Immigration and the import of cultural goods
Evidence from Canada using the gravity model

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Abstract

This research studies the effect of immigration as a determinant of the import of cultural goods to Canada. The period studied covers a time span of 15 years from 1996 to 2010 while utilising data from 15 of Canada's top trading partners for cultural goods. Empirical results suggest that there are various significant determinants of cultural trade such as economic mass of the exporting country, geographic distance and shared official common language. Furthermore, results suggest that the stock of immigrants has a positive effect on imports of cultural goods to Canada. Empirical results are based on an augmented gravity model while using ordinary least squares method.

Keywords: Cultural goods, immigration, trade, gravity model, Canada

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Chapter 1 – Introduction

1.1 Historical background

Over the last twenty years Canada's trade in cultural goods has remained relatively steady between its numerous key-trading partners such as the United States, France and the United Kingdom. However, despite the domination of key trading partners, other countries such as China, Mexico and India have steadily increased their balance of trade in cultural goods with Canada, specifically in regards to imports. Between the years of 1996 and 2010 combined imports of cultural goods to Canada from China, Mexico and India have more than quadrupled (Statistics Canada, 2013b). Notably, during the same period, the immigration from these countries has more than doubled as well (Statistics Canada, 2011d).

Canada has often been described as a melting pot of nationalities, which can be confirmed by observing the population statistics.[1] As a young nation with a vast geographical area and a relatively small population (3.7people/km2) Canada has become what it is today thanks to the substantial influx of immigrants from around the world and their descendants. According to Statistics Canada (2011d) in merely 15 years the proportion of foreign-born population has increased from 17.4% in 1996 to 20.6% in 2011. With a constant stream of new inhabitants also comes the longing for familiar goods and diversification of trade. When emigrating from other nations many people still keep, to a certain extent, their language and ties to the local culture. Along with the immigrant population the import of cultural goods have also increased over the same period of time from just over 3 billion to over 3.7 billion with a peak of 4.1 billion in 2008 (Statistics Canada, 2013a).

Canada, along with countries such as Australia, New Zealand and the United States of America (OECD, 2013), is one of the most diverse multicultural nations in the world. According to the 2011 National Household Survey there were people from more than 200 ethnic origins living in Canada, with one in five residents being

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[1] See Appendix 7 and 11 for an overview of immigration statistics

foreign born (Statistics Canada, 2013a). The official promoting of multiculturalism in Canada started in 1971 when it was the first country in the world to adopt and thrive towards multiculturalism as government policy (Government of Canada, 2012). This policy of multiculturalism "ensures that all citizens can keep their identities, can take pride in their ancestry and have a sense of belonging" (Government of Canada, 2012, para 2).

Understanding the factors that drive the import of cultural goods is not only interesting for policy makers but also important in terms of recording the cultural diversity and Canadian consumers. There have been numerous studies investigating immigration and bilateral trade between nations but only a handful focus specifically on cultural goods. Despite the growing popularity of research in the field of cultural economics a study that focuses specifically on the relation between cultural trade and immigration seems to be missing. This study aims to research whether the population of "first generation" (Statistics Canada, 2011b) Canadians (born in a foreign country) has an influence on the level of cultural goods imported into Canada. In this context, we refer "first generation" as persons born outside the Canadian boarders as citizen of foreign country and currently residing in Canada.

The structure of this research is as follows. Chapter 2 provides an overview of what defines a cultural good, followed by an elaboration of their role in trade between nations and Canadian policy on cultural goods. Additionally, we must not forget the influence of piracy on the trade of cultural goods, which is also discussed. This is followed a summary of past research regarding trade and immigration. Chapter 3 presents a comprehensive overview of the gravity model, which will be used in this study, and the presentation of variables proposed in this research. Empirical results of the tests run are presented in Chapter 4. Finally, the paper finishes with Chapter 5, which presents a discussion of the results, conclusions, main limitations and avenues for future research.

1.2 Research question

This research explores the relation between the import of cultural goods into Canada from its constant top trading partners (Australia, Belgium, China, France, Germany, India, Italy, Japan, Mexico, Singapore, South Korea, Spain, Switzerland, Taiwan and the United Kingdom) between the years of 1996 and 2010 and the number of first generation foreigners residing in Canada. This relationship is investigated through the use of a linear regression model, specifically an augmented version of the gravity model which uses variables such as the level of cultural goods imports, gross domestic product (GDP), gross domestic product per capita (GDP per capita), immigration stock, geographic distance, cultural distance and common official language. It is important to note that the United States of America has been excluded in this research due to its dominance of trade in cultural goods with Canada. The hypothesis of this research is:

H1: The level of first generation immigrants in Canada have an effect on the level of cultural goods imported into Canada for the years 1996 to 2010.

In addition to the main hypothesis this research also tests two secondary hypotheses in order to get a better idea of grouping country effects. The hypotheses are tested by separating two groups based on their characteristic within the 15 countries mentioned above. The two groups are separated to group L, including those who share a common official language (either French or English) with Canada, and group N including those who do not share a common official language with Canada. The groups are separated as follows:

Group L: France, UK, Singapore, Belgium, Switzerland, India and Australia
Group N: China, Germany, Italy, Japan, Spain, Mexico, South Korea and Taiwan

H2: The level of first generation immigrants in Canada from countries that share a common official language (group L) with Canada has an effect on the level of cultural goods imported into Canada for the years 1996 to 2010.

H3: The level of first generation immigrants in Canada from countries that do not share a common official language (group N) with Canada has an effect on the level of cultural goods imported into Canada for the years 1996 to 2010.

1.3 Societal and scientific relevance

Researching the factors that influence the level of cultural trade, specifically imports, between Canada and its constant top cultural trade partners between the years 1996 and 2010 (Australia, Belgium, China, France, Germany, India, Italy, Japan, Mexico, Singapore, South Korea, Spain, Switzerland, Taiwan and the United Kingdom) will give further insight into whether immigration levels influence Canada's imports of cultural goods from specific countries. Although there are a fair amount of studies of the relationship between immigration and trade (Head and Ries, 1998; Dunlevy and Hutchinson, 1999; Girma and Yu, 2002; Blanes, 2005; White, 2007; Faustino and Peixoto, 2013)[2], including one previous study focusing on Canada (Head and Ries, 1998), there is still very limited literature that centres specifically on immigration and trade of cultural goods.

This research will contribute to current research in the realm of cultural economics and specifically international trade of cultural goods by giving further indication of the factors influencing the cultural imports and ultimately the consumption of cultural goods from specific countries. Such information could eventually be used for creation of cultural trade policies on cultural trade deficits and cultural diversity.

1.4 Purpose statement

As mentioned above, Canada is a young country with a growing population; it was founded in 1867, less than 150 years ago. In addition to the First Nations and Inuit people of Canada, settlers predominantly coming from England and France founded the country. Since those days Canada's population and international ties have

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[2] For an overview of data and methods used in past research see Appendix 10

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evolved significantly. Today, the population of Canada lies just over 33.4 million inhabitants spread over 10 provinces and 3 territories and 9,984,670 square kilometres of land (Government of Canada, 2011). Despite the nation's size approximately to 75% of the total population of Canada live 161 kilometres (100 miles) or less from the American border (National Geographic, 2014). Furthermore, in 2011 it was recorded that 22.6% of Canada's population was born outside of the country, while 17.4% of the population where born in Canada and had at least one parent born in another country (Statistics Canada, 2011a). This fairly large proportion of immigration represents the substantial multicultural mix present in Canada without even mentioning those families who had immigrated in previous generations such as grandparents.

Having a keen interest in cultural goods and cultural trade in context of my home country of Canada, I decided to further explore a combination of these subjects. Finally, I decided to focus on imports by further exploring Canadian national demographics and the demand for cultural goods. After all, Canada imports far more cultural goods than it exports, and in fact there was a trade deficit for cultural goods every year from 1996 to 2010. Moreover this deficit has increased substantially over the years, with the trade deficit for cultural goods shifting from just over 1.8 billion Canadian dollars in 1996 to its peak in 2010 with a trade deficit of over 2.4 billion Canadian dollars 2010.[3] Additionally, analysing exports would lead to further research on demographics and consumption patterns of all top cultural trading partners of Canada. This unfortunately does not seem feasible in the limited time that is available for the Master Thesis. Therefore, exclusively focusing on Canada allows a more in-depth and focused research topic.

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[3] For detailed data on the trade deficit see Appendix 14

Chapter 2 – Literature Review

This chapter is structured in six sub sections with the aim of covering all the main concepts while also discussing relevant past research. The first concept that is discussed is cultural goods. Furthermore, this section reviews the similarities and differences between definitions by organisations and authors on the subjects. Next to this, cultural trade is reviewed through the comparisons of past research, looking specifically at what has been researched and which methods have been used. Canadian policies regarding cultural goods protectionist measures, content quotas and the role of national identity are covered in the later section. In turn, this is followed by a section that highlights one of the biggest weaknesses of this research, the role of piracy on cultural goods. Following this discussion the literature review moves towards the concepts of immigration and trade. A brief history and explanation on how Canada became the multicultural nation that it is today is followed by an overview of past research that links immigration and trade. This section discusses what has been researched and the methods used.

2.1 Cultural goods

This research uses the definition of cultural goods provided by Statistics Canada that states, "culture goods include original and mass produced goods which contain culture content...Culture goods include creative goods that warrant intellectual property rights and goods, which support creation, production or transmission of other creative goods" (Cultural goods – Statistics Canada, 2013, para.1). However, for a better understanding of cultural goods this section acknowledges the importance of presenting the variations in definitions by a combination of academic authors, organisations and nations. Furthermore, it is important to note that although this section touches upon the concept of cultural services, this research focuses exclusively on the trade of cultural goods.

The 2010 Creative Economy report by UNCTAD (2010) states that in order to start defining what cultural goods and services are, it is firstly important to look at the

scope of the creative industries. The challenge already begins with defining the extent of the creative industries, or cultural industries, which in some cases is also used. These two terms, creative and cultural can have different nuances but are often used interchangeably (UNCTAD, 2010). In this research the cultural industries are mainly used according the above-mentioned definition from Statistics Canada. Appendix 1 lists the classification of the goods and services produced by the creative and cultural industries by various models.

The structure of Canadian classifications is slightly different to most other countries. Statistics Canada has created the Canadian Framework for Culture Statistics in response to the broad variations for concepts of culture. Ideally, "the purpose of a framework for culture statistics is to provide concepts and definitions to guide the collection of comparable statistics, as well as to support the development of indicators and analytical research in the culture sector" (Statistics Canada, 2011c, p.11). The framework includes six core domains of culture: heritage and libraries, live performance, visual and applied arts, written and published works, audio-visual and interactive media and sound recording. Each core domain groups industries, products and occupations that have similar activities. Table 1 provides an overview of the domains included in the Canadian framework for culture statistics.[4]

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[4] For an in-depth explanation of each the core culture domains, core culture sub-domains, ancillary culture sub-domains, transversal domains and infrastructure domains see Appendix 2

Table 1 - Domains in the Canadian Framework of Culture Statistics

Domains in the Canadian Framework for Culture Statistics					
Core culture domains					
A. Heritage and libraries	B. Live performance	C. Visual and applied arts	D. Written and published works	E. Audio-visual and interactive media	F. Sound recording
Core culture sub-domains					
• Archives • Libraries • Cultural heritage • Natural heritage	• Performing arts • Festivals and Celebrations	• Original visual art • Art reproductions • Photography • Crafts	• Books • Periodicals • Newspapers • Other published works	• Film and video • Broadcasting • Interactive media	• Sound recording • Music publishing
Ancillary culture sub-domains					
		• Advertising • Architecture • Design	• Collected information		
Transversal domains					
G. Education and training					
H. Governance funding and professional support					
Infrastructure domains					
I. Mediating products					
J. Physical infrastructure					

Source: Statistics Canada (2011c, p. 39)

As for definitions of cultural goods, UNESCO (2005) defines cultural goods as "the output of cultural and creative industries" (p.14). However, further on in the report UNESCO (2005) quotes Cano et al. (2000) for their definition of cultural goods, "consumer goods which convey ideas, symbols and ways of life, such as books, magazines, multimedia products, software, recordings, films, videos, audio-visual programmes, crafts and fashion design" (p.14). Furthermore, there is an additional classification proposed by UNESCO (2005) in which there is a separation between what they call "core" and "related" cultural products. The core products are associated directly with cultural content while the "related cultural products are supporting the creation, production and distribution and/or are associated with the services and equipment of cultural products" (UNESCO, 2005).

Table 2 - List of core and related cultural goods according to UNESCO classification

List of core and related cultural goods according to UNESCO classification	

Core cultural goods
  Heritage goods
  - Collections and collectors' pieces
  - Antiques of an age exceeding 100 years
 	
  Books
  - Printed books, brochures, leaflets, etc.
 - Children's pictures, drawing or colouring books
 	
  Newspapers and periodicals
 	
  Other printed matter
  - Printed music
  - Maps
  - Postcards
  - Pictures, designs
 	
    Recorded media
  - Gramophone records
  - Discs for laser-reading systems for   reproducing sound only
  - Magnetic tape (recorded)
  - Other recorded media for sound
 	
 Visual arts
  - Paintings
  - Other visual arts (statuettes, sculptures, lithographs, etc.)
	Audiovisual media
	  - Video games used with a television receiver
	  - Photographic and cinematographic film, exposed and developed
	
	Core cultural services
	Audiovisual and related services
	
	Copyright royalties and license fees
	
	Related cultural goods
	Equipment/support material
	  - Musical instruments
	  - Sound player recorder and recorded sound media
	  - Television and radio receivers
	  - Cinematographic and photographic supplies
	
	Architecture plans and drawing trade and trade advertisement material
	
	Related cultural services
	Information services, news agency services
	
	Advertising and architecture services
	
	Other personal, cultural and recreational services

Source: UNESCO (2005, p.15)

The specification by UNESCO of what is considered a cultural good or service is often used as a reference upon which countries derive their own definitions according to their specific limits on what to include and exclude. Consequently it becomes increasingly difficult for nations to agree on a shared definition. Furthermore, the comparison of international data is difficult in regards reliability of quality. One example of this is the case of New Zealand where UNESCO's definitions are in use within the national cultural framework, however an additional category exclusively for Maori culture is included.

Academic authors such as Towse (2011) and Throsby (2008) have, to some extent,

defined cultural goods in their past work. According to Towse (2011) all cultural goods have a creative or artistic element and are either tangible objects, such as a painting or book; or intangible objects such as a live play. Furthermore, she argues that the similarities between cultural and other goods are that they both use land, labour, capital and human ingenuity in their production. Throsby (2008) also acknowledges the artistic element of cultural goods however he goes further by dividing the cultural industries and its goods into what he calls "the concentric circles model of the cultural industries". The model uses circles, starting with the core creative arts at the centre, progressing outwards to what Throsby (2008) considers increasingly commercial industries. The concentric circles are: core creative arts, other creative core creative industries, wider cultural industries and related industries.

Another author, Schulze (2003) states that cultural goods are very heterogeneous products by further positioning them in two different categories: unique cultural goods such as paintings and sculptures and reproducible cultural goods such as music and film. He goes further by specifying that reproducible goods are made in two steps. Firstly the creative step, when the artist creates the original piece of work such as film real, recording or manuscript; and secondly the reproduction step where the original piece of work is copied industrially. Towse (2011) also adds that reproducible cultural goods and services require high investment for the creation of the first unit. However, the further marginal costs of producing additional units are relatively lower, giving most cultural goods the characteristic of economies of scale.

As demonstrated above the scope of definitions for cultural goods varies. In fact, Disdier et al. (2009) highlights that one of the main challenges encountered in their study was the variation of definitions and lack of an international consensus on the definition of cultural goods. As previously mentioned, this research focuses exclusively on the level of imports of cultural goods into Canada and therefore the definition by Statistics Canada will be taken into consideration for the collected data.

