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*University of Central Florida*



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**THE ROLE OF FREEDOM IN ASSESSING THE RELATIONSHIP BETWEEN  
TOURISM COMPETITIVENESS AND QUALITY OF LIFE: THE CASE OF CENTRAL  
AMERICA**

by

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for the degree of Doctor of Philosophy  
in the College of Education and Human Performance  
at the University of Central Florida  
Orlando, Florida

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2014

Major Professor: Robertico Croes

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## ABSTRACT

The purpose of this dissertation study is to investigate the relationship among tourism competitiveness, quality of life, and freedom. The main premise is that the degree of freedom shapes the relationship between tourism development and quality of life. The study hypothesized that the greater the degree of freedom is, the greater impact tourism development will have on quality of life of residents of a destination. The theoretical framework of this study is based on combining Sen's capability approach with the tourism competitiveness theory. Tourism competitiveness aims at enhancing the quality of life, while Sen's capability approach provides the ingredients for how to improve quality of life through freedom. Thus, the main premise is that the combination of the two theoretical frameworks is possible through the construct of quality of life. The study is applied to the Central American region as tourism has become an important driver for socio-economic progress and growth.

The study applied panel data analyses and comparative regression analyses to decipher and understand the context of tourism competitiveness and quality of life. The study built a tourism competitiveness index and investigated the intertemporal effects of tourism competitiveness, quality of life, and freedom.

The major findings of this study are as follow. First, long term bi-directional causality was found between tourism competitiveness and quality of life. In other words, tourism not only positively impacts quality of life, but high levels of quality of life have positive influence on tourism competitiveness in the Central American region. This is a major contribution as such assumptions have been mainly hypothesized. Second, economic freedom was found to act as a moderating variable between tourism competitiveness and quality of life. This finding allows us

to further understand what impact such relationship between tourism competitiveness and quality of life. Third, economic freedom was found not to have an impact on quality of life as originally thought. However, quality of life was found to have a short-term impact on economic freedom. Finally, economic freedom had a bi-directional relationship with tourism competitiveness. This is a major contribution as such relationship was not previously discussed in the academic literature.

The theoretical implication of this study is in terms of combining the capability approach and the competitiveness theory. In terms of managerial implications, governments of the Central American region can work on strategies, such as marketing, to promote tourism which in turn will improve residents' quality of life. At the same time, the government can work on improving residents' well-being while impacting tourism competitiveness.

**To Allan**  
**“Love you Forever”**

**and**

**To Isabella & Kateřina**  
**“Dream Big and Dare to Fail”**  
**(Norman Vaughan)**

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## CHAPTER ONE: INTRODUCTION TO THE STUDY

### Introduction

The purpose of this study is to investigate the relationship between tourism competitiveness and quality of life by integrating the freedom construct (economic and political) as an intervening factor, and applying it to developing countries. This study will first begin by presenting the reader with a broad overview of the theory. It will discuss the issue of competitiveness, identify the role of government, the importance of freedom and tourism industry, followed by the problem statement which motivated this research study. Afterwards, this chapter provides a brief description of a proposed relationship and the research questions that guided this investigation. Next, an overview of the methodology used is discussed and the case is also made for the sample employed. The chapter concludes with an argument for the significance of this research in terms of practical and theoretical benefits and its contribution to knowledge and policy formation. Finally, the limitations of the study are discussed.

### Background

#### *The Concept of Competitiveness*

Since the fifties, tourism has been subjected to continued expansion, becoming one of the largest and fastest growing economic sectors in the world (UNWTO, 2013). During this time, destinations have shifted from the traditional product-driven markets to more service-driven markets, changing their economies from manufacture based to service based. Such shift led to an increase in revenues and improvement of citizens' well-being (Lee & Chen, 2010). Among the service industries, the tourism industry had the greatest impact on destination development.

Enticed by the potential benefits tourism had to offer, competition has been evidenced in the market place (Berger & Bristow, 2009; Croes & Rivera, 2010; Crouch, 2011; Das & DiRienzo, 2009; Mazanec, Wöber, & Zins, 2004; Omerzel, 2011; Pearce, 1997; Tsai, Song, & Wong, 2009; UNWTO, 2013). Consequently, destinations are paying heightened attention to the drivers of competitive advantage.

The concept of competitive advantage has been reflected by multiple definitions, making it challenging to define and measure. The main conceptual work on competitiveness is based on Ritchie and Crouch's studies, influencing the theoretical and conceptual foundations of tourism literature (Crouch & Ritchie, 1999; Ritchie & Crouch, 2000, 2003). The main foundational premises are threefold. First, competition stimulates efficiencies and innovations (Leiper, 2008). Increased competition encourages new entrants in the market place, having impact not only on the price, but also the quality level of goods and services provided (Croes, 2003; Ritchie & Crouch, 2003). Second, competitiveness has been seen as an important factor in achieving increased social welfare, involving elements in productivity, efficiency, and profitability (Tsai, Song, & Wong, 2009). As Croes and Rivera (2010) pointed out, the way a destination deploys its resources will affect its overall success and well-being of its citizens. Third, the ultimate goal of competitiveness has been identified as the capacity of an economy to raise the population's standard of living while preserving the integrity of its natural resources (Croes & Rivera, 2010; Crouch & Ritchie, 1999; Dwyer & Kim, 2003; Newall, 1992; Porter et al., 2001). Thus, the relationship between competitiveness and quality of life/well-being is of particular interest.

The contribution of tourism to economic growth and development is expected in the residents' improved quality of life. An increase in tourism demand may lead to development of

amenities, such as restaurants, festivals, and cultural attractions specifically geared toward tourists (Andereck, Valentine, Vogt, & Knopf, 2007). Concurrently, it is not surprising to imagine that these amenities can also be enjoyed by residents, having an impact on their quality of life as seen through increased employment opportunities or services offered to them. Therefore, it can be asserted that an increase in economic growth and development may impact residents' quality of life, providing a competitive edge to the destination (Andereck et al., 2007; Deller, Tsai, & Marcouiller, 2001; Rogerson, 1999). Such a relationship has also been reflected in the tourism academic literature, leading to an increase of interest in the research on quality of life and tourism competitiveness.

### *Quality of Life*

Defining quality of life is extremely difficult. Over hundreds of definitions and models exist in the academic literature to measure quality of life, taking into consideration not only objective but also subjective components. In general, it can be said that quality of life is a multi-dimensional concept, focusing on people rather than on market and income (Andereck et al., 2007; Croes, 2012; Sagar & Najam, 1998).

In the tourism literature, quality of life/well-being can be achieved from two different perspectives. Some researchers have defined it as a relationship between quality of conditions or the opportunities one has (objective elements), while others have taken into consideration the quality of persons or how one is being satisfied, content, and fulfilled with life (subjective elements). These two viewpoints have been extensively discussed in the academic literature, for example in Andereck and Vogt (2000), Andereck et al. (2007), Andereck and Nyaupane (2011),

Croes, 2012; Deller et al. (2001), Dritsakis (2004), Fayissa, Nsiah, and Tadasse (2008), Kim (2002), Liu & Var (1986); Lane, 1994; Rogerson (1999), Um and Crompton (1990).

Subjective well-being is related to emotions of happiness and satisfaction, however, an emotion is an inconsistent concept. As Sen (1989) claims, poor people through social condition can feel happy while being deprived at the same time. In his writing, he indicates:

Consider a very deprived person who is poor, exploited, overworked and ill, but who has been made satisfied with his lot by social conditioning (through, say, religion, political propaganda, or cultural pressure). Can we possibly believe that he is doing well just because he is happy and satisfied? Can the living standard of a person be high if the life that he or she leads is full of deprivation? The standard of life cannot be so detached from the nature of the life the person leads. (Sen 1987, p. 7-8).

A recent study by Kwaramba, Lovett, Louw, and Chipumuro (2012) documents how social conditioning can limit the capabilities of low income women in South Africa to benefit from local development programs. This study therefore avoids the notions of subjective well-being as the defining dimension of quality of life.

In contrast, objective well-being is related to opulence (income and/or commodity command). For example, the real GDP per capita has been utilized to measure quality of life, claiming that an increase in GDP represents an increase in citizens' well-being (Croes, 2012; Sen, 1989). However, even though the real GDP per capita may go up, a large number of citizens' may see their income stagnating or even declining. Therefore, GDP per capita does not provide a true picture of citizens' well-being.

For all the reasons mentioned above, this study therefore departs from utilizing utility (happiness) and opulence (income and commodities) as a measure of well-being. In this study, quality of life is measured from objective point of view, utilizing the capability perspective

proposed by Sen (1999). According to Sen, quality of life is affected by choices available to a person and the existing social arrangements. He captures the role of human agency as an engine of change rather than being the passive beneficiary. Development is rather seen as a capability (opportunity) of an individual to convert resources into achievements (functionings) which are influenced by an individual's potential to make choices, to take actions, and to seize opportunities. This ability is dependent on objective elements, such as quality of education, access to healthcare, or life expectancy, which will enable them to achieve longer and healthier lives. Consequently, Sen shifts the concept from inputs (command of resources) to outputs (achievements). Little attention has been paid to investigating quality of life in terms of the capability approach, an approach seldom applied in the tourism literature (Croes, 2012; Sen, 1999).

Only two studies so far have considered this viewpoint in the context of the tourism industry. The first study conducted by Croes (2012) assessed quality of life from Sen's perspective. While Croes (2012) investigates the relationship between tourism development and quality of life, the theoretical foundations of his study are grounded in choices and opportunities already extant in a society. Croes's theoretical framework, however, does not explore where choices and opportunities are emanating from. In other words, Croes's study has not been able to decode the 'black box' that intervenes between tourism competitiveness and quality of life. This study fills this gap by integrating the construct of freedom as an intervening factor between tourism competitiveness and quality of life and incorporates the construct of human agency as a significant factor in competitiveness. It examines the possibility that tourism competitiveness can enhance residents' quality of life, and quality of life in turn can promote tourism competitiveness

when choices and opportunities exist for the residents of a destination. This study expands the construct of tourism competitiveness by transposing freedom as an intervening factor of tourism competitiveness and quality of life. Freedom was utilized as opposed to other intervening variables based on Sen's (1999) argument that freedom plays an essential role in enhancing the well-being of an individual within a society. In addition, governments with higher levels of freedoms encourage competitiveness, thus leading to economic growth and well-being (Bergren, 2003; de Haan & Sturm, 2000). Freedom to choose and to compete is essential for an economy to progress (Sen, 1999).

The second study conducted by Croes and Kubickova's (2013) designed a tourism competitiveness index (TCI), derived from satisfaction and productivity, incorporating quality of life as one of the variables. This index applied a ranking system to the Central American region. This study is the first to incorporate quality of life as an integral component of the construct of tourism. The meaning of quality of life followed the capability perspective as suggested by Sen. Even though quality of life was included; the study did not investigate the relationship between tourism competitiveness and quality of life. Therefore, this study is predominantly interested in investigating the relationship between tourism competitiveness and quality of life from the capability perspective, as an existing gap in the academic literature exists.

#### *The Role of Freedom*

According to Sen (1999), well-being is a result of the freedom that an individual holds to achieve conditions in life (to eat, to move etc.), given his subjective characteristics and endowment of commodities (Croes, 2012). As Sen (1993) argues, freedom provides the opportunity to achieve objectives that people have, to lead life they choose, no matter what the

process or procedures are. For example, the improvement in education of the whole population increases not only the freedom of citizens but also the economic freedom in that destination. Educated citizens are able to improve their capability self-consciously choose the life they value, thus directly increasing their freedom. In addition, the citizens may experience higher income at their disposal, thus indirectly increasing their economic freedom (Knopf, 1999). Therefore, freedom of choice becomes central to economic evaluation and the living standards one can enjoy.

If one loses the ability to take an action or to choose an alternative due to lack of freedom, it can lead to social and economic unfreedom and be directly linked to economic poverty (Croes, 2012; Pattanaik & Xu, 1990; Sen, 1987; Sen, 1999). For example, as Sen (1999) points out, the lack of freedom can rob people of choices to satisfy hunger, to be adequately clothed, or to enjoy clean water. In other instances, the lack of freedom (unfreedom) can be linked to the lack of social care or provision of education, leading to poverty.

Sen (1999) identifies five instrumental freedoms which contribute to the capability of a person to live freely, influencing the overall freedom they possess, thus their well-being. To Sen (1999), political freedom is especially important as it gives citizens an opportunity to participate in the community life, so fundamental to human existence. He identifies a political freedom as “the opportunity people have to determine who should govern and on what principles ... to have freedom of political expression and an uncensored press, to enjoy the freedom to choose between different political parties” (p. 38). According to Sen, even the poorest are not unconcerned with issues of basic political freedom. In his view, political freedom helps to safeguard economic freedom. He supports this with an argument that famine (extreme hunger) does not occur in

democratic countries no matter how poor they are, as famine is easy to prevent through democracy (free election). Therefore political freedom becomes of a special interest in this study.

By investigating political freedom, one must also look at economic freedom. Sen (1999) defines economic freedom as “opportunities that individuals respectively enjoy to utilize economic resources for the purpose of consumption, or production, or exchange” (p. 39). As Sen states, the different types of freedoms not only impact the overall freedom one possesses, but also supplement one another. This is where Hayek-Friedman Hypotheses comes into a play. The Hayek-Friedman Hypotheses states that politically free societies must be also economically free (Lawson, 2008). Therefore, if a destination is politically free, economic freedom must be also present. In general, economists agree that economic and political freedoms are two main pillars of a country’s institutional structure and play an essential role in enhancing the well-being of an individual within a society (Stroup, 2007).

A number of empirical studies have provided evidence that economic and political freedoms may play an important part in justifying cross-country differences (Dawson, 2003; de Haan & Siermann, 1998; de Haan & Strum, 2000; Doucouliagos & Ulubasoglu, 2006). In general, those countries that have achieved higher level of economic and political freedoms reached higher level of prosperity, growth and quality of life; hence, demonstrated higher level of competitiveness (Stroup, 2007). Thus, the importance of economic and political freedom in achieving tourism competitiveness and improving citizens’ well-being cannot be overlooked.

### *The Role of Government*

Because of the importance of freedom, Sen strongly argues for the role of state. He claims that economic growth translates into citizens’ well-being only when government is able to



developed social programs that will encourage freedom to choose in order to achieve functionings in their lives. However, the primary issue that governments throughout the world often contemplate over is the level of government involvement in order to successfully regulate the activities of individual and businesses. In a free society, the fundamental role of government, as identified by Adam Smith, is the protection from external threats, enforcer of law and order, and provision of services which benefit the community but the market cannot provide (Michael, 2001). Friedman and Hayek both argued that even with democratic societies, centralized resource allocation decisions diminish the scope of opportunities available for both consumers and producers in the society (Stroup, 2007). When a government oversteps these boundaries, it jeopardizes the freedom provided. Since market failure can be found wherever transaction occurs, markets will fail, violating the freedom of its citizens, thus, impacting their quality of life. In situations like this, the question that is often being asked is when is it justified and legitimate for a government to get involved when markets fail, which services to provide and how much to get involved (Bartik, 1990; de Haan & Strum, 2000; Wolf, 1997; Zerbe & McCurdy, 1999).

### *Market Failure and the Role of Government*

The theory of market failure is well recognized in the academic literature, establishing the conditions under which competitive market allocation will be inefficient (Le Grand, 1991; Michael, 2001; Wolf, 1988). In general, market failure occurs when private markets fail, unable to achieve economic efficiency, described as “a situation in which no change would result in net dollar benefits, summed over all members of society” (Bartik, 1990; Zerbe & McCurdy, 1999). In other words, when conditions of Pareto-optimality are not satisfied in ways in which a

government could causelessly correct them, market is said to fail (Krueger, 1990). Pareto-optimality conditions only reference efficiency of markets and transactions, ignoring the impact of the efficiency conditions on equity and fairness in a collectivity. Extreme inequalities within a collectivity have been repudiated by Smith, Friedman and Hayek (Wolf, 1997), although the role of government as a remedial instance mitigating against this externality is viewed with suspicion. The question arises, when is it legitimate for a government to intervene in private affairs, which public services to provide, and how to regulate the activities of businesses/individuals as a major failure in one segment may impact the whole economy (Michael, 2001; Zerbe & McCurdy, 1999).

In mainstream (neoclassical) economics, the role of the government is clearly defined as it relates to the agency of individuals and is premised on a perfectly well functioning market. As Zerbe and McCurdy (1999) conclude, “full-scale government intervention should be undertaken only when it can be shown that a less-intrusive generic policy cannot be utilized or that an effective contract for private production cannot be designed to deal with the market failure” (p. 560). Governments intervention are particularly necessary in situations that provide large net gains or where everyone benefits, maximizing social welfare (Hall, 2006; Wolf, 1988). Conversely, others believe that governments often lack an ability to intervene with the benefits of the society, let alone are able to put policies and procedures in place that would correct such failure (Hall, 2006). If government is unable to address market failure, the impact can be far reaching, leading to poverty and depression (Stiglitz, 2012). In addition, market imperfections, such as monopoly and rent-seeking, fuels inequality, reduces opportunities and diminished

freedom (Stiglitz, 2012). Thus market failures are the anathema of freedom, thereby affecting competitiveness.

### *Tourism, Market Failure, and the Role of Government*

As an economic activity, tourism is particularly more susceptible to distortion and failure than other industries due to its characteristics (Bull, 1995; Croes, 2011; Michael, 2001). Tourism is often embodied by free rides and its performance largely depends on the success of other industries (Croes, 2011; Michael, 2001). For example, one firm is unable to receive full benefits from providing reliable electricity system or destination marketing. Therefore, government involvement is a pre-requisite to achieve tourism competitiveness, being particularly at risk if government policy fails. Then, the debate is not about if the government should intervene in economic management but rather about the extent of the intervention (Michael, 2001).

From the government perspective, creation of economic stability is important to the development of competitiveness, affecting the whole economy and only one that can be performed by government (Wint, 1998). Governments are much more active in terms of destination management than they were in the past. Governments are involved in planning, legislation, financing, promotion, regulation, monitoring, maintenance, coordination, enhancement and organization of tourism resources (Ritchie & Crouch, 2003; Tang & Jang, 2009). Their policies often address a number of objectives, ranging from economic, environmental, to social and educational which can strengthen the pull factor of the country as a destination, thus improving its competitive position and enhancing the overall quality of life of its citizens (Bull, 1995; Tang & Jang, 2009). As Tsai et al. (2009) point out, competitive plans must be made and integrated on higher levels (region, destination, country) in order to create and

enhance the well-being of the residents. Only the government has the necessary and legitimate power to provide security, political stability, legal and financial framework to smooth tourism development and only the government can create such an environment that is conducive for industries to compete, creating necessary earnings, taxes, employment, and general well-being of its citizens (Devine & Devine, 2011).

