of films that enters into a market. The results indicated that most of the TB variables had a positive correlation with import diversity. Further, both quota and investment restrictions appeared to be positive factors in increasing diverse sources of film import. The result was reasonable, because quota restricts the number of films from specific countries to enter into a market. Less homogenous products resulting from investment restrictions lead to import from various

sources. As to the overall effect of trade protections, as indicated by the composite TB indices, increasing the quality of trade protections effectively increases film import diversity, although the impact reduced over the studied period of time. Increasing the number of trade barriers would have no significant impact on diverse film import. Therefore, the study provided no evidence that trade protective policies would decrease the diversity of films that people can consume. Therefore, trade protections are used mainly to encourage the development of domestic industry rather than to encourage domination. Instead, they are also used to protect domestic market from being dominated by films from small number of countries, or by homogenous film. They are not only negative approaches to counter foreign domination, but also might be positive approaches to encourage diverse of films in the consumption market.

Piracy

The above criticism that trade restrictions restrict audience consumption and choices lead to the next claim that trade protective methods also lead to higher video piracies. The rationale is that if consumers can not satisfy their consumption needs through regular and legal channels, they will seek illegal sources, such as piracy, to satisfy their demands.

In this study, although most TB variables showed positive correlations with film piracy, controlled for other variables in the regressions, however, none of the TB variables showed any impact on film piracies. Further, increasing either trade protection qualities or quantities had no impact on film piracy.

Summary of TB Effect on Films

Criticisms state trade protections would create a vicious circle that not only reduce the chance for the healthy development of domestic industries and their market performance, but also lead to less consumer choices and more piracy activities. The result of this study indicated that criticisms on trade protections were exaggerated. Trade protections only showed negative impact on film exports. This seemed to confirm that trade retaliation might occur due to the protections. Although some of the trade protective method might have some negative impact on certain film performance indicators, due to the nature of the specific restrictive policies, overall, trade protections showed no negative impact on any of the other nine performance indicators. Further, quality trade protections as a whole appeared to significantly contribute to domestic production, financial performance in the market, total box office revenues and the diversity of films that people consume.

The Effectiveness of Trade Protection Methods

Due to the nature and function of different trade protection methods, individual trade protection techniques had different impacts on the film development indicators. Some of them are more positive, and some of them are more negative, and the weights of their effects also differ. This study identified six individual TB variables—tariff, quota, subsidy, investment restrictions, service restrictions and taxation. Based on the functions and impacts they had on the film performance indicators, the study further grouped the six TB variables into two categories: the supportive TB variables and the restrictive TB variables.

The Supportive TB Variables

Supportive TB variables are mainly used to support the development of domestic industries. They are adopted based on the concern of increasing foreign competition and the need to nurture their domestic industries. The effects of these TB policies are mainly positive on the performance indicators. Two TB variables fell into this category; quota and subsidy.

Quota

Quota encounters the most criticism in the film industry. According to these criticisms, quotas mainly have three shortcomings: they are not practical, not beneficial, and not effective. Further, quota was also criticized for bringing a series of negative impacts on the media industry: they reduce domestic production, cut financial input used to develop infrastructure, cut industry revenues and market performance, decrease consumer diversity, negatively affect term-of-trade, and lead to the rise of piracy (Cowen, 1998; Waterman 1993; Wildman & Siwek, 1988; Winkelmann & Winkelmann, 1998). Previous studies also showed no evidence that quotas was an effective policy in promoting the market performance of television (Dupagne & Waterman, 1988) and films (Lee & Bae, 2004; Lee, Kim, & Kim, 2008), or increased productions (Peltier, 1999). Therefore, quota is considered a damaging and costly form of government intervention (Bernier, 2003b).

This study, however, failed to find evidence for all of the above claims. To the contrary, it found quota to be the most effective and supportive factor for the film industry. It showed significant influence on eight (except for export and piracy) film performance indicators and no negative impact on any of the film performance variables.

To be specific, quotas appeared to promote domestic production, market share, film screens, box office revenues, product investment, consumer spending and admission, and import diversity. Except for box office, consumer spending and admission, all of the other positive impacts remained for the studied years.

Further, considering the negative correlations of quota with consumer spending and admission and the positive impacts of quota on increasing consumer spending and admission, it indicated that countries with less consumer spending and admissions are more likely to use quotas to encourage consumption, and the method did work in the short-term to boost theatrical consumption. Although in the long-run, the effect was not significant, it did not void the positive impact of quotas on consumers. Other factors related to the decline of theatrical consumptions need to be considered to further establish such relationship.

Therefore, instead of being a damaging form of trade protection, quota seemed to serve for its own purposes. It benefits the film industry in creating a beneficial cycle from production to operation, and to consumption.

Subsidy

Subsidy supports domestic productions and services through direct funding. This method is considered more positive and direct in helping local industry. The method also fits the rule of specificity, which states that policies that are closest to the source of problems are the most efficient. Further, because the main impact of subsidies are on producers and not on import competitors or consumers, the method was also considered more moderate than other methods and face less resistance from consumer rights advocates. Therefore, subsidies are preferred in both the scholastic community and in the

international community. Some researchers (Collins, 1993; Noam, 1993; Rauch & Trindade, 2006; Renaud, 1993) support using subsidy as more effective way of promoting film productions than using quota.

However, subsidies are also criticized for being not effective. They are often related with productions of lower quality and less cultural values. Subsidized films are also associated with less admission numbers and poor box office and market share performances. Empirical studies (Bagella & Becchetti, 1999; Marvasti, 1994) pointed to different directions concerning subsidies' impact on the media industry.