2.2 Cultural trade

International cultural trade plays an important role in the world's economy. Yet, according to Schulze (1999) "what do we know about trade in the arts? Relatively little. ... This is all the more surprising because art markets are arguably among the most internationalized goods" (p. 109). Household expenditures of culture and leisure have increased substantially in the last 30 years in developed nations such as the United States, France, the United Kingdom and Canada (OECD, 2007). According to UN COMTRADE statistics, the global trade in cultural goods and services in 2011 was recorded at a record high of US$624 billion which is almost double in comparison to figures for 2002 (UNESCO, 2011). According to Disdier et al. (2009) this growth in consumption and ultimately rise in the imports of cultural goods can be explained by increases in income, the development of leisure and cultural tourism, as well as revolutionary emergence of the Internet and information society.

Table 3 - World trade of creative goods, exports and imports
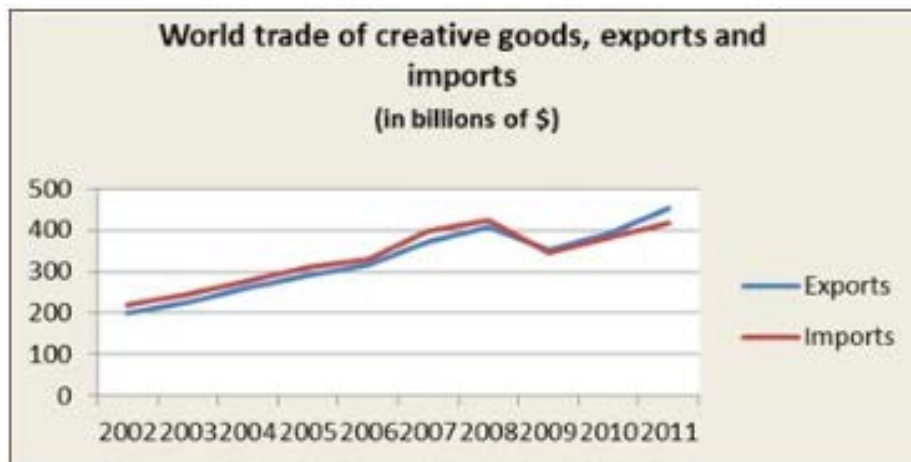
Source: UNCTAD (2011) based on official data in UN COMTRADE database

Earlier literature regarding cultural trade focuses predominantly on the bilateral trade of cultural goods, especially between Canada and the United States. This can be seen in Marvasti and Canterbery (1992) where they investigated the determinants of bilateral trade between Canada and the United States from 1962 and 1987. The trade of cultural products such as recordings, periodicals, books, and

newspapers were their predominant focus. In this study regression measures were used to test the dependent variables of intra-industry trade and net exports against population, per capita income and capital-labour ratio. Results showed that both capital-labour ratio and per capita income variables were significant. Marvasti (1994) continues on a similar topic by investigating "the determinants of intra-industry trade patterns in the world" (p.135) and focusing solely on books, newspapers, records and disc and film with data from 1985. The empirical analysis of this paper implies that English-speaking countries dominate the global market for film and books and that these two cultural goods are typically traded from the rich to the poor countries. However, despite the dominance of cultural products coming from a few wealthy countries, Marvasti (1994) states that "the economic justification for widespread trade barriers based on the economies of scale argument is weak; thus, free trade as a rule of thumb is sustained" (p.144).

In regards to cultural goods and trade theory, Schulze (1999) investigates the extent to which new trade theory could be applied to explaining the trade in art. This author makes a clear distinction between unique and reproducible art, choosing to focus solely on unique art such as sculptures and paintings. This is due to his argument that unique art possesses fairly different characteristics to reproducible art. Schulze (1999) tests a gravity model of bilateral trade in works of art for 49 trading countries as measured by their imports for the years 1990 to 1994. Empirical results suggested that the trade of art is more present between large economies. Additionally, when distance between the trading partners increases, the trade in works of art decreases significantly. Lastly, the most significant results showed that that two countries that share an official common language tend to trade art four times as much as countries that do not share a common language.

Disdier et al. (2009) examines the determinants of bilateral trade in reproducible cultural goods by using the gravity model with data from 239 countries during the years from 1989 to 2005. Their aim was to study whether the trade of cultural goods differs from other goods by using the United Nations COMTRADE database.

They found that the trade flows of cultural goods seem to be generally impacted by the same variables as goods in general. For geographic distance, the results were negatively correlated while a shared common language appeared to foster bilateral trade flows, especially in terms of books and newspapers. Qu and Han (2011) also used the gravity model to empirically test the trade of cultural goods, between China and nine other countries. This research covered the years from 1992 to 2008. Their findings suggest that cultural distance, economic size, GDP per capita and land area all have a positive impact on the level of cultural goods exported from China. Likewise to Disdier et al. (2009), Qu and Han (2011) found that geographic distance impacts exports negatively and countries with a shared language import more Chinese cultural goods.

One of the few studies to look at a specific sector of cultural goods is conducted by Marvasti and Canterbery (2005). They focused specifically on the exports of US motion pictures, 33 countries were studied over the period of 1991 to 1995. Empirical evidence from the gravity model of trade revealed that shared common language, education and religion all had a positive impact on exports.

The most recent article regarding the trade of cultural goods, by Park (2014), uses the gravity model of trade to study the determinants of Korean broadcasting exports. In addition to generally used variables in the gravity model, determinants such as the effects of economic development and cultural proximity are used. Park (2014) finds that "relative economic development of the export country and the market size of the import country are important determinants of cultural trade" (p. 83). Interestingly, unlike in many previous studies, geographic distance was not significant.

For research on international trade, not specifically focused on cultural goods, there have been several studies focusing on variables such as linguistic proximity (Hutchinson, 2002; Melitz, 2008), past colonial links (Girma and Yu, 2002) and immigration (Girma and Yu, 2002; Head and Ries, 1998; Dunlevy and Hutchinson,

1999). Umana Dajud (2013) focuses on the impact of politics on trade flows using empirical analysis. Similarly, Eichengreen and Irwin (1998) attempt to analyse the impact of history on trade by using the gravity model. Notably, each one of the above-mentioned studies uses a form of the gravity model with a different combination of variables depending on the aim or their research.[5]

According to above literature review, the most frequented research method that was used to study trade in cultural goods and trade in general, both for imports and exports, is the gravity model of trade. Thus, I have also chosen to follow the same route, which is presented in detail in Chapter 3.

2.3 Policies regarding Canadian cultural goods

UNESCO (2005) defines the trade of cultural goods as " the exports and imports of tangibles and intangibles conveying cultural content that might take either the form of a good or a service" (p. 12). This definition is one of many and as mentioned above can be applied to myriad of goods depending on the definition and its source. Consequently, the flexibility of the definition facilitates the flexibility for countries to argue for protectionist measures of certain cultural goods and industries through the implementation of policies (Footer and Graber, 2000).

Canada's top cultural trading partner in regards to imports during the past years is the United States of America (Statistics Canada, 2011b). In fact nearly 75% of cultural goods that were imported into Canada in 2010 came from the United States (Statistics Canada, 2011b). This can be seen due to the country's close proximity, common language combined with the general dominance of American culture around the world. This almost intrusive economic, geographic and cultural proximity to the United States was aptly described by Krugman (1991) in his book *Geography and trade* by writing: "Canada is essentially closer to the United States than it is to itself" (p. 2).

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[5] For an overview of the variables used see table 8 in chapter 3 Methodology

In part due to the cultural dominance by the United States and as a way of protecting and promoting Canadian culture and diversity, numerous cultural policies are in place in Canada regarding cultural goods and specifically the import of such goods (Marvasti and Canterbery, 2005). Such policies include a combination of actions such as Canadian content quotas, tax restrictions on imports, financial incentives, rules on foreign investments and the even exemption of cultural goods in free trade agreements such as NAFTA (North American Free Trade Agreement) (Canadian Culture in a Global World, 2013).

The Canadian Radio-Television Commission (CRTC) was established in 1968 with the primary responsibility to monitor quality and quantity of Canadian radio and television content during a time of mass American television consumption. Soon after Canadian content quotas were established with levels fluctuating throughout the following years at around a requirement that 50% of television programming must be Canadian over the full day while during primetime (6:30 p.m. to 11:30 p.m.) 60% must be Canadian content (Parliament of Canada, 2003). In 1996 Canada's Convergence Policy recognized the technological developments of distribution networks and the increase in competition within the broadcasting industry and the telecommunications industry (Canadian Culture in a Global World, 2013). Consequently, within Canada "all broadcasting distribution systems must provide Canadian programming, contribute financially to producing Canadian content and be subject to the same rules and obligations" (Canadian Culture in a Global World, 2013). Table 4 shows the current content quotas requirements for broadcasters in Canada.

Table 4 - Canadian content requirements

Canadian Content Requirements	
Broadcaster	**Canadian Content**
Radio	Generally 30% of popular music selections* in the 1980's 35% in 1999 However, most new commercial radio stations licensed since 1999 have been licensed at 40%.
CBC/SRC television	60% overall yearly 60% from 6:00 p.m. to midnight
Private television broadcasters	60% overall yearly 50% from 6:00 p.m. to midnight In May 2011 the CanCon requirement for private television broadcasters was lowered to 55% yearly
Pay and specialty television services	16% to 100%**
Pay-Per-View services	1:20 Can. : non-Can. films 1:7 Can. : non-Can. events
* For French radio, the vocal music requirement is 65% French language content. New regulations will also require a minimum 55% French language vocal music content Monday through Friday, between 6:00 a.m. to 6:00 p.m. ** The requirement varies, depending on the service. Most are required to offer at least 30% Canadian content.	

Source: Foreign Affairs, Trade and Development Canada (2013, section: Regulating new distribution systems)

The MAPL system was designed by the CRTC to aid in identifying and increasing the exposure of Canadian music as well as "strengthen the Canadian music industry, including the creative and production components" (Canadian Radio-television and Telecommunications Commission, 2009, para. 2). According to the CRTC a musical selections can be considered Canadian Content when at least two criteria mentioned in Table 5 are fulfilled. Furthermore, in regards to the MAPL system the CRTC states that a Canadian can be defined as one of the following: "a Canadian citizen, a permanent resident as defined by the Immigration Act 1976, a person whose ordinary place of residence was Canada for the six months immediately preceding their contribution to a musical composition or a performance or concert licensee, i.e. a person licensed to operate a radio station" (Canadian Radio-television and Telecommunications Commission, 2009, para. 5).

Table 5 - The MAPL system

The MAPL system	
M (music)	• The music is composed entirely by a Canadian.
A (artist)	• The music is, or the lyrics are, performed principally by a Canadian.

P (performance)	• The musical selection consists of a performance that is:
	    ○ Recorded wholly in Canada, or
	    ○ Performed wholly in Canada and broadcast live in Canada.

L (lyrics)	• The lyrics are written entirely by a Canadian

Source: Canadian Radio-television and Telecommunications Commission (2009, para. 4)

In regards to free trade agreements countries are increasingly including exemptions for specific cultural goods and industries in an effort to protect their national identity, beliefs and cultural values (Footer and Graber, 2006). An example of such exemptions and a provision for retaliation can be seen in the North American Free Trade Agreement (NAFTA) between Canada and the United States. Currently, the Canada-European Union Comprehensive Economic Trade Agreement (CETA) is in the process of being negotiated between Canada and the European Union. It is currently stated by the Canadian government that, similar to NAFTA "Canada and the EU have agreed to exempt measures related to cultural industries from relevant obligations so that these industries can continue to flourish" (Government of Canada, 2013). Therefore, there are no fair trade agreements between Canada and the countries within this study for the 15-year period between 1996 and 2010.

As mentioned above the Canadian government has implemented numerous policies to help protect as well encourage the production of Canadian cultural goods. Consequently, these policies have a direct influence on the level of cultural goods imported into Canada. Due to the relative consistency of policies between 1996 and 2010 it was possible to use a 15-year span in this research.

2.4 The influence of piracy on cultural goods trade

The informal economy of piracy and counterfeit goods is a widespread issue facing many industries, especially sectors of the cultural industries such as film, television, music, publishing and software (both business and entertainment). Despite global

efforts to resolve this worldwide problem through industry efforts and law enforcement the concern of Intellectual Property Rights (IPR) infringement remains an international challenge. According to UNESCO - What is Piracy? (2007, para. 1), "piracy includes the reproduction and distribution of copies of copyright-protected material, or the communication to the public and making available of such material on on-line communication networks, without the authorisation of the right owner(s) where such authorisation is required by law". Additionally, the OECD broadly defines piracy as "digital infringement of copyright" (OECD, 2009, p.7). The lack of a legal global definition of the piracy of copyright goods is in part due to variations in copyright law and infringement in different parts of the world (OECD, 2009). Consequently, what is considered IPR infringement in one country might not be the same in another. The above-mentioned industries are affected by both physical and digital piracy. Physical piracy is the production and consumption of counterfeit goods such as illegal reproduced CD, DVDs and published goods. In recent years digital piracy, which is the reproduction of digitally reproducible goods through the Internet and computer networks, has grown immensely due to the increase in popularity of digital content (OECD, 2009).

Like any market, the market for pirated goods is composed of suppliers and consumers. Interestingly the OECD (2009) report on *Piracy of Digital Content* highlighted that, unlike many other industries, an individual person is often both a supplier and consumer in the market for pirated goods. This is visibly demonstrated in peer-to-peer file sharing networks where users act as uploaders, seeders and downloaders of pirated content. An additional specific difference of regular goods compared to global piracy and counterfeit market, as highlighted by the OECD (2009), is the motivation of suppliers. In the digital distribution of pirated goods the objective is not always profit driven. Alternative non-market motivations could be "gaining recognition within a peer group, or reciprocating free access to other users" (OECD, 2009, p.8). Additionally, marginal costs for reproducing and distributing these goods, which often process the same quality as the original, are close to zero.

In 2012, Canada was put for the fourth year in a row on the priority watch list of the Special 301 Report together with countries such as China, Russia and Indonesia. The Special 301 Report is a yearly analysis of the infringements in intellectual property law of the United States' main trading partners (Special 301 Report, 2013); the Office of the United States Trade Representative (USTR) prepares it. Nevertheless, some question the credibility of the report and regard it as lobbyist document largely supported by "groups such as the International Intellectual Property Alliance and the Motion Picture Association of America" (Geist, 2009, May. 25). In 2013 Canada was moved down from the priority watch list to the watch list. According to the USTR Special 301 Report (2013) that was due to Canada's implementation of the Copyright Modernization Act in 2012 as well as the introduction of a bill that aims to enforce international property rights.

The precise impact of piracy of cultural goods on international trade is uncertain. The majority of research regarding cultural goods and piracy focuses on empirical evidence that piracy negatively affects the music and film industry. Hui and Png (2003) find empirical evidence that piracy decreases the demand for CDs however, they also conclude that the music industry has overestimated the negative impact on CD sales. Bender and Wang (2009) find that when music piracy increases by one percent it results in a decrease of music sales by 0.6 percent. Similar to these findings concerning the music industry, De Vany and Wall (2007) found that in the case of majorly distributed studio movies, the illegal digital pre-release and simultaneous Internet downloads result in an approximate average loss of $40 million in revenue per film. Lionetti and Patuelli (2009) use an augmented gravity model of trade to "analyse the influence of piracy on trade of cultural digitalized goods" (p. 4) such as audio, video and multimedia creative content during 11 year period in 25 countries. According to their findings piracy has a negative bilateral trade effect for music and a positive effect for films and new-generation media.