Not only does government play an imperative role in creating an environment to compete, but due to the nature of the tourism industry, collaboration and cooperation among tourism providers have arisen from the need to provide a superior product/service and to achieve broad-based support for policies permitting to compete (Vernon, Essex, Ponder & Curry, 2005). In the tourism sector, companies are required to work together to create the overall experience, leading to guest satisfaction and destination competitiveness. Therefore investigating the role of government and the impact it has on freedom and quality of life is particularly critical when analyzing the tourism sector due to its collaboration characteristics and its tendency to market failure, impacting the entire destination.

This study is particularly interested in analyzing the tourism industry. Tourism has been identified as “a major vehicle for fulfilling the aspiration of mankind in its quest for a higher quality of life” by Crouch and Ritchie (1999, p. 139). Because of potential economic benefits, tourism has been increasingly viewed as a basic industry, used for destination development, providing fundamentals that may be enjoyed not only by tourists but also by residents, thus influencing residents’ quality of life and tourists’ experience (Andereck et al., 2007; Tang & Jang, 2009). Even though tourism offers a number of benefits, its developmental role has been

ignored by the government, including the economic impact it has had on a destination, and the social benefits it has provided (Crouch & Ritchie, 1999; Michael, 2001).

### Statement of the Problem

Tourism competitiveness in the academic literature is not a new concept (Croes & Rivera, 2010; Crouch & Ritchie, 1999; Dwyer, Forsyth, & Rao, 2000; Dwyer & Kim, 2003; Newall, 1992; Porter, 2001). Numerous research journals have dedicated full issues to articles trying to understand, define and measure the concept of competitiveness (e.g. *Tourism Management* in 2000, *Tourism Economics* in 2005). Policy makers have also implemented competitiveness in their campaigns and policy formations, resulting in the ‘obsession’ with tourism competitiveness, hoping to improve the economy. The number of competing destinations has increased over the years while the number of original markets remain unchanged (Croes, 2012; Vanhove, 2005). Since more economies are relying on tourism, becoming competitive is increasingly important to them. However, the question that needs to be posed is, do we really have a full understanding of competitiveness as it is swayed by government while also affecting quality of life? The fundamental objective of this study is to answer this question while enhancing the understanding of tourism competitiveness as it relates to quality of life.

Specifically, this study has four main objectives. The first objective is to investigate the link between tourism competitiveness and quality of life while intervening for freedom. The research on tourism and quality of life is well documented in the academic literature, addressing it mainly from the subjective point of view, varying in scales and variables used and/or as income or commodity command (Andereck et al., 2007; Croes, 2012; Lane, 1994; Sagar &

Najam, 1998). Little attention has been paid to quality of life from the capability approach (Croes, 2012; Sen, 1999). Only one study investigated the relationship between tourism competitiveness and quality of life (Croes, 2012), but the study lacked a comprehensive theoretical approach. The study assumes the existence of quality of life as fundamental to tourism competitiveness. This study departs from the tourism competitiveness theory that is grounded on the conceptual relationship between tourism development and quality of life as the final aim of tourism competitiveness. Another study (Croes and Kubickova, 2013) while integrating quality of life as an integral component of tourism competitiveness index does not formally test the relationship. Thus, this study tries to fill this gap and investigate the relationship between tourism competitiveness and quality of life addressed from Sen's capability approach.

The second objective is to investigate if there is an empirical link between freedom and quality of life. The theoretical framework comes from Sen's (1999) capability approach, which makes a compelling argument that for an economy to progress, freedom to choose and to compete is essential in such a process. Sen departs from utilizing utility and opulence as a measure of quality of life and suggests capability approach, in other words, how one can function with the resources provided. Therefore, a person becomes the end of production process. He also claims that individuals vary in their ability to convert resources into well-being due to the level of freedom each individual possess, achieving diverse desirable condition in life (Croes, 2012). In this sense, underdevelopment is viewed as a lack of capacity to make choices rather than the lack of income or the possession of commodities. Therefore, development can be seen as a process of expanding the real freedom people enjoy.

As mentioned earlier, Sen claims that economic growth translates into citizens' well-being only when government is able to developed programs (policies) that will encourage freedom. Sen specifically makes a compelling argument for the need of political freedom in a society. Once political freedom is presented, then economic freedom must also exist as it relates to Friedman-Hayek Hypotheses. Therefore, political and economic freedoms play an important part in explaining cross-country differences, previously demonstrated by various economists in their studies. In general, governments that provide higher level of freedom achieve significantly higher level of growth and well-being. For that reason, quality of life will be influenced by the level of freedom provided.

The third objective of this research study is to investigate the relationship between freedom and tourism competitiveness. Once again, the theoretical concept comes from Sen's argument about freedom and achievement being dependent on the free agency of people (Sen, 1999; O'Hearn, 2000). No prior studies have thus far attempted to explore the nexus between freedom and tourism competitiveness and a very limited debate exists about the importance of government when enhanced tourism competitiveness is being sought (Wint, 1998).

The issue in this debate is freedom versus market failure. Wherever transaction occurs market failure can be found as markets will fail. Markets fail when there is a mismatch between private rewards and social returns, prompting governments to intervene to make the necessary corrections. The tourism industry is especially susceptible to such failure, leading to an extensive debate on government involvement and justification for their interventions (Bartik, 1990; Zerbe & McCurdy, 1999). In situations where market failures cannot be resolved by themselves, governments intervene and often go beyond what Adam Smith identified as minimum functions

of the state (protection of safety, law and order, and provision of services unable to produce by the market).

Due to its characterization, the tourism industry is particularly susceptible to distortion and failure, thus requiring government involvement. Government intervention could lead to two outcomes: increased freedom and hence enhanced tourism development and quality of life; or limited freedom and decreased tourism development and quality of life. Therefore, understanding the influence of government involvement in destination competitiveness and its influence on freedom, as it pertains to the tourism industry, is essential.

The fourth objective is to investigate whether freedom is the intervening factor in the context of tourism competitiveness and quality of life. The question being posed here is does freedom change the nature of a relationship between tourism competitiveness and quality of life or does it explain such relationships. In other words, is freedom the mediator or the moderator variable? The outcome may depend on the type of freedom investigated (political freedom versus economic freedom) as well the level of tourism competitiveness and/or the level of quality of life in that destination. The results of such relationships may be a potential explanation of why cross country differences exist in tourism competitiveness.

Despite the extensive discussion in the academic literature on tourism competitiveness and quality of life, no prior study has provided such a framework to understand this complex relationship in the context of freedom. It is important to explore such a relationship as presented in Figure 1.1.



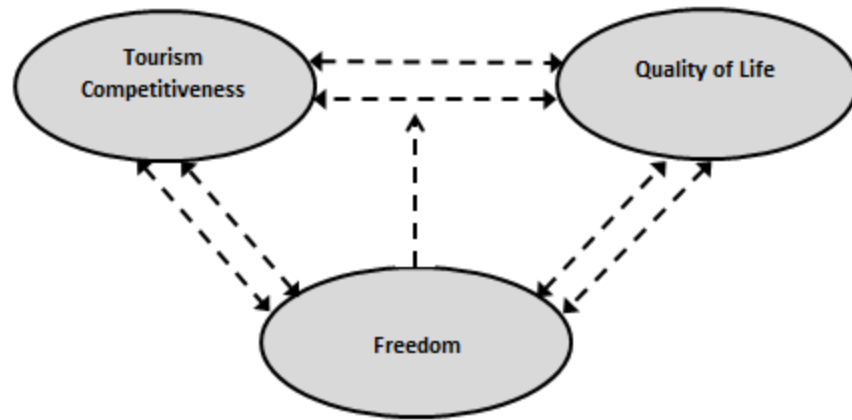


Figure 1. 1: Conceptual model of Tourism Competitiveness, Quality of Life, and Freedom

### Purpose of the Study

The main objective of this study is to broaden our knowledge on the relationship between tourism competitiveness, quality of life, and freedom. Despite the extensive literature on the concept of freedom, competitiveness, and quality of life, the review of the literature revealed that little is known in the context of tourism competitiveness and the role of freedom and the impact of quality of life on tourism competitiveness. While in the past the relationship among these three constructs has been partially investigated, this study conceptually relates these three concepts through the competitiveness theory.

Academic literature reveals numerous definitions that have been proposed in order to define and understand competitiveness. The concept entertained by this study is grounded in Dwyer and Kim (2003), who defined the notion of competitiveness, as being: “centered on human development, growth and improved quality of life... for a society, improved competitiveness translated into new jobs and better living conditions ... the ultimate goal of competitiveness is to maintain and increase the real income of its citizens, usually reflected in the

standard of living of the country ... its ultimate goal is to increase the standard of living of a nation under free and fair market conditions” (p. 372).

In other words, for a destination to develop, a destination must become competitive. Once a destination becomes competitive as defined by Dwyer and Kim (2003), its residents will experience a better quality of life. Thus, tourism competitiveness has a positive impact on resident’s quality of life as exhibited in Figure 1.1. The only way quality of life can be increased, as Dwyer and Kim point out, is under free and fair market conditions. This is where Sen’s argument comes into a play as he states that freedom is the only acceptable evaluation of human progress and only when freedom is in place, the destination can develop and become competitive. Thus, freedom is a key to destination competitiveness and improvement of residents’ quality of life, being the intervening factor, possibly a moderating variable for some destinations while mediating variable for other.

As noted in Figure 1.1., reverse connection is also possible, where quality of life can have an impact on tourism competitiveness. For example, improved quality of life allows local residents to set up their own businesses which can benefit and improve the tourism sector in that particular area. In addition, quality of life and tourism competitiveness can also have an impact on the level of freedom. For example, improved quality of life is reflected in education, allowing local residents to have better understanding of the government role and the impact the government has on legal structure, protection of property rights, and/or the public policy, thus impacting the level of freedom. The same can be said about tourism. The more tourism becomes an important part of destination development, the more ‘pressure’ local business owners can put

on government representatives in terms of regulations and access to money, also influencing the level of freedom.

### Measurements

To measure such relationships, this study utilizes the following measurements. To measure tourism competitiveness, despite the many definitions and measurements offered in the academic literature, this study conceptualizes tourism competitiveness in terms of outputs rather than the inputs as recommended by Croes (2010), opposing other competitive indices. This goes along with Sen's argument that to have resources (input) does not automatically translate into a success (output). Just because two destinations have the same natural resources, it does not mean that both of them are equally competitive. The competitiveness measurement is composed of three outputs, each portraying different aspects of the industry's productivity: first, current performance in the global tourism market scale by size; second, dynamism of performance over time (growth rate); third, size of the industrial base in the economic structure; providing quick and easy results.

Quality of life is measured through the objective point of view, utilizing Sen's capability approach. As mentioned earlier, the subjective point of view was dismissed as it is related to emotions of happiness and satisfaction. Emotions are inconsistent concepts as people can feel happy while being deprived at the same time (Sen, 1987). Another way quality of life has been measured is from the objective point of view, usually utilizing income and/or commodity command. However, relying on one measure, for example income, has shown to be inaccurate. Two people may have similar income, but one may feel free to walk around the neighborhood

while the other may feel threatened do so due to high crime (Croes, 2012). Therefore, this study utilizes Sen's capability approach to measure quality of life, which is based on opportunities and achievements one has. As Sen's points out, people often value achievements, such as access to education, better nutrition, or healthcare, which will enable them to enjoy long and healthy lives. Therefore, the Human Development Index (HDI) was selected as a measure of well-being in this study.

HDI, developed by the United Nations Development Program (UNDP) and published annually since 1990, is based on Sen's capability approach. It is one of the most widely used measurements, offering simple, yet a multidimensional approach to evaluate the human development, allowing for a more objective view of multiple countries (Sagar & Najam, 1998). Through its measures, HDI allows to capture the improvements in human well-being. As Sen once said "human development ... [is] advancing the richness of human life, rather than the richness of the economy in which human beings live" (UNDP, 2013). Therefore, being healthy, educated, and have an access to services and goods is the core of human development, as highlighted by Sen and determined by HDI.

To measure economic freedom, this study utilizes Gwartney, Lawson, and Block index, known as the economic freedom index, published every year since 2000 in the Economic Freedom of the World. Lastly, to measure political freedom, this study adopted the index of political rights developed by Gastil and later on adopted by Freedom House. Both indexes allow measuring the relative measure of these two types of freedoms in each country (Stroup, 2013). The constructs utilized in this study are listed in Table 1.1 together with their definitions and variables used. Further detail overview of the construct is provided in Appendix A.

Table 1. 1: Constructs used

<b>Constructs</b>	<b>Resource/ Information</b>	<b>Definition</b>	<b>Variables Used</b>
Economic Freedom Index	Economic Freedom of the World	Measurement of the degree to which the policies and institutions of countries are supportive of economic freedom	Size of the government Legal structure and protection of property rights Access to sound money International Exchange Regulation
Political Freedom Index	Political Rights and Civil Liberties Index	Measurement of the ability of an individual to achieve an effective democratic representation	The ability to elect the head of state and other government leaders The ability to select a candidate from competing political parties The ability of government to establish public policy free from the influence of military, religious hierarchies, or other powerful groups
Quality of Life Index	Human Development Index	Evaluation of human development across nations	Health Education Living standards
Tourism Competitive Index	Croes (2011)	Measurement of tourism destination competitiveness	Tourist receipt per arrival Tourism added value ration of GDP Growth rate of tourism receipts

### Implications and Motivations

There are several important implications and motivations for conducting this research. First, this study will contribute to the academic literature on freedom, tourism competitiveness, and quality of life. Specifically, as Berggren (2003) points out, economic and political freedom may constitute an explanatory factor for growth, thus influencing tourism competitiveness across nations. As stated previously, no prior study has addressed the relationship between freedom and quality of life taken from the capability point of view in the context of tourism competitiveness. In addition, looking at the causal relationship, potential explanation may be offered why some destinations are more competitive than others.

Second, by examining the relationship between tourism competitiveness and quality of life, this study will provide an essential contribution to the area of destinations' competitiveness and its impact on residents' well-being, a topic often overlooked in academic research. As destinations expand and tourism competitiveness becomes a vehicle for improving quality of life, it is crucial for a deeper understanding of the relationship between tourism competitiveness and quality of life. Since a reverse relationship will be investigated as well, understanding how quality of life shapes tourism competitiveness in the destination is also essential. Knowing and understanding the full relationship between these constructs will allow government officials to put in place a plan that facilitate a balanced approach between tourism competitiveness and residents' quality of life to maximize benefits offered by tourism.

And third, since the tourism industry has the ability to strengthen the economic aspect of the destination and benefit the overall economy in the long run (Tang & Jang, 2009), this study will provide a benchmark for governments and tourist operators, particularly in the Central America region. Not only by knowing, but also by understanding the effect the tourism industry and government policies have on destination competitiveness and vice versa, it will allow them to put policies in place, not only to move forward, but also becoming more competitive, hence improving the overall economic growth and quality of life of its citizens.

### Theoretical Framework

The theoretical framework of this study is based on combining Sen's capability approach with the tourism competitiveness theory. The main premise of this study is that the combination of the two theoretical frameworks is possible through the construct of quality of life. Tourism

competitiveness aims at enhancing the quality of life, while Sen's capability approach provides the ingredients how to improve quality of life through freedom. The level of freedoms will influence tourism competitiveness and residents' well-being. In this sense, competitiveness theory adopted from Dwyer and Kim (2003) allows to incorporate the concept of freedom into the tourism competitiveness and quality of life relationship and to point out that an increase in level of competitiveness will lead to an improve of residents' quality of life.

Despite the ongoing research and debates on competitiveness and resident's quality of life from the subjective and objective point of view, little research has been conducted that takes into consideration the capability approach as suggested by Sen (1999). According to Sen (1999), development is rather seen as a capability of an individual to convert resources into well-being rather than defining it in the form of GDP as has been done in the past. Sen (1999) argues that the importance subsists in the way people can utilize these resources. In this sense, he identifies human beings as an engine of change rather than being a passive beneficiary, viewing choice as a level of development. Restricting the ability to make a choice and/or lack of choice is viewed as underdevelopment, making freedom the primary objective and principle mean of development and an important part of a growth (Croes, 2012; Sen, 1999; O'Hearn, 2000). In this sense, restricting freedom will constrain human beings to make choices and to utilize resources to their full potential, enabling them to achieve progress and development. Thus, freedom is central to prosperity and destination competitiveness. Then it can be hypothesized that the degree of freedom will impact destination's competitiveness. In other words, countries with a higher level of freedom will be able to achieve faster and steady level of economic growth, being more competitive than others, while advancing citizens' quality of life.

Because the tourism industry is a key component in destination development, than going back to Sen’s argument on freedom and capability, it can be hypothesized that tourism competitiveness will be influenced by the level of freedom provided, becoming a key component, improving overall citizens’ well-being (Lee, 2008; Wint, 1998). Therefore, government officials have strived to create a competitive environment that is important to economic prosperity, impacting residents’ quality of life. Such a relationship in the context of tourism has not previously been addressed in the academic literature, making it the primary focus of this study. Figure 1.2 reveals the proposed model.

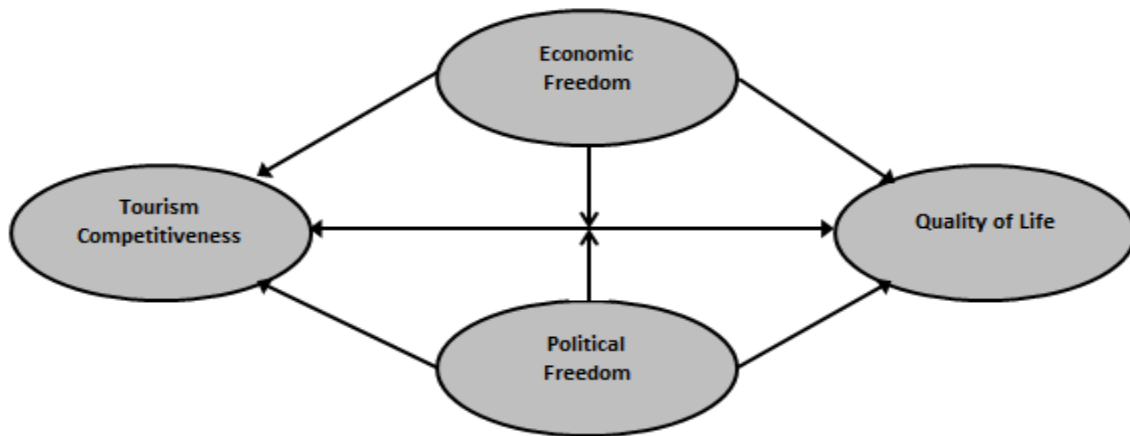


Figure 1. 2: Proposed model

### Research Questions

Based on the literature review in the area of economics, tourism competitiveness, quality of life, and public policy, the following research questions are being proposed:



1) Does a change in tourism competitiveness affect a destination's quality of life? If it does, to what degree does a change in tourism competitiveness influence the level of quality of life?

What is the magnitude of such effect? What is the direction of such relationship?

2) Does a change in destination's quality of life affect tourism competitiveness? If it does, to what degree does a change in residents' quality of life influence the level of tourism

competitiveness? What is the magnitude of such effect? What is the direction of such relationship?