This study investigated the effect of subsidy on ten film performance indicators and confirmed subsidy to be a positive factor in promoting local films in six aspects. As the result showed, subsidy significantly contributed to local productions and improved the market share of domestic films. It also showed significant impact in increasing the operation scales of films by boosting production investment, consumer spending, as well as total screen numbers. Subsidy showed neither impact on film export, nor impact on any of the consumption variables. Theoretically, however, if subsidy promotes domestic production, it should add diversity in the consumer market. In this study, subsidy showed no impact on HHI. This is mainly because this study defined consumption diversity as the diverse source of film import. Therefore, further studies that explore the diversity of products in a film market would be helpful in determining the connections between subsidy and consumption diversity in a market.

However, although subsidy showed positive impacts on six of the film performance variables, only the impact on film investment appeared to last over the studied period of time. The impacts on production, market share, consumer spending, box

office, and screens seemed reduced over the years and became non-significant. Therefore, the direct funding from subsidy did provide more financial investment in the industry, and the increased investment did turn into more productions and more revenues. But the boosting effect decreased over the year. This result might support the infant industry argument in that subsidies give immature industry a boost, and the protection should be short-term until the protected industry reached a certain scale of operations. Also, the impact of subsidy depends on the financial capability of a country, considering the soaring cost of film production and huge investment of Hollywood films, subsidies from other countries might be incomparable, and therefore increasingly lost its effect.

Therefore, subsidy was another contributing factor to domestic film productions on various performance indicators. However, subsidy also appeared to be the factor that was mostly affected by the time variables. Nevertheless, the change of effectiveness of subsidy in helping local film industry may not totally be explained by technological development. The cost factor in affecting film productions, production differentiation, marketing, and competition might better explain the variations in the effect of subsidy.

The Restrictive TB Variables

The restrictive TB variables are mainly variables used to constrain the development of foreign competitors. These are more aggressive methods of protections that normally provide differentiated treatment for foreign and domestic business and services. The impacts of these TB variables were mainly negative. Three TB variables fell into this category—investment restrictions, service restrictions, and taxation.

Investment restrictions

Investment restrictions restrict the total amount of money from foreign investors, or set ownership bars for foreign media investment. The main concern is to limit foreign-oriented media content, and the purpose is more political than economical. Therefore, it was not surprising to find negative impact of investment restrictions on both film output variables and operation scales, due to the limited funding from foreign investors.

To be specific, investment restrictions showed positive correlations with production and market share. Its impact on production and market share, however, was not significant. This implied that countries with sufficient domestic output seemed more likely to restrict foreign investment as a protective method, but the protection seemed to have little effect on encouraging more output. Further, it showed significant negative impact on reducing total film investment, box office revenue, and export, although only for a short-term. The most significant negative impact of investment was on consumer spending and total admission, and the effect was sustained during the years. It implied that the long-term impact of investment restrictions might lie more on the production content rather than on total financial input. This argument was further supported by the fact that, these constraints for foreign investment did not translate into fewer domestic productions and market share. This implied that the political concern using investment restrictions to control for production content might be right, because foreign investment may be less likely to be used in productions with local-orientation. If investment restrictions are used together with the above two supportive TB factors, it might further contribute to local productions.

On the other hand, investment restrictions did show welfare gain in increasing import diversity of films. Due to the limitations in producing global-oriented products in local markets, foreign films must be imported across the border. Therefore, investment restrictions not only fulfill their stipulated goal in limiting foreign productions/ownership in local markets, but also have welfare implication in promoting consumption diversity in a market.

However, the increased diversity of film imports seemed not to turn into more audiences and purchases. To the contrary, the film industry suffered from a loss of audiences and revenues due to the restrictions. This might reflect consumer taste in favoring foreign-invested productions, a more localized version of foreign productions, to foreign imports. This was further implied by the short-term positive effect of investment restrictions on increasing film piracies. Because of this, the industry also suffered shortly from loss of revenues from both domestic box office and export, as shown by the significant impact of investment restrictions on export and box office revenues, although the box office revenue loss was for the short-term only. Considering the positive correlations of investment restriction with export and box office revenue, it indicated that countries with more film export and box office revenues were likely to use investment restrictions to protect its industry, but the method seemed to work toward the opposite. Together with the non-significant impact of investment restriction local production and market share, the overall economic effect of using investment restrictions seemed to be non-beneficial.

Service Restrictions

Service barriers set requirements and restrictions in dubbing, printing, and distribution services of foreign media contents. They put burdens on service providers when doing businesses in a foreign country. Because of the nature of this trade barrier variable, it is more concerned with foreign businesses, and has less impact on domestic industries, compared with investment restrictions.

The main sustaining negative impact of service restrictions was on film export. The restrictions might negatively affect the countries' terms of trade, and therefore, reduce their total export revenues. It also had a negative impact on investment, but the impact was for a short-term only.

The positive correlation of service restrictions with production, market share, box office revenues, and export indicated that countries with more developed film industries were likely to use service restrictions to further protect its industry. The protection, however, had no effect on increasing its further productions. It also had no effect on increasing the market share and box office revenues of domestic films.

Countries with fewer film screens also associated highly with service restrictions, as shown in the correlation analysis. But, because the overall effect of trade restrictions on total revenues from films, trade restrictions also showed no impact on increasing film screens. Therefore, the use of service restrictions to help local industries has mostly not been effective. The overall effect of using service restrictions was negative.

Taxation

Taxation barriers refer to various national tax policies concerning the media industry. Tax barriers included in this study include entertainment tax, income tax, and

various types of levies on media products. They also include discriminatory tax that put a differentiated tax rate on foreign and domestic business. Normally, countries with taxation barriers usually charge a higher tax rate for foreign business. Taxation put a burden on business professionals, and governments collect revenues from taxes on the film industry.