Despite on-going research regarding the estimated level of traded pirated goods and their impact on trade, there is currently no precise data available. Consequently, due

to data constraints this research only takes into account the sum of legally imported cultural goods into Canada from the researched countries (Australia, Belgium, China, France, Germany, India, Italy, Japan, Mexico, Singapore, South Korea, Spain, Switzerland, Taiwan and the United Kingdom). Eventually, a limitation of this is that the results of this research are not reflecting a complete picture of the impact of immigration on the level of cultural goods imported.

2.5 Canadian immigration policy

Canada is one of the most multicultural countries in the world. As seen in Table 6 Canada had the fifth highest percentage of foreign-born inhabitants in the OECD countries in 2011. This section gives an overview of Canada's multicultural society today as well as a brief overview of its history.

Table 6 - Foreign-born population – 2001 and 2011
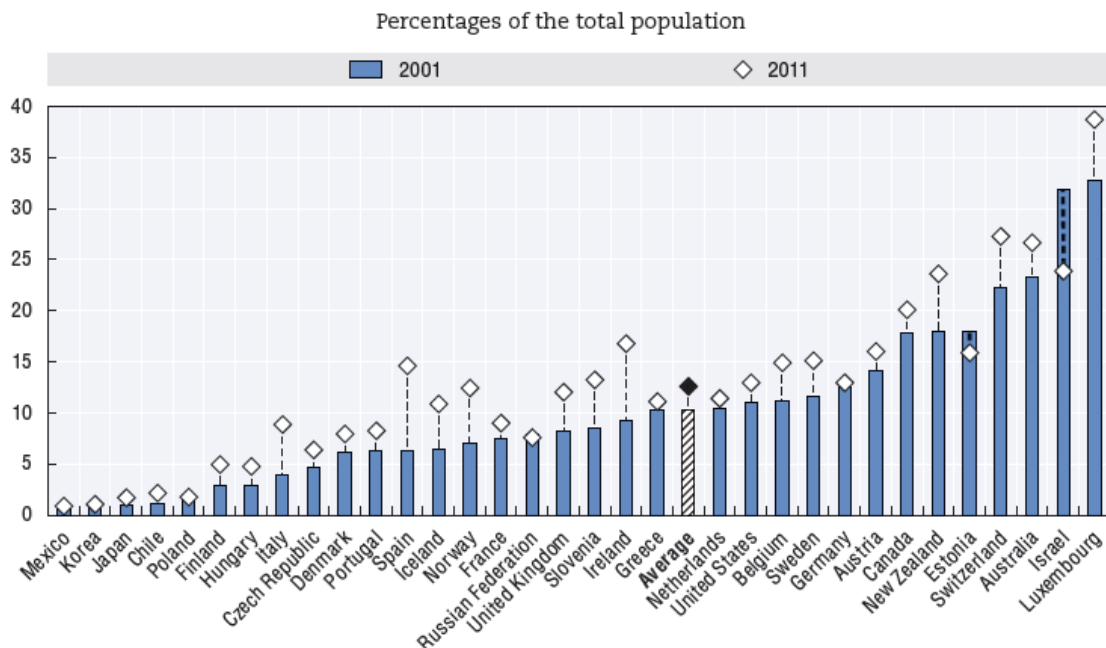
Note: Data for Germany, Greece, Japan, Korea and Mexico are for 2000 and 2010; for Chile and the Russian Federation, 2002 and 2010; for Slovenia, 2002 and 2011. Data for France exclude persons born abroad who were French at birth. Sources: OECD International Migration Database except Japan and Korea in 2011 (UN Population division) and Greece in 2011 (Eurostat). 2011 data for France are estimates.
Source: OECD (2013, p. 37)

In 2011 it was recorded that 20.6% (Statistics Canada, 2011d) of the total population of Canada was foreign born, this is up from 17.4% of the population in 1996 (Statistics Canada, 2006). Moreover, the countries of origin of Canada's immigrant population have shifted significantly. It was stated in 1996 "…for the first time this century they [European immigrants] accounted for less than half of the total immigrant population, due to a growing influx from Asia and the Middle East" (Statistics Canada, 2006). Sixteen years later, in 2011, Statistics Canada (2011d) stated that Asia was the largest source of immigrants to move to Canada between 2006 and 2011.

Canada's history of immigration dates back even before Canada was declared as nation. Although the first people to live in Canada were the first nations and Inuit, the first flow of immigration into Canada arrived predominantly from France and England throughout the 17th and 18th century (Canadian Encyclopaedia, 2013). This flow of immigration to the "New World" was due to the colonisation of the eastern parts of Canada by both France and England. At the same time Maritime Provinces such as Nova Scotia and Newfoundland developed growing populations transplanted from Scotland, Ireland, Germany and Switzerland. The 1800's saw continuous growth in population, including slow migration to the west with promises of land and continuous immigration from countries such as the United States and Ireland, amongst others. The last century saw large peaks of immigration from Europe around both the first and second world wars. To give an idea of Canadian population growth as a result of immigration, in 1871 the population of Canada was 3.6 million, of which 3.1 million where either French or British, 115 years later Canada's population in 1996 was over 29 million (Canadian Encyclopaedia, 2006). These figures express that the growth of Canada's population is a result of immigration, especially since the average Canadian fertility rate is only 1.68 children per female (Immigration Canada, 2011). As mentioned above, the level of immigration and the country of origin have changed dramatically over the last 30 years in part due to Canada's changing population objectives as well changing global situation. A comprehensive overview of the top ten entry countries of permanent

residents to Canada by country of birth and their changes between 1981 and 2011 is available in Appendix 11.

Throughout the 1970's Canadian immigration policies were thoroughly reviewed and aimed towards specific population objectives. These broad objectives were: "to reunite families; to fulfil the country's international obligations and humanitarian tradition with respect to refugees; and to foster a strong, viable economy in all regions of Canada" (Statistics Canada, 2005, para. 2). It should be noted that some provinces and territories follow agreements with the federal government that allow for a divergence of immigration policy according to their unique objectives such as maintenance of the French language in Quebec (Statistics Canada, 2005). The 1970's also saw a fundamental change in the make-up of immigrants to Canada. In 1971 and every year since the majority of immigrants to Canada have been of non-European ancestry (Canadian Encyclopaedia, 2013), this can be seen in Table 7.

Table 7 - Region of birth of immigrants in Canada by period of immigration

%
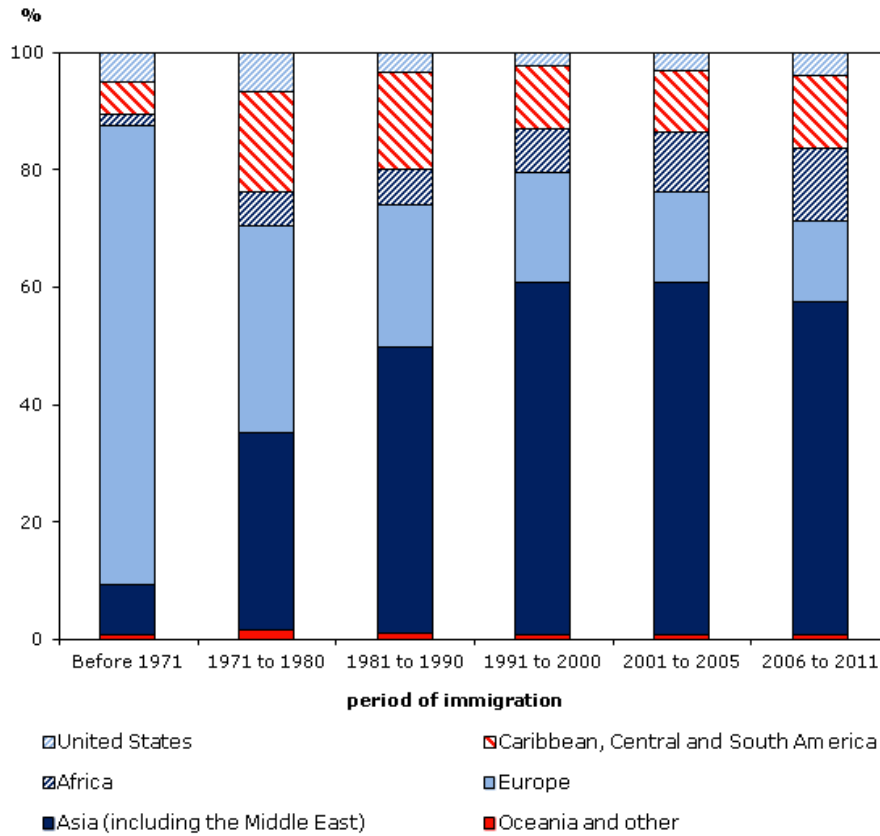
Note: 'Oceania and other' includes immigrants born in Oceania, in Canada, in Saint Pierre and Miquelon and responses not included elsewhere, such as 'born at sea.'
Source: Statistics Canada (2011d, p.9)

Because of data limitations this research focuses on the number of people living in Canada as first generation Canadians (born in another country). Nevertheless, it is important to acknowledge the proportion of the country that identifies as second generation (one or both parents are born in another country) because they might also have an influence on the amount on cultural goods imported into Canada. The combination of first and second generation Canadians was recorded in the 2006 census to be 40% of the Canadian population over the age of 15 (Statistics Canada, 2010).

2.6 Links between immigration and trade

Due to Canada's diverse cultural make-up and growingly diverse number of new

immigrants it is interesting to investigate whether the level of multicultural diversity influences the import of cultural goods to Canada. Although the past research is not extensive there are already some studies that have looked at the relation between immigration and trade (Head and Ries, 1998; Dunlevy and Hutchinson, 1999; Girma and Yu, 2002; Blanes, 2005; White, 2007; Faustino and Peixoto, 2013). Evidence from previous research suggests that immigration can have a positive influence on the level of trade between countries of origin and the new home of immigrants. According to Girma and Yu (2002) immigrants elevate bilateral trade due to two main reasons: "first, immigrants bring with them a preference for home-country products and second, immigrants can reduce transaction costs of bilateral trade with their home countries" (p. 115).

Studies linking immigration and trade look at bilateral trade, imports, export or a combination of the three. Additionally, all of these studies use some form of the gravity model, this model is further discussed in Chapter 3. White (2007) focuses specifically on the United States and 73 of its trading partners for the period of 1980 to 2001. Conclusions from this research focus specifically on low-income countries. The research finds that "a 10% increase in the immigrant stock is found to generate respectively 4.7 and 1.5% increases in domestic imports from and exports to the typical low income home country" (White, 2007, p.839). Similarly, Faustino and Peixoto (2013) also chose to focus on one country and its a selection of its trading partners over a period of time, in this case bilateral trade between Portugal and 15 EU countries over the period of 1995 – 2003. Faustino and Peixoto's (2013) find a positive relationship between immigration and trade for both imports and exports. Furthermore, they find that there are stronger effects on trade when immigration to Portugal from Latin-partner countries increases, than in the cases with non-Latin countries. Blanes (2005) also focuses on one country, specifically Spain, to research the relation between immigration and intra-industry trade. The paper concludes that the stock of immigrants in Spain influenced the share of intra-industry trade in total bilateral trade positively between Spain and the country of origin of the immigrant population.

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Girma and Yu (2002) also use an augmented gravity model for the case of the United Kingdom to investigate the relationship between immigration and bilateral trade with the countries of origin of the United Kingdom's immigrant population. The empirical research suggests that exports are positively impacted by immigration from non-Commonwealth countries while the levels of immigration from Commonwealth countries does not have a significant impact on exports. Girma and Yu (2002) suggest that these findings could be due to a lower amount of new information brought by immigrants from former colonies that could potentially reduce the transaction costs of bilateral trade between the UK and their home countries. Furthermore, the study also finds immigration from non-Commonwealth countries positively impacts the level of imports.

Dunlevy and Hutchinson (1999) is one of the few studies that specifically focus exclusively on imports and immigration. The study looks at imports of 78 commodities from 17 countries to the United States between 1870 and 1910. The study finds that the immigration stock in the US had a positive impact of the level of US imports from both European and non-European countries over the 40 years prior to the First World War.

According to Head and Ries (1998) the immigration patterns to Canada have positive influence on the levels of trade. Their study tests bilateral trade data between Canada and 136 partners between the years 1980 and 1992 using an augmented gravity model. Head and Ries (1998) find that "a 10 per cent increase in immigrants is associated with a 1 per cent increase in Canadian exports to the immigrant's home country and a 3 per cent increase in imports" (p. 47). Furthermore, unlike other studies Head and Ries (1998) also look at the impact of specific primary categories of immigrants such as independents class, family class, entrepreneur class and refugee class. Their findings reveal that of all immigrant class's independents has the most trade influence while the refugees have the least influence (Head and Ries, 1998).

The past research discussed in this chapter provides a wide range of concepts involved in this research. Knowledge from previous research regarding trade in general and immigration helps to guide the research of this new subject. There are numerous studies that investigate relationships between cultural goods and trade as well as immigration and trade, all of which use a combination of variables and predominantly some form of the gravity model of trade as a method. However, to my knowledge, there remains a gap in research that investigates the trade of cultural goods specifically and immigration, which allows for my contribution to trade research.

Chapter 3 – Methodology

3.1 The Gravity Model

As discussed in Chapter 2 most of the past research that looks at the relation between immigration and trade has used some sort of augmented form of the gravity equation depending on the research objectives and variables. The gravity model of trade is originally inspired by Newton's gravity equation (Gómez Herrera, 2013). Since the formative developments of the "gravity equation" by Jan Tinbergen in (1962) the model has been used to study international trade on the bases of the size of trade flows between two countries, the economic scale usually measured by GDP and the distance between two countries. It has been widely used and augmented in the past 50 years; in its most basic form the model links trade flows with the economic size of the countries and the distance between them. In its simplest form, the logic of the model is that the economic size of countries have a positive impact on the demand and supply of traded goods while distance, which can represent transaction costs information costs and cultural proximity, amongst other forces, impacts trade negatively (Schulze, 1999). The basic model for trade between two countries is as follows:

$$Tij = A \left[(Yi, Yj)/Dij \right]$$

Within this model T_{ij} is equal the volume of trade (import, export or bilateral) between country i and country j, Y_i is the economic mass of country i (usually GDP), Y_j is the economic mas of country j (usually GDP), D_{ij} is the calculated distance between country i and country j and a is a proportionality constant. The model can also be shown in the log linear form of the standard gravity equation as:

$$\ln Tij = a + b1 \ln GDPi + b2 \ln GDPj + b3 \ln Dij + \varepsilon ij$$

Through efforts over the last 50 years the gravity equation has expanded and taken

various forms to satisfy the needs of numerous studies such as the ones previously discussed. Consequently, several estimation methods have been explored in past research. The most traditional estimation method of the gravity method is the linear multiplicative method using Ordinary Least Squares (OLS). When using OLS it is suggested that logarithms are taken on both sides in which variables such as trade, GDP and distance are entered into the regression in natural logarithms while dummy variables are entered as an one/zero value (Cyrus, 2012). This method can be used assuming homoscedasticity and no incidents of zero trade flows in trade data (Gómez Herrera, 2013). Since this study satisfies the above requirements the method used for the gravity model is OLS.

According to Santos Silva and Tenreyro (2006) in the presence of heteroskedasticity and zero trade flows linear models such as the OLS estimation may not produce reliable results and non-linear models should be used. Gómez Herrera (2013) further support this point with empirical results that prove that results from nonlinear estimators are more accurate when heteroskedasticity is present in data, that results from linear equations. According to (Gómez Herrera, 2013) the most frequently used nonlinear estimation methods are: Nonlinear Least Squares (NLS), Feasible Generalised Least Squares (FGLS), Heckman sample selection model and Gamma and Poisson Pseudo Maximum Likelihood (GPML and PPML).[6]

3.2 Subject for study – Variables

As previously mentioned there are several previous studies that have used the gravity model of trade as a method for studying the determinants of trade between counties. Consequently, there are several augmentations of the model that include a variety of variables. Table 8 provides an overview of the most frequently used variables in relevant past research. The information in this table is used in the following argumentation for the choice of variables for this regression study. There are three types of variables that are entered in to the gravity model: a dependent

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[6] For an overview of data and methods used in past research see Appendix 10

variable, independent variables and dummy variables. The following variables are selected for study of what determines the level of cultural trade, specifically imports, between Canada and its top trading partners: imports of cultural goods, GDP, GDP per capita, immigration stock levels, geographic distance, cultural distance and shared official common language. All variables are time-variant with the exception of geographic distance, cultural distance and the dummy variable shared official common language.