3) Does a change in freedom affect a destination's quality of life? If it does, what degree does a change in freedom influence the level of quality of life? What is the magnitude of such

effect? What is the direction of such relationship?

4) Does a change in freedom (economic & political) affect a destination's tourism competitiveness? If it does, what degree does a change in freedom influence the level of tourism

competitiveness? What is the magnitude of such effect? What is the direction of such relationship?

### Methodology

The research questions of this study are concerned with the relationship between tourism competitiveness, quality of life, while intervening for freedom construct. This study will adopt a quantitative research method. A panel data analyses, also called longitudinal data or cross-sectional time-series data, will be performed in order to properly assess the relationships between the variables. A panel data analysis was selected as opposed to just time series or cross-sectional modeling as a panel data analyses allows not only for analyzing different dimensions (groups),

but also allows the consideration of time effect taking into consideration by time series dimensions (Baltagi, 2001). When data are collected over a long period of time at equally sequenced time intervals, they are most vulnerable to history effects due to changes, for example, in population and economic patterns. Therefore, it can be concluded that the past can affect the future, but not vice versa (Zikmund, Babin, Carr, & Griffin, 2010). Panel data analysis allows establishing the temporal ordering of variables as a way of delineating which of the two variables may be the likely cause of the other, enhancing the researcher's ability to draw causal inference from the data. In addition, it allows incorporating an impact of naturally occurring interventions, such as economic crises or terrorist attack, distinguishing among different dimensions (in this case, countries).

A sample of seven countries will be utilized to empirically test the relationship between tourism competitiveness, quality of life, and freedom over the span of fourteen years. The data used in this analysis are annual, covering the period between 1995 and 2007. All data will be expressed in logarithms in order to include the effect of time series and are symbolized with 'Log' preceding each variable name.

In addition, control variables will be included in order to control for extraneous variables, which may have some systematic effect on the dependent variable and can produce confound results (Zikmund et al., 2010). In this case, the researcher has chosen to utilize corruption and economic development as control variables. The first control variable, corruption, has been found significant in explaining competitiveness across countries (Das & DiRienzo, 2009). Going back to Sen's argument on freedom and the role of agency, it can be concluded that government plays a central role in influencing the level of freedom provided in a destination. In turns,

corruption has been found to impact the role of government as countries with higher level of corruption are typically politically and economically unstable. The presence of corruption tarnishes the destination's image, weakens the country's economic and business environment needed for destination success. When corruption decreases, the destination competitiveness increases (Das & DiRienzo, 2009; Enright & Newton, 2004).

The second control variable selected is the level of economic development and is measured as gross domestic product (GDP). Once again, going back to Sen's argument that development is measured by its impact on individual lives, the level of economic development will have an impact on the choices and opportunities individuals have. For example, the level of education or healthcare will be influenced by the level of economic development as funds, for example in the form of taxes, are needed to subsidize such services. Previous studies have shown that countries with higher level of development tend to be safer, with well-established infrastructure, thus being more competitive than others (Das & DiRienzo, 2010).

The model applied also allows for the possibility of exogenous shocks to tourism competitiveness and quality of life that have affected the region, such as the Guatemalan civil war which ran till 1996, Hurrigan Mitch in 1998, 2001 currency change to US dollar in El Salvador, and September 11 terrorist attract, being independent of other factors in the model. These exogenous shocks are necessary to include as they may have a significant impact on the economy of the destination over the years, affecting the current rate of the variables.

## Case Study

### *Developing countries*

This study will be applied to developing countries as tourism has become an important driver for socio-economic progress and growth. The World Bank (2012) report states that: "... economic growth is the only sustainable mechanism for increasing a society's standard of living". It is therefore not a surprise that many developing countries view tourism as an opportunity to relieve some of the constraints on the development process and recognize it as a main export category and key source of income (Jenkins & Henry, 1982; Sasidharan, Sirakaya, & Kerstetter, 2002; UNWTO, 2010). In recent years, the rate of tourism growth in developing countries has approximately doubled the world average growth rate and almost tripled the growth for high income countries. Such development has produced economic and employment benefits in many related sectors, such as telecommunication, infrastructure, or agriculture, leading to an increase competition among these destinations (USAID, 2013; UNWTO, 2013).

Especially for developing countries, tourism represents an opportunity for economic diversification, allowing for the poor to become exporters through the sale of services. Since tourists are attracted to remote areas with high values of culture, wildlife, and landscape assets, tourism enables communities that are poor in material wealth but rich in history and culture to leverage their unique assets for economic development (USAID, 2013).

It can be said that in some instances, the business volume of tourism has equaled or surpassed that of oil exports, food products, and/or automobiles (UN, 2012; UNWTO, 2013). Developing countries in particular can benefit from such contribution of tourism to economic well-being. It can be said that tourism is one of the main sources of income, accounting for 83%

of exports and contributing up to 25% to GDP, compared to developed nations where tourism contributes to only 2-10% of GDP. It is therefore not a surprise that many of the developing countries view tourism as an opportunity to relieve some of the constraints on the development process (Jenkins & Henry, 1982). Therefore, this study will address the issue of developing countries rather than developed destinations.

### *Defining 'Developing Country'*

When it comes to classification of a country based on its level of development, there is no generally accepted criterion that would be grounded in theory or based on objective benchmarks (IMF, 2011). While clear differences exist between standards of living enjoyed by citizens of two different countries (e.g. Haiti and the USA), many economists are more hesitant to do such classification when it comes to countries such as Russia, where such distinction is not obvious, suggesting that the classification system is too restrictive. The question that comes to mind is where exactly to draw the line between developed and developing countries (IMF, 2011). After reviewing the different approaches suggested by IMF, World Bank, and UNDP, it can be concluded that each institution tackles this issue very differently (including the choice of terminology) (IMF, 2011).

In this study, the word 'developing country' will follow the United Nations' classification, where Central America, the Caribbean, and South America among others are classified as developing countries. According to the UN, developing countries are countries in the bottom three quartiles of their Human Development Report (HDI) distribution and account for 85 percent of the world's population. Those at the top one quartile are classified as developed countries. In addition, the United Nations also recognizes Least Developed Countries (LDC)

within the segment of developing countries. These countries (such as Haiti or Ethiopia) represent the poorest and weakest segment of the international community, representing about 12 percent of the world population, but accounting for less than 2 percent of world GDP and 1 percent of global trade (UN, 2012).

### *Central America*

This study will apply the proposed model to the Central American region. Specifically, this study concentrates on the region of Central America, which is comprised of seven countries: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. Over the years, the region has experience series of civil war, violence, underdevelopment, and dictatorship. Central American countries have been trying to restructure their economies and move away from traditional agriculture based industries to predominantly service-based industries to improve its economic and social environment among others.

Central America is considered one of the poorest regions in the world, with half to the population living in poverty (Hammill, 2007). Therefore, it should not be a surprise that tourism has recently emerged as a primary development strategy for the region (RIE, 2010), becoming one of the main generating sectors of currencies in the economy (IHT, 2013). In 1996, the Declaration of Montelimar was signed to recognize tourism as a central force for global competitiveness and to increase diversification of the economies (RIE, 2010). Between 2000 and 2008, Central America experienced 8.4% growth in international tourists' arrivals, the highest rate among the world (UNWTO, 2010). However, tourism development has been uneven, with some countries attracting more tourists than others (Hammill, 2007)

### Significance of the Study

This study has been motivated by several important implications that add not only to the theoretical body of knowledge but also provide some useful practical propositions. From the theoretical point of view, the contribution of this study is with respect of decoding the ‘black box’ in the context of tourism competitiveness and quality of life. From the academic literature, the relationship between tourism competitiveness and quality of life has been investigated, often being grounded in the choice and opportunities theory as discussed by Croes (2012). However, it is still unclear where choices and opportunities come from in such context as some destinations grow while improving quality of life while other grow without an impact on quality of life and some don’t grow at all. Thus, employing the freedom construct as an intervening factor will provide further understanding of such relationships. In addition, this study does not utilize traditionally employed subjective and objective approaches to test quality of life as often applied in the tourism academic literature. Rather an objective method based on Sen’s capability approach is being implemented, offering yet another perception.

From the practical point of view, the findings of this study could have a vast impact on the way governments manage their destinations in terms of tourism competitiveness. Since the relationship between freedom and quality of life was not previously addressed in the tourism academic literature, these findings could provide useful information to policymakers and political leaders when molding new policies and procedures specifically aimed at achieving tourism competition and destination development. For example, if economic freedom would be found to have a significant effect on such relationship, countries with low economic freedom could take steps toward increasing the freedom in terms of regulations or legal structure.

It is crucial to understand if expansion of opportunities influences tourism competitiveness which in turns improves quality of life or if this is done independently from tourism. Due to the growing relevance of tourism in the Central American region and its impact on poverty and economic growth, knowing the performance of others within the region will allow each country to adopt their own practices specifically geared toward tourism competitiveness.

In addition, the findings from this study may also provide a platform to stimulate additional quantitative and/or qualitative research in the area of tourism competitiveness, quality of life, and government involvement.

#### Limitations of the Study

With any research, limitations will occur due to internal or external validity. Thus, this study will not be without limitations either. In terms of internal validity, secondary data has been used for data analyses. Using secondary data can pose a limitation on the ability of a researcher to verify the data's accuracy. As it is in this case, it is impossible to identify the accuracy of the information provided and collected by each institution. Therefore, full trust is given to these reputable institutions collecting data employed in the study.

Next, this study chose specific measurements for each variable. In the literature, a variety of measurements exist to measure, for example, tourism competitiveness or quality of life. By selecting a specific measure, the researcher is automatically placing a limitation on the study associated with that particular measure. Additional studies should be prepared to use different measures for comparison purposes. For example, instead of using Tourism Competitiveness



Index (TCI) to measure tourism competitiveness, a measurement developed by the World Economic Forum could be utilized to see if variance exists. The same can be applied to quality of life, which in this study is based on Sen's capability approach rather than widely used subjective approaches, omitting one's feelings and emotions. Therefore, subjective validation is required in a future study. Furthermore, the concepts utilized in this study are comprised of number of different variables. For example, human development index is calculated based on three indicators (health, education, and living standards), possibly omitting other indicators that could be included, thus inflicting one more limitation.

Another limitation deals with the quantitative methodology adopted in this study. Although the panel data analysis technique has much to offer, it also has some limitations. The researcher is often faced with failing to include a relationship or factors that are part of the multivariate system, thus leading to potential biases, facing problems with interpretation and hypothesis testing (Brandt & Williams, 2007). For example, the study does not include inequality or crime rate, a significant problem in developing countries. Therefore, a follow up case study is usually suggested to minimize this limitation.

Additionally, when using multiple regressions with time series, one must use caution because of the autocorrelation nature of time series as time series violates the assumption of independence of error. In this case, Type I error rate will increase if autocorrelation is present. The challenge of time series is to extract the autocorrelation elements of the data either by understanding the trend or by modeling the underlying mechanism. In addition, inherent patterns in the data may restrain or enhance the effect of an intervention. Finally, panel analyses apply averages to all observations within the sample. This may be a potential issue as a country

specific effect could be high and significant, however, unable to distinguish with the use of averages (Baltagi, 1995; Hsiao, 2006; Song, With, & Li, 2009, Shiu & Lam, 2008).

In terms of external validity, it is very difficult to generalize this study to other countries beyond those of Central America. Future studies should include not only developing countries in other parts of the world, but also developed countries to better understand the relationship investigated as it compares to the level of economic development and the stage of tourism cycle. Unlike other industries, tourism incorporates a variety of different businesses and organizations, such as hotels, airlines, and restaurants. Additional research should concentrate on individual industry specifically as variation in importance and impact may exist.

## CHAPTER TWO: REVIEW OF THE LITERATURE

### Introduction

Chapter two continues a discussion pertaining to a relationship between tourism competitiveness and quality of life by integrating the freedom construct (economic and political) as an intervening factor. This chapter provides an in-depth literature overview, delivering the theoretical foundation and conceptual framework of the proposed model. The literature review presents the discussion and support to the conceptual model outline in the first chapter. It starts with an examination of the notion of competitiveness and quality of life and its importance in the concept of destination development. It provides the argument on the utilization of Sen's capability approach. The discussion on freedom as an intervening construct is developed. The chapter concludes with presentation of the conceptual model and hypotheses.

### Competitiveness

#### *Conceptual Foundations of Competitiveness Theory*

The conceptual foundations of competitiveness theory oscillate between two schools of thought: (i) the Ricardian theory of comparative advantage and (ii) the Porterian framework of competitive advantage (Croes & Kubickova, 2013; Smit, 2010). The Ricardian theory springs from the international trade paradigm and can be loosely defined as a trade due to differences between countries. The theory points out that specialization takes place because of country differences. The two underlying assumptions of comparative advantage are perfect competition and constant returns to scale. The theory not only explains the direction and gains of the trade between countries, but it also determines a country's relative location advantages. However,

Porter questioned its ability to explain location advantages and proposed new theory to explain competitive advantage of nations, being derived from management theory. His model attempts to answer why some countries are more successful in particular industries than others, by identifying four classes of country attributes (the so called National Diamond) (Porter, 1985, 1990).

The ‘diamond of the nations’ model consist of four components: (i) factor conditions (the inputs); (ii) demand conditions (domestic & international); (iii) related and supporting industries; and (iv) firm strategy, structure, and rivalry. To the diamond, Porter also added two additional variables: (i) chance events; and (ii) government, influencing any of the four determinants. The Diamond Framework provides the link between firm and country-specific sources of competitive advantage which firm can utilize to gain international competitive advantage (Porter, 1985, 1990; Ritchie & Crouch; 2003; Smit, 2010). This model is well-developed and widely used in all industries, providing guidance for decision makers to position their products in order to maximize profitability and improve competitiveness (Buhalis, 2000). However, this model fails to address the specific needs of tourism industry (intangibility, heterogeneity, perishability, and inseparability) as the tourism product is an experience, delivered by a destination to its visitors, which is being produced by multiple players, impacting the visitor overall experience (Porter, 1985). In addition, the multiplicity of players involved in the supply and delivery of tourism services make it more complex and unique in comparison to the manufacturing industry (Porter, 1985; Wang et al., 2012).

Competitiveness is one of the most misused and misunderstood terms in the academic literature and in the press today (Smit, 2010). It can be summarized that the construct reveals

three important assumptions (Croes & Kubickova, 2013). First, the construct of competitiveness is embedded in the concept of competition: “to compete is to consciously attempt to gain an advantage, or to defend and maintain a position, in relation to adversaries” (Leiper, 2008, p. 242). In other words, competition can be translated as a ‘rivalry’ (Porter, 1990) or zero sum game (if one gains, another loses). Zero sum game, according to the viewpoint of the 16<sup>th</sup> century mercantilists, can be achieved by higher export and restricted imports, resulting in an inflow of gold and silver, thus making country rich and powerful country (Smit, 2010). Competition, however, can also reference the role of information which determines the working of the market (perfect competition or market failure). According to Croes and Kubickova’s (2013) study, there are three reasons that seem to prompt increased competition. First reason lies in the number of destinations. Over the years, the number of destinations has increased while at the same time the number of original markets remained the same, thus increasing competition (Croes & Rivera, 2010; Vlami et al., 2006). A second reason for increased competition is that destinations have become easily substitutable. Meaning that if others provide similar experiences which are readily accessible, they will be chosen (Lew & McKercher, 2006; Mangion, Durbarry, & Sinclair, 2005; Pike, 2005). As Pike (2005) points out, today’s travelers are spoiled for choice of available destination, influencing their decision making (Lew & McKercher, 2006). And a third reason is that growth rates of tourism demand have fallen significantly over the past fifty years, despite increased demand in tourism globally (Papatheodorou & Song, 2005). Therefore, determining and understanding the level of international competitiveness is an ever-growing concern for governments and firms (Smit, 2010). In particular, those countries that are relying on tourism

income are more than ever interested in gaining competitive advantage (Gooroochurn & Sugiyarto, 2005).

Second, the construct is multi-dimensional, involving a number of attributes (Craigwell, 2007; Crouch & Richie, 1999; Dwyer & Kim, 2003; Enright & Newton, 2004, 2005; Gooroochurn & Sugiyarto, 2005; Wang et al., 2012). Some authors have tried to assess competitiveness by utilizing the level of corruption in the destination or by number of arrivals, room nights, and value-added. The literature is not clear how these attributes are related. For example, can we say that if a destination has beautiful natural resources it is more competitive than one that lacks such resources? Just because destination has more hotel rooms, it does not automatically translate into more arrivals thus being more competitive. Attributes are viewed as inputs that somehow mysteriously are mixed in a 'black box' leveraging a desired societal outcome. This input framework is premised on the potential of a destination to accomplish its developmental objectives without accounting for intervening factors such as inequality and institutional weaknesses that can put a dent in the quality of life of residents of a destination. Intervening factors seem pervasive in the context of developing countries.

And third, it can be said that competitiveness occur on different levels, taking place on firm, region, and national level (Wang et al., 2012). Thus, due to the different assumptions and levels (firm, industry, nation), various definitions of competitiveness exist today, none of them being generally accepted (Berger, 2008; Krugman, 1994; Ritchie & Crouch, 2003). For example, Michael Porter feels comfortable to apply competitiveness to nations, while Paul Krugman questions the usefulness of the term when it comes to nations (Croes, 2010). Several studies have assumed that the nature of competitiveness at the firm and national level is identical.

However, unlike at the firm level, a falling market share in tourism does not mean a loss of national competitiveness. What it simply suggests is the shift in comparative advantage (Croes & Rivera, 2010; Krugman, 1996; Lall, 2001). Thus, what can be applied to firms cannot be directly applied to destinations and vice versa (Croes & Rivera, 2010; Ritchie & Crouch, 1993; Wang et al., 2012). The reason for the previous contention may be found in the two competing schools of thought, such as the trade theory and management theory as referenced before.

#### *Definitions of Competitiveness*

One of the most recognized definitions of competitiveness has been written for the Reagan administration in 1984, where competitiveness is defined as “the degree to which it can, under free and fair market condition, produce goods and services that meet the test of international markets while simultaneously expanding the real income of its citizens” (Cho & Moon, 1998, p. 12). Similarly, Porter’s (1990) defines competitive strategy as “a profitable and sustainable position against the forces that determine industry competition” (p. 1). Aiginger (1996) points out that “a country is said to be competitive if it sells enough products and services, at factor incomes in line with country’s (current and constantly changing) aspiration level at macro conditions (of economic and social system) seen as satisfactory by the people” (p. xiii- xiv). And Ritchie and Crouch (2003) define competitiveness as “...[the] ability to increase tourism expenditure, to increasingly attract visitors while providing them with satisfying, memorable experiences, and to do so in a profitable way, while enhancing the well-being of destination residents and preserving the natural capital of the destination for future generations” (p. 2). As has been demonstrated, competitiveness has become a benchmark against which success is being measured; however, defining what competitiveness means has been difficult,

often depending on the 'outcome' one is trying to achieve. The term has evolved from comparative advantage (deploying resources) to competitive advantage (customer preferences).