In this study, the positive correlations of taxation policies with film production, market share, box office revenues, and total film investment, again, indicated the increased likelihood of countries with more advanced film industries in using taxation policies to protect their domestic industries. This protection method, however, showed no significant impact on increasing further productions, market share, and box office revenue. To the contrary, it appeared to cut total film investment for the short-term and reduced audience spending in the long-run. Because of taxation policies, producers and service providers need to increase the charge for their service and products. Consumers ended up paying more for consumption due to the increased prices. If the price is higher than what consumers expected to pay, these consumers would be forced away from consumptions. This indicated a welfare loss in consumption.

Taxation barrier also had a negative short-term impact on film export. Tax policies, especially those discriminatory in nature, might adversely affect the term of trade or tax policies of import countries, and therefore resulted in reduced export. In addition, taxation did show a long-term effect on reducing film import diversity when considering the time effect. Exporting countries export their films only when they expect some profit from the importing market. If the tax policies are not favorable, some imports might be cut.

Taken as a whole, the use of taxation was not effective in protecting local film industries, and its overall effect was negative. However, the impact of film taxation policies on domestic film industry may depend on how government uses the collected tax revenues. Mostly, these revenues are not used for reinvestment in the film industry, but in other industries that government considers more important. The study did show that taxation barriers had negative impact on film investment, although the effect was not significant considering the time effect. This might relate to the increased government effort in promoting domestic cultural industry.

A Variable That Lies In Between: Tariff

Tariff policies play a double role. On one hand, it imposes charges on foreign import, and therefore is restrictive for foreign competitors. On the other hand, they benefit import competitors, not only by reduce import competitions, but also by providing tariff revenues for the development of domestic industry.

The study showed that the effect of tariff was not an immediate one. Tariff showed no significant impact on any of the film performance indicators in the preliminary regressions. However, it showed significant impacts on four performance variables in two different directions. It showed positive impact in increasing film admission and film screens. The increased film screens might come from the tariff revenue, and this, in turn, resulted in increased admissions. However, tariff also had negative impacts on consumer spending and import diversity. Some imports might be excluded because tariff rates reduce their expected revenues, and because of tariff expenses, the price for consuming import films also increases. As a result, only a smaller

number of people get to consume the imported films. Some consumers would turn to less expensive films to consume, and therefore result in the reduced overall spending on films.

Overall, by restricting film imports, tariff seemed successful in using the revenues it earned to increase film infrastructure such as increase of screen numbers, and therefore accommodating and attracting more audiences into theaters. However, this did not translate into more audience spending, which in turn, had a negative impact on film production and market share. It also cut the diversity of film imports. Therefore, although tariff has a double effect, the overall economic effect of using tariff might be negative.

Effect of TB Combinations

Researchers (Syropoulos, 1992) consider a combined method of using trade barriers to be more effective. The study found that some combination of TB variables brought better effect in promoting local industry. Further, restrictive TB variables seemed to work best with the supportive TB variables. For instance, investment restrictions plus quota appeared to provide support for film productions. The combination of investment restrictions and quotas helped more with national film infrastructure in screens. Service restriction was not significant in the individual service-box office model, but showed a significant effect when all TB variables were considered, indicating that the restrictive variables function better when working with supportive TB variables, such as quota.

The Composite TB Indices: TBI and TBN

The TB indices combine six TB variables and showed a composite effect of trade barriers disregarding the different directions the effect of each TB variable on national film industry. TBI indicated the quality or degree of trade protections, i.e., how serious

the protections are. TBN indicates the amount of trade protection policies that exist in countries, with no consideration of how severe the protections are. The correlation analysis showed that both TBI and TBN had higher correlations with film performance indicators than that of individual TB variables. The regression results indicated that the qualitative TB index, TBI, seemed to be a better TB index than TBN. TBI showed significant impact on five film performance variables in the short-term and four in the long-run. TBN variables showed no significant impact of any of the ten film performance indicators. Therefore, compared with TBI, the numerical indicator of trade protections appeared to be a much weaker factor in affecting local film industry.

In particular, high degree trade protection appeared to be a significant positive factor in promoting domestic film productions, market share, and box office revenues, and the impacts were all long-lasting. The negative correlations of TBI with film screens, consumer spending and admission indicated that countries were more likely to use trade protection techniques to boost the operation scale of domestic film industry, and therefore increased total audiences and spending. The result showed that improving the quality of trade protections did help in increasing total film screens in the long-run, possibly due to the increasing film productions and rising revenues earned from the theaters. However, the increase in film production, operation, and revenues did not turn into more audiences and consumer spending. This again, might due to the global trend of declining audiences and theatrical consumptions. Technical advancements that provide more channels for film consumption and more sources of entertainment other than films might account for the decline of film audiences.

The positive correlation between TBI and export indicated that countries with more export might want to use strict trade protection to protect not only their productions, but also their exports. However, TBI showed negative impact on film export. Trade retaliations might occur due to the trade protective barriers, and therefore negatively affect export volume. However, the impact was for the short-term only. TBI also positively contributed to film import diversity, although the impact was only significant for the short-term.

Overall, increasing the quality of trade protections appeared to be a positive factor in increasing national film industry in production, market share, financial output, and operation scale, and the positive effect was significant over the studied period of time. Despite the different effects and directions each individual TB variables had on local film industry, the overall effect of trade protective policies was beneficial.