Table 8 - Variables used in previous gravity model studies

Author	Title	Imports	Exports	GDP	GDP per capita	Distance	Population	Immigration	Cultural Distance	Remoteness	Same Language	Colony	Shared borders	Trade Agreement
Eichengreen and Irwin (1998)*	The Role of History in Bilateral Trade Flows	**X**	**X**	**X**	**X**	**X**		**X**			**X**	**X**		
Head and Ries (1998)*	Immigration and trade creation: Econometric evidence from Canada	X	X	X		X		X					X	
Dunlevy & Hutchinson (1999)*	The impact of immigration on America import trade in the late 19th and early 20th centuries	X		X	X	X	X	X			X			
Schulze (1999) *Focus on trade of cultural goods*	International trade in art	X	**X**	X		X					X		**X**	
Girma & Yu (2002)	The link between immigration and trade: evidence from the United Kingdom	X	X	X	X	X		X		X	X			
Hutchinson (2002)	Does ease of communication increase trade?: Commonality of language and bilateral trade	X	X	X		X	X				X			
Brun, Carrère, Guillaumont & de Melo (2005)*	Has Distance Died? Evidence from a Panel Gravity Model	X	X			X	X						X	
Marvasti and Canterbery (2005)*	Cultural and other barriers to motion pictures trade	X	X		X	X					X		X	
White (2007)*	Immigrant-trade links, transplanted home bias and network effects	X	X	X	X	X		X			X			X
Kavallari, Maas & Schmitz (2008)*	Explaining German imports of olive oil: evidence from a gravity model	X		X	X	X		X						
Melitz (2008)*	Language and foreign trade	X	X	X		X					X	X	X	X
Casi (2009)	Enhancing trade through migration. A Gravity model of the network effect.	X	X	X		X		X			X	X	X	

Author	Title	Imports	Exports	GDP	GDP per capita	Distance	Population	Immigration	Cultural	Remoteness	Same Language	Colony	Shared borders	Trade
Disdier et al. (2009) *Focus on trade of cultural goods*	Bilateral trade of cultural goods	X	X			X					X	X	X	
Qu & Han (2011)* *Focus on trade of cultural goods*	The Factors on Trade of Chinese Cultural Goods An Empirical Analysis based on Panel Data		X	X	X	X			X		X			X
Casi (2009)*	Enhancing trade through migration. A Gravity model of the network effect.	X	X	X	X	X			X		X	X	X	X
Faustino & Peixoto (2013)*	Immigration-trade links: evidence from Portugal	X	X	X	X	X		X					X	
Umana Dajud (2013)	Political proximity and international trade		X		X	X	X				X	X	X	X
Park (2014)* *Focus on trade of cultural goods*	Trade in cultural goods: a case of the Korean wave in Asia		X	X	X	X	X							

Source: own elaboration
Note: * the variables are not listed extensively due to study specific variables

Data was collected for the period of 1996 to 2010 (15 year span) and the countries: Canada, Australia, Belgium, China, France, Germany, India, Italy, Japan, Mexico, Singapore, South Korea, Spain, Switzerland, Taiwan and the United Kingdom. The years and countries studied were chosen as a result of the data available for the variable imports of cultural goods to Canada. Additionally, Statistics Canada only releases country specific figures for imports of cultural goods for its top twenty trading partners. Consequently, this study only includes those countries that were consistently included in the top twenty lists for the years 1996 to 2010.

The United States of America is Canada's top trading partner for both imports and exports of cultural goods. In fact in 2010 imports of cultural goods from the Unites States of America accounted for nearly 75% of total imports, while 87% of exports of cultural goods were destined for the United States (Statistics Canada, 2013b). These figures illustrate the dominance of the United States of America as a trading

partner of cultural goods. Consequently, the inclusion of this country in the study would create a bias in the data and ultimately would produce unbalanced results. As a result the United States of America was left of out the empirical analysis in order to avoid a biased in the results.

Table 9 - Percentage share per country of cultural goods imported to Canada - 2010
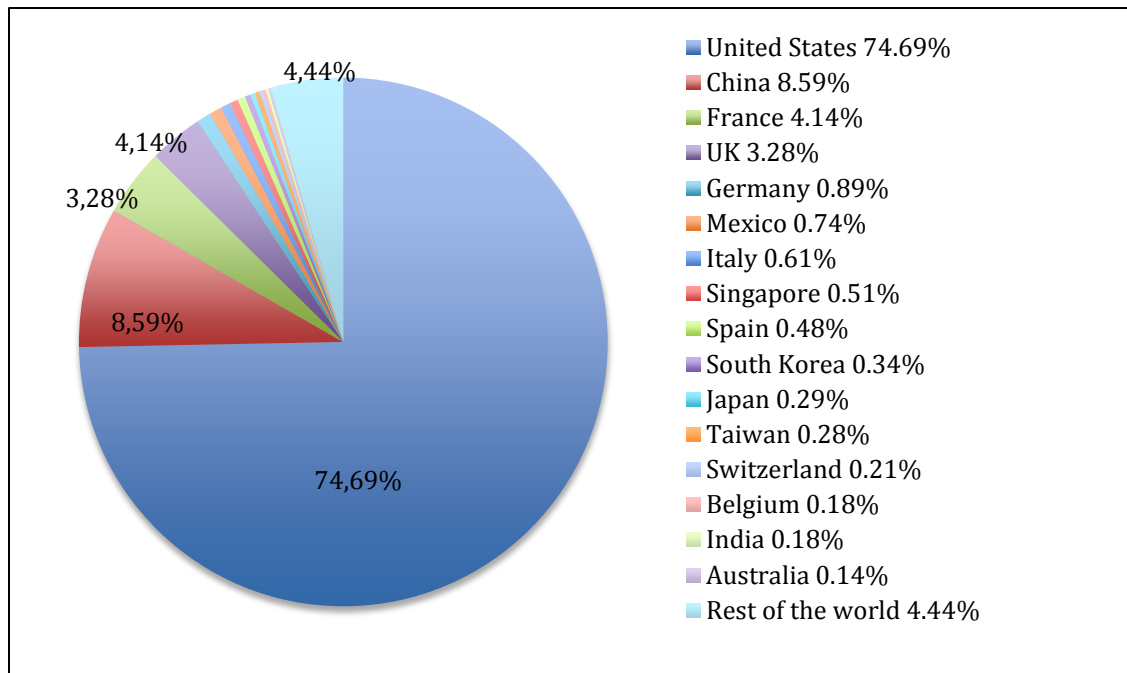
Source: Own elaboration, data sourced from Statistics Canada (2013b)

3.2.2 Dependent variable - Trade of cultural goods

This study uses the imports of cultural goods to Canada over the years 1996 to 2010 as the dependent variable. It is important to note that the collected data only includes the import of cultural goods, culture services which are defined as "intangible products such as performances and broadcasts" by Statistics Canada (2004, p. 6), are not included in this study. Imports were chosen as opposed to exports because of three factors. Firstly, the steady list of trading partners throughout the period studied of 1996 to 2010 remained relatively consistent, allowing for a total of 15 countries (excluding the United States) to be included. Secondly, the levels of imports of cultural goods are substantially larger than for exports. Lastly, since the definition of cultural goods varies immensely between

countries a study focusing exclusively on imports to one country allows for more consistency in the trade data. As previously mentioned this study will exclusively use the definition recognised by Statistics Canada due to this study's focus on the import of cultural goods into Canada.

Extensive data regarding the levels of trade of cultural goods for Canada is available through Statistics Canada (2013b), including detailed data regarding Canada's top 20 trading partners for cultural goods. Appendix 12 and 13 (Statistics Canada (2013b) provides detailed information regarding the level of both imports and exports of cultural goods with top trading partners that have been consistently in the top 20 between 1996 and 2010. It is also important to note that Statistics Canada cautions the comparisons to pre-1996 data due to major coding changes specifically under the categories of in particular under the categories: "Sound and Film Products - Compact Discs" and "Sound and Film Products - DVDs etc." (Statistics Canada, 2004).

The product being traded is the unit analysis used to estimate the trade figures. This means that the total value of culture goods trade published is " the value of tangible products that cross the border, captured from Customs documentation" (Statistics Canada, 2004, p. 7). The quality of trade data can be impacted by poor documentation of both import and export declarations and unrecorded trade such as via personal shipments (such as magazine subscriptions form abroad) and personal transactions below $2,000 CAD. Nevertheless, in order to ensure the reliability of the data reconciliation exercises are conducted between Canada and the statistical offices of its major trading partners (Statistics Canada, 2004). Lastly it is important to note that the data on trade is presented in the Canadian dollar currency and presented as current dollars (unadjusted for inflation).

3.2.3 Independent variables

Immigration stocks
Data on immigration stocks in Canada is fairly reliable as it is collected by Statistics Canada via the census survey. This data, which is available for a large period of

years, it represents the number of people living in Canada in a specific year by foreign place for birth. Data was retrieved from Canadian census surveys for the years 1996, 2001, 2006 and 2011. However, the census is only taken every five years. This means that there are gaps in the data for immigration stocks. Both Girma and Yu (2002) and Head and Ries (1998) solve this problem in their studies by applying the stock flow method.[7] The stock flow method uses both immigration stock as well immigration flow data and an attrition rate to estimate the immigrant stock populations between census years. When tested on the immigration stock data for this research the estimated figures for between census dates did not accurately enough. Consequently, this method was not used. Alternatively, an estimate was made using the following formula since data is available on five year intervals:

$$S_{it} = S_{it-1} + ((S_{it+4} - S_{it-1})/5)$$

- *i* and *t* represent the country of origin and year, respectively
- *S* represents the immigrant stocks

As previously mentioned, in the section about Canadian immigration policy, the data on immigration stocks does not include second generation Canadians (one or more foreign born parent). Their influence potential influence in the levels of imported cultural goods into Canada is not covered in this research.

Geographic distances
As visible in Table 8 the variable geographic distance is used in all previous research. It measures the geographic distances between two countries. In the case of this research it is used to measure the distance between Canada and its trading partners. The variable not only represents distance but also acts to a certain extent as a proxy for transportation costs involved in trade (Gómez-Herrera, 2013). Consequently, in accordance with results from previous research (Dunlevy, 1997; Melitz, 2008; Head and Mayer 2012) a larger recorded geographical distance between Canada and a trading partner is predicted to have a negative impact on the trade of cultural goods. The data used for this variable comes from the GeoDist data

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[7] See Appendix 4 – Stock flow method for further information

set available from the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII, 2011). There are various ways to measure the geographic distance between countries and no single opinion about how geographic distance should be calculated; the most commonly used methods of measurement are the distance between capital cities and the great circle formula (Gómez-Herrera, 2013). This research uses a distance variable that is calculated using the great circle formula (CEPII, 2011). Since Canada is such a large nation geographically with a largely spread out population it makes sense to use the calculation which uses the latitudes and longitudes of the most populated cities rather than that of the capital city.

GDP
The variable GDP is generally used as a proxy measurement of a country's economics size (Gómez-Herrera, 2013). Since the variable is recorder per year it is the total market value of all final goods and services produced within the year recorded. It is generally assumed that the wealthier a country is, the more open to international trade they will be (Head and Mayer, 2013). The yearly data for this variable was collected directly from the Worldbank website, with the exception of Taiwan. Taiwan is not listed as a separate country within for the world development indicators of the Worldbank, it is however also not included in the data for China (The World Bank, n.d.). Consequently, the data for Taiwan's GDP was retrieved from EconStatsTM. As a representation of a county's economic mass is part of the original gravity equation and used in the majority of previous research it is also used in this research.

GDP per capita
About half of the studies reviewed in this research use some form of a variable to represent the standard of living and per capita purchasing power. The most frequently used proxy for capital-labour intensities is GDP per capita (Gómez-Herrera). It is presumed that the higher the purchasing power of a country's inhabitants the larger the volume of trade will be (Qu and Han, 2011). The data is collected from the same sources as GDP, the Worldbank and EconStatsTM.

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Cultural distance

In addition to the spatial distance between countries, which is calculated with the variable geographic distance, Marvasti and Canterbury (2005) noted the importance of also accounting for the effect of a nonphysical distance. As this research focuses specifically on the trade of culture goods, a cultural sensitive industry, the variable of cultural distance is included in the model.

Cultural distance is used as an indication of the cultural differences between Canada and its trading partners. Previous research has found that the larger the cultural distances between Canada and its trading partners the more negatively trade flows will be influenced (Cyrus, 2012). This study uses data from Hofstede's cultural dimensions theory to derive a measurement of the cultural distance between countries. The four dimensions used in the research are: power distance, uncertainty avoidance, individualism versus collectivism, and masculinity versus femininity.[8]

For each country there are four values recorded, one for each cultural dimension. In order to derive a single value that represents the cultural distance between two nations a combined index of cultural distance must be used. By knowing the values of the four cultural dimensions for each country in the study it is possible to calculate the cultural distance. The research uses Kogut and Singh's (1998) index of cultural distance with the following formula:

$$CD_{jc} = \frac{\left\{ \sum_{i=1}^{4} \frac{(I_{ij} - I_{ic})^2}{V_i} \right\}}{4}$$

- CD_{jc} is the cultural distance between country j and country c (in this case Canada)
- I_{ij} is the cultural dimension of country j
- I_{ic} is the cultural dimension of country c

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[8] For a complete description of each of these cultural dimensions see Appendix 6

- V_i is the variance of index i

The data on cultural distance his available for free online from the Hofstede Centre. Initial data was compiled through a research by IBM of more than 70 countries that took place between 1967 and 1973 (Hofstede Center, n.d.). Since the early 70's Hofstede has updated the scores through research conducted in 2001 and 2010. The Hofstede Center (n.d.) states, "since culture only changes very slowly, the scores can be considered up to date". Consequently, it is not possible to provide changing score for cultural distance within this study; the variable is supposed to be constant for the studied period between 1996 and 2010.[9]

3.2.4 Dummy variables – shared official common language

Dummy variables are included in most models to capture a series of historical, geographic and trade factors that can influence trade. They are regarded as stable over time and are measured on a zero-one scale, one meaning that the variable is present; zero indicating that it is not. Commonly used dummy variables include: shared official common language, same coloniser, shared border and trade agreement.[10] In the early stages of this research it was planned to use the four previously mentioned dummy variables. However, after further exploration of the data set two obstacles were presented. Firstly, within the data of the countries studied collinearity between two or more variables was present, causing a singular matrix error. Ultimately, this was due to one or more overlaps of the dummy variables for countries such as the United Kingdom and France where the dummy variables coloniser and shared official common language both had values of one. Secondly, the number of regressors was too large for the number of observations being tests, ultimately leading to the error "insufficient number of observation". Consequently, this research only makes use of one dummy variable: shared official common language.