Because of the multiple levels, competitiveness can be defined from firm, industry, and country standpoint as mentioned previously. From the firm perspective, competitiveness can be identified as "the ability of entrepreneurs to design, produce, and market goods and services, the prices and nonprice qualities of which form a more attractive package of benefits than those of competitors" (Kayar & Kozak, 2007, p. 204). Based on this definition, an entrepreneur who provides better product will have competitive advantage. From the industry perspective, Buhalis (2000) states that competitiveness "is the effort and achievement of long term profitability [for entrepreneurs], above the average of the particular industry within which they operate as well as above alternative investment opportunities in other industries" (p. 106). Destination's competitiveness, following D'Hautesserre's (2000) definition, can be defined as "the ability of a destination to maintain its market position and share and/or to improve upon them through time" (p. 23). If the construct of competitiveness is defined through the notion of market position and profitability, then the obvious question arises as who is benefiting from the market position of tourism competitiveness. Arguably, the use of attributes that are associated with public goods, such as beaches, mountains, scenery and other natural resources, cannot be leverage for the sole purpose of profitability. If profitability means that some at the destination won't glean all the benefits then competitiveness at a destination cannot be associated with profitability. Krugman (1996) indicated that competitiveness among countries based on management theory could result in a zero sum game and considered it a 'dangerous obsession' (Croes & Kubickova, 2013).



The assertion of Krugman is consistent with the definition of Crouch and Ritchie (1999) who define competitiveness as the ability of a destination to provide a high standard of living for its residents and visitors. The literature is very consistent in identifying quality of life as an outcome of competitiveness (Croes & Rivera, 2010; Crouch & Ritchie, 1999; Dwyer et al., 1999; Dwyer & Kim, 2003; Newall, 1992).

After reviewing the literature on tourism competitiveness, it can be noted that the definitions mainly centers on four components: (i) ability to deploy resources (sustainability), (ii) memorable experience of tourists, (iii) superior performance, and (iv) quality of life. Table 2.1 provides a summary of definitions pertaining to competitiveness.

Table 2. 1: Definitions of competitiveness

<b>Source</b>	<b>Year*</b>	<b>Definition</b>
Porter	1985	“The only meaningful concept of competitiveness at the national level is productivity. The principal goal of a nation is to produce a high and rising <b>standard of living</b> for its citizens. The ability to do so depends on the productivity with a nation’s labor and capital are employed.” (p. 7)
Reinert	1995	“National competitiveness refers to a Nation State’s ability to produce, distribute and service goods in the international economy in competition with goods and services produced in other countries, and to do so in way that earns a rising <b>standard of living</b> .” (p. 26)
Krugman	1997	“Competitiveness is our ability to produce goods and services that meet the test of international competition while our citizens enjoy a <b>standard of living</b> that is both rising and sustainable.”
Crouch & Ritchie	1999	“the ability of destinations to provide a <b>high standard of living</b> for residents of the destination” (p. 137)
Hassan	2000	“destinations’ ability to create and integrate value-added products that sustain its resources while maintaining market position relative to competitors” (p. 240)
Buhalis	2000	“effort and achievement of long term profitability, above

Source	Year*	Definition
		the average of the particular industry within which they operate as well as above alternative investment opportunities in other industries” (p. 106)
d’Hauteserre	2000	“ability of a destination to maintain its market position and share and/or to improve upon them through time. To some extent competitiveness also means an extended product life time” (p. 23)
Mihalič	2000	defined it from environmental point of view which relates to both, natural and created resources and sociocultural environment
Ritchie & Crouch	2003	“what makes a tourism destination truly competitive is its ability to increase tourism expenditure, to increasingly attract visitors while providing them with satisfying, memorable experiences, and to do so in a profitable way, while enhancing the <b>well-being</b> of destination residents and preserving the natural capital of the destination for future generation” (p. 2)
Enright & Newton	2004	“a destination is competitive if it can attract and satisfy potential tourists and this competitiveness is determined both by tourism-specific factors and by a much wider range of factors that influence the tourism service provider” (p. 778)
Enright & Newton	2005	“... the degree to which a nation can produce goods and services that meet the test of international markets while simultaneously maintaining or <b>expanding the real income of its citizens.</b> ” (p. 340)
Bristow	2005	“represents the fundamental external validation of a firm’s ability to survive, compete and grow in markets subject to international competition” (p. 287)
Hong	2009	“The relative competitive position (in terms of profits and growth) of a nation’s tourism industry in the global market, including developed and developing countries, which could therefore increase the real income of its citizens and improve its standard of living.” (p. 129)
Kayar & Kozak	2010	“the ability of entrepreneurs to design, produce, and market goods and services, the prices and nonprice qualities of which form a more attractive package of benefits than those of competitors” (p. 204)

<b>Source</b>	<b>Year*</b>	<b>Definition</b>
World Economic Forum	2013	“the set of institutions, policies, and factors that determine the level of productivity of a country” involving static and dynamic components” (p. 4)

\*By the year of publication

### *The role of Tourism Competitiveness in Quality of Life*

Competitiveness is viewed as an antecedent for quality of life, suggesting an implicit unidirectional relationship between tourism and quality of life (Andereck & Vogt, 2000; Andereck, Valentine, Vogt, & Knopf, 2007; Andereck & Nyaupane, 2011; Deller et al., 2001; Fredline, Deery, & Jago, 2005; Kim, 2002; Rogerson, 1999; Marzuki, 2009; Meng, Li, & Uysal, 2010; Um & Crompton, 1990). In these studies, tourism has been identified to have either a positive or a negative impact on the residents’ quality of life. It has been associated with community development and if handled appropriately, it can become an engine for achieving broader social goals. In this sense, an improved quality of life has been reflected in higher economic growth, improved personal standard of living, and increased tax revenues. It has been seen as a major vehicle in providing a competitive edge to the community, an attribute sought in the context of global capital (Andereck et al., 2007; Deller et al., 2001; Rogerson, 1999).

On the other hand, there are also some concerns that tourism could have a negative impact on a destination, thus influencing residents’ quality of life. These negative impacts have been reflected in traffic jams, parking issues, pollution, crowding, increased crime, higher cost of living and changes in residents’ way of life among others (Andereck et al., 2007; Ap & Crompton, 1993; Crouch & Ritchie, 1999; Sasidharan, Sirakaya, & Kerstetter, 2002). Additional impacts of tourism on destination are listed in Table 2.2.

Table 2. 2: Impact of tourism on a destination

<b>Type of Impact</b>	<b>Positive</b>	<b>Negative</b>
· Economic	<ul style="list-style-type: none"> <li>· Economic diversity</li> <li>· Economic growth</li> <li>· Increased tax revenues</li> </ul>	<ul style="list-style-type: none"> <li>· Economic exploitation</li> <li>· Terrorism</li> <li>· Financial leakages</li> </ul>
· Environmental	<ul style="list-style-type: none"> <li>· Upgrade of outdoor recreation facilities, parks, roads, etc.</li> </ul>	<ul style="list-style-type: none"> <li>· Environmental damage, pollution</li> <li>· Depletion of wild life</li> </ul>
· Community	<ul style="list-style-type: none"> <li>· Increase revenue for local businesses</li> <li>· More business opportunities</li> <li>· Improvement of local services</li> <li>· Encouragement in local art, crafts</li> <li>· Improvement of the surroundings</li> <li>· Preserves cultural heritage</li> <li>· Enhanced international recognition</li> <li>· Commitments to local jobs &amp; Training</li> <li>· Access to services and infrastructure (radio, water supply, health care)</li> </ul>	<ul style="list-style-type: none"> <li>· Crowding</li> <li>· Traffic, congestion</li> <li>· Parking problems</li> <li>· Increased crime, prostitution</li> <li>· Drug trafficking</li> <li>· Commercialization</li> <li>· Increase cost of land</li> <li>· Increase in property taxes</li> <li>· Loss of local culture (underdeveloped countries)</li> <li>· Health Pandemics</li> </ul>
· Individual	<ul style="list-style-type: none"> <li>· Employment opportunities</li> <li>· Higher personal standards of living</li> <li>· New ideas</li> <li>· Learning about new culture</li> </ul>	<ul style="list-style-type: none"> <li>· Increased cost of living (prices)</li> <li>· Friction between tourists &amp; residents</li> <li>· Changes in residents' way of life</li> </ul>

\* items retrieved from: Anderec et al. (2007); Ap & Crompton (1993); Croutch & Ritchie (1999); Deller et al. (2001); Kim (2002); Rogerson (1999); Sasidharan et al., 2002; USAID, 2013; Var, 1986

Some authors pointed out that an increase in economic growth can lead to a development of amenities, such as attractions, festivals, or restaurants. These amenities are specifically geared toward tourists but can also be enjoyed by local residents while providing employment opportunities, impacting their quality of life. On the other hand, residents can be excluded from enjoying these amenities or displaced from their normal environment allowing for tourism development. Or the benefits stemming from tourism may only benefit a small group within the destination. For example, provision of clean beaches can be enjoyed not only by tourists, but also by local residence. Moreover, if these beaches are not accessible to local residence, they

may feel excluded from enjoying such amenity. Under these conditions, a destination cannot be said to be competitive because competitiveness is not resulting in improved quality of life.

Improved quality of life becomes the key parameter of competitiveness. In other words, quality of life is the ultimate outcome of competitiveness, not its means. For this reason, the quality of life concept entertained by this study is grounded in Dwyer and Kim's (2003) definition of competitiveness who defined it as being: "centered on human development, growth and improved quality of life ... for a society, improved competitiveness translates into new jobs and better living conditions ... the ultimate goal of competitiveness is to maintain and increase the real income of its citizens, usually reflected in the standard of living of the country ... its ultimate goal is to increase the standard of living of a nation under free and fair market conditions" (372). The previous discussion leads to the first research question introduced in this study:

***Research Question 1: Does the level of tourism competitiveness affect (positively or negatively) the destination's quality of life?***

#### *The role of Quality of Life in Tourism Competitiveness*

Up until this point the study has only considered the impact of tourism competitiveness on quality of life. However, a case can be made that tourism competitiveness is also an outcome of the quality of life at a destination. The issue with the discussion mentioned above is the unidirectional way of thinking. In other words, studies affirm that tourism is the input and quality of life is the output. However, what they lack is the possible opposite relationship that quality of life (input) can impact tourism competitiveness (output). As Ap (1992) pointed out in his research, "residents are important players who can influence the success or failure of the local

tourism industry.” Then he continues, “residents may contribute to the well-being of the community through their participation (at varying degrees) in the planning, development, and operation of tourist attractions, and by extending their hospitality to tourists in exchange for the benefits obtained from tourism. On the other hand, residents may be instrumental in discouraging tourism by opposing it or exhibiting hostile behavior toward tourism advocated and/or tourists” (p. 668-669).

It can be said that satisfied citizens lead to better service as they demand more service for themselves, which can be also utilized by tourists. By pursuing better quality of life, local residents often start their own businesses, such as diving shops or excursions, and offering additional services to tourists; thus, enhancing their overall experience. In addition, residents who are supporting tourism display more friendly and approachable behavior, providing a positive experience to tourists, therefore, influencing their future intentions to return to that destination. In order for cities/destinations to develop and become competitive, quality of life will become a key factor in creating a destination niche (Rogerson, 1999).

These days, not only tourism, but also various industries are taking into considerations quality of life before expanding their operations to a specific destination. As Mattson (1990) points out, economic development strategies must take into account the communities’ core qualities. As was seen in a study conducted in the United States, the issue of quality of life was a primary contemplation in locating a plant or new business (Rogerson, 1999). As Rogerson (1999) concluded, not only high ratings of quality of life, but also low ratings can be used as leverage. Numerous examples exist to support this case. For example, the city of Perth (Scotland) made much of its distinction to persuade the business community and the visitors of

the city (tourists and potential residents) that it was a desirable place to live, visit, and to invest (Rogerson, 1999).

It is this setting that Hall (1995) calls “the pro-competition *zeitgeist* ... the frenetic search for different and novel ways of ensuring that one place can be seen to be more competitive than another ... The main contribution that quality of life makes in the process of capturing or ensnaring capital lies in the arena of place promotion and marketing, being part of the attempts by cities to forge distinctive images and atmospheres which act as a lure to both capital and people ‘of the right sort’ (i.e. wealthy and influential)” (Rogerson, 1999, p. 972). In this sense, an industry not only impacts, but also is being impacted by residents’ quality of life.

This study investigates such relationship as this phenomenon lacks substantial testing in the academic literature. As of today, only few researchers have hinted the possibility of quality of life influencing tourism (Andereck & Nyaupane, 2010; Andereck, Valentine, Vogt, & Knopf, 2007). Only one study conducted by Croes (2012) looked at the causal relationship between tourism competitiveness and quality of life. The result of Croes study revealed the connectivity between tourism and quality of life in the case of Nicaragua, while in the case of Costa Rica it seems to be more unstable. Therefore, this study addresses such gap by introducing the next research question which investigates the bi-directional relationship between tourism competitiveness and quality of life. Specifically:

***Research Question 2: Does the destination’s quality of life affect (positively or negatively) the destination’s tourism competitiveness?***

### Quality of Life

Similarly to competitiveness, defining quality of life has become a challenge. Even the greatest thinkers in our history could not agree on the perception of a good life. Aristotle's idea of 'eudaimonia' called on realization of full potential. On the other hand Emanuel Kant called for acting in a moral way, and eastern philosophers stressed the importance of restraining individual desires (Diener & Suh, 1997). As Diener and Suh (1997) points out, there are three major philosophical approaches to determine quality of life. The first one characterizes good life by dictating the normative ideas based on religious, philosophical, or other systems. For example, the characteristic of good life might include helping others as this is dictated by the religion. The second approach is based on the satisfaction of preferences as it assumes that people will select those things that enhance their quality of life. The third approach is in terms of the experience of the individual. If a person believes their experience of life is desirable, such as joy, pleasure, and contentment, it is assumed to be so.

Over hundreds of definitions exist attempting to define quality of life. In general, it can be said it is a multi-dimensional and interactive construct (Andereck et al., 2007; Andereck & Nyaupane, 2011). Often, it has been defined as a qualitative standard of a specific population (Andereck & Nyaupane, 2011; Croes & Rivera, 2010; Lane, 1994). When defining quality of life, in question is how residents perceive the community characteristics that contributes to their well-being and how they think the region is doing (Andereck & Nyaupane, 2011).

#### *Subjective & Objective Perspective*

Over the past 30 years, quality of life in the tourism literature has been mainly investigated from two different perspectives: subjective and objective. Many researchers felt it is



best studied from the perspective of the individual since quality of life is a subjective experience depending on a perception. These studies have mostly examined the way people perceive tourism and how it influences the communities and the environment, assuming the connection between community characteristics and life satisfaction. The main concern has been with tourism-related community changes and the associated level of support for tourism development. It has mainly taken into consideration the correlation between available goods and subjective well-being collected through surveys, adopting the stand from micro-perspective, studying residents at the community level (Andereck & Nyaupane, 2011; Andereck & Vogt, 2000; Croes, 2012). Such studies usually ask residents to either agree or disagree with statements regarding the perceived impacts on their community without linking these impacts to perceived influences, using a variety of scales to measure (Andereck & Nyaupane, 2011). However, surveys are difficult to generalize to the entire population and are difficult to compare across countries/destinations. In addition, subjective point of view is related to emotions of happiness and satisfaction, and an emotion is a fickle concept. Therefore, in situations where a country as a whole is studied, utilizing objective point of view is better suited.

Objective studies are based on quantitative statistics rather than on individual's subjective perceptions of their social environment. They are typically concerned with the way such impacts influence individual or family life satisfaction, including personal circumstances and satisfaction with community and neighborhood. Variables such as longevity, infant mortality, homicide rates, rates of rape and police per capital have been often included in indices derived from ecology, human rights, welfare, and education (Diener & Suh, 1997). Others have considered quality of life as opulence. For example, it has been reflected as Gross Domestic Product (GDP), income

and/or commodity command. In other words, high income would translate into better quality of life. The shortcoming of using such measurements is the reliance on one variable. Taking into consideration only external factor(s), such as economic perception, omits other objective and/or subjective factors from being used, possibly influencing quality of life (Andereck & Nyaupane, 2011). In addition, utilizing GDP to express quality of life is not necessarily accurate. Even though some groups within a society may be better off than others, it does not essentially mean they have higher life satisfaction level (Andereck et al., 2007).

The subjective/objective viewpoints have been extensively discussed in the academic literature, for example in Andereck and Vogt (2000), Andereck et al. (2007), Andereck and Nyaupane (2011), Deller et al. (2001), Dritsakis (2004), Fayissa, Nsiah, & Tadasse (2008), Kim (2002), Rogerson (1999), Um and Crompton (1990). The issue with these perspectives is that they do not fully capture the level of well-being at the destination level. Overall, surveys are difficult to generalize to the entire destination while utilizing external factor(s) tends to omit other variables, making it difficult for researchers to compare across destinations/countries. Therefore, this study employs the capability approach proposed by Sen as it can provide researchers with accurate information while giving the ability to compare across destinations.

#### *Sen's Capability Approach*

In terms of capability view, Sen, similarly to Adam Smith, believes that expansion and economic growth are necessary for human development. He observes that people/societies vary in the way they convert income into valuable achievements (Clark, 2005). For example, life expectancy (a proxy of health) may be the same for two countries; however, income per person in these two countries can vary significantly. In this sense, life expectancy can be viewed as a

measure of achievement, but it is also related to freedom to achieve a valuable functioning (e.g. to avoid premature death) rather than measure of income (Sen, 1988). Therefore, many choices seem to be unrelated to income (Clark, 2005; Croes, 2012; Sen, 1987, 1988, 1999).

Sen also challenges utility (happiness, pleasure, desire-fulfillment) as “people do not always choose in accordance with their own personal interests but often wish to consider wider concerns” (Sen, 1985, p. 18-20). He states that there is much more to life than utility, for example rights and freedoms which may be neglected by the welfare approach (Clark, 2005). In this sense, Sen argues that individuals vary in their ability to convert resources into well-being and are affected by personal and existing social arrangements. The importance subsists in the way how these resources are being distributed and used by individuals, households, and governments and how people can convert them into well-being (Croes, 2012). In this sense, Sen (1999) captures the role of human agency as an engine of change rather than being the passive beneficiary.

Thus this argument leads to the conclusion that opulence (income and commodities) and utility (happiness) do not adequately measure the degree of well-being. Rather it is important to focus on achievements (functionings) and capabilities. Functioning refers to the use a person makes of the commodities at his/her command (Clark, 2005). The capability construct can be viewed as a range of opportunities presented to an individual to pursue the lifestyle and his/her ability to make a choice, to function, and to take action, being contingent on his/her objective and subjective elements. Consequently, the concept of well-being shifts from inputs (resources) to outputs (achievements). This shift is particularly based on widening choices and the influence

of people. Restricting the ability to make a choice is viewed as underdevelopment rather than the absence of income or possession of commodities (Croes, 2012).