Effect of TB Protections over Time

The research did show that the impact of some TB variables became non-significant during the studied period of time. However, the change was not dramatic. More variables showed sustaining impacts during the years. Further, the impact of some TB variables, such as that of tariff, became even stronger over time. Therefore, the impact of technological development on the effectiveness of trade protection policies is mainly overstated. Besides, even when the impact of some TB variables reduced over time, technology is not the only possible explanation for that. Further research needs to be conducted in order to exclude other social economical changes and their effects on trade protective policies.

Factors That Contribute To National Film Development

The study identified several control variables that showed significant impacts on national film development indices. The major impacts of these variables are discussed as follows.

The Market Size Effect

The home market effect (HME) model established a link between market size, industry development, and trade directions. It believed that wealthier countries with larger populations tend to develop scale economy which gives the countries cost advantages to export their goods. Empirical studies seemed to confirm the effect of market size on consumer movie spending, market share of domestic films, and film export (Lee & Bae, 2004; Jayakar & Waterman, 2000; Marvasti, 1994, 2000; Oh, 2001; Waterman, 2005; Waterman & Jayakar, 2000; Waterman & Lee, 2007).

In this study, gross domestic product (GDP) appeared to be the single most important economic factor in contributing to national film industry. It showed impacts on nine of the film performance indicators. Seven of those impacts were long-lasting effect and eight of those impacts were positive. Specifically, gross domestic product showed to be a positive determinant for all of the three output variables and four operation variables. In addition, it also showed short-term impact on increasing film admissions. The impact of GDP on admission became non-significant during the studied period of time. This was understandable because during this time period, technological advancement has changed the way that people can access films. People have more channels to consume films other than going to the theaters. Therefore, the link between GDP and film admission becomes less significant.

The only negative impact of national GDP on film performance was on import diversity. This further confirmed with the HME argument. Wealthier countries have developed film industries that satisfy consumer need. They also tend to be net exporters and have less demand from import. As a result, consumers may have welfare loss due to consumption of more homogenous products.

The impact of another market size variable, population, was much weaker compared with GDP. It only showed positive contribution to film screens and admission. However, whether those increased screens and admission would increase local film output and financial performance would also depend on the financial capability, i.e., the economic development of the country. Therefore, for the development of film industry, a country's level of economic development plays the most important role.

As to the piracy rate, the study failed to find any link between GDP and piracy level. Other variables, such as regulation variables and demographic variables, played much more important roles.

Market Openness and National Film Development

As elaborated in previous chapters, the free market paradigm based on pure economic analysis and argued that free trade with no government constrains benefit both trade partners. Media industry should be regulated by the same market forces and free trade rules just as any industry. In reality, however, the increased liberalization in the film industry seemed to correspond with increased Hollywood dominance and declining performance of films from other countries. Existing literature finds no agreement on the effect of trade liberalization on the film industry.

This study used three market structure variables to indicate the degree of market openness, the EFW Index, the Openness Index, and the co-production rate in films. These three variables each measure different aspects of the market structures.

The EFW Index measures the degree that government supports economic freedom. Countries with more economic freedoms are supposed to have more developed industries and have less need for trade protections. The result of this study showed that, the EFW index showed positive impacts on box office revenue, film investment, and consumer spending, however, the impact was short-term. Further, the EFW index showed negative impacts on domestic films' market share and the total number of screens and both of the effects were long-lasting over the years. It seemed to say that having a more commercialized and privatized industry did contribute to the total revenues of the film industry. However, these revenues may not come from domestic industry, and therefore were not used in the development of domestic industry. More foreign films come into domestic market, and therefore reduced the share of domestic films and further cut domestic productions. Further, because the increased box office revenue and investment are not used on domestic productions, they might be used in productions that compete with domestic films. Therefore, increased economic freedom may increase market erosion from import competitors and reduce the film performance for domestic industry.

One positive effect of market openness in the EFW index was the increased diversity of film imports. Because of the overall freedom of economic activities and trade, more films are entered into the market, and therefore, the overall diversity of film imports improves.

The Openness Index reflects the overall trade relations of a country. It was measured as the rate of total trade flows (import and export) to total GDP. A country with more trade flows indicates a good trade relation with partners. Compared with the EFW index, the Openness Index showed more positive impacts on domestic films. It was a positive factor in increasing domestic productions and film exports and both of the impacts were long-lasting during the studied years. The OI also showed positive contributions to two of the four film operation variables. It was a positive factor in increasing both film investment and consumer spending, although only the impact on consumer spending was long-lasting for the studied years. These increased financial inputs, however, may not be turned into more admissions and more revenues from the theater, as revealed by the OI's non-significant coefficients with audience admission and box office revenue.

Co-production rate measures the percentage of films that are produced through international cooperation, including direct foreign investment in local productions, forming alliances with local partners through joint ventures, and cooperative arrangement in productions. Co-production is believed to be a good method of increasing product investment, improving product attractiveness, and opening more markets overseas. Empirically, one study (Ren, 2006a) found co-production contributes to film export into the European Union markets. The current study failed to find the impact of co-production on film export. It did find, however, that co-production decreased the market share of domestic industry during the studied years. Therefore, co-production might fail to increase the attractiveness and competitive advantage of films in a market. However, because of the complexity in operation, some co-productions might not be categorized as

domestic films, and therefore not accounted for the domestic market share. Further examination of the details might better explain this result.

In addition, many believe that co-productions are effective ways of attracting product investment. This study did show co-production have a positive contribution to film investment. But this investment did not turn into increased film performances either on production, operation, or consumption. Therefore, the overall benefit of using co-productions to improve domestic film industry might be very limited. Further, the study also showed a negative impact of co-production on import diversity. Countries with co-production treaties may favor each other in film imports, and therefore exclude countries that are outside of the treaty, and therefore reduce the overall diversity of total film imports.