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[9] Cultural distance values and the calculated distance between Canada and its trading partners are presented in Appendix 5

[10] For an overview of commonly used dummy variables see Table 8

The variable of official common language shared between Canada and trading is recorded if both have either French or English as an official language. This was chosen as a variable because language ties can facilitate business relations and reduce transaction costs between trade partners. Furthermore, a shared language could also indicate past historical ties and cultural similarities. Past research has verified that a shared language can have a positive impact on trade between two nations (Dunlevy and Hutchinson, 1999; Hutchinson, 2002; Melitz, 2008; Qu and Han, 2011). Data on shared official common language was sourced from the "Distance" database of CEPII (Centre d'Etudes Prospectives et d'Informations Internationales).[11]

3.3 Data analysis – Construction of the regression equation

As mentioned in previous sections the gravity model, which is a multiple regression model, has been used in numerous past studies regarding international trade. According to Qu and Han (2011) it remains a common method due to three factors: "simple principles, available data and models easy to empirical study" (p. 12). Like many of the other studies this research uses an augmented version of the model with several explanatory variables. This study uses the following regression:

$$\ln imports_{ijt}$$
$$= a + b1 \ln gdp_{it} + b2 \ln gdp\_p_{it} + b3 \ln gdp_{jt}$$
$$+ b4 \ln gdp\_p_{jt} + b5 \ln geodist_{ij} + b6 \ln immstock_{ijt}$$
$$+ b7 \ln cultdist_{ij} + b8 d1lang_{ij} + \varepsilon$$

Where:

a is the constant; ε is the error term.
i represents Canada
j represents the trading partner countries included in this research
$imports$ represents the total imports of cultural goods from country j to country i (Canada) in year t.
gdp_{it} is the GDP of country i (Canada) in year t

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[11] The data collected for dummy variables can be found in Appendix 9

gdp_p_{it} is the GDP per capita of country I (Canada) in year t.

gdp_{jt} is the GDP of country j in year t

gdp_p_{jt} is the GDP per capita of country j in year t.

$geodist_{ij}$ is the physical distance between country i and country j.

$immstock_{ijt}$ is the number of first generation Canadians living in country i from country j at time t

$cultdist_{ij}$ is the calculation of cultural distance between country i and country j

$d1lang_{ij}$ is a dummy variable to indicate whether country i and j share an official common language.

The statistical package EViews 8.0 (Econometric Views) was used to run the augmented model using the OLS method. The data set for this analysis covers a period of 15 years (1996 to 2010) and a total of 225 observations. In addition to Canada the 15 countries included is this analysis are countries that have remained in the list of top 20 countries for imports of cultural goods to Canada, these countries are: China, France, the United Kingdom, Germany, Italy, Japan, Singapore, Spain, Mexico, Belgium, South Korea, Taiwan, Switzerland, India and Australia.

3.4 Reliability and validity

Within this research there are a few issues that can impact the reliability and validity of final results and conclusions. Specifically, reliability of the data used and validity of the countries used in the model to reflect a larger population.

All data used in this research is secondary data, which was collected by reliable institutions and organisations such as Statistics Canada, the Worldbank, the Hofstede Centre and the CEPII. It is important to note that some of the variables are based on data derived from samples and consequently might not reflect the complete picture. Specifically, the variable off immigration stock, which is collected every five years during the national census, is based on a 20% sample data. Furthermore, the data on immigration stock for the years between census years (1996, 2001, 2006 and 2011) are estimations. Both of these specificities could have an impact on the reliability of the data.

It is also worth mentioning that data for the variable imports of cultural goods is the sum of goods that have physically crossed the border. Statistics Canada (Statistics Canada, 2011b) states "technology has defeated the border to some extent for specialized goods such as news clips, television broadcasts (reducing shipments of film stock), and music samples (possibly reducing shipments of compact discs and other recorded media)" (p.12). Unfortunately, this means that at this present time the data available from Statistics Canada does not reflect the trade of electronic shipments, nor Internet downloads. Additionally, trade statistics were taken from two separate data releases from Statistics Canada where monetary values were adjusted to current dollars (current at the time of the publication's release). Consequently, the small monetary adjustments could affect the results derived especially in future studies, which aim to research a larger time frame. Furthermore, the variable of cultural distance remains constant during the 15-year period studies; data that reflect changes in cultural distance per year could potentially produce different results. Lastly, it is important to keep in mind that the empirical results are derived from tests including only 15 countries and Canada. Consequently, the results might not reflect the results of a larger population.

Chapter 4 – Results

This chapter presents the empirical results from four tests conducted using EViews 8.0 to run an augmented version of the gravity model of trade. As detailed in Chapter 1, the first hypothesis we want to test is whether immigration can stimulate the imports of culture goods to Canada because immigrants bring in their home country preferences for culture goods, ultimately increasing imports of culture goods. The first test uses all 15 countries included in this research. This is followed by a secondary test where we try to understand if there are some countries that dramatically decrease the R-squared. Furthermore, for the second and third hypotheses we decide to group the countries in 2 groups, L and N and test what are the immigrant stock effects on imports of culture goods within the groups. Group L is all countries (except the US) that share an official common language (French or English) with Canada, Group N are the rest that do not share an official common language. For these two tests the same model is used, with the elimination of the language dummy variable. The results of each test are reported below.

4.1 Regression results for all 15 countries

We put the culture goods trade panel data between Canada and all 15 countries into the model, and used OLS regression. In Table 11 we see that the R^2 obtained is 0.5699, this means that 56.99% of the variance of the dependent variable (culture goods imports) can be explained by the independent variables (GDP, GDP per capita, geographic distance, immigration stock, cultural distance and shared official common language). The first results show that the independent variables GDP and GDP per capita of Canada are both insignificant. The OLS regression results suggest that exporter country GDP and GDP per capita both have highly statistically significant positive effects on Canada's import of culture goods. As expected the independent variable of geographic distance has a negative effect on imports of culture goods, the coefficient reported is 0.287 and is statistically significant. The most interesting independent variable in this research is immigration stock, which has a coefficient of 0.512 and a P-value of 0.00. Indicating that immigration stock

has a positive effect on the import of cultural goods to Canada. Lastly, cultural distance and the dummy variable shared official common language have both have positive coefficients and are highly significant. It is important to note that in multiple regressions, the coefficients describe the effect of independent variables, if the effects of the other independent variables are held constant.

Table 10 - OLS regression results for all 15 countries

```
Dependent Variable: LNIMPORTS
Method: Panel Least Squares
Date: 06/03/14   Time: 19:01
Sample: 1996 2010
Periods included: 15
Cross-sections included: 15
Total panel (balanced) observations: 225
LNIMPORTS=C(1)+C(2)*LNGDPCA+C(3)*LNGDP_PCA+C(4)*LNGDP+
    C(5)*LNGDP_P+C(6)*LNGEODIST+C(7)*LNIMMSTOCK+C(8)
    *LNCULTDIST+C(9)*D1LANG
```

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-63.00620	75.96738	-0.829385	0.4078
C(2)	3.396135	4.768891	0.712144	0.4771
C(3)	-4.299414	5.398268	-0.796443	0.4266
C(4)	0.574879	0.083920	6.850335	0.0000
C(5)	0.429056	0.065400	6.560472	0.0000
C(6)	-0.287280	0.141777	-2.026274	0.0440
C(7)	0.511910	0.063546	8.055736	0.0000
C(8)	0.561783	0.073133	7.681617	0.0000
C(9)	0.832404	0.144044	5.778805	0.0000

R-squared	0.569900	Mean dependent var	9.909053
Adjusted R-squared	0.553970	S.D. dependent var	1.256718
S.E. of regression	0.839305	Akaike info criterion	2.526692
Sum squared resid	152.1574	Schwarz criterion	2.663336
Log likelihood	-275.2529	Hannan-Quinn criter.	2.581842
F-statistic	35.77610	Durbin-Watson stat	0.208748
Prob(F-statistic)	0.000000		

4.2 Regression results for 13 countries (excluding India and Australia)

In addition to running the model on all 15 countries we decided to try to understand if there were some specific countries that dramatically decreased the R-square. Ultimately, we found that India and Australia, the countries with the smallest overall exports of culture goods to Canada over the 15-year period studied, decrease the R-square considerably. Consequently, we ran a regression analysis with the data from 13 countries (excluding India and Australia). The regression results are visible in Table 12. In this test the R^2 obtained is significantly higher with a value of 0.8236.

Ultimately this means that the model can explain 82.36% of the variance of the dependent variable culture goods imports when tested with 13 countries instead of all 15. This means that the reduced data set fits the regression model well and has a rather good capability to predict. Similarly to the above discussed regression results with all 15 countries, the independent variables for Canada's GDP and GDP per capita both present insignificant results. Additionally, while exporter country's GDP is positively correlated, GDP per capita is negatively correlated, and both are significant. Interestingly geographic distance is now positively correlated; this is contrary to expected results. Furthermore, immigration stock and shared official common language are both positively correlated and significant. Lastly, the independent variable of cultural distance produces insignificant results.

Table 11 - OLS regression results for 13 countries (excluding India and Australia)

```
Dependent Variable: LNIMPORTS
Method: Panel Least Squares
Date: 06/03/14   Time: 19:13
Sample: 1996 2010
Periods included: 15
Cross-sections included: 13
Total panel (balanced) observations: 195
LNIMPORTS=C(1)+C(2)*LNGDPCA+C(3)*LNGDP_PCA+C(4)*LNGDP+
    C(5)*LNGDP_P+C(6)*LNGEODIST+C(7)*LNIMMSTOCK+C(8)
    *LNCULTDIST+C(9)*D1LANG
```

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-72.67999	49.15687	-1.478532	0.1410
C(2)	3.513425	3.084868	1.138923	0.2562
C(3)	-3.687811	3.492005	-1.056073	0.2923
C(4)	0.842158	0.053564	15.72261	0.0000
C(5)	-0.642616	0.070377	-9.131091	0.0000
C(6)	0.473367	0.111979	4.227301	0.0000
C(7)	0.201471	0.050255	4.009008	0.0001
C(8)	-0.055981	0.077252	-0.724656	0.4696
C(9)	1.717264	0.097777	17.56315	0.0000

R-squared	0.823587	Mean dependent var	10.14369
Adjusted R-squared	0.815999	S.D. dependent var	1.178330
S.E. of regression	0.505448	Akaike info criterion	1.518311
Sum squared resid	47.51882	Schwarz criterion	1.669372
Log likelihood	-139.0353	Hannan-Quinn criter.	1.579474
F-statistic	108.5431	Durbin-Watson stat	0.484205
Prob(F-statistic)	0.000000		

4.3 Regression results for countries that share an official common language with Canada

As mentioned above the second hypothesis is tested using a group of countries that

share an official common language, either French or English, with Canada. This group is labelled as group L and includes: France, UK, Singapore, Belgium, Switzerland, India and Australia. For this regression analysis the model fits the data extremely well with a reported R^2 0.9461, this tells us that 94.61% of the variance of the dependent variable imports of culture goods to Canada can be explained by the independent variables used in the model. Similarly to the first test, results in Table 13 show that the only two variables that produce insignificant results are the GDP and GDP per capita of Canada. All other regression results for the independent variables show positive correlations with the imports of culture goods with a high level of significance.

Table 12 - OLS regression results for countries that share an official common language with Canada

```
Dependent Variable: LNIMPORTS
Method: Panel Least Squares
Date: 06/03/14   Time: 19:32
Sample: 1996 2010
Periods included: 15
Cross-sections included: 7
Total panel (balanced) observations: 105
LNIMPORTS=C(1)+C(2)*LNGDPCA+C(3)*LNGDP_PCA+C(4)*LNGDP+
    C(5)*LNGDP_P+C(6)*LNGEODIST+C(7)*LNIMMSTOCK+C(8)
    *LNCULTDIST
```

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-68.50512	46.87801	-1.461349	0.1472
C(2)	2.741599	2.940216	0.932448	0.3534
C(3)	-4.723999	3.330458	-1.418423	0.1593
C(4)	0.873587	0.078322	11.15380	0.0000
C(5)	1.141766	0.046380	24.61767	0.0000
C(6)	0.966462	0.124593	7.756965	0.0000
C(7)	0.730435	0.056255	12.98426	0.0000
C(8)	0.947577	0.041472	22.84857	0.0000

R-squared	0.946093	Mean dependent var	9.802878
Adjusted R-squared	0.942203	S.D. dependent var	1.469785
S.E. of regression	0.353352	Akaike info criterion	0.830427
Sum squared resid	12.11118	Schwarz criterion	1.032633
Log likelihood	-35.59742	Hannan-Quinn criter.	0.912365
F-statistic	243.1991	Durbin-Watson stat	0.836120
Prob(F-statistic)	0.000000		

4.4 Regression results for countries that do not share an official common language with Canada

The group of countries that do not share an official common language with Canada is used to test the third hypothesis. This group is labelled as group N and includes:

China, Germany, Italy, Japan, Spain, Mexico, South Korea and Taiwan. The regression results from this final test show an R^2 of 0.8809, telling us that the independent variables in the regression can explain at least 88.09% of the changes in the dependent variable. Firstly, it is important to note that like in all previous tests conducted in this research the GDP and GDP per capita of Canada produce insignificant results. While GDP of exporter country correlates positively while GDP per capital correlates negatively, both are significant. Interestingly, the most important variable in this research, immigration stock, also reports insignificant results for this test. As expected cultural distance negatively correlates with imports of culture goods with a high significance level. However, contrary to expectation geographic distance has a significant positive correlation.

Table 13 - OLS regression results for countries that do not share an official common language with Canada

```
Dependent Variable: LNIMPORTS
Method: Panel Least Squares
Date: 06/03/14   Time: 20:29
Sample: 1996 2010
Periods included: 15
Cross-sections included: 8
Total panel (balanced) observations: 120
LNIMPORTS=C(1)+C(2)*LNGDPCA+C(3)*LNGDP_PCA+C(4)*LNGDP+
    C(5)*LNGDP_P+C(6)*LNGEODIST+C(7)*LNIMMSTOCK+C(8)
    *LNCULTDIST
```

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-113.4264	45.57489	-2.488792	0.0143
C(2)	6.186410	2.861039	2.162295	0.0327
C(3)	-6.232107	3.236454	-1.925598	0.0567
C(4)	0.754121	0.044926	16.78601	0.0000
C(5)	-0.869580	0.055842	-15.57216	0.0000
C(6)	0.516960	0.097575	5.298094	0.0000
C(7)	0.007111	0.045633	0.155829	0.8764
C(8)	-0.596129	0.074146	-8.039959	0.0000

R-squared	0.880872	Mean dependent var	10.00196
Adjusted R-squared	0.873427	S.D. dependent var	1.032598
S.E. of regression	0.367369	Akaike info criterion	0.899439
Sum squared resid	15.11549	Schwarz criterion	1.085272
Log likelihood	-45.96634	Hannan-Quinn criter.	0.974907
F-statistic	118.3097	Durbin-Watson stat	0.847027
Prob(F-statistic)	0.000000		

Chapter 5 – Conclusion and recommendations

5.1 General discussion

Following the presentation of estimation results this section discusses the results of the four tests according to the theoretical background of the gravity model and previous research. Referring back to the simplest form of the gravity model it is expected that the variables that act as proxies for the economic mass have a positive effect on trade flows. The empirical regression results suggest that in all tests that Canada's GDP and GDP per capita are insignificant to predicting the import flow of cultural goods. This is interesting because this study is specifically focusing on imports that could reflect national consumption and purchasing power. Nevertheless in this case they are not considered as significant variables. Alternatively, GDP of the export countries is positively correlated with imports and is highly significant. Suggesting that the economic masses of the export countries are an important determinant of the flows of imported cultural goods to Canada. Results for GDP per capita were all significant however they had mixed effects depending on the data set used.

According to theory, the increasing geographic distance is expected to have a negative impact on trade as a result of increases in transport and trade costs. In this study, geographic distance was negatively correlated in the regression analysis using all 15 countries with a significant P-value however; the three other tests using smaller data groups produced significant positive correlations. As for cultural distance it is also expected to have a negative correlation with trade. Meaning that a larger the cultural distance is expected to impact trade negatively. The empirical results are mixed, showing an unexpected positive correlation for the test of all 15 countries. Theses mixed results that do no always follow expected outcomes reflect the unique characteristics of cultural trade.