Sen argues that the ability to achieve well-being is dependent on objective elements, such as education, access to healthcare, or life expectancy, which allow individuals to make a choice and provide them with capabilities to achieve certain functionings in their lives. If these elements are restricted, individual's quality of life will be impacted. For example, not having an access to education will limit citizens' ability to choose the life they value, thus directly decreasing their freedom, limiting their disposable income and economic freedom (Knopf, 1999).

As Sen demonstrates (1988) in one of his examples, if all alternatives except the chosen one were to become unavailable, then the chosen alternative will not change. However, what would occur in this example is the diminishment of freedom to choose, leading to reduction in person's advantage. On the other hand, choosing X when other alternatives are available cannot be identified with simply doing X no matter what. For example, 'fasting' and someone 'involuntarily starving' is not the same. Choosing X instead of Y may be seen as a function of opportunity to choose an alternative and reflects a person's capability to function, influenced by the level of freedom.

In summary, freedom is the reflection of one's ability to attain valuable functioning and well-being. Well-being is a result of the freedom that an individual possesses, allowing them to achieve a certain condition in life (to eat, to read, to move, etc.) based on one's subjective characteristics and endowment of commodities (Croes, 2012; Sen, 1999). In this way, the capability approach centers on providing the opportunities of a full life rather than insisting on economic growth. In this sense, a person becomes the end of the production process rather than

the mean and freedom becomes central in seizing opportunities (Clark, 2005; Croes, 2012; Sen, 1999; Sen, 1988). As Friedman points out, “a freely functioning market economy results in economic and technological progress, efficient utilization of resources, a rising standard of living that, with certain acknowledged exceptions, is distributed with reasonable equity, and a society characterized by social mobility and political freedom” (Wolf, 1988, p. 2).

### The Freedom Construct

As Sen said once, poor people through social conditioning can feel happy while being deprived at the same time. According to Sen, “consider a very deprived person who is poor, exploited, overworked and ill, but who has been made satisfied with his lot by social condition (through, say, religion, political propaganda, or cultural pressure). Can we possibly believe that he is doing well just because he is happy and satisfied? Can the living standard of a person be high if the life that he or she leads is full of deprivation? The standard of life cannot be so detached from the nature of the life the person leads” (Sen, 1991, p. 7-8). Therefore, freedom is the primary objective and principle mean of development and an important part of growth, and achievements depend on the free agency of people (Sen, 1999; O’Hearn, 2000).

It can be said that freedom to choose/supply and competition are central ingredients for economic progress. If one loses the ability to choose an alternative due to lack of freedom, it can lead to social and economic unfreedom and is directly linked to economic poverty (Pattanaik & Xu, 1990; Sen, 1987; Sen, 1999). As Croes (2012) points out, having two persons with similar incomes does not mean they have the same levels of human development. One may feel free to walk around in the neighborhood while the other may feel threatened due to high crime in the

area. In this sense, development can be rather seen as a process of expanding the real freedom people enjoy rather than defining it in the form of convenience, such as personal income, industrialization, technological advance, or in terms of social modernization. Not to say they are not important indicators, but their values depend on what they do to the freedom of people involved (Sen, 1999). Therefore, for an economy to progress, freedom to choose and to compete is essential in such processes (Sen, 1999).

### *Political Freedom*

Sen (1999) identifies five distinctive types of freedom (political, economic, social opportunity, transparency guarantees, and protective security), each of them helping to advance the general capability of a person, and at the same time complementing and strengthening one another. Sen (1988) believes that political freedom is one of the most important freedoms as it gives citizens an opportunity to participate in the community life, so fundamental to human existence. According to Sen, even the poorest are not unconcerned with issues of basic political freedom. In his view, political freedom helps to safeguard economic freedom. He supports this with an argument that famine (extreme hunger) does not occur in democratic countries, no matter how poor they are, as famine is easy to prevent through democracy (free election). Therefore political freedom becomes of a special interest in this study.

Political freedom is often defined as a set of rules that mainly direct the interactions of individuals under the political institutions of society (Stroup, 2007). While often political competitiveness of a destination has not been considered as a part of destination's competitiveness analysis, it is critical to destination development and is a scarce business resource (Ritchie & Crouch, 2003; Shaffer & Hillman, 2000). A democratic political system

permits active, but voluntary participation of its citizens, while creating competitive conditions beneficial to growth (Nelson & Singh, 1998). For example, political freedom (free speech, elections) helps to promote economic security (Sen, 1999). In general, governments that provide higher levels of political and civil liberties to their citizens achieved significantly higher GDP growth rates than those with autocratic governments (Nelson & Singh, 1998; Sen, 1999).

The lack of political freedom can have a major impact on residents' quality of life and tourism competitiveness. The absence of political freedom seriously hurts nations' economic performance as residents are restricted to the opportunities, such as to receive basic education, health care or having democratic elections (Sen, 1999). This in turn influences their ability to start their own businesses, thus become competitive. The previous discussion leads to next research questions:

***Research Question3: Does the level of political freedom affect (positively or negatively) the destination's quality of life?***

***Research Question4: Does the level of political freedom affect (positively or negatively) the destination's tourism competitiveness?***

#### *Economic Freedom*

Since political freedom is addressed in this study, economic freedom must be also taken into consideration. This is where Hayek-Friedman Hypotheses comes into a play which states that politically free societies must also be economically free (Lawson, 2008; Lawson & Clark, 2010). In other words, when political freedom is presented, economic freedom must also exist in a destination. Therefore, economic freedom has become of special interests in this study.

Economic freedom can be defined as a set of rules that predominantly oversees the interactions of individuals within the institution of the market place (Stroup, 2007). Economic freedom centers around the concept of freedom to choose and supply resources, while encouraging competitiveness and securing property rights, leading to economic growth and well-being in society (Berggren, 2003; de Haan & Sturm, 2000; Jenkins & Henry, 1982; Stroup, 2007; Tang & Jang, 2009; World Bank, 2012). Adam Smith already understood that free markets are not perfect, but in general they are able to increase wealth and welfare (Berggren, 2003).

Therefore, institutions that provide very high and stable economic freedom have the ability to allow the economy to function and grow (Berggren, 2003), having impact on private enterprises and residents' well-being. It should not be a surprise to conclude that economic freedom is a positive and significant macroeconomic determinant of economic growth (Aixala & Fabro, 2009; de Haan & Sturm, 2000; Nelson & Singh, 1998; Sen, 1999; Scully, 2002). With higher economic growth, governments are able to collect additional taxes/fees, thus, invest in their education system and healthcare, providing better quality of life.

Previous studies have analyzed the correlation between economic freedom and economic growth. Scully and Slottje (1991), de Vanssay and Spindler (1994), Nelson and Singh (1998), Scully (2002) found a positive relationship between the two (de Haan & Siermann, 1998; de Haan & Sturm, 2000). This is also supported by Sen (1999), even though he admits that forceful detractors still remain. The previous discussion leads to next research questions:

***Research Question5: Does the level of economic freedom affect (positively or negatively) the destination's tourism competitiveness?***



***Research Question6: Does the level of economic freedom affect (positively or negatively) the destination's quality of life?***

*Freedom as an Intervening Variable*

To strengthen the argument above, economists agree that economic and political freedoms are one of the pillars of a country's institutional structure, assisting to explain cross-country differences (Doucouliagos & Ulubasoglu, 2006). Those countries that retain higher levels of economic freedoms and political rights have generally achieved higher levels of material prosperity, growth and quality of life; hence, demonstrating higher levels of competitiveness (Stroup, 2007). Being able to adopt policies that yield the highest net impact and provide corresponding advantage is essential. As Milton Friedman points out, "a freely functioning market economy results in economic and technological progress, efficient utilization of resources, a rising standard of living that, with certain acknowledged exceptions, is distributed with reasonable equity, and a society characterized by social mobility and political freedom" (Wolf, 1988, p. 2). Therefore, utilizing economic and political freedom as an intervening variable will help us to understand why differences exist between nations.

Especially for those destinations that are moving from agriculture to service industry, well defined macro-economic policies supporting tourism advancement could lead to economic growth and destination development, heading to higher earnings, employment, and taxes collected by the government, and improvement of overall quality of life of its citizens. Similar findings were presented in Das and DiRienzo (2010) study where levels of competitiveness differed among countries based on their economic and political freedoms. Nevertheless, there is still a little consensus about the appropriate amount of economic and political freedom in the

society that would create the optimal benefit under which individuals will interact to promote both material prosperity and well-being in society (Stroup, 2007). As demonstrated by Sen earlier (1999), high incomes do not necessarily lead to the well-being of the citizens. Thus, this study builds on the concept of political and economic freedoms as they pertain to tourism. Specifically, this study investigates if freedom acts as moderator or mediator when investigating the relationship between tourism competitiveness and residents' quality of life. This argument leads to the next research questions:

***Research Question 7: Does the level of political freedom affect (positively or negatively) the relationship between tourism competitiveness and quality of life?***

***Research Question 8: Does the level of economic freedom affect (positively or negatively) the relationship between tourism competitiveness and quality of life?***

#### *Freedom-Centered View and Government*

The freedom-centered view is premised on the notion that government supports and complements individuals' efforts. It centers on the willingness of governments not to intrude unnecessarily in people's life. The premise is also related to the ability of government to work together with individuals as a dynamic complement. Government's role in realizing prosperity and quality of life (Bull, 1995; Devine & Devine, 2011; Samuels & Medema, 2005; Tsai et al., 1999; Vlami et al., 2006) has been controversial in the literature as reflected in writings from free-market enthusiasts (Hume, 1886; Hayek, 1988 ; Friedman, 1962), pragmatic voices of government's role (Coase, 1960), and Marxist advocates (Lenin, V. I., 1916; Marx & Engels, 1848; Trotsky, Hansen, Novack, Burnham, & Eastman, 1973). For example, Adam Smith believed that the primary role of government is the protection from external threats, provision of

services which benefit the community but the market cannot provide, and enforcer of law and order (Michael, 2001). Friedman and Hayek supported this notion and argued that if the government oversteps its boundaries and puts more weight into centralized resource allocation, it will diminish the scope of opportunities available for consumers and producers and will jeopardize the freedom provided (Stroup, 2007).

When the pursuit of private sector leads however to a reduction in public welfare, some scholars posit that under that condition government regulation becomes the vital solution either by prohibiting or mandating some activities in order to correct such market failure (Acemoglu & Verdier, 2000; Karnani, 2011; Wint, 1998). This view resonates with Devin and Devin (2011) who assert that if planning, promotion and management of tourism “were left entirely to the private sector, this could result in the unbalanced development of infrastructure and market expansion, with the risk of growing congestion and increased pressure on environmental resources” (p. 1253).

For several decades now, an extensive debate has been raging over when is it legitimate for government to intervene in private affairs, which public services to provide, and how to regulate the activities of businesses/individuals as a major failure in one segment may impact the whole economy (Datta-Chaudhuri, 1990; Michael, 2001; Zerbe & McCurdy, 1999). As Zerbe and McCurdy states, “full-scale government intervention should be undertaken only when it can be shown that a less-intrusive generic policy cannot be utilized or that an effective contract for private production cannot be designed to deal with the market failure” (p. 560). If government is unable to address market failure, the impact can be far reaching. Such government inaction can lead to poverty, depression, and to loss of lives as seen in the case of hurricane Katrina (Sobel &

Leeson, 2006). In conclusion, even though the debate on the topic of government intervention often leads to inconclusive findings in the academic literature (Datta-Chaudhuri, 1990), one is sure, if government lacks the ability to act, markets will fail, affecting competitiveness, freedom, and negatively impacting the entire economy.

As an economic activity, tourism is especially more susceptible to failure and distortion than any other industry due to its characteristics (Bull, 1995; Croes, 2011; Michael, 2001). Since tourism performance largely depends on the success of other industries, it is embodied by free-riders (Croes, 2011; Michael, 2001). As Jenkins (2006) points out: “public sector intervention in tourism is generally linked to some form of market failure or market imperfection” (Devine & Devine, 2011, p. 1260). For example, one firm is unable to receive full benefits from providing a reliable electricity system, destination marketing, or cleaning beaches. Therefore, tourism destination development requires government involvement, putting it at risk when government policy fails as opposed to other industries (Bull, 1995; Croes, 2011; Michael, 2001). Then, the debate shifts from if government should intervene in economic management to rather when it should intervene and to what extent, balancing freedom versus market failure (Michael, 2001).

The shortcomings of the market described above provide the most compelling arguments for government to attempt to correct such market failures. The ability of a government to identify these externalities and to correct these market failures is a key to maximizing the benefit derived from tourism in a given destination. Since the private sector often does not have such abilities and capabilities, it is up to the government to recognize the opportunities for competition and improvement of citizens’ quality of life. Thus, government plays a key role in provision of economic freedom.

### *The Capability Approach in the Tourism Literature*

As of today, only two studies known to the author exist in the academic literature that would investigate quality of life utilizing capability approach, defined it in terms of choices available to person (Croes, 2012; Sen, 1999). The first study was developed by Croes (2012) in which he investigates the relationship between tourism development and quality of life in Nicaragua and Costa Rica. However, his study lacks to investigate where the choices and opportunities come from. His study is not able to decode the 'black box' that intervenes between tourism development and quality of life. The second study that has utilized the Sen's capability approach is Croes and Kubickova (2013) study. In this study, the authors developed a competitiveness index incorporating quality of life as one of the variables. Even though quality of life was included, it did not investigate the relationship between tourism competitiveness and quality of life.

### The Conceptual Model and Hypotheses

The study views quality of life as the central activity of humans and assumes that tourism competitiveness is an important vehicle realizing this objective. At the same time, achievements in quality of life could significantly contribute to the competitiveness of a tourist destination. The model, therefore, posits that there may be a feedback relationship between tourism competitiveness and quality of life.

Tourism competitiveness may improve the quality of life of residents by the choices and opportunities offered for individuals, households and governments. Increase in tourism demand translates into additional revenues in the economy, received in the form of taxes, fees, or wages.

These revenues are then spent on education, healthcare, infrastructure improvements and/or variety of other projects which may benefit the local residents. Therefore, citizens may feel happier and experience better quality of life as more services and products are being offered to them. In general it can be said that educated and healthy households are more productive, contributing to economic growth of a destination (Fayisa et al., 2008).

On the other hand, improved quality of life may have a great effect on tourism competitiveness. Satisfied citizens who are happier and have better quality of life are more productive, demand further services, and often start their own businesses. These services may then be utilized not only by residents, but tourists as well, enhancing their overall experience. In addition, residents may contribute to tourism competitiveness through their involvement in planning, development, and operation of tourism attractions (Ap, 1992). For that reason, greater freedom and broader capabilities may improve tourism competitiveness. The proposed model depicts this relationship and examines two distinct causal chains: one runs from tourism competitiveness to quality of life, and the other running from quality of life to tourism competitiveness.

The relationship between tourism competitiveness and quality of life presumes that outcomes can be explained by one variable, notwithstanding the direction of the explanation. The previous discussion suggested however, that the parsimonious relationship between tourism competitiveness and quality of life may not hold due to the degree of political and economic freedom. This study therefore posits a variation on parsimonious theorizing in which one basic variable is supplemented by a set of intervening variables. These intervening variables are grounded in the construct of freedom as discussed previously and manifested through

institutional arrangements and effectiveness and market distortions. For example, provision of public goods (e.g. beaches, theme parks) is crucial for tourism competitiveness (Croes, 2011). These public goods can influence destination in two distinct ways: positively or negatively. For example, having a safe destination with clean beaches can have a positive influence on the tourism competitiveness and destination development. When tourists feel safe, they may favor that destination over others, impacting the destinations' demand and firms' profitability. On the other hand, pollution, crime, or over-crowdedness will influence the destination in a negative way. If tourists are unhappy with the quality of beaches, they will choose another vacation place, thus reducing demand. Since public goods are non-rival (the cost of adding an additional user is zero) and non-exclusive (once provided everyone can utilize them), a provision of public goods is crucial for tourism competitiveness in terms of value added, making it a compelling argument for government intervention (Croes, 2011). Another example of externality would be improvement in infrastructure. If the price paid for tourism products do not justify for the private sector to improve infrastructure, it will generate unacceptable roads, thus not only having an impact on tourists, but also local residents. This is where the externality argument is used to justify for government intervention. In situations like these, the private sector is not able to get compensated for producing an extra benefit due to high transaction costs, therefore generating underproduction (Hall, 2006; Zerbe & McCurdy). For example, a hotel is not able to charge higher rates for having clean beaches. However, having clean beaches can impact hotel performance. Therefore, using public money to improve externalities is a key to successful tourism development.

The influence of freedom on this relationship could be either in the form of mediation or moderation. Mediator is defined as a variable that explains the relationship between a predictor (tourism competitiveness) and outcome (quality of life). In other words, mediator is the mechanism through which a predictor influences an outcome variable (Baron & Kenny, 1986). Political and economic freedoms could act as mediators if competitiveness will have an impact on freedom which in turn will impact quality of life. On the other hand, economic and political freedoms will act as moderators if they change/alter the nature of a relationship (direction/strength) between competitiveness and quality of life.

The nature of the intervention of freedom therefore is considered an empirical question as variable can function as either a moderator or mediator. In other words, countries can fluctuate from free to not free, acting as mediators or moderators, depending on the country and the point in time investigated. Lawson and Clark (2010) summarized the alternatives through four possible combinations, ranging from politically and economically free to not politically and economically free. In this study, it is presumed that freedom will act as a moderator. Such assumption is supported through numerous examples, a case in point Cuba. Over the years, Cuba has been politically and economically unfree under Castro regime, however has been able to achieving growth in tourism arrivals while placing high in human development index. The previous discussion leads the model depicted in Figure 2.1 which summarized the proposed research questions.



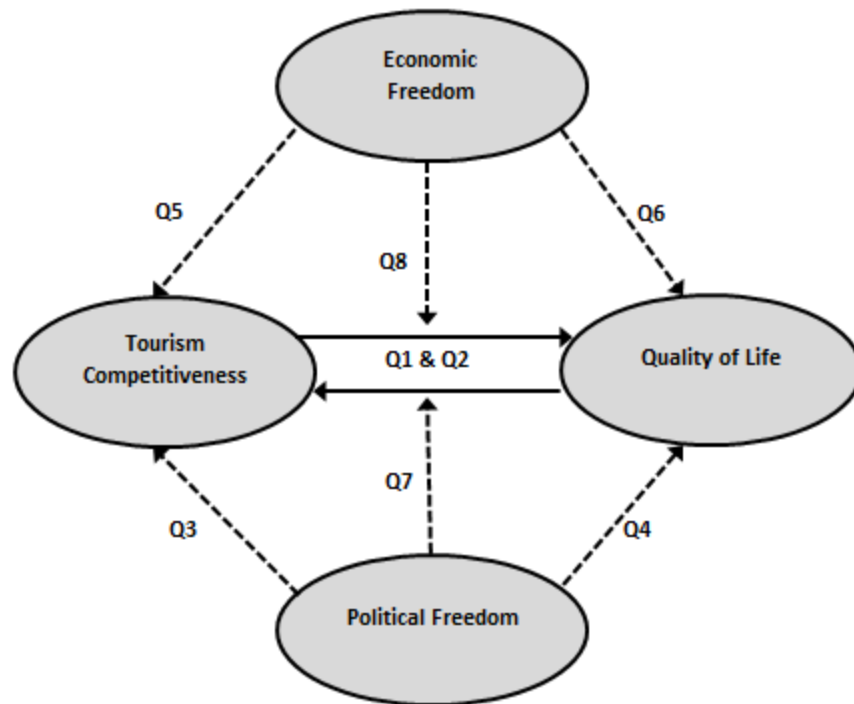


Figure 2. 1: Tourism competitiveness, quality of life, and the role of freedom

In conclusion, this chapter has made a compelling argument as to why it is important to investigate the relationship between tourism competitiveness and quality of life. The case has been made for utilization of Sen’s capability approach as he views development as broadening choice and reducing deprivation. Continuing on his concept, he believes freedom is the only acceptable evaluation of human progress, making it a compelling argument as to why freedom is applied as an integrating factor, particularly in tourism. Therefore, employing economic and political freedom, shaped by government intervention and by market conditions, will help to decode the ‘black box’ and to understand why differences exist between nations. The following table summarizes the research questions with hypotheses proposed in this study.