Regulatory Factors

Government Effectiveness (GE) index reflects the effectiveness of government regulations and efficiencies of government in reinforcing the regulations. Countries with a more efficient government are also expected to be more efficient in helping their industries to grow. The study found that, government effectiveness played important roles in increasing film production, market share, and operation scale in screens. These, in turn, help to increase overall consumer admissions in films. Except for market share, all of the other three impacts were long-lasting. Although the market performance cannot be determined administratively by the government, the impact of an efficient government was mostly positive in helping with the development of domestic film industry. An efficient government also helped reduce film piracy and the effect was long-lasting. The

reduced loss from piracy activities might further help to improve screen scale and increase local productions.

On the other hand, the GE index had negative impact on the diversity of film import, therefore implying some welfare lost for consumers. Given strong regulation and control, imports are most likely to depend on government selection and favor instead of on market demand.

Contribution of Cultures

The success of films in a market is partly determined by audiences, and audiences are people whose preferences and tastes are shaped by the culture they live in. Many factors help form the audience consumption decisions. Among them, culture is an important one. In film consumption, audiences tend to prefer products that have less culture or language barriers. Therefore, films trade more to culture or language proximate countries. In the same sense, cultural proximate countries to the U.S. may encounter more penetration from Hollywood films, and therefore have more need for trade protections. This implied that the distance of cultures from the U.S. has some implications for the development of domestic film industry.

The study used three culture variables and each of the three variables measured one different aspect of cultural distance to the U.S. Hofstede's cultural dimensions are most widely used in empirical research. Because these dimensions are based mainly on the attitude survey of company employees, they mostly reflect the accepted organizational structures and work-related values in a society. Tadesse & White (2008a, 2008b) calculated cultural distance based on worldwide surveys on much wider social, economic, and political topics. Therefore, Tadesse's cultural distance (TCD) reflects

more general social cultural values. Language is an indivisible part of social culture. Language proximity also has a great impact on film export and consumptions. This study used the language Index developed by Chiswick and Miller to measure the language distance to English language with a higher score indicate language proximity to English language.

The study found that, due to the different measurements of these three cultural variables, they also showed different impacts on domestic film development. Hofstede's cultural distance (HCD) showed mostly negative impacts on the development of national film industry. That is, closeness in business and work value to the U.S. developed more advanced domestic film industries. Specifically, in the short-run, cultural closeness in Hofstede's cultural dimension positively increased domestic film's market share, export, total screen, box office revenues, investment, and consumer spending. It showed no significant impact on consumer admission. This result was interesting and seemed to indicate that the Hofstede's cultural dimension affect more on the operation of businesses than on consumers. It also implied the advantages of U.S. companies in their ways of doing business. However, most of the impact of HCD was short-termed, except for its impact on investment. Therefore, as the U.S. business model was adopted worldwide, the impact of the cultural differences in that measure became less significant.

In contrast, Tadesse's cultural distance pointed to a different direction. TCD measures the distance of social cultural values on much wider topics and therefore, reflects more on audience taste and preference than HCD. The result showed that TCD have consistent and positive impacts on all of the three film output variables, production, market share, and export. Cultural distance from the U.S., therefore, might reduce the

degree of market erosion from Hollywood films, and played a positive role in facilitating the national film development. TCD also had a long-term contribution to film production investment. However, these increased production and investment seemed not to turn into more audiences and revenues. To the contrary, TCD showed negative impact on box office revenues and total admissions. Because cultural values that are reflected in TCD are implanted in people's everyday life, they are much harder to change. Therefore, most of the impact of TCD was long-lasting.

Finally, previous studies established a positive link between language closeness and cultural exports in art, film, and television programs (Dupagne & Waterman, 1998; Hanson & Xiang, 2006; Marvasti, 1994; Marvasti & Canterbery, 2005; Schulze, 1999). This study confirmed with the previous research. It found that closeness in language with the U.S. would significantly increase a country's film export, but the effect was not long-lasting. Language closeness also helped increase film investment and total consumer admissions. Because of the emerging importance of cultural-language market, investors that expect a large cultural market would respond with more investment and better quality of films, which in turn would draw more audiences to the theaters. Similarly, increased audiences would turn into increased film screens. This was indicated by the long-term effect of language closeness in increasing film screens. However, language proximity also showed a short-term negative impact on domestic market share. This was due, possibly, to the market erosion of Hollywood films.

Limitation and Recommendations for Future Research

The study investigated the effect and effectiveness of trade protection policies on the development of national film industry across an eight-year period from 2000 to 2007. Several limitations exist in the current research.

First, the research was mainly constrained by the availability of data. The study was mainly empirical in nature. It was based on quantitative research methodologies and relied on large quantities of fact-based statistics to explore the practical functions of trade barriers. The statistics covered wide areas of social, economic, regulatory, and cultural parameters that play important roles in the function of trade barriers. The availability of data affected not only what variables that can be included in the study, but also how the variables can possibly be defined. For instance, as discussed earlier, the volume of film trade could be best represented by the actual revenues films receive from importing markets, plus the sale of visible products (prints, video tapes) and invisible products (services and IP rights). However, because of the unavailability of data, this study only included the revenues received from the physical prints of films that are shipped across borders.

Similarly, the study used import diversity as an indicator of film consumptions. A better method of defining consumption diversity would include not only import diversity, but also production diversity and actual consumption diversity. Evaluation of total films screened in current markets would better reveal diversity of films supplied in a market. However, collecting those data in different markets were beyond the scope of the current study.