Furthermore, having a shared common official language is likely to have a trade enhancing effect. Both tests that included this dummy variable produced the

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expected results that a shared common official language has significant positive correlation with the imports of cultural goods. Considering now the most important variable for this research, immigration stock, the coefficients show a positive correlation between immigration stock and the imports of cultural goods when significant.

Table 14 - Regression estimation results

Variables	All 15 countries		13 countries (no India and Australia)		Countries with a shared official language		Countries with no shared official common language	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Constant	-63.00620	0.4078	-72.67999	0.1410	-68.50512	0.1472	-113.4264	0.0143
lnGDPCA	3.396135	0.4771	3.513425	0.2562	2.741599	0.3534	6.186410	0.0327
lnGDP_PCA	-4.299414	0.4266	-3.687811	0.2923	-4.723999	0.1593	-6.232107	0.0567
lnGDP	0.574879	0.0000	0.842158	0.0000	0.873587	0.0000	0.754121	0.0000
lnGDP_P	0.429056	0.0000	-0.642616	0.0000	1.141766	0.0000	-0.869580	0.0000
lnGEODIST	-0.287280	0.0440	0.473367	0.0000	0.966462	0.0000	0.516960	0.0000
lnIMMSTOCK	0.511910	0.0000	0.201471	0.0001	0.730435	0.0000	0.007111	0.8764
lnCULTDIST	0.561783	0.0000	-0.055981	0.4696	0.947577	0.0000	-0.596129	0.0000
d1lang	0.832404	0.0000	1.717264	0.0000	----	----	----	----
F-statistic	P-value	0.0000	P-value	0.0000	P-value	0.0000	P-value	0.0000
Goodness of fit	R-squared	0.5699	R-squared	0.8236	R-squared	0.9460	R-squared	0.8808

5.2 Conclusions

The empirical analysis provides results that create a first step into the research of the relationship between immigration and the trade of cultural goods. It seems that countries demographics have a significant effect on the import of cultural goods. Results show that as predicted immigration stock is positively correlated with the imports of cultural goods to Canada and highly significant. This means that the demand for cultural goods in a country can be dependent largely on the immigration statistics. At least, this was the outcome in the context of Canada. Moreover, further conclusions could be derived from these results when looking at immigration in

detail. Canada is a country with a relatively large immigrant population, which would suggest that when the imports are positively correlated with the country of foreign population, it could be concluded that Canada has not only a vibrant multicultural population but also a varied demand for cultural goods as a result. Naturally, this is a derived conclusion based on the results we have in this study.

Finally, coming back specifically to this study, the most important conclusion could be that a country can derive conclusions of its consumption of cultural goods based on the immigration statistics. Increasing immigration leads also to increasing cultural imports. Acknowledging this positive correlation could play important role in future decisions, especially relating to funding and policies of nationally produced cultural goods as well as trade, depending on the intentions and goals that Canada intends to reach.

5.3 Limitations

As highlighted by Towse (2011) the biggest limitation involved with studies focusing on the trade of cultural good is the difficulty of obtaining exact measures of actual trade. Therefore, the exact amount of pirated goods makes it difficult to get exact numbers on cultural trade flow. Furthermore, as previously discussed the import levels only calculate trade that has physically crossed the border, which means that digitized content is not counted. Consequently, the trade numbers are probably underestimated and it is important to keep in mind that the above estimations may not reflect the complete picture. Additionally, in regards to data limitations the estimation of immigration between census years might not reflect the reality 100% due to the unavailability of precise data.

On a personal level a limitation to for this research is my basic level of econometric analysis and consequently simple evaluation of the results. Future research by more knowledgeable econometricians or a researcher with more time to learn could

venture into comparing more complex models with a deeper understanding of the results.

5.4 Recommendations for further research

In this research we presented the first step in empirical evidence of the relationship between immigration and trade of cultural goods. The data set used in regression analysis for this research included Canada and 15 of its trading partners from 1996 to 2010, while Canada's largest trading partner the United States was omitted. Including additional trading partners and expanding the period studied should enrich the data set, this would lead to more accurate future results in future research. The expansion of the data set would also allow for additional variables to be included in the model such as common border, colonial links and regional trade agreements. Furthermore, future research could also include regression analysis on exports and bilateral trade of cultural goods in addition to imports. Additionally, a future study could segment the trade of culture goods into groups such as film and video, sound recording and music, visual arts and writing and published works and test the trade levels of each group against several independent variables using the gravity model. Lastly, a comparison between various gravity model methods, both linear and non-linear could be further explored. With the expansion of the data issues such as zero trade flows will most likely occur resulting in the need to test non-linear models. In conclusion the possibilities for future research in the trade of cultural goods and immigration are almost endless. This research is only the first step in the analysis of the topic with plenty of more interesting venues of interesting research ahead!

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        culture/studies/final- study.pdf

Appendices

Appendix 1 – Creative industries classification systems by model

Classification systems for the creative industries derived from different models			
UK DSMS Model	**Symbolic texts model**	**Concentric circles model**	**WIPO copyright model**
Advertising Architecture Art and antiques market Crafts Design Fashion Film and video Music Performing arts Publishing Software Television and radio Video and computer games	**Core cultural industries** Advertising Film Internet Music Publishing Television and radio Video and computer games **Peripheral cultural industries** Creative arts **Borderline cultural industries** Consumer electronics Fashion Software Sport	**Core creative arts** Literature Music Performing arts Visual arts **Other core cultural industries** Film Museums and libraries **Wider cultural industries** Heritage services Publishing Sound recording Television and radio Video and computer games **Related industries** Advertising Architecture Design Fashion	Publishing Newspapers and periodicals Film and video Sound recording music publishing Printed music Visual arts Original art Architecture Advertising Heritage Photography

Source: UNCTAD. (2010). *Creative Economy Report 2010.* Retrieved from
http://unctad.org/en/Docs/ditctab20103_en.pdf

The below text is a directly quoted from UNCTAD (2010).

UK DCMS model. This model derives from the impetus in the late 1990s in the United Kingdom to reposition the British economy as an economy driven by creativity and innovation in a globally competitive world. "Creative industries" are defined as those requiring creativity, skill and talent, with potential for wealth and job creation through the exploitation of their intellectual property (DCMS, 2001). Virtually all of the 13 industries included in the DCMS classification could be seen as "cultural" in the terms defined earlier; however, the Government of the United Kingdom has preferred to use the term "creative" industries to describe this grouping, apparently to sidestep possible high-culture connotations of the word

"cultural".

Symbolic texts model. This model is typical of the approach to the cultural industries arising from the critical-cultural- studies tradition as it exists in Europe and especially the United Kingdom (Hesmondhalgh, 2002). This approach sees the "high" or "serious" arts as the province of the social and political establishment and therefore focuses attention instead on popular culture. The processes by which the culture of a society is formed and transmitted are portrayed in this model via the industrial production, dissemination and consumption of symbolic texts or messages, which are conveyed by means of various media such as film, broadcasting and the press.

Concentric circles model. This model is based on the proposition that it is the cultural value of cultural goods that gives these industries their most distinguishing characteristic. Thus the more pronounced the cultural content of a particular good or service, the stronger is the claim for inclusion of the industry producing it (Throsby, 2001). The model asserts that creative ideas originate in the core creative arts in the form of sound, text and image and that these ideas and influences diffuse outwards through a series of layers or "concentric circles", with the proportion of cultural to commercial content decreasing as one moves further outwards from the centre. This model has been the basis for classifying the creative industries in Europe in the recent study prepared for the European Commission (KEA European Affairs, 2006).

WIPO copyright model. This model is based on industries involved directly or indirectly in the creation, manufacture, production, broadcast and distribution of copyrighted works (World Intellectual Property Organization, 2003). The focus is thus on intellectual property as the embodiment of the creativity that has gone into the making of the goods and services included in the classification. A distinction is made between industries that actually produce the intellectual property and those that are necessary to convey the goods and services to the consumer. A further group of "partial" copyright industries comprises those where intellectual property is only a minor part of their operation.

Appendix 2 – Conceptual components of the framework for culture statistics

Directly quoted from source:
Statistics Canada. (2011b). Generation status: Canadian-born children of immigrants. Retrieved from http://www12.statcan.gc.ca/nhs-enm/2011/as- sa/99-010-x/99-010-x2011003_2-eng.cfm

Core culture sub-domains produce goods and services that are the result of creative artistic activity and whose main purpose is often the transmission of an intellectual or culture concept. By illustration, the Book publishing core sub-domain includes the creation of a written manuscript, the work of editors and publishers, management of copyright, printing and distribution of books, and the use of books by readers (whether purchased from retail, or borrowed from a library).

Ancillary culture sub-domains produce goods and services that are the result of creative artistic activity (e.g. designs, architectural plans), but their primary purpose is not the transmission of an intellectual or culture concept. The final products, which have primarily a practical purpose (e.g. a landscape, a building, an advertisement), are not covered by the Framework definition of culture.

Related domains, while linked to the broader definition of culture in society, have no culture components according to the criteria outlined in the Framework. Related domains are not included in the measurement of culture but are described in this framework in recognition of their strong links with culture in many Canadian jurisdictions.

Transversal domains – A transversal domain supports culture and enables the creative chain to function. The transversal (cross-cutting) domains, which include **Education and Training,** and **Governance, Funding and Professional Support**, produce goods and services that support all core and ancillary culture sub-domains. The industries, products and occupations in the transversal domains are not fundamentally cultural but are an integral part of culture because the culture domains could not exist without them. Alternatively, industries, products and occupations that make up the transversal domains would not be present without the existence of culture.

Infrastructure domains consist of groupings of goods and services that support the use and consumption of culture content. These domains are not essentially part of culture but provide necessary supports for its use (e.g. **Mediating Products** and **Physical Infrastructure**).

Appendix 3 – Data sources

Variable	Explanation	Unit	Source
Imports of culture goods	Data on trade in culture goods for Canada	Thousands of dollars / Canadian current dollars	Statistics Canada
GDP	The sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products	US current dollars	Worldbank & EconStatTM
GDP per capita	Gross domestic product divided by midyear population	US current dollars	Worldbank & EconStatTM
Immigration stock	Population of Canada by place of birth	Number of people	Cencus Canada 1996, 2001, 2006, 2011
Geographic distance	Latitudes, longitudes and populations data of main agglomerations are used to calculate the weighted distance between nations.	Kilometres	CEPII
Cultural distance	A single value is derived from a combined index that uses the values for the four cultural dimensions of Canada and its trading partner.	Values relate to behaviour, using a structure derived from factor analysis	Hofstede Centre
Shared official common language	Official or national languages spoken by at least 20% of the population of the country (and spoken in another country of the world).	Value of zero when no shared language is present, value of one when a official shared language is present	CEPII

Note: only includes variables used in research
Source: own elaboration

Appendix 4 – Stock flow method

The stock flow method is used to estimate the immigrant stocks between census years (Girma and Yu, 2002; Head and Ries, 1998).

The formula is as follows:

$$S_{it} = (1 - \delta)S_{it-1} + F_{it}$$

- *i* and *j* represent the country of origin and year, respectively
- S represents the immigrant stocks
- F represents the immigrant inflows
- δ is the attrition rate due to people leaving the country and death (remains a constant, usually 1%)

Source:

Girma, S., & Yu, Z. (2002). The link between immigration and trade: Evidence from the United Kingdom. *Weltwirtschaftliches Archiv, 138*(1), 115-130. Doi:10.1007/BF02707326

Head, K., & Ries, J. (1998). Immigration and trade creation: Econometric evidence from Canada. *The Canadian Journal of Economics / Revue Canadienne d'Economique, 31*(1), 47-62.

Appendix 5 – Cultural distance between Canada and researched trading partners

The cultural distance between Canada and the countries included in this research, calculated using Kogut and Singh's (1998) index of cultural distance.

Country	Cultural distance to Canada	Dimensions of national culture			
		Power Distance	Individualism	Masculinity versus its opposite, femininity	Uncertainty avoidance
Canada		**39**	**80**	**52**	**48**
Australia	0.1278385	36	90	61	51
Belgium	1.5485908	65	75	54	94
China	3.2060232	80	20	66	30
France	1.3729142	68	71	43	86
Germany	0.4115628	35	67	66	65
India	1.4234617	77	48	56	40
Italy	0.7313945	50	76	70	75
Japan	3.2675780	54	46	95	92
Mexico	3.1961694	81	30	69	82
Singapore	3.4861552	74	20	48	8
South Korea	3.1597419	60	18	39	85
Spain	1.4906680	57	51	42	86
Switzerland	0.4042608	34	68	70	58
Taiwan	2.5827981	58	17	45	69
United Kingdom	0.3003516	35	89	66	35
United States*	0.1468446	40	91	62	46

Note: * The United States of America is not included in this research
Source: Own elaboration, data sourced from Hofstede Center. (n.d.). Retrieved from http://geert-hofstede.com/faq.html

Appendix 6 – Hofstede's cultural dimensions

Source: quoted directly from [Dimensions of national Cultures]. (n.d). Retrieved from http://www.geerthofstede.nl/dimensions-of-national-cultures

"The values that distinguished countries (rather than individuals) from each other grouped themselves statistically into four clusters. They dealt with four anthropological problem areas that different national societies handle differently: ways of coping with inequality, ways of coping with uncertainty, the relationship of the individual with her or his primary group, and the emotional implications of having been born as a girl or as a boy. These became the Hofstede dimensions of national culture: Power Distance, Uncertainty Avoidance, Individualism versus Collectivism, and Masculinity versus Femininity.

Power Distance Power distance is the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally. This represents inequality (more versus less), but defined from below, not from above. It suggests that a society's level of inequality is endorsed by the followers as much as by the leaders. Power and inequality, of course, are extremely fundamental facts of any society and anybody with some international experience will be aware that "all societies are unequal, but some are more unequal than others".

Uncertainty avoidance 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. Unstructured situations are novel, unknown, surprising, different from usual. Uncertainty avoiding cultures try to minimize the possibility of such situations by strict laws and rules, safety and security measures, and on the philosophical and religious level by a belief in absolute Truth: "there can only be one Truth and we have it". People in uncertainty avoiding countries are also more emotional, and motivated by inner nervous energy. The opposite type, uncertainty accepting cultures, are more tolerant of opinions different from what they are used to; they try to have as few rules as possible, and on the philosophical and religious level they are relativist and allow many currents to flow side by side. People within these cultures are more phlegmatic and contemplative, and not expected by their environment to express emotions.

Individualism on the one side versus its opposite, collectivism, is the degree to which individuals are integrated into groups. On the individualist side we find societies in which the ties between individuals are loose: everyone is expected to look after her/himself and her/his immediate family. On the collectivist side, we find societies in which people from birth onwards are integrated into strong, cohesive in-groups, often extended families (with uncles, aunts and grandparents) which continue protecting them in exchange for unquestioning loyalty. The word collectivism in this sense has no political meaning: it refers to the group, not to the

state. Again, the issue addressed by this dimension is an extremely fundamental one, regarding all societies in the world.

Masculinity versus its opposite, femininity, refers to the distribution of emotional roles between the genders which is another fundamental issue for any society to which a range of solutions are found. The IBM studies revealed that (a) women's values differ less among societies than men's values; (b) men's values from one country to another contain a dimension from very assertive and competitive and maximally different from women's values on the one side, to modest and caring and similar to women's values on the other. The assertive pole has been called masculine and the modest, caring pole feminine. The women in feminine countries have the same modest, caring values as the men; in the masculine countries they are more assertive and more competitive, but not as much as the men, so that these countries show a gap between men's values and women's values."