Table 2. 3: Proposed research questions with corresponding hypotheses:

<b>Hypotheses</b>	<b>Research Questions</b>	<b>Expected Results</b>	<b>Authors</b>
<b>Research Question 1</b>	<b><i>Does the level of tourism competitiveness affect (positively or negatively) the destination's quality of life?</i></b>		Andereck, Valentine, Vogt & Knopf, 2007; Andereck, Valentine, Vogt & Knopf, 2007; Andereck & Nyaupane, 2011; Deller, Tsai & Marcouiller, 2001; Fredline, Deery & Jago, 2005; Kim, 2002; Rogerson, 1999; Marzuki, 2009; Meng, Li & Uysal, 2010; Um & Crompton, 1990
H1 <sub>0</sub>	The level of tourism competitiveness does not affect (positively or negatively) the destination's quality of life.	Reject	
H1 <sub>1</sub>	The level of tourism competitiveness does affect (positively or negatively) the destination's quality of life.	Support	
<b>Research Question 2</b>	<b><i>Does the destination's quality of life affect (positively or negatively) the destination's tourism competitiveness?</i></b>		Andereck & Nyaupane, 2010; Andereck, Valentine, Vogt & Knopf, 2007; Ap, 1992; Croes, 2012; Hall, 1995; Mattson, 1990; Rogerson, 1999
H2 <sub>0</sub>	The destination's quality of life does not affect (positively or negatively) the destination's tourism competitiveness.	Reject	
H2 <sub>1</sub>	The destination's quality of life does affect (positively or negatively) the destination's tourism competitiveness.	Support	
<b>Research Question 3</b>	<b><i>Does the level of political freedom affect (positively or negatively) the destination's tourism competitiveness?</i></b>		Nelson & Singh, 1998; Ritchie & Crouch, 2003; Shaffer & Hillman, 2000; Wint, 1998
H3 <sub>0</sub>	The level of political freedom does not affect (positively or negatively) the destination's tourism competitiveness.	Reject	
H3 <sub>1</sub>	The level of political freedom does affect (positively or negatively) the destination's tourism competitiveness.	Support	
<b>Research Question 4</b>	<b><i>Does the level of political freedom affect (positively or negatively) the destination's quality of life?</i></b>		Dawson, 2003; de Haan & Siermann, 1998; de Haan & Strum, 2000; Doucouliagos & Ulubasoglu, 2006; Lawson, 2008; Nelson & Singh, 1998; Sen, 1988, 1999; Stroup, 2007
H4 <sub>0</sub>	The level of political freedom does not affect (positively or negatively) the destination's quality of life.	Reject	

<b>Hypotheses</b>	<b>Research Questions</b>	<b>Expected Results</b>	<b>Authors</b>
H4 <sub>1</sub>	The level of political freedom does affect (positively or negatively) the destination's quality of life.	Support	
<b>Research Question 5</b>	<b><i>Does the level of economic freedom affect (positively or negatively) the destination's tourism competitiveness?</i></b>		Wint, 1998
H5 <sub>0</sub>	The level of economic freedom does not affect (positively or negatively) the destination's tourism competitiveness.	Reject	
H5 <sub>1</sub>	The level of economic freedom does affect (positively or negatively) the destination's tourism competitiveness.	Support	
<b>Research Question 6</b>	<b><i>Does the level of economic freedom affect (positively or negatively) the destination's quality of life?</i></b>		Berggren, 2003; Dawson, 2003; de Haan & Siermann, 1998; de Haan & Sturm, 2000; Jenkins & Henry, 1982; Lawson, 2008; Pattanaik & Xu, 1990; Sen, 1987, 1999; Stroup, 2007; Tang & Jang, 2009; World Bank, 2012
H6 <sub>0</sub>	The level of economic freedom does not affect (positively or negatively) the destination's quality of life.	Reject	
H6 <sub>1</sub>	The level of economic freedom does affect (positively or negatively) the destination's quality of life.	Support	
<b>Research Question 7</b>	<b><i>Does the level of political freedom affect (positively or negatively) the relationship between tourism competitiveness and quality of life?</i></b>		Das & DiRienzo, 2010; Doucouliagos & Ulubasoglu, 2006; Stroup, 2007; Wint, 1998; Wolf, 1988
H7 <sub>0</sub>	The level of political freedom does not affect (positively or negatively) the relationship between tourism competitiveness and quality of life.	Reject	
H7 <sub>1</sub>	The level of political freedom does affect (positively or negatively) the relationship between tourism competitiveness and quality of life.	Support	
<b>Research Question 8</b>	<b><i>Does the level of economic freedom affect (positively or negatively) the relationship between tourism competitiveness and quality of life?</i></b>		Das & DiRienzo, 2010; Doucouliagos & Ulubasoglu, 2006; Stroup, 2007; Wint, 1998; Wolf, 1988
		Reject	

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<b>Hypotheses</b>	<b>Research Questions</b>	<b>Expected Results</b>	<b>Authors</b>
H8 <sub>0</sub>	The level of economic freedom does not affect (positively or negatively) the relationship between tourism competitiveness and quality of life.	Support	
H8 <sub>1</sub>	The level of economic freedom does affect (positively or negatively) the relationship between tourism competitiveness and quality of life.		

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## CHAPTER THREE: METHODOLOGY

### Introduction

The following chapter discusses the methods that will be employed in this study to empirically test the relationship between tourism competitiveness and quality of life while intervening for freedom construct. The chapter begins with identifying variables used, explaining how each construct is being measured and why each particular measure was selected. The explanation is provided how tourism competitive index was calculated and why panel analysis was selected to examine the research questions. Each of the proposed research questions with supporting hypotheses is reviewed. Then the chapter moves to the description of the expected quantitative outcomes. Next, the motivation why Central American region was utilized in this study is discussed.

### Research Design

Over the last twenty years of investigating tourism competitiveness, researchers have mainly utilized two methodological approaches: quantitative and qualitative. For example, quantitative studies, utilizing primary and/or secondary data have been utilized by Crouch (2011), Croes (2010a, 2010b), Croes and Kubickova (2013), Das and Dirienzo (2009), Dwyer, Mellor, Livaic, Edwards, and Kim (2004), Enright and Newton (2004, 2005), Gooroochurn and Sugiyarto (2005), Gursoy, Baloglu, and Chi (2009), or by Kozak et al. (2010). Others have tried to determine competitiveness by employing qualitative measures, such as studies conducted by d’Hautesserre (2000), Hassan (2000), or Kaynak and Marandu (2006). Only a few researchers have combined qualitative and quantitative measures (Campos-Soria, Garcia, & Garcia, 2005;

Hudson, Ritchie, & Timur, 2004; Kozak & Rimmington, 1999). This study utilizes quantitative research over qualitative as it can accomplish research objectives that qualitative research cannot and it can test hypothesis or specific research questions. (Zikmund et al., 2010).

The purpose of this study is to investigate the relationship between tourism competitiveness and quality of life while intervening for freedom construct. In order to accomplish this purpose, this study will utilize a case study approach, applying mix mode procedure. First, quantitative research will be conducted for the Central American region. A case study method adds rigor to the scientific investigation process and is employed when a researcher wants to understand a real-life phenomenon in depth. The objective of a case study is to understand the problem being investigated (Croes, 2012; Yin, 2009). There are numbers of applications for case study approach, one of them being to explain and to describe the presumed causal links in real-life interventions that are too complex for survey or experimental strategies. Specifically, this study utilizes comparative case study, as it allows to investigate cases that are similar in some way but vary in other respects. These differences become the focus of the examination, trying to understand why these cases are different.

The Central America region was selected for this study, taking advantage of real world variation. The region has utilized tourism as the main driver of the economy and has been used as a developmental tool for the region. In terms of manifesting different characteristics, even though these countries are in very similar geographic location, they are in different stages of their tourism life cycle, thus, having different levels of competitiveness, quality of life, and freedom (Croes, 2012). For example, Costa Rica's has human a development index of 0.854 (2007) while Nicaragua's index is 0.699 (2007). The same can be said about economic and political freedom

where Costa Rica economic freedom is 7.56 and is considered politically free while Nicaragua's economic freedom is 6.96 and is partially politically free.

## Quantitative Analysis

### *Variables Used*

In order to test the proposed empirical model outlined in chapter two, this study employs two variables. In addition, two control variables, moderator/mediator and dummy variables have been selected as they may have influence on the relationship between tourism competitiveness and quality of life, specifically, tourism competitiveness, quality of life, economic and political freedom, corruption, and economic development. The following section will explain how each variable/construct has been represented in this study.

#### Variable 1: Tourism Competitiveness

This study employs tourism competitiveness as one of the variables. Because competitiveness cannot be measured directly, over the years studies have used various indicators to measure it, depending on tourism specific factors and general business factors, involved in both the micro and the macro environment (Das & DiRienzo, 2009; Kayar & Kozak, 2007). Dwyer and Kim (2003) associated competitiveness with three major groups of thought. The first group of thought defined it from the perspective of comparative advantage and/or price competitiveness perspective, where economists have placed emphasis on price and country specific characteristics. For example, Dwyer, Forsyth and Rao's (2000) study utilized price paid by tourists in different countries and a created price competitiveness index. The second group of thought is from a strategy and management perspective, focusing on the firm-specific

characteristics (micro-perspective). And the third group of thought is from a historical and socio-cultural perspective, centering on a range of social, cultural, and political characteristics (macro-perspective) (Dwyer & Kim, 2003). A comprehensive review of variables utilized to measure tourism competitiveness in the academic literature is summarized in Table 3.1.

Table 3. 1: Variables/constructs used in measuring tourism competitiveness:

De Keyser & Vanhove	1994	Macroeconomic factors, factors on the supply & demand side, transport factors, tourism policy-related factors
Crouch & Ritchie	1999	Economic, social, environmental conditions
Kozak & Rimmington	1999	Qualitative (e.g. likes and dislikes regarding the destination) & Quantitative (tourist numbers, tourism revenues)
Dwyer, Forsyth, & Rao	2000	Travel cost to and from 19 destinations
Mihalič	2000	Environmental quality
Ritchie & Crouch	2000	Core resources & attractors, supporting factors & resources, destination management, qualifying determinants, amplifying & qualifying determinants, destination policy, planning, development
Go & Govers	2000	Facilities, accessibility, service quality, image, climate, environment attractions
Hassan	2000	Comparative advantages, demand-orientation, tourism sector structure, environmental care
Dwyer, Mistilis, Forsyth, & Rao	2001	Price
Chen	2001	Business-related factors, image, attractiveness
Dwyer, Forsyth, & Rao	2002	Exchange rate
Dwyer & Kim	2003	Inherited resources, created resources, supporting resources, demand conditions, situational conditions, destination management
Dwyer, Mellor, Livaic, Edwards, & Kim	2004	Destination management, nature-based resources, heritage resources quality service, efficient public services, tourism shopping, government commitment, location and access, e-business, night life, visa requirements, amusement/theme parks



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Enright & Newton	2004 2005	Tourism attractors (safety, cuisine, visual appeal, nightlife, climate, museum & galleries, etc), business-related factors (political stability government policy, staff cost, level of technology, access to information, etc.)
Guo & Cao	2004	Core attractors, basic resources, supporting factors, developing factors, qualifying factors, management innovation
Gooroochurn & Sugiyarto	2005	Price, economic and social impact, human resources, infrastructure, environment, technology, openness, social development
Kayar & Kozak	2007	Policy rule & regulation, environmental regulation, safety & security, health & hygiene, prioritization of travel & tourism, air & ground transport infrastructure, tourism infrastructure, information & communication technology infrastructure, price competitiveness, human resources, national tourism perceptions, natural & cultural resources
Mazanec, Wober, & Zins	2007	Price competitiveness (based on exchange rate adjusted purchasing power parities)
Zang & Huang	2007	Destination management, core resources & attractions, qualifying & amplifying factors, supporting factors
Gursoy, Baloglu, & Chi	2009	Price competitiveness, environment, technology, openness, social development, human development.
Mathew	2009	Support activities, key success drivers, inputs, sustainable process, leverage/operation, destination marketing, sustainable services
Das & DiRienzo	2010	Freedom of information, ethnic and linguistic diversity, corruption, economic freedom
Jackman, Lorde, Lowe, & Alleyne	2011	Comparative advantage (Balassa index)
Chen, Chen, & Lee	2011	Decision-making process (purposes of trip, duration of trip, information resources, time of decision-making, decision-makers), tourists' destination image before and after the trip, overall satisfaction with destination & service performance & the willingness to revisit & recommend
Kim, Yoon, & Kim	2011	Accessibility, transportation, attractions, cost, facilities & services, availability, staff services, convention & exhibition facilities, climate, safety
Omerzel	2011	Inherited resources, created resources, supporting factors, situational conditions, management, demand

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Wang, Hsu, & Swanson	2012	Destination management, tourism resources, tourism superstructure & infrastructure, destination-supporting factor
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Tourism competitiveness has been measured through various indices developed by different researchers and organizations, utilizing different indicators. As Gooroochurn and Sugiyarto (2005) state: “identifying the elements of competitiveness is contentious because of the conceptual problem embodied in its definition. Competitiveness is a relative concept, and its measure will vary depending on the choice of the base year and/or the base country” (p. 26).

The most recognized measurements of tourism competitiveness are the Concept Tourism Competitiveness Model developed by Crouch and Ritchie (1999), Destination Competitiveness developed by Dwyer and Kim (2003), Tourism Competitiveness Monitor developed by Gooroochurn and Sugiyarto (2005), The Global Competitiveness Index (GCI) developed by the World Economic Forum (WEF), the World Competitiveness Scoreboard (Yearbook) (WCY) developed by the International Institute for Management Development (IMD, 2013), and the Travel & Tourism Competitiveness Report (TTCI) developed by the World Economic Forum (WEF). Beside these well-known published rankings, there are many unpublished ones prepared by consultants, governments, and research institutions (Lall, 2001).

The most popular tool to rank countries in terms of their performance is the Travel & Tourism Competitiveness Report (TTCI) developed by World Economic Forum (WEF) (2013), covering over 140 economies in 2013. The goal of this index is to provide a comprehensive strategic tool with the intention of improving and developing the tourism sector in different countries. It is based on Porter’s work and its aim is to measure microeconomic competitiveness across countries (Lall, 2001). The TTCI is founded on three broad categories of variables, summarized into three sub-indices: (1) the travel and tourism (T&T) regulatory framework sub-

index; (2) the T&T business environment and infrastructure sub-index; and (3) the T&T human, cultural and natural resources sub-index. Each of these sub-indices is composed of an additional fourteen pillars which are made of a number of individual variables. The dataset includes both qualitative and quantitative data from publicly available sources.

All of the tourism competitive models currently present in the academic literature have been subjected to some type of flaw in one way or other. Often, the models have been criticized for their complexity, the amount of data needed for analysis, measurement issues, lack of clear links between variables, and applicability to destinations, particularly to developing countries. As Dwyer and Kim (2003) state: “the review of the literature on tourism destination competitiveness revealed that none of the models that have been proposed to date are entirely satisfactory ... they do not provide a comprehensive treatment of the various issues surrounding the notion of ‘competitiveness’ that are being explored in the wide literature and that must be taken into account in developing a comprehensive framework of destination competitiveness” (p. 407).

Many indices, such as the TTCI, WCY, or the Crouch and Ritchie one, require a collection of a myriad of indicators, ranging from public finance to business management practices and attitudes and values. In particular, the WCY index requires over 300 factors and criteria. Such index is not very practical as appropriate proxies for some of the variables are not always available for all destinations (Craigwell, 2007). Therefore, some countries might be unable to have all obligatory statistics to provide proper ranking, thus being omitted from the rankings all together. This issue particularly affects developing countries as they often lack necessary data and resources, as surveys are costly and time consuming, indicating why for example household surveys are done every five or ten years.

Another issue often facing these indices is the importance of all factors in the model. In general, not all factors ought to have the same influence on destination competitiveness. Some may be more important than others. Therefore, having the same relative importance for all factors in the overall model is a flaw often overlooked (Kaynak & Marandu, 2006). As it is in the case of the WCY index, all variables have equal weight assigned. However, can we say that having natural resources is as important as providing safety and security?

Some researchers and institutions often utilize hundreds of inputs to measure competitiveness, such as the TTCI index or Crouch and Ritchie model. These indices have been criticized for not having a clear understanding of cause-and-effect relationships between variables and competitiveness (Croes, 2010; Croes & Kubickova, 2013). These indices lack an explanation of the direct association between these indicators (inputs) and the competitive level (outcome) of the countries (Mazanec et al, 2007). Based on this logic can it be argued that to have resources (inputs) automatically translate into a success (output)? In other words, just because two destinations have the same resources, does it mean they are both equally competitive? For example, if a destination has a good infrastructure, can this determinant predict its attractiveness, resulting in increased arrivals, thus being more competitive than others? These indices reference inputs as the potential of destination to realize its objectives for tourism development. However, potential does not make the destination more attractive, thus creating demand and enhancing quality of life (Croes & Kubickova, 2013). Such nexus of inputs-outputs is not automatic for some countries due to the existence of market imperfections, inequality, and is amplified by institutional weaknesses, impacting (positively or negatively) the destination's ability to better the quality of life of residents and tourists alike (Croes, 2010; Croes &

Kubickova, 2013; Lall 2001). In addition, these inputs may provide the wrong information in terms of resources allocation. These variables fail to take into consideration the nature of the destination (the size of the market), the stage of economic development (the destination life cycle), and the degree of dependency on tourism (Croes, 2010; Croes & Kubickova, 2013). In particular as it is in the case of developing countries, such challenges are even more noticeable (Acemoglu & Robinson, 2012; Easterly, 2002; Lall 2001). In these countries, more schooling has not ensured higher economic growth and unpredictable government policies often get into the way, having a negative effect on investments and innovation (Acemoglu & Robinson, 2012; Croes & Kubickova, 2013).