Second, the study incorporated a cross-time effect of trade protective methods. It spanned eight years period of time from 2000 to 2007. Dramatic change in the film industries occurred since the last ten years of the last century, and the change is still an ongoing process. To better answer the change of effectiveness of trade protections in relation to technological advancement, further studies need to extend to more years and examine a longer period of time. Further, the study did show that some of the TB variables changed their direction of impacts over the studied period of time. Although the impacts were not significant, the significance of their impacts over longer periods of time might appear. In this sense, studies that cover longer periods of time would further validate the results of the study.

Third, the study use time-series auto-regression techniques to explore the effect of trade protection methods across time. Given the availability of more data on trade barriers and industry variables, further studies that extend to longer periods of time would allow the use of more sophisticated time-series analysis techniques and offer more insights.

Concluding Remarks

Film products play too much of an important role to allow for foreign market domination. However, the huge production scales and scopes of the U.S., together with the cultural, economic, and technical advantages of the Hollywood industry make the industries of most other countries incomparable. For most countries, maintaining a viable domestic film industry is beyond any economic means. Government interventions are needed for these countries to preserve their own film productions and to promote diversities to the global film market.

Criticisms toward cultural protective policies and their negative impacts on national film development are mainly over-stated and not supported by the study. Trade protections, overall, have positive impact on preserving both domestic productions and market share. It also helps to increase the operation scales and financial output of the industry. Trade protections also proved to have positive contribution to the diversity of films consumed in a market, therefore, also have welfare implications.

Further, protective trade regulations are combinations of various different trade protective policies. These policies differ in their functions. The directions of their impacts on the film performance indicators also differ. Therefore, policy makers need to take careful consideration on the specific conditions of their markets and the particular political/economic goals of the government in order to come up with policy combinations that best suit their needs.

The claim that trade protection policies are ineffective and obsolete with the development of new technologies is also exaggerated, at least during the time period of this study. Although technological advancements create new problems for the traditional trade protection techniques, they did not outdate the overall protections. The significance of the impact of some trade protections methods became even stronger, considering the time effect.

The study showed that the economic variables play a single most important role in determining national film production and performance. Cultural factors also affect national films in various ways. However, those two factors are relatively stable. For countries with less developed national economies and cultures unfavorable for competition in current market environment, they can still boost their domestic industries

in two ways. One way is to extend their markets overseas. Larger markets will attract more production investment, which, in turn, results in high quality films and more audiences. One possible result of opening the trade market, however, would be inviting more competition from imports. Therefore, the impact on domestic market is unclear. The other option is to improve government regulations and reinforce efficiencies. In this study, government efficiencies played positive roles in improving domestic productions and market share, as well as increasing film screens and total admissions. Qualitative trade protections also helped promote domestic production and market share. Depending on the combination of different trade protective methods, protective trade policies can play an overall positive role toward benefiting domestic industry.

Under the current conditions when cultural industries were under immense pressure from global trade regimes and regional trade agreements, the fight between trade liberation and cultural protections is further intensified. Politicians, policy makers, and industry professionals need to look empirically at the functional part of trade policies, in addition to the symbolic meanings some trade protectionism instruments may have, in order to come up with policies that best suit the need of their countries.

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APPENDIX: LIST OF COUNTRIES AND THEIR MAJOR PARAMETERS IN YEAR 2000 AND 2007

ID	country	GDP [a]		Population [b]		EFW Index [c]		Openness Index		GE Index		Film Export [d]		Film Production		Market Share [e]	
		2000	2007	2000	2007	2000	2006	2000	2007	2000	2007	2000	2007	2000	2007	2000	2007
1	Argentina	284.20	260.12	36.78	39.36	7.19	5.85	44.27	28.57	0.10	-0.14	12131.99	6903.14	40.00	80.00		9.00
2	Australia	390.04	908.99	19.19	21.06	8.02	8.04	63.78	22.71	1.81	1.96	16077.28	11897.30	32.00	24.00	7.90	4.00
3	Austria	191.76	371.22	8.01	8.28	7.76	7.66	20.61	22.72	1.94	1.73	429.04	276.17	24.00	32.00	6.00	1.90
4	Bahrain	7.97	17.40	0.67	0.76	7.24	7.32		23.57	0.71	0.41		0.00				
5	Belgium	232.65	454.28	10.26	10.66	7.68	7.20	16.70	12.02	1.73	1.59	1724.51	2638.87	6.00	37.00	1.00	6.50
6	Bosnia and Herzegovina	5.71	15.17	3.78	3.98		5.99		8.12	-0.83	-0.80		32.86		3.00		
7	Brazil	644.28	1313.59	171.28	189.34			0.04	0.04	-0.03	-0.12	5.29	49.40	35.00	117.00		12.00
8	Brunei	6.00	12.28	0.33	0.39	5.99	6.16			0.91	0.84						
9	Bulgaria	12.64	39.61	8.00	7.64	5.06	6.82	286.23	262.90	0.05	0.10	3418.43	10091.65	13.00	13.00		
10	Canada	725.16	1436.09	30.65	32.88	8.12	8.05	151.97	233.72	1.92	1.92	100218.55	329370.67	72.00	111.00		3.20
11	Chile	75.20	163.91	15.21	16.58	7.28	8.06	26.78		1.15	1.22	30.39		7.00	10.00		
12	China	1198.48	3280.22	1267.43	1321.05	5.73	6.29	3.89	8.30	-0.06	0.15	2398.21	156.78	91.00	402.00		54.50
13	Colombia	94.08	202.63	42.32	47.52	5.28	5.78	4.27	3.35	-0.32	0.03	4.40	26.29	3.00	14.00		12.00
14	Costa Rica	15.95	26.23	3.81	4.44	7.35	7.58	15.76	0.00	0.49	0.39	0.00	0.00				
15	Croatia	18.40	51.26	4.38	4.44	6.10	6.35	38.72	24.05	0.36	0.54	323.86	521.63	0.00	9.00		
16	Cyprus	9.32	21.30	0.69	0.79	6.22	7.35	42.96	16.89	1.16	1.37	9.89	30.69	2.00	1.00		
17	Czech Republic	56.72	175.00	10.22	10.32	6.69	6.95	16.99	7.32	0.76	0.99	539.35	286.07	16.00	18.00	20.00	34.50