Appendix 7 – Total immigration stock in Canada per Census year

Total Immigration to Canada per country (census years)				
Country	1996	2001	2006	2011
United States*	244,690	258,420	278,140	316,165
China	231,050	345,520	493,775	585,555
France	62,600	75,280	88,625	112,575
UK	655,535	614,610	592,355	559,455
Japan	33,545	26,255	30,085	33,330
Germany	181,645	177,675	176,040	171,870
Italy	332,110	299,040	299,965	260,250
Switzerland	19,310	20,820	20,925	20,790
Singapore	7,430	9,635	10,305	12,190
Mexico	27,485	42,740	61,470	86,175
Belgium	21,800	20,405	20,900	21,290
South Korea	45,895	82,745	119,235	132,940
India	235,935	322,215	455,260	572,435
Taiwan	49,290	70,615	68,225	69,550
Australia	13,465	18,910	21,715	25,365
Spain	9,715	10,655	10,790	10,080
India	235,935	322,215	455,260	572,435
Hong Kong*	241,095	218,815	220,095	209,775

Note:* Countries not used in research

Sources:
Statistics Canada. (2011). Total immigrants and period of immigration. Retrieved from
http://www12.statcan.gc.ca/nhs-enm/2011/dp-pd/dt-td/Rp-
eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID
=105411&PRID=0&PTYPE=105277&S=0&SHOWALL=0&SUB=0&Temporal=2013&THEME=95&VID
=0&VNAMEE=&VNAMEF=

Statistics Canada. (2006). Immigrant status and period of immigration and Place of Birth of
Respondent. Retrieved from http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/tbt/Rp-
eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID
=89424&PRID=0&PTYPE=88971,97154&S=0&SHOWALL=0&SUB=723&Temporal=2006&THEME=7
2&VID=0&VNAMEE=&VNAMEF=

Statistics Canada. (2001). Immigrant status and period of immigration and Place of Birth of
Respondent. Retrieved from
http://www12.statcan.gc.ca/english/census01/products/standard/themes/Rp-
eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID
=62124&PRID=0&PTYPE=55430,53293,55440,55496,71090&S=0&SHOWALL=0&SUB=0&Temporal
=2001&THEME=43&VID=0&VNAMEE=&VNAMEF=

CHASS Canadian Census analyser. (2014). Immigrant status and period of immigration and Place of Birth of Respondent. Retrieved from http://dc1.chass.utoronto.ca/cgi-bin/census/1996/displayCensusCD.cgi?c=cip

Appendix 8 – Geographic distances from Canada

Geographic distance from Canada			
Country	Dist	distcap	distw
United States	548.3946	737.0425	2079.297
China	10598.32	10458.92	10428.4
France	6004.645	5653.213	6454.269
UK	5715.747	5364.799	5849.772
Japan	10358.49	10330.62	9756.434
Germany	6160.559	6134.981	6541.714
Italy	7089.198	6737.826	7269.783
Hong Kong	12568.15	12434.39	11927.54
Switzerland	6440.717	6089.288	6711.412
Singapore	15022.44	14835.63	14394.1
Mexico	3267.29	3609.244	3442.775
Belgium	6031.534	5680.899	6267.681
South Korea	10617.7	10528.16	10032.81
Netherlands	5988.239	5638.61	6237.395
Taiwan	12090.98	11994.6	11526.46
Thailand	13647.12	13439.07	13088.9
India	11643.63	11349.87	12051.14
Malaysia	14825.78	14623.82	14119.47
Ireland	5256.649	4905.859	5498.237
Australia	15586.66	16123	15391.07
Indonesia	15815.39	15654.81	14951.85
Spain	6040.498	5695.349	6519.997
Czech Republic	6687.748	6339.002	6944.075

*Countries not used in research

dist: great circle formula, which uses latitudes and longitudes of the most important cities/agglomerations (in terms of population)
distcap: uses the geographic coordinates of the capital cities
distw: distance weighted – uses latitudes, longitudes and populations data of main agglomerations of all countries

Source – CEPII. (2011). Notes on CEPII's distances measures (GeoDist). Retrieved from http://www.cepii.fr/anglaisgraph/bdd/distances.htm

Appendix 9 – Dummy variable data for Canada and trading partners

A value of zero indicates no relationship; a value of one indicates that the relationship is present.

Trading partner country	Shared continent*	Shared official common language	Colony*
Australia	0	1	0
Belgium	0	1	0
Switzerland	0	1	0
China	0	0	0
Germany	0	0	0
Spain	0	0	0
France	0	1	1
United Kingdom	0	1	1
Hong Kong*	0	1	0
Indonesia*	0	0	0
India	0	1	0
Ireland*	0	1	0
Italy	0	0	0
Japan	0	0	0
Korea	0	0	0
Mexico	1	0	0
Malaysia*	0	0	0
Netherlands*	0	0	0
Philippines*	0	1	0
Singapore	0	1	0
Taiwan	0	0	0
USA*	1	1	0

Note: *indicates variables and countries not used in this study
Source: CEPII (2011)

Appendix 10 – Past research – data and estimation methods

Article	Data	Estimation methods	Dependent variable
Eichengreen & Irwin (1998)	Pre and post war data 1928, 1938, 1949, 1954, 1964	OLS Logs, OLS Scaled Tobit regression	Bilateral trade
Head & Ries (1998)	Canadian trade data with 136 partners , 1980 - 1992	Tobit regression	Exports and Imports
Dunlevy & Hutchinson (1999)	American trade data with 17 partners at five year intervals, 1870 – 1910	OLS logs (suspected but not stated in text)	Imports
Schulze (1999)	154 countries and autonomous regions, 1990 – 1994	OLS logs (suspected but not stated in text)	Trade
Girma & Yu (2002)	trade data from the United Kingdom with 48 trading partners, 1981-1993	OLS logs, Box-Cox method	Export and imports
Hutchinson (2002)	United States bilateral trade with 33 countries, 1995	OLS logs, OLS fixed effects	Exports and imports
Brun, Carrère, Guillaumont & de Melo (2005)	130 countries, 1962 – 1996	GLS (generalized least squares) with various equations	Bilateral trade
Marvasti and Canterbery (2005)	United States data with 33 countries, 1991 - 1995	Gravity Iceburg model, Poisson model for TBI, Poisson model for TBN	Exports
Santos Silva and Tenreyro (2006)	136 countries; 1990	PPML, NLS, GPML, OLS, ET - tobit, OLS > 0.5) OLS (y+1)	Trade
White (2007)*	United States and 73 trading partners, 1980 - 2001	OLS logs (suspected but not stated in text)	Bilateral trade
Kavallari, Maas & Schmitz (2008)*	Germany and 14 trading partners, 1995-2006	Random Effects (PCSE), Random Effects (GLS)	Bilateral trade
Casi (2009)*	27 countries, 1997-2006	Random effects model (GLS)	Bilateral trade, imports, exports
Disdier et al. (2009)	Countries in BACI database, 3 years moving average data between 1989 and 2005.	Fixed effects, PPML	Bilateral trade (cultural goods)

Qu & Han (2011)*	China and 9 other countries and regions, 1992 - 2008	Mixed regression, random effect regression	Bilateral trade (cultural goods)
Cyrus (2012)	Uses 97 countries in five waves: 1981-1984, 1989-1993, 1994-1998, 1999-2004, and 2005-2008 (from The World Values Survey).	OLS logs, IV-GMM	Bilateral trade
Faustino & Peixoto (2013)	Portugal and each European partner-country (EU-15), 1995-2003	OLS logs	Exports and Imports
Park (2014)	Korean export of broadcasting contents to 11 Asian countries, 2001 to 2011	OLS logs, fixed effect, PPML	Exports (cultural goods)

Source: own elaboration

Appendix 11 – Permanent residents to Canada by country of birth

1981 Top 10 countries		% of total	1986 Top 10 countries		% of total	1991 Top 10 countries		% of total	1996 Top 10 countries		% of total
UK and Colonies	18,915	15%	India	7,450	7%	China	20,975	9%	China	25,000	11%
China	9,785	8%	Vietnam	6,220	6%	Hong Kong	16,580	7%	Hong Kong	24,135	11%
India	9,410	7%	USA	6,095	6%	India	15,800	7%	India	23,375	10%
USA	8,700	7%	Poland	5,275	5%	Poland	14,305	6%	Philippines	13,625	6%
Vietnam	8,165	6%	Jamaica	4,670	5%	Philippines	12,730	5%	Taiwan	12,745	6%
Philippines	5,980	5%	Philippines	4,605	5%	Lebanon	12,225	5%	Pakistan	8,570	4%
Poland	4,095	3%	Hong Kong	4,300	4%	Vietnam	8,890	4%	Sri Lanka	6,450	3%
Hong Kong	4,040	3%	UK and Colonies	4,200	4%	El Salvador	7,165	3%	Iran	6,250	3%
Haiti	3,700	3%	China	4,170	4%	Sri Lanka	7,160	3%	Yugoslavia	5,300	2%
Guyana	3,020	2%	Guyana	3,980	4%	Iran	6,680	3%	USA	5,060	2%
Other countries	52,830	41%	Other countries	48,390	49%	Other countries	110,300	47%	Other countries	95,560	42%
Total Immigration to Canada	128,640	100%	Total Immigration to Canada	99,355	100%	Total Immigration to Canada	232,810	100%	Total Immigration to Canada	226,070	100%

2001 Top 10 countries		% of total	2006 Top 10 countries		% of total	2011 Top 10 countries		% of total
China	42,250	17%	China	33,830	13%	Philippines	38,300	15%
India	30,800	12%	India	33,715	13%	China	31,035	12%
Pakistan	15,975	6%	Philippines	18,320	7%	India	33,510	13%
Philippines	13,625	5%	Pakistan	12,440	5%	Iran	7,545	3%
Republic of Korea	9,545	4%	USA	8,890	3%	USA	7,575	3%
Iran	6,160	2%	Iran	7,595	3%	Pakistan	6,315	3%
Sri Lanka	5,845	2%	Colombia	6,555	2%	Haiti	4,790	2%
Romania	5,720	2%	Republic of Korea	6,200	2%	Iraq	5,780	2%
USA	5,285	2%	UK and Colonies	5,930	2%	UK and Colonies	7,635	3%
Russia	5,160	2%	Algeria	4,805	2%	Colombia	5,240	2%
Total Immigration to Canada	250,635	100%	Total Immigration to Canada	262,240	100%	Total Immigration to Canada	248,750	100%

Source – Own elaboration data sourced from Statistics Canada. (2013). Permanent Residents, Foreign Students, Temporary Foreign Workers by Country of Last Permanent Residence, Country of Citizenship, and Country of Birth, 1980-September 2013 [Data file and code book]. Retrieved by email from Immigration Canada – Citizenship and Immigration, Statistics and Cost Recovery.

Appendix 12 – Cultural goods imports – Top consistent trading partners 1996 – 2010

Thousands of dollars

Imports	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
United States*	2,625,742	2,865,474	3,003,638	2,993,441	3,024,673	3,103,894	3,204,407	3,151,316	3,058,380	3,068,910
China	78,273	92,107	109,697	137,125	165,975	186,365	243,473	226,050	235,771	238,031
France	126,779	137,790	151,593	156,965	162,590	159,145	170,553	178,811	189,652	231,439
UK	117,155	146,799	150,271	146,551	161,516	169,735	169,395	189,130	141,403	150,804
Germany	21,385	22,526	32,763	31,426	33,315	38,306	34,104	36,641	32,723	35,682
Italy	22,943	21,561	24,254	24,574	28,169	23,541	34,649	45,441	31,397	33,378
Japan	18,653	19,894	20,283	20,087	21,685	19,191	17,032	22,137	32,999	35,485
Singapore	11,678	9,984	12,411	14,324	12,002	11,512	17,341	18,211	19,279	18,919
Spain	3,876	6,578	11,815	13,278	16,317	12,782	17,085	18,211	21,298	43,044
Mexico	3,218	4,533	9,338	8,087	6,115	6,458	13,416	16,079	18,652	15,231
Belgium	9,065	6,301	8,225	11,248	8,963	10,710	13,591	13,992	12,976	14,818
South Korea	5,477	12,238	5,167	6,768	7,723	8,842	10,808	10,785	7,931	8,730
Taiwan	6,566	6,087	8,052	12,323	8,195	8,066	8,224	7,494	7,036	6,891
Switzerland	5,154	4,075	6,525	12,943	6,338	6,255	5,912	7,527	9,337	19,969
India	1,676	2,265	3,100	3,318	3,099	3,617	4,155	5,258	6,348	6,239
Australia	2,597	2,786	2,825	4,419	4,249	4,315	4,117	6,424	4,317	4,937
Rest of the world	38,695	44,202	48,886	51,316	63,389	87,285	64,891	148,352	144,376	152,509
Total	3,098,932	3,405,200	3,608,843	3,648,193	3,729,805	3,855,554	4,028,850	4,100,733	3,973,875	4,085,016

	2006	2007	2008	2009	2010	Ave. 15 years
	3,048,363	2,984,105	3,067,733	2,909,922	2,786,029	2,993,068
	260,132	294,679	312,272	311,766	320,230	214,130
	167,684	199,412	167,711	181,438	154,587	169,077
	137,597	151,363	161,547	115,432	122,438	148,209
	35,801	40,780	57,948	34,530	33,375	34,754
	36,625	36,577	31,411	31,947	22,590	29,937
	23,650	22,992	17,588	11,294	10,746	20,914
	18,221	19,872	21,365	21,325	18,933	16,358
	21,325	15,935	16,728	15,007	17,962	16,323
	12,897	20,156	35,322	26,134	27,723	14,891
	14,126	19,408	11,668	7,978	6,723	11,319
	17,428	10,738	10,667	14,701	12,696	10,047
	7,059	15,634	13,311	10,385	10,599	9,061
	6,803	6,759	17,000	7,082	7,959	8,643
	6,367	6,615	6,005	6,932	6,735	4,782
	5,024	6,051	5,927	4,412	5,147	4,503
	164,618	167,182	187,659	136,146	165,625	
	3,983,720	4,018,258	4,141,862	3,846,431	3,730,097	

Note: * United States are not used in research
Source: Statistics Canada. (2013). Culture goods trade. [Data file and code book]. Retrieved from
http://www.statcan.gc.ca/pub/87-007-x/87-007-x2011001-eng.htm

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Appendix 13 – Cultural goods exports – Top consistent trading partners 1996 – 2010

Exports*	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
					Thousands of dollars					
United States*	1,117,706	1,237,768	1,550,052	1,789,456	2,008,077	2,184,824	2,358,089	2,310,326	2,210,286	2,126,582
United Kingdom	23,658	29,687	20,179	20,149	26,794	16,342	16,526	25,831	54,374	66,986
France	18,206	17,212	16,639	22,077	11,688	12,555	9,726	25,888	26,833	38,455
Germany	16,014	10,566	10,938	6,731	7,560	7,371	8,167	7,690	7,943	19,652
Japan	4,030	13,229	19,534	14,262	8,626	17,119	9,473	19,291	12,618	11,276
Switzerland	6,949	4,600	10,318	3,519	2,894	3,859	4,885	10,784	9,048	7,980
Netherlands	9,426	4,130	4,634	3,935	3,781	2,702	2,418	4,823	5,768	7,919
China	3,562	3,891	4,936	5,742	4,763	6,107	8,331	3,884	4,048	6,647
Australia	4,072	7,293	2,945	2,147	2,481	2,725	2,010	6,129	6,816	7,210
Belgium	1,984	2,777	1,537	2,338	2,346	2,032	1,887	3,675	2,782	3,590
Mexico	1,934	1,016	1,909	1,163	962	629	1,613	1,547	1,674	2,593
Singapore	1,055	1,923	792	509	1,219	992	4,020	2,072	3,227	3,863
Italy	2,555	3,048	2,378	838	1,173	848	1,260	1,306	2,196	3,747
Korea, South	1,569	1,017	619	883	669	1,427	3,631	2,601	3,237	2,280
India	533	360	153	71	347	71	425	1,199	1,762	2,986
Taiwan	2,050	1,704	1,596	674	715	1,608	1,099	2,131	1,616	3,906
Austria*	1,153	695	173	286	242	138	2,399	182	559	3,903
Rest of the world	37,997	36,222	23,235	20,137	18,940	25,527	22,083	36,610	43,638	54,529
Total	1,254,453	1,377,138	1,672,567	1,894,917	2,103,277	2,286,876	2,458,042	2,465,969	2,398,425	2,374,104