This study departs from the input/output approach and instead utilizes output/performance based approach to measure destination competitiveness. Therefore, this study adopts the Tourism Competitive Index (TCI) developed by Croes (2010). The difference between the previous indices listed and the TCI used is the shift from inputs to outputs, allowing for comparisons of tourism performance over time. Instead of utilizing an index based on the potential of a destination, the output/performance index is grounded in the ability of realizing memorable experience and can provide good indication of performance of a destination. In addition, the model is characterized by its simplicity, by the wide ranging effects of the indicators and by the minimum data requirements. Rather than using the propensity of variables without theoretical justification of their causal relationship to the dependent variable, the TCI index is composed of three outputs, each portraying different aspects of the industry's productivity (Croes, 2010).

## Variable 2: Quality of Life

This study employs quality of life as an independent variable as outlined in chapter two. As discussed in the second chapter, even the greatest thinkers could not agree how to define quality of life, making it very difficult to measure. In the academic literature, quality of life has been measured using a variety of variables/constructs, utilizing subjective or objective perspective. For example, community well-being (feeling safe, clean air, city services, etc.), economic perspective (strong and diverse economy, value of land/real estate, etc.), psychological (feeling of belonging, resident participation, way of life, etc.), natural/cultural (cultural/historical sites, natural areas, festivals, fairs, etc.), income, and safety and security (prevention of crime, vandalism, drug & alcohol) have been utilized as variables among others (Andereck & Nyaupale, 2011; Anderec & Vogt, 2000; Anderec, Valentine, Vogt, & Knopf, 2007; Crouch & Ritchie, 1999; Diener & Suh; 1997; Rodgerson, 1999; Teye, Sirakaya, & Sönmez, 2002).

Capability approach has been utilized to measure quality of life as it brings together many of the concerns into a single coherent philosophical framework (Clark, 2005). Capability approach claims that people need freedom to achieve well-being and that freedom to achieve well-being is understood in terms of their capabilities. In other words, what they are able to do. The capability approach, profoundly influenced by Amartya Sen and Martha Nussbaum, has helped to shape how economists measure well-being, development, and justice. Numerous researchers have tried to measure this ‘capability’ and ‘functionings’. However, it is a multi-dimensional approach and an attempt to develop one single measure that fits all may be simply impossible. As Sen suggests, the measurement should reflect the purpose of the study.

For example, Sabina Alkire (2005) has developed a two stage evaluation framework based on this capability approach. The first stage tries to identify the basic categories of value and the second stage involves members of a social group to deliberate about their needs. The issue with this method is that it involves interviews of residents and for the purpose of comparing across destinations this would simply be impossible to execute (Wolf, 2012).

Another measure utilizing capability approach has been developed by Martha Nussbaum (2011). She has developed the most systematic and extensive capability theory to date. Her list of The Central Human Capabilities includes ten items: life expectancy, bodily health and integrity, senses imagination and thought, emotions, practical reason, affiliation, other species, play and control over the environment. She argues the selection of these capabilities is based on the concept of human dignity and her threshold is the minimum requirements of justice. Of course, this capability theory has not been left without criticism. Some question the epistemological basis of her approach, while others point out the omission of important capabilities, and/or its appropriation of use. In addition, some critique her over-optimism about what constitutions and governments are like and are capable of. In other words, it is rather more utopian than realism (Wolf, 2012).

The Human Development Index (HDI) developed by the United Nations Development Programme (UNDP), and published annually since 1990 will be utilized in this study to measure quality of life. This index is based on Sen's capability approach, founded on enhancing individual freedom. It is one of the frequently used capability indices in academic literature, being relatively easily defined and quantified, going beyond a single economic variable or relying on individual perception. It can be said that HDI have pushed the boundaries of

development, combining social and economic development into one index. HDI offers a simple, yet multidimensional approach to evaluate the human development across nations over time, reflecting on normative ideals of a society while capturing their important features (Diener & Suh, 1997; Sagar & Najam, 1998).

Aligning with Sen's vision to determine quality of life discussed in chapter two, the HDI consist of four indicators (life expectancy at birth, mean years of schooling, expected years of schooling, and gross national income per capita), reflected in three dimensions (health, education, and living standards), covering 186 countries in 2012. The HDI sets the minimum and maximum value for each dimension, ranging from zero to one. The health component measures the life expectancy at birth, using a minimum value of 20 years and maximum value of 83.57 years. The education component measures the mean of years of schooling for adults 25 years old and expected years of schooling for children entering school, topping it at 18 years. The income component is measured by GNI (Gross National Income) per capita (PPP\$), reflecting the average national income (UNDP, 2013).

#### Mediator/Moderator Variables

This study utilizes a third variable, the freedom construct. In this study, it is assumed that freedom will act as a moderator as discussed in chapter two, having an impact on the relationship between tourism competitiveness and quality of life. Specifically, economic and political freedoms were selected as they are two pillars of a country's institutional structure, and assist in explaining why cross-country differences exist (Doucouliagos & Ulubasoglu, 2006). According to Sen's, political freedom is one of the main freedoms to investigate. Furthermore, a Friedman-Hayek hypothesis asserts that countries that are politically free must be also economically free.



Usually, countries with lower political freedom experience lower level of corruption and enjoy better services for citizens, thus providing a favorable environment not only for tourism development but also to improve the citizens' overall well-being (Das & DiRienzo, 2009; DiRienzo et al., 2007). In addition, countries with higher economic freedom tend to have more stable legal and monetary systems, and efficient labor and product markets. They lean toward balanced economies and open trade, and have more competitive business environments, which also benefits their tourism industries (Das & DiRienzo, 2009).

### *Political Freedom*

The first who tried to analyze the varying degree of political freedom across countries was Raymond Gastil in 1987 in his book *Freedom in the World* (Stroup 2007, 2013). He identified the number of institutional characteristics that enhance the ability of an individual to achieve an effective democratic representation, summarized into three main categories: 1) the ability to elect the head of state and other government leaders, 2) the ability to select a candidate from competing political parties, and 3) the ability of government to establish public policy free from the influence of military, religious hierarchies, or other powerful groups (Stroup, 2007). This was later adopted by Freedom House, a non-profit research institute, who has published the political rights and civil liberties index annually since 1972 for over 195 countries and 14 related and disputed territories as of 2013. The index is a combination of both analytical reports and numerical ratings, measuring freedom according to political rights and civil liberties. The value for each country ranges from 1.0 (the most possible political rights) to 7.0 (the least possible political rights) (FreedomHouse, 2013; Stroup, 2007, 2013). The political rights portion (the main interest in this study) is composed of three sections: electoral process, political pluralism

and participation, and functioning of government. The index divides countries into three categories: (1) A Free, defined as a country “where there is open political competition, a climate of respect for civil liberties, significant independent civil life, and independent media”, (2) A Partly Free, defined as a country with “limited respect for political rights and civil liberties ... frequently suffer from an environment of corruption, weak rule of law, ethnic and religious strife, and a political landscape in which a single party enjoys dominance despite a certain degree of pluralism”, and 3) A Not Free country, defined as “one where basic political rights are absent, and basic civil liberties are widely and systematically denied” (FreedomHouse, 2013, p.4).

Besides FIW index, The Economist’s has been publishing the Economist Intelligence Unit’s democracy index since 2007. The index provides a snapshot of democracy worldwide for 165 countries, based on five categories: electoral process and pluralism; civil liberties, the functioning of government, political participation, and political culture. The index divides countries into one of the four regime types: full democracies, flawed democracies, hybrid regimes, and authoritarian regimes (EIU, 2013). The drawback of this index is its availability, as it has been published only for the past three years, therefore making it difficult to analyze countries over a long period of time, as it is intended in this study. In addition, Belize is not included in the index. Again, this is another drawback, as Belize is one of the countries analyzed in this study. Therefore, this study will utilize the freedom in the world (FIW) index.

### *Economic Freedom*

In the world of economics, four main indices exist to measure economic freedom: i.) the Economic Liberty Index (ELI), ii.) the Economic Freedom of the World index (EFW), iii.) the Index of Economic Freedom (IEF), and iv) the Economic Freedom Index (EFI).

For example, the Index of Economic Freedom is based on the conceptual work of Adam Smith, published for the past ten years by The Wall Street Journal and The Heritage Foundation. The index is constructed based on ten components grouped into four broad pillars of economic freedom, measuring the economic success of 185 countries around the world. Each component is assigned ranking from 0 to 100 where 100 represents maximum freedom. A country's overall economic freedom is the average of these four broad categories. The four categories are: (1) rule of law (property rights, freedom from corruption), (2) limited government (fiscal freedom, government spending), (3) regulatory efficiency (business freedom, labor freedom, monetary freedom, and (4) open markets (trade freedom, investment freedom, and financial freedom). The final index is the average of all four components, dividing countries into four categories: (1) free with ratings between 80-100, (2) mostly free (70-79.9), (3) moderately free (60-69.9), (4) mostly unfree (50-59.9), and (5) repressed (0-49.9) (FreedomHouse, 2013).

The main criticism that the former indices face is the ability of use and their inconsistency over the years. As it is in the case of ELI, this index combines together economic and politic aspects into one, unable to examine which aspect of freedom has an impact on quality of life and competitiveness. In addition, ELI does not provide continuous collection of data over time and is fairly coarse due to the indicators available. In terms of EFW index, due to some publications changes over the years, one need to clarify which edition is being used, thus providing inconsistent results difficult to compare (Berggren, 2003). In addition, EFW data are available only from 2001, making it not sufficient to investigate the relationship over longer period of time. As it is in the case of IEF, from 1997 to 2002 additional components were added and other modifications were made to improve the accuracy of the index. This makes it difficult

to compare over time as inconsistencies may result (CATO, 2013; Heckelman & Stroup, 2005; Stroup, 2013). Therefore this study utilizes the Economic Freedom Index (EFI) published by Fraser Institute in Freedom of the World report. Even though IEF and EFI indices are very similar in their overall implications, EFI has been used more extensively in the academic context, being published for a longer period of time (Berggren, 2003).

The Economic Freedom Index is the most commonly used index reported annually and published by Fraser Institute in Economic Freedom of the World report every five years since 1975 and then annually starting in 1995. This index is based on the work of James Gwartney and Robert Lawson. In 1995, they were the first ones who systematically quantified the many different institutional characteristics of society, combining them into a single index reflecting the overall level of economic freedom for each country (Heckelman & Stroup, 2005; Stroup, 2007, 2013). The index measures the degree of economic freedom presented in five major areas: (1) size of government: expenditure and taxes, enterprises, (2) legal structure and security of property rights, (3) access to sound money, (4) freedom to trade internationally, and (5) regulation of credit, labor, and business. The index incorporates a total of 42 distinct variables, ranging from 0 to 10, zero being un-free and 10 being free (Fraser Institute; 2013).

### Control Variables

To measure the relationship between tourism competitiveness and quality of life, this study also utilizes control variables. Due to the model investigated, only two control variables were selected. It is necessary to control for other factors known to affect tourism competitiveness which may have some systematic effect on the dependent variable, thus producing confounded results (Das & DiRienzo, 2009; Zikmund, Babin, Carr, & Griffin, 2010). In this case, the

researcher has chosen to utilize corruption and economic development as control variables (Das & DiRienzo, 2009).

### *Corruption*

The first control variable selected is corruption as the quality of government will be influenced by the level of corruption. Going back to Sen's capability approach and the role of government in achieving freedom, it is necessary to include corruption in the model. Countries experiencing lower corruption are typically economically and politically stable, have government policies in place to support tourism development, while at the same time providing better services for their citizens (Das & DiRienzo, 2009; DiRienzo, Das, Cort, & Burbridge, 2007; Enright & Newton, 2004). These characteristics are often sought out by tourists, impacting their decision making and the destination's competitiveness (Das & DiRienzo, 2009; DiRienzo, Das, Cort, & Burbridge, 2007; Enright & Newton, 2004). It can be concluded that if these factors are unstable and/or weak, they can have a negative impact on tourists and tourism competitiveness.

Thus, institution plays a major role in influencing the level of corruption. For example, in Russia, institutions are especially problematic, marred with inconsistencies, creating confusion and fear, consequently leading to corruption (Aidis, Estrin, & Mickiewicz, 2008). As Aidis et al. (2008) point out, many Russian entrepreneurs fear bureaucrats more than criminals. Institutional environment plays a major role in forming entrepreneurial development and can affect the quality of governance and its integrity, leading not only to underdevelopment, but to a decrease in competitiveness. As Mauro (1998) states: "since the ultimate source of rent-seeking behavior is the availability of rents, corruption is likely to occur where restrictions and government interventions lead to the presence of such excessive profits" (p. 11).

Previous research has shown that the presence of corruption tarnishes the destination's image and weakens the country's business environment, which is needed for destination's success (Das & DiRienzo, 2009; DiRienzo, Das, Cort, & Burbridge, 2007; Enright & Newton, 2004). Corruption has been found significant in explaining competitiveness across countries. When corruption decreases, the destination competitiveness increases (Das & DiRienzo, 2009; DiRienzo et al., 2007). For example, as it was demonstrated in the case of Mexico, corruption was not an uncommon practice. High start-up cost made public participation in tourism development common and often necessary, thus, opening the door for corruption as individuals with political ties could benefited from the growth and development (Clancy, 2001). Thus it can be hypothesized that destinations with lower corruption will experience higher level of tourism competitiveness and better quality of life.

The Corruption Perception Index (CPI) created by Transparency International and adapted by Heritage Foundation looks at the perceptions of public sector corruption measured by the degree to which officials and politicians are believed to accept bribes or illicit payment in public procurement, embezzle public funds or commit offence (Das & DiRienzo, 2010). The CPI is an indicator of perception of public sector corruption (administrative and political corruption) (Transparency, 2014). As there is no meaningful way to assess absolute levels of corruption based on hard empirical data, a reader should use causation as perception may vary among countries/territories.

The information on CPI is collected from independent institutions specializing in governance and business climate analysis which is then reviewed by Transparency International to meet the agency quality standards (Transparency, 2014). The CPI index is based on a 10-

point scale where zero indicates a very corrupt government. The Freedom from Corruption Index converts raw CPI scores to a scale of 0 to 100 by multiplying the CPI by 10 (Heritage, 2013).

### *Economic Development*

The second control variable selected in this study is economic development. Previous research has shown a strong positive relationship between sustained economic development and the investment in human capital (e.g. literacy rates, school enrollment ratios, and average life expectancies) (Das & DiRienzo, 2009). As Das and DiRienzo (2009) state, countries with higher levels of development frequently have better access to health care and tend to be safer, with well-established infrastructure and education systems. Thus, going back to Sen's argument that quality of life is reflected in the level of education and healthcare available to residents, economic development may have an impact on the relationship investigated in this study.

For a destination to achieve certain level of development, it needs funding, usually coming in the form of taxes and fees collected by the government. If such funds are not available, it will have an impact for example on the level of education or healthcare in that destination. This has been confirmed in the academic literature where the level of economic development was found to be the primary differentiating factor across country clusters (Enright & Newton, 2004).

In addition, the level of economic development is taken into consideration by tourists who give preference to countries which are stable and safer to travel to, thus impacting tourists length of stay and revenue in that destination (Enright & Newton, 2004; Gooroochurn & Sugiyarto, 2005). In general, countries with higher levels of economic development tend to be more competitive than others (Das & DiRienzo, 2009). Thus, it can be said that countries with a

higher level of economic development will experience a higher level of tourism competitiveness. In other words, economic development is correlated with destination development and is conventionally measured by Gross Domestic Product (GDP), reflecting any fluctuations. Therefore, in this study, economic development is proxied by GDP (GDP) as published by the World Bank.

### Dummy Variables

Tourism competitiveness and quality of life can also be affected by possible exogenous shocks while being independent of other factors in the model. This can be modeled utilizing a dummy variable. A dummy variable allows a nonmetrically measured variable to be transformed into a metric variable by assigning a 1 or a 0 to a subject, depending on whether it possesses a particular characteristic (Hair et al., 1995; Zikmund et al., 2010). The shocks taken into consideration in this study are:

- $D_1$  = Guatemalan civil war, which ran from 1960 till 1996
- $D_2$  = Hurricane Mitch in 1998-1999, affecting Honduras, Guatemala, and Nicaragua
- $D_3$  = The 2001 currency change to US dollar in El Salvador
- $D_4$  = September 11, 2001 terrorist attack

These exogenous shocks (dummy variables) are necessary to include as they may have a significant impact on the economy of the destination over the years, affecting the current rate of the variables.

### *Scope of the Study*

This study covers the years from 1995 to 2007. The year span was restricted by the availability of data provided for selected countries. Since secondary sources are being utilized,



economic freedom data are available on yearly bases starting from 1995. Therefore, year 1995 was selected as a starting point. The year 2007 was selected as the last year covered due to the change in formula to calculate quality of life. Prior to the year 2008, HDI was calculated utilizing life expectancy, literacy rate, and standard of living (GPD and purchasing power parity). However, the publishers of the index made some changes after 2007 and starting in 2008, the index was calculated utilizing life expectancy, education (year of schooling and expected years of schooling), and income index (GNI). Such variation in calculation resulted in unexpected changes in the actual index value. Therefore, it was decided for continuous purposes to include only the years prior to 2008.

#### *Types of Measurement*

All of the data used in this study are, collected from secondary sources. Corruption data were collected from Transparency International and published by Heritage Foundation. Fraser Institute and Freedom House were utilized to gather economic and political freedom data. GDP per capita was gathered from World Bank, and Quality of life from the United Nations Development Programme. Tourism Competitive Index was calculated following Croes' methodology, discussed in the research design section. Table 3.2 revisits and summarizes the institutions and resources utilized from which variables were derived from, including proper codes.

Table 3. 2: Summary of variables/constructs used

<b>Term</b>	<b>Variable/Construct</b>	<b>Resource</b>	<b>Published by</b>	<b>Code</b>
Variable 1	Tourism Competitive Index	Croes (2011)		TCI
Variable 2	Quality of Life	Human Development Index	United Nations Development Programme	QOL
Intervening Variable 1	Economic Freedom	Economic Freedom of the World	Fraser Institute	EF
Intervening Variable 2	Political Freedom	Political Rights and Civil Liberties Index	Freedom House	PF
Control 1	Economic Development	GDP	World Bank	GDP
Control 2	Corruption	Freedom from Corruption	Heritage Foundation	CORR
Dummy 1	Civil War 1960-1996	Guatemala		D <sub>1</sub>
Dummy 2	Hurricane Mitch (1998-1999)	Guatemala, Honduras, Nicaragua		D <sub>2</sub>
Dummy 3	2001 currency change to US\$	El Salvador		D <sub>3</sub>
Dummy 4	2001 terrorist attack (September 11)	Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama		D <sub>4</sub>

It can be concluded that this study contains  $n$  entities (seven states located in Central America), each of which include  $T$  observations (each states' GDP, TCI, HDI, freedom, control variables are being measured), measured at 1 through  $t$  time period (specifically, years 1995-2007).