ID	country	GDP [a]		Population [b]		EFW Index [c]		Openness Index		GE Index		Film Export [d]		Film Production		Market Share [e]	
		2000	2007	2000	2007	2000	2006	2000	2007	2000	2007	2000	2007	2000	2007	2000	2007
18	Dominican Republic	24.00	40.99	7.94	8.78	6.52	6.27			-0.17	-0.46	0.00	0.00				
19	Egypt	99.16	127.97	63.98	73.57	6.57	6.65		3.75	-0.25	-0.44		271.38	21.00	42.00		
20	El Salvador	13.13	20.37	6.28	7.13	7.30	7.51	7.46	7.85	-0.51	-0.23	0.62	5.08				
21	Estonia	5.63	20.90	1.37	1.34	7.30	7.89	35.31	13.73	0.93	1.19	48.30	0.00	0.00	10.00		4.50
22	Finland	122.22	246.35	5.18	5.26	7.80	7.69	9.09	8.92	2.00	1.94	262.20	474.63	11.00	18.00	14.60	19.80
23	France	1333.20	2593.78	59.05	61.71	7.04	7.19	40.43	24.96	1.62	1.30	20533.53	19773.39	171.00	228.00	28.20	36.20
24	Germany	1905.80	3320.91	82.26	82.20	7.49	7.64	2.26	7.01	1.93	1.68	1289.00	11659.00	94.00	122.00	12.50	18.90
25	Greece	127.60	313.81	10.98	11.15	6.84	7.03	12.37	8.89	0.75	0.48	325.85	485.18	20.00	20.00		
26	Guatemala	17.19	33.69	10.66	13.31	6.32	7.06	17.64	8.31	-0.48	-0.59	0.18	9.72				
27	Honduras	7.10	12.28	6.42	7.51	6.55	7.35	0.87	3.72	-0.50	-0.57	0.58	0.86				
28	Hong Kong	169.12	207.17	6.71	6.96	8.82	8.94	32.58	29.13	1.10	1.80	3003.74	3682.60	150.00	50.00		22.70
29	Hungary	47.94	138.36	10.22	10.07	6.74	7.46		9.46	0.93	0.70		805.00	27.00	41.00	9.00	9.50
30	Iceland	8.73	20.23	0.28	0.31	7.75	7.80	38.02	42.86	2.05	2.07	3.18	6.09	6.00	4.00		9.00
31	India	461.91	1100.70	1046.24	1169.02	6.31	6.59	58.45	19.07	-0.17	0.03	25100.52	15526.91	855.00	1164.00		90.50
32	Indonesia	165.52	432.94	205.13	224.91	5.80	6.12	15.62	9.07	-0.52	-0.41	7.98	1.56	10.00	77.00		
33	Ireland	96.88	261.25	3.79	4.34	8.12	7.92	1.35	0.34	1.75	1.67	42.48	6.87	10.00	14.00	2.60	
34	Israel	123.69	164.10	6.08	6.96	6.51	6.63	103.15	25.26	1.08	1.18	7544.00	837.00	9.00	18.00		
35	Italy	1100.56	2104.67	57.04	58.88	7.08	7.15	46.62	113.30	0.90	0.33	47258.87	232835.82	103.00	121.00	17.50	31.70
36	Japan	4668.79	4381.58	126.83	127.76	7.45	7.48	3.99	3.87	1.08	1.32	5214.18	2124.16	282.00	407.00	31.70	47.70
37	Jordan	8.46	15.83	4.86	5.72	7.24	7.19	7.04	5.11	0.03	0.27	30.98	9.18				
38	Korea	511.96	969.87	47.01	48.46	6.62	7.42	144.72	75.72	0.77	1.26	33435.77	890.80	59.00	124.00	32.00	44.60
39	Kuwait	37.72	111.51	2.22	3.31	6.70	7.62	6.28		0.11	0.20	78.76	0.00				
40	Latvia	7.83	27.17	2.38	2.28	6.58	7.27	14.54	4.66	0.49	0.55	18.22	0.93	2.00	6.00		5.40
41	Lithuania	11.42	38.89	3.51	3.38	6.18	7.40	13.82	13.16	0.38	0.78	23.40	6.61	2.00	2.00		2.60
42	Lebanon	16.82	24.64	3.43	3.75			172.28		-0.18	-0.61	1026.38	0.00				