2006	2007	2008	2009	2010	Ave. 15 years
2,072,456	1,955,686	1,710,087	1,513,474	1,295,936	
56,570	55,491	43,976	30,786	37,071	
1,443	770	1,100	1,668	8,183	1,526
1,666	1,160	1,067	731	3,972	1,713
3,228	2,904	5,782	3,092	4,641	1,837
3,658	3,397	5,398	3,117	1,824	2,355
4,553	3,051	3,441	3,632	2,287	2,421
1,924	1,853	4,791	5,184	4,484	2,527
3,696	2,783	5,397	9,783	4,074	2,718
7,870	2,993	3,596	2,070	1,850	2,888
5,709	5,327	4,725	3,024	3,916	4,435
7,027	5,290	6,220	10,610	7,927	5,932
8,828	8,311	11,054	11,708	10,727	6,678
8,952	5,912	6,932	16,686	9,194	7,501
8,703	6,927	7,545	11,080	11,444	11,677
18,596	18,660	15,999	15,789	15,687	12,491
30,451	25,936	27,111	25,229	24,836	22,189
36,157	40,120	31,586	15,058	12,635	29,072
1,863,425	1,764,801	1,524,367	1,344,227	1,131,184	1,768,078

Note: *Exports are not used in research
Source: Statistics Canada. (2013). Culture goods trade. [Data file and code book]. Retrieved from
http://www.statcan.gc.ca/pub/87-007-x/87-007-x2011001-eng.htm

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Appendix 14 – Cultural goods trade deficit of Canada – All cultural trade of goods 1996 – 2010

Trade	1996	1997	1998	1999	2000	2001	2002
			Thousands of dollars				
Total Imports	3,098,932	3,405,200	3,608,843	3,648,193	3,729,805	3,855,554	4,028,850
Total Exports	1,254,453	1,377,138	1,672,567	1,894,917	2,103,277	2,286,876	2,458,042
Total trade deficit	-1,844,479	-2,028,062	-1,936,276	-1,753,276	-1,626,528	-1,568,678	-1,570,808

Trade	2003	2004	2005	2006	2007	2008	2009	2010
				Thousands of dollars				
Total Imports	4,100,733	3,973,875	4,085,016	3,983,720	4,018,258	4,141,862	3,846,431	3,730,097
Total Exports	2,465,969	2,398,425	2,374,104	2,072,456	1,955,686	1,710,087	1,513,474	1,295,936
Total trade deficit	-1,634,764	-1,575,450	-1,710,912	-1,911,264	-2,062,572	-2,431,775	-2,332,957	-2,434,161

Source: Own elaboration data sourced from Statistics Canada. (2013). Culture goods trade. [Data file and code book]. Retrieved from http://www.statcan.gc.ca/pub/87-007-x/87-007-x2011001-eng.htm

Appendix 15 – GDP of countries 1996 – 2010

Country	1996	1997	1998	1999	2000	2001	2002	2003
GDP – Data are in current U.S. dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates.								
Australia	4.0158E+11	4.35829E+11	3.99523E+11	3.88868E+11	4.15208E+11	3.78642E+11	3.94442E+11	4.66663E+11
Belgium	2.75797E+11	2.49767E+11	2.55599E+11	2.54504E+11	2.32673E+11	2.32486E+11	2.52795E+11	3.11696E+11
Canada	6.13762E+11	6.37536E+11	6.16766E+11	6.61265E+11	7.24919E+11	7.15424E+11	7.34662E+11	8.65873E+11
China	8.56085E+11	9.52653E+11	1.01946E+12	1.08328E+12	1.19847E+12	1.32481E+12	1.45383E+12	1.64096E+12
Czech Republic*	6489460845	59463982355	63863336207	62165739783	58807244368	6437528107	78425201661	95292530753
France	1.57278E+12	1.42149E+12	1.46887E+12	1.45643E+12	1.32633E+12	1.3383E+12	1.45203E+12	1.79221E+12
Germany	2.43696E+12	2.15723E+12	2.17817E+12	2.13105E+12	1.88664E+12	1.88089E+12	2.00659E+12	2.42381E+12
Hong Kong*	1.59717E+11	1.77353E+11	1.68886E+11	1.65768E+11	1.71668E+11	1.69403E+11	1.66349E+11	1.61385E+11
India	3.99787E+11	4.2316E+11	4.28741E+11	4.66867E+11	4.76609E+11	4.93954E+11	5.23969E+11	6.18356E+11
Indonesia*	2.2731E+11	2.15749E+11	95445548017	1.40001E+11	1.65021E+11	1.60447E+11	1.95661E+11	2.34772E+11
Ireland*	74364964645	81271998558	88175479444	96584799614	97331522052	1.05167E+11	1.23016E+11	1.5873E+11
Italy	1.26635E+12	1.19865E+12	1.22458E+12	1.20818E+12	1.10401E+12	1.1237E+12	1.22518E+12	1.5145E+12
Japan	4.70619E+12	4.32428E+12	3.91457E+12	4.4326E+12	4.7312E+12	4.15986E+12	3.98082E+12	4.30294E+12
Malaysia*	1.00851E+11	1.00169E+11	72175568306	79140158888	93789473684	92783947368	1.00846E+11	1.10202E+11
Mexico	4.01778E+11	4.86229E+11	5.0798E+11	5.8669E+11	6.92178E+11	7.33462E+11	7.50478E+11	7.22165E+11
Netherland*	4.1798E+11	3.86534E+11	4.02648E+11	4.11456E+11	3.85075E+11	4.00654E+11	4.37807E+11	5.38313E+11
Singapore	94688546180	1.04562E+11	95823611618	85963561402	95922652586	91148432628	90582818234	93362870573
South Korea	5.57644E+11	5.16283E+11	3.45432E+11	4.45399E+11	5.33384E+11	5.04586E+11	5.75929E+11	6.43762E+11
Spain	6.22429E+11	5.72638E+11	6.00839E+11	6.1788E+11	5.80345E+11	6.08856E+11	6.86296E+11	8.83884E+11
Switzerland	3.12031E+11	2.7227E+11	2.78904E+11	2.73548E+11	2.56043E+11	2.62647E+11	2.86658E+11	3.34575E+11
Thailand*	1.81948E+11	1.50891E+11	1.1186E+11	1.22263E+11	1.27725E+11	1.15536E+11	1.26877E+11	1.4264E+11
Taiwan	2.87933E+11	2.9874E+11	2.7512E+11	2.9901E+11	3.2616E+11	2.9368E+11	3.011E+11	3.1076E+11
UK	1.24183E+12	1.38412E+12	1.47776E+12	1.51817E+12	1.49363E+12	1.48515E+12	1.6209E+12	1.87514E+12
US*	8.1002E+12	8.6085E+12	9.0891E+12	9.6657E+12	1.02897E+13	1.06253E+13	1.09802E+13	1.15122E+13

GDP – Data are in current U.S. dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates.							
Country	2004	2005	2006	2007	2008	2009	2010
Australia	6.13161E+11	6.93663E+11	7.47463E+11	8.53855E+11	1.05551E+12	9.2671E+11	1.14179E+12
Belgium	3.61683E+11	3.7735E+11	3.99966E+11	4.59619E+11	5.07379E+11	4.73255E+11	4.68079E+11
Canada	9.92226E+11	1.13376E+12	1.27861E+12	1.42407E+12	1.50268E+12	1.33758E+12	1.57704E+12
China	1.93164E+12	2.2569E+12	2.71295E+12	3.49406E+12	4.52183E+12	4.99126E+12	5.93053E+12
Czech Republic*	1.13977E+11	1.30052E+11	1.48345E+11	1.80511E+11	2.25449E+11	1.97218E+11	1.98475E+11
France	2.05568E+12	2.13656E+12	2.25571E+12	2.58239E+12	2.83179E+12	2.61969E+12	2.54832E+12
Germany	2.72634E+12	2.76625E+12	2.90275E+12	3.32381E+12	3.62369E+12	3.29822E+12	3.28289E+12
Hong Kong*	1.691E+11	1.8157E+11	1.93536E+11	2.11597E+11	2.1928E+11	2.14046E+11	2.28696E+11
India	7.21586E+11	8.34215E+11	9.49117E+11	1.2387E+12	1.2241E+12	1.36537E+12	1.71091E+12
Indonesia*	2.56837E+11	2.85869E+11	3.64571E+11	4.32217E+11	5.10245E+11	5.39588E+11	7.09191E+11
Ireland*	1.86281E+11	2.02578E+11	2.22763E+11	2.59574E+11	2.64034E+11	2.25443E+11	2.08022E+11
Italy	1.73552E+12	1.78628E+12	1.87298E+12	2.12718E+12	2.30731E+12	2.11115E+12	2.04195E+12
Japan	4.65558E+12	4.57188E+12	4.35676E+12	4.35633E+12	4.84921E+12	5.03514E+12	5.49538E+12
Malaysia*	1.2475E+11	1.43533E+11	1.62692E+11	1.93553E+11	2.30988E+11	2.02251E+11	2.47534E+11
Mexico	7.74801E+11	8.70215E+11	9.6625E+11	1.04346E+12	1.09907E+12	8.95355E+11	1.04737E+12
Netherland*	6.0989E+11	6.38471E+11	6.77692E+11	7.82567E+11	8.70811E+11	7.96333E+11	7.72091E+11
Singapore	1.09336E+11	1.23507E+11	1.39021E+11	1.68706E+11	1.78924E+11	1.94131E+11	2.172E+11
South Korea	7.21975E+11	8.44863E+11	9.51773E+11	1.04924E+12	9.31402E+11	8.34406E+11	1.01489E+12
Spain	1.04461E+12	1.1308E+12	1.23635E+12	1.44143E+12	1.59342E+12	1.45434E+12	1.37582E+12
Switzerland	3.74224E+11	3.84754E+11	4.05184E+11	4.50528E+11	5.24289E+11	5.09467E+11	5.50639E+11
Taiwan	3.4001E+11	3.6485E+11	3.7633E+11	3.931E+11	4.0021E+11	3.7757E+11	4.3018E+11
Thailand*	1.6134E+11	1.76352E+11	2.07089E+11	2.46977E+11	2.72578E+11	2.63711E+11	3.18908E+11
UK	2.22082E+12	2.32136E+12	2.48301E+12	2.85708E+12	2.6878E+12	2.208E+12	2.28556E+12
US*	1.22777E+13	1.30954E+13	1.38579E+13	1.44803E+13	1.47203E+13	1.44179E+13	1.49583E+13

Note: * Countries were not used in research
Source for all countries except Taiwan The World Bank. (2014). GDP (current US$) [Data file and code book]. Retrieved from http://data.worldbank.org/indicator/NY.GDP.MKTP.CD Source for Taiwan: EconStats (2014). GDP (current US$). Retrieved from http://www.econstats.com/weo/V001.htm

Appendix 16 – GDP per capita of countries 1996 – 2010

GDP based on purchasing power parity – Data are in current U.S. dollars								
Country	1996	1997	1998	1999	2000	2001	2002	2003
Australia	21,931	23,537	21,352	20,547	21,678	19,505	20,072	23,456
Belgium	27,154	24,532	25,051	24,887	22,697	22,601	24,465	30,039
Canada	20,685	21,260	20,390	21,681	23,560	23,017	23,425	27,335
China	703	774	821	865	949	1,042	1,135	1,274
Czech Republic*	6,291	5,771	6,204	6,045	5,734	6,301	7,691	9,348
France	26,322	23,706	24,406	24,075	21,775	21,812	23,494	28,794
Germany	29,750	26,297	26,548	25,957	22,946	22,840	24,326	29,367
Hong Kong*	24,818	27,330	25,809	25,092	25,757	25,230	24,666	23,977
India	411	427	425	455	457	466	487	565
Indonesia*	1,154	1,078	470	680	790	757	910	1,076
Ireland*	20,444	22,120	23,750	25,723	25,579	27,201	31,286	39,717
Italy	22,271	21,070	21,519	21,227	19,388	19,722	21,435	26,291
Japan	37,422	34,295	30,967	34,999	37,292	32,716	31,236	33,691
Malaysia*	4,744	4,594	3,229	3,457	4,005	3,878	4,131	4,427
Mexico	4,133	4,913	5,046	5,734	6,664	6,963	7,032	6,683
Netherland*	26,914	24,761	25,635	26,022	24,180	24,969	27,111	33,177
Singapore	25,930	26,158	21,647	21,441	23,414	21,194	21,705	23,320
South Korea	12,249	11,235	7,463	9,555	11,347	10,655	12,094	13,451
Spain	15,757	14,463	15,122	15,468	14,414	14,939	16,565	20,950
Switzerland	44,123	38,408	39,227	38,291	35,639	36,328	39,350	45,589
Taiwan	13,376	13,740	12,546	13,535	14,641	13,108	13,370	13,748
Thailand*	3,055	2,506	1,837	1,990	1,969	1,832	1,989	2,212
UK	21,349	23,734	25,266	25,871	25,362	25,126	27,305	31,442
USA*	30,068	31,573	32,949	34,639	36,467	37,286	38,175	39,682

Note: * Countries were not used in research

GDP based on purchasing power parity – Data are in current U.S. dollars							
Country	2004	2005	2006	2007	2008	2009	2010
Australia	30,464	34,012	36,113	40,996	49,673	42,722	51,825
Belgium	34,707	36,011	37,919	43,255	47,374	43,834	43,242
Canada	31,012	35,088	39,257	43,301	45,199	39,775	46,376
China	1,490	1,731	2,069	2,651	3,414	3,749	4,433
Czech Republic*	11,177	12,736	14,488	17,527	21,710	18,884	18,949
France	32,785	33,819	35,457	40,342	43,992	40,488	39,443
Germany	33,040	33,543	35,238	40,403	44,132	40,270	40,408
Hong Kong*	24,928	26,650	28,224	30,594	31,516	30,697	32,558
India	650	740	830	1,069	1,042	1,147	1,417
Indonesia*	1,161	1,273	1,601	1,871	2,178	2,272	2,947
Ireland*	45,766	48,698	52,119	59,008	58,811	49,708	45,917
Italy	29,833	30,479	31,777	35,826	38,563	35,073	33,982
Japan	36,442	35,781	34,102	34,095	37,972	39,473	43,118
Malaysia*	4,918	5,554	6,180	7,218	8,460	7,278	8,754
Mexico	7,083	7,859	8,618	9,191	9,560	7,691	8,885
Netherland*	37,458	39,122	41,459	47,771	52,951	48,174	46,773
Singapore	27,047	29,403	33,089	38,763	39,383	37,860	45,639
South Korea	15,029	17,551	19,676	21,590	19,028	16,959	20,540
Spain	24,338	25,904	27,847	31,871	34,674	31,369	29,732
Switzerland	50,642	51,734	54,140	59,664	68,555	65,790	70,370
Taiwan	14,986	16,023	16,451	17,122	17,372	16,331	18,573
Thailand*	2,479	2,690	3,143	3,738	4,118	3,979	4,803
UK	37,027	38,441	40,820	46,611	43,510	35,476	36,425
USA*	41,929	44,314	46,444	48,070	48,407	46,999	48,358

Note: * Countries were not used in research

Source for all countries except Taiwan: The World Bank. (2014). GDP ranking, PPP bases [Data file and code book]. Retrieved from http://data.worldbank.org/data-catalog/GDP-PPP-based-table
Source for Taiwan: EconStats (2014). GDP (current US$). Retrieved from http://www.econstats.com/weo/V008.htm