The primary advantage of using secondary data is their availability. Obtaining the data is faster and less expensive than collecting primary data. The disadvantages researchers face when utilizing secondary data is their inadequacy either due to outdated information, variation in definition of terms, different units of measurement, and lack of information to verify the data's accuracy (Zikmund et al., 2010).

#### *Validity and Reliability*

As with any research, internal and external validity and reliability must be taken into a consideration. Internal validity is concerned with how well the concept is defined by the measure(s). As it is in this case of this study, all variables employed have been utilized in previous academic research studies and reflect the concepts being measured. Another aspect that needs to be addressed is the reliability of the measures. Reliability refers to the consistency of the measure(s). In the case of this study, the researcher puts full trust to the reputable institutions that collect the data to ensure that they have obtained reliable measures as it is very difficult for a researcher to check the validity and reliability of secondary data (Hair et al., 1995; Zikmund et al., 2010).

In terms of external validity, the question is if the results can be generalized beyond the experimental subjects. As it relates to case study, it is often difficult to generalize beyond the sample. Yin (2009) concludes that case studies are generalizable to theoretical propositions and not to populations or universes.

### *Expected Quantitative Results*

Based on the literature reviewed in chapter two, this study assumes a bilateral relationship will exist between tourism competitiveness and quality of life. The academic literature supports the notion that tourism competitiveness may improve the quality of life of residents by choice and opportunities offered to individuals, households, and governments. However, only few researchers have hinted the existence of opposite relationship. For example, Croes (2012) study revealed that quality of life influences tourism competitiveness as it was shown in the case of Nicaragua. Thus, this study believes that bi-directional relationship exists between the two variables investigated. In other words, increased tourism competitiveness will have a positive effect on quality of life and increased quality of life will have a positive effect on tourism competitiveness.

In addition, this study tries to decode the 'black box' and explore what affects such relationships by intervening a third construct, freedom. The relationship between tourism competitiveness and quality of life is influenced by the degree of political and economic freedom at a destination, which is shaped by government intervention and market conditions. The level of freedom as summarized by Lawson (2008) can range from politically and economically free, such is in the case of United States of America, to being politically and economically unfree, as demonstrated by Cuba. The nature of the freedom intervention is thus considered an empirical question, as freedom can function as either moderator or mediator. In this study, it is assumed that freedom will act as a moderator, as a country can be politically and economically unfree, yet rank high in human development index and have tourism as demonstrated by Cuba. On the other side of the spectrum, the same can be said about a destination which is politically and economically free, such as the United States, yet still rank high in quality of life and benefit from

tourist arrivals. The third option that country can face is to be economically free, yet politically un-free as observed by Singapore, and benefit from tourism while having high quality of life.

Thus, this study assumes that freedom will act as a moderator.

### Quantitative Research Design

#### *Tourism Competitive Index*

Tourism competitiveness is employed as the dependent variable in this study. To estimate tourism competitiveness of the region, a three step procedure, following Croes (2010) and Croes and Kubickova (2013) study, was utilized. First, the estimation of competitiveness level in a region was assessed measured by the Herfindahl-Hirschman Index (HHI). Second, Pearson's coefficient was computed, and third, TCI index was created.

The competition intensity level refers to the degree of concentration of tourism activity in a geographic region and is an indication of market power of a destination. Tourism receipts of all destinations over a period of time were utilized to calculate the measure of competitiveness by employing the Herfindahl-Hirschman Index. The HHI is calculated by squaring the market share of all export categories. The index ranges from zero to one. The closer the value to zero, the more competitive the environment is as opposed being closer to one, where the degree of competitiveness declines, till it reaches monopoly (Croes & Kubickova, 2013). The formula for HHI can be written as:

$$HHI = \sum_{i=1}^n S_i^2 \quad (3.1)$$

where  $S_i$  denotes destination's  $i$ 's output. The reason for squaring the  $i$ 's is to emphasize the weight of larger tourist destinations in the market (Equation 3.2).

Next step was to calculate TCI index, which is composed of three outputs, each portraying different aspects of the industry's productivity through the concept of utility, consequently permitting the creation of a quick snapshot of the destination's position in terms of competitiveness. The first output reflects the current performance in the global tourism market scaled by size, the second output represents dynamism of performance over time (growth rate), and the third output characterizes the size of the industrial base in the economic structure. Tourism receipts per capita, average tourism receipts growth rates, and tourism added values as percentage of the GDP were used as variables representing these three outputs (Croes, 2011). An index value was estimated for each variable based on the following formula suggested by Croes (2011):

$$X_{ci} = \frac{X_{ci} - X_{c \text{ mini}}}{X_{c \text{ maxi}} - X_{c \text{ mini}}} \quad (3.2)$$

where  $c$  represents country and  $i$  represents the variable.

The second step in composing TCI is the computation of Pearson's correlation. This stage follows three step processes, respectively: (1) determine if variables of interests relate and their strength of association, (2) compute the Pearson's coefficient representing the weighted average for each variable, (3) acknowledge the weight change derived from the Pearson's correlation that is normalized to 1. The Pearson's correlation normalized to 1 was estimated as:

$$r = \frac{1}{n} \sum_{i=1}^n \frac{(x_i - \bar{x})}{\sigma_x} \frac{(y_i - \bar{y})}{\sigma_y} \quad (3.3)$$

where  $n$  is the number of observations;  $\bar{x}$  is the mean for variable  $x$ ;  $\bar{y}$  is the mean for variable  $y$ ;  $\sigma_x$  is the standard deviation for variable  $x$ ; and  $\sigma_y$  is the standard deviation for variable  $y$ .

Lastly, the TCI index was calculated by adding all three variables into a single value creating a scale based on the country and year investigated. The closer the number to 1, the more

competitive the country is. After TCI is computed, the study moves to analyzing the proposed hypotheses by utilizing panel data regression.

### *Panel Data Regression*

This study will utilize panel regression to analyze the data. Panel data (longitudinal data) typically refer to data which contains time series observations of a number of individuals (in this case, countries). Observations in panel data involve at least two dimensions: (i) cross-sectional dimension identified by  $i$  and (ii) time series dimension identified by  $t$  (Hsiao, 2006). Panel data approach was selected over time series or pure cross-sectional modeling as some phenomena are inherently longitudinal (e.g. poverty, employment, etc.) and causal inference may be strengthened by temporal ordering. Panel data allows for repeat observations of relatively large number of data over time rather than one-shot cross-sectional surveys and consequent increase in degrees of freedom (Song, With, & Li, 2009). As opposed to time-series and cross-sectional studies, if a researcher does not control for this heterogeneity, s(he) runs the risk of obtaining biased results. In addition, panel data allows more degrees of freedom (more degrees of freedom = smaller error terms) than using only time-series or cross-sectional data, but it also enables control for omitted variables and to reduce the problem of multicollinearity among the explanatory variables (Shiu & Lam, 2008). Panel data also provides more informative data, more variability, less co-linearity among the variables, and more efficiency. Given all of these advantages, a researcher is able to construct and test more complicated behavioral models with more accurate and efficient estimation results (Baltagi, 1995; Shiu & Lam, 2008).

In order to analyze the relationship between the response and the explanatory variables, the basic equation can be expressed through the regression function:

$$E y_{it} = \alpha + \beta_1 x_{it,1} + \beta_2 x_{it,2} + \dots + \beta_k x_{it,k} + \varepsilon_{it} \quad (3.4)$$

Before testing of the models can start, all variables are expressed in their logarithms as it is easier to think of the concept as ratio rather than difference, thus, making it easier to understand and interpret.

### Test of poolability

The first stage in the estimation procedure is testing the assumptions of homogeneity, so called test of poolability (Frees, 2004). This test examines whether or not the intercepts and slope coefficients are assumed homogenous across regions. The null hypothesis of homogeneity can be expressed as  $H_0: \alpha_1 = \alpha_2 = \dots = \alpha_n = \alpha$ . If the calculated value of F test is smaller than the critical value, the null hypothesis of homogenous slopes and intercepts should be accepted. If the null hypothesis is accepted, this means that the data can be pooled and the panel data modeling approach is appropriate (Song et al., 2009). However, if the null hypothesis is rejected, then the data cannot be pooled, and therefore the panel data approach is not appropriate (Frees, 2004; Song et al., 2009).

There are three ways in which the estimation of a pooled model can take place, depending on the assumptions made about the intercept term. Specifically, it can be Pooled Ordinary Least Squares model (POLS), where the intercept is treated as a constant across all cross-sectional units, or it can be Fixed Effect model (FE) or Random Effects models (RE) (Song et al., 2009).

The Fixed Effect (FE) utilizes appropriate dummy variables (must vary over time) and allows the intercept to vary between units, so that each has a fixed intercept specific to that unit.

The general equation for the FE modes is as followed:

$$Y_{it} = \alpha_i + \beta X_{it} + \mu_{it} \quad (3.5)$$



where  $Y$  is the dependent variable for a country  $i = 1, \dots, N$ , time  $t = 1, \dots, T$ ,  $X$  is an independent variable for a country  $i = 1, \dots, N$ , time  $t = 1, \dots, T$ ,  $\alpha$  is the unknown intercept for each country  $i = 1, \dots, N$ , and  $\mu$  is the error term associated with the model.

The Random Effect (RE) model also allows the intercept to vary between units, but treats the variation as randomly determined (Song et al., 2009). The issue with the RE model is the assumption that the unobserved unit-specific effects are uncorrelated with the regressor and such assumption may not be appropriate, causing the RE model to produce bias and inconsistent estimates (Song et al., 2009). The key difference in the equation for the RE model is the inclusion of error term ( $\varepsilon_{it}$ ) associated with the variables within each individual/country and can be written as:

$$Y_{it} = \alpha_i + \beta X_{it} + \mu_{it} + \varepsilon_{it} \quad (3.6)$$

FE are tested by the F test; however, the inclusion of dummy variables reduces the degrees of freedom and makes the estimates less efficient. RE are examined by the Lagrange Multiplier (LM) test.

The Hausman specification test compares FE and RE models. If the null hypothesis is not rejected ( $H_0$ : individual effects are uncorrelated with the other regressors in the model), then a RE model is better than its fixed counterpart (Park, 2009).

In addition to the poolability test, researcher should examine the data graphically, through histogram and boxplot, and numerically, through means, medians, standard deviations, minimum, and maximum.

### Unit root test

Next, a unit root test will be performed to test whether the applied variables are stationary or non-stationary, as economic time series depend on time and tend to wander (they have trend and noise), and to avoid the problem of spurious regression. It is imperative to investigate the

stationarity of time-series data, as incorrect choice of data transformation could provide biased results, thus leading to incorrect interpretations and misleading conclusions (Chiou-Wei, Che, & Zhu, 2008; Croes & Rivera, 2010).

The unit root tests allow researchers to conclude whether or not two variables are stationary of order 0 (standard estimators having normal distribution), written as I(0), or if they follow a non-stationary trend of 1 (standard estimators having nonstandard distribution), denoted as I(1) or higher (Croes & Rivera, 2010). Stationary process is one whose statistical properties do not change over time (such as mean, variance, covariance over time). However, many economic/financial time series appear to be non-stationary and it is believed that through mathematical transformation they can be stationarized. The Levin and Lin (LL) unit root test will be performed to find out if data is stationary or non-stationary.

Levin and Lin (1993) model allows for individual effects, time effects, and possibly a time trends. The test can be viewed as Dickey-Fuller test or an Augmented Dickey-Fuller test when lags are included. Levin and Lin state that individual time series in the panel contains a unit root against the alternative hypothesis that all individual series are stationary by considering the model

$$\Delta y_{it} = \alpha_i + \delta_i t + \gamma_{i,t-1} + \sum_{l=1}^{p_i} \phi_{il} \Delta y_{i,t-l} + \epsilon_{i,t} \quad (3.7)$$

where  $i = 1, \dots, N$ ,  $t = 1, \dots, T$ ,  $\epsilon_{i,t}$  is assumed to be independently distributed across  $i$  and  $\Delta$  denotes the first-difference operator,  $1-L$ , with  $L$  being the lag operator that shifts the observation by one period,  $Ly_{it} = y_{i,t-1}$ . If  $\gamma_i = 0$ , then  $y_{it}$  contains a unit root. If  $\gamma_i < 0$ , then  $y_{it}$  is stationary (Hsaio, 2003). The specified null hypothesis as

$$H_0 : \gamma_1 = \gamma_2 = \dots = \gamma_N = 0 \quad (3.8)$$

and states that the series contains a unit root (non-stationary).

If some or all of the variables in the regression are I(1), they are said to be non-stationary. With non-stationary variables, researchers cannot regress the variables on one another as they show different trends, and there is not a valid base for inference based on standard distribution (Sjö, 2008). However, there are situations when we need to analyze data that are non-stationary. The way to address this issue is through cointegration.

### Cointegration

Cointegration implies existence of long-run equilibrium and common stochastic trend. Cointegration was introduced by Engle and Granger, who showed that it was possible for a linear combination of integrated variables to be stationary (Croes & Rivera, 2010). Generally, researchers must de-trend the series (removing the trend) to make it stationary. Commonly, first difference can be used to get variables to be stationary (Engle & Granger, 1987). The time difference is characterized as the time series at time  $t$  minus the series at time  $t-1$ :

$$w_t = x_t - x_{t-1} \tag{3.9}$$

where  $x_t$  is the original time series and  $w_t$  is the first-difference series. If the series is non-stationary not only in the mean but also in the rate of change of the mean (the slope), then the second difference is performed (first difference of the first difference):

$$u_t = w_t - w_{t-1} \tag{3.10}$$

where  $u_t$  is the original time series and  $w_t$  is the first-difference series. Hopefully, by detrending the series the second time, the data will be stationary and further statistical analysis can be performed.

### *Testing the Model*

To test the hypotheses and the directional relationship proposed in chapter two, a comparative analysis of the regression results will be performed. The comparative analysis allows researcher to identify how tested relationships are different/alike from the proposed

baseline models. Considering the hypotheses in the previous chapter, the generalized form of the regression equation can be specified as followed:

$$Y = f(X, \text{Controls}, D, \varepsilon_1)$$

$$X = f(Y, \text{Controls}, D, \varepsilon_2)$$

where  $Y$  = output,  $X$  = input, controls = control variables = other variables that influence  $X$  and  $Y$ ,  $D$  = dummy variables, and  $\varepsilon$  = an error term.

### Baseline Model

The above two regression equations take into account the possibility of uni- and bi-directional causation between tourism competitiveness and quality of life. Thus the first regressions, or baseline models, are regressions of control variables and dummy variables on tourism competitiveness and quality of life and are defined as:

$$TCI_{it} = \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln CORR_{it} + \gamma_1 D_{1it} + \dots + \gamma_k D_{kit} + \varepsilon_{it}$$

$$QOL_{it} = \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln CORR_{it} + \delta_1 D_{1it} + \dots + \delta_k D_{kit} + v_{it}$$

where  $TCI$  represents tourism competitive index variable,  $QOL$  represents quality of life,  $GDP$  represents measurement of economic development,  $CORR$  measures corruption,  $D_{kit}$  represents a set of dummy variables for country  $i = 1, \dots, N$ , year  $t = 1, \dots, T$ ,  $\varepsilon$  and  $v$  is the disturbance term, and  $\delta$ ,  $\gamma$  and  $\beta$  are the intercepts and coefficients.

### Research Questions 1 and 2:

Given that the baseline model will be supported based on significant level, the analysis can move to a second regression, which will address the first two research questions.

Specifically: ( $Q_1$ ) does the level of tourism competitiveness affect the destination's quality of life, and ( $Q_2$ ) does the destination's quality of life affect the destination's tourism competitiveness expressed as:

$$H1: QOL_{it} = \beta_0 + \beta_1 TCI_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$$

$$H2: TCI_{it} = \beta_0 + \beta_1 QOL_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$$

where country  $i = 1, \dots, N$ , time  $t = 1, \dots, T$ , TCI = tourism competitiveness, QOL = well-being, GDP = GDP, CORR = corruptions,  $D_{1-4}$  = dummy variables, and  $\varepsilon$  and  $v$  = disturbance terms.

The acronyms for all variables utilized in this study are summarized in Table 3.3.

Table 3. 3: Variables' acronyms

<b>Variables</b>	<b>Acronyms</b>
Quality of Life Index	QOL
Tourism Competitive Index	TCI
GDP	GDP
Corruption	CORR
Dummy Variables 1-4	$D_{1-4}$
Economic Freedom	EF
Political Freedom	PF

Whether tested hypotheses are supported or rejected will be determined by the observed significant level ( $p$ -value). The probability in a  $p$ -value is that the statistical expectation (null) for a given test is true based on significant level. If  $p$ -value is low, there is little likelihood that the statistical expectation is true. Thus, the hypotheses will be rejected and alternative hypotheses will be accepted (Zikmund et al., 2010). The same thought process is followed for all tested hypotheses.

The next step in the data analysis will be to determine the relationship between tourism competitiveness and quality of life, in other words, whether or not tourism competitiveness might be causing quality of life or vice versa. In order to test this relationship, the Granger causality test will be performed (Granger, 1969). Two assumptions need to be taken into

consideration: (i) the future cannot cause the past and (ii) a cause contains unique information about an effect not available elsewhere. The test is based on simple vector autoregression (VAR) and can be expressed as:

$$X_t = \sum_{i=1}^n a_i Y_{t-i} + \sum_{j=1}^n \beta_j X_{t-j} + \mu_{1t} \quad (3.11)$$

$$Y_t = \sum_{i=1}^m \lambda_i Y_{t-i} + \sum_{j=1}^n \delta_j X_{t-j} + \mu_{2t} \quad (3.12)$$

where it is assumed that the disturbances  $\mu_{1t}$  and  $\mu_{2t}$  are uncorrelated and  $X$  and  $Y$  are decided by lagged variable  $Y$  and  $X$ . Failure to reject the null hypotheses means that  $x$  does not Granger-cause  $y$  (Chiou-Wei et al., 2008).

The researcher is expected to reject the null hypotheses and accept the alternative hypotheses. Specifically, tourism competitiveness has an impact on residents' quality of life and the level of residents' quality of life impacts tourism competitiveness. In other words, bi-directional relationship is expected between tourism competitiveness and residents' quality of life. Previous research confirmed that tourism has either positive and/or negative impact on destination (Anderec et al., 2007; Ap & Crompton, 1993; Crouch & Ritchie, 1999; Deller et al., 2001; Kim, 2002; Rogerson, 1999; Sasidharan et al., 2002; Var, 1986). This study assumes that the benefits will outweigh the negative effects and an increase in tourism competitiveness will be associated with a positive increase in residents' quality of life.

As it pertains to residents' quality of life, some researchers have hinted the importance of residents' well-being in destination competitiveness (Andereck & Nyaupane, 2010; Andereck et al., 2007; Ap, 1992; Hall, 1995; Rogerson, 1999) and Croes (2012) found that quality of life had an impact on tourism competitiveness in Nicaragua. Thus, this study also expects that residents' quality of life will impact tourism competitiveness. Specifically, the level of well-being will be reflected in tourism competitiveness at the destination. The higher the level of well-being, the more competitive the destination will be.

### Research Questions 3 and 5:

To