ID	country	GDP [a]		Population [b]		EFW Index [c]		Openness Index		GE Index		Film Export [d]		Film Production		Market Share [e]	
		2000	2007	2000	2007	2000	2006	2000	2007	2000	2007	2000	2007	2000	2007	2000	2007
43	Malaysia	93.79	186.72	23.50	26.84	6.63	6.72	10.18	5.41	0.82	1.07	197.99	100.69	15.00	28.00		10.40
44	Malta	3.90	7.47	0.39	0.41			23.47	11.00	1.12	1.30	33.96	0.93	0.00			
45	Mexico	628.85	1022.82	97.97	105.26	6.28	6.98	23.47	14.52	0.30	0.13	7091.25	10266.69	29.00	70.00		13.20
46	Netherlands	386.20	777.24	15.93	16.62	8.03	7.65	3.37	5.75	2.09	1.80	264.04	1077.67	25.00	30.00	5.90	13.50
47	New Zealand	52.37	128.71	3.86	4.24	8.35	8.28	21.43	3.52	1.64	1.90	1018.47	437.61	8.00	12.00		1.90
48	Nicaragua	3.94	5.72	5.05	6.05	6.59	6.99		8.61	-0.62	-0.91		2.02				
49	Norway	168.67	389.46	4.50	4.67	7.37	7.54	13.87	11.94	1.94	2.12	99.85	109.65	10.00	22.00		16.40
50	Oman	19.87	40.39	2.40	2.57	7.04	7.32	13.14	8.77	0.54	0.38	43.33	3.25				
51	Pakistan	74.08	143.77	137.53	158.17	5.45	6.05		1.08	-0.66	-0.62		2.23	66.00	16.00		
52	Panama	11.62	19.74	2.95	3.34	7.24	7.41		22.82	0.21	0.25		0.00				
53	Paraguay	7.09	11.95	5.31	6.03	6.27	6.40		1.89	-1.10	-0.85		0.00				
54	Peru	53.32	107.40	25.21	28.07	7.06	7.16	2.69	2.40	-0.16	-0.44	8.51	12.30	2.00	3.00		
55	Philippines	75.91	144.06	76.35	88.57	6.96	6.72	16.20	16.67	-0.19	-0.01	49.68	33.46	103.00	30.00		
56	Poland	171.26	422.09	38.45	38.12	6.19	6.78	15.75	10.81	0.62	0.38	1067.00	1023.38	18.00	31.00	15.60	23.90
57	Portugal	112.98	223.45	10.20	10.60	7.33	7.16	20.66	21.53	1.14	0.88	113.89	2094.17	12.00	15.00	2.00	2.70
58	Qatar	17.76	73.26	0.61	0.93			2.38		0.60	0.06	18.68	0.00				
59	Romania	37.06	165.98	22.12	21.56	4.95	6.66	3.29	61.70	-0.38	-0.09	1.00	9575.19	10.00	10.00		5.10
60	Russia	259.70	1289.54	146.90	142.10	4.93	6.12	3.21	15.03	-0.60	-0.40	529.04	17584.31	48.00	200.00		26.30
61	Saudi Arabia	188.69	381.94	20.47	24.29			4.20	0.96	-0.13	-0.18	164.29	137.72				
62	Serbia & Montenegro	8.72	39.85	7.52	7.40		6.15	13.07	27.29	-0.85	-0.34	8.00	33.71		17.00		
63	Singapore	92.72	161.35	4.03	4.59	8.51	8.57	18.81	18.94	2.21	2.41	145.51	151.72	8.00	11.00		6.10
64	Slovakia	20.30	74.99	5.39	5.41	6.16	7.61	7.50	2.05	0.45	0.76	12.66	34.51	3.00	10.00		1.10
65	Slovenia	23.03	46.08	1.99	2.01	5.82	6.38	35.20	12.63	0.81	1.08	140.27	47.71	5.00	8.00		5.40
66	South Africa	132.96	283.07	44.52	47.85	6.97	7.03	26.03	22.50	0.66	0.72	1029.23	3681.70	13.00	15.00		
67	Spain	582.38	1439.98	40.26	44.87	7.29	7.38	25.81	14.85	1.72	1.00	2380.68	8744.81	98.00	172.00	9.50	13.50

ID	country	GDP [a]		Population [b]		EFW Index [c]		Openness Index		GE Index		Film Export [d]		Film Production		Market Share [e]	
		2000	2007	2000	2007	2000	2006	2000	2007	2000	2007	2000	2007	2000	2007	2000	2007
68	Sweden	246.37	454.84	8.88	9.17	7.43	7.35	9.82	3.58	2.01	2.08	1435.22	99.43	38.00	28.00	24.72	21.50
69	Switzerland	250.20	427.07	7.19	7.30	8.43	8.20	61.87	26.24	2.16	2.24	1492.42	1036.62	35.00	76.00	4.70	5.30
70	Taiwan	321.37	383.35	22.28	22.96	7.28	7.63			0.89	1.05		0.00	35.00	30.00		2.10
71	Thailand	122.73	245.35	62.40	65.74	6.66	7.00	44.03	80.47	0.06	0.16	854.05	12745.83	9.00	55.00		45.00
72	Turkey	265.18	659.28	62.76	68.90	5.77	6.35	8.35	12.12	-0.06	-0.24	49.56	137.12	32.00	43.00		38.10
73	Ukraine	31.26	141.64	48.66	46.19	4.70	5.64	0.97	38.17	-0.65	-0.60	16.63	38.36		10.00		
74	United Arab Emirates	70.22	190.74	3.00	4.49	7.01	7.49			0.81	0.86		0.00				
75	United Kingdom	1480.53	2804.44	58.89	60.84	8.35	8.07	30.64	24.84	1.90	1.77	37468.48	44839.92	90.00	117.00	20.00	28.00
76	Uruguay	20.09	23.26	3.32	3.20	6.77	6.93	30.24	30.89	0.58	0.57	5.20	17.93				
77	Venezuela	117.15	227.75	24.18	27.50	5.51	4.76	14.89		-0.68	-0.87	8.01	0.00	2.00	8.00		
78	Vietnam	31.16	70.94	77.64	85.59		5.94			-0.46	-0.41			10.00	12.00		

Note: a: GDP billion dollars

b: Population in millions.

c: The 2006 data was used for the EFW Index instead of 2007.

d: Film export was reported in thousand dollars.

e: Market share in percentage (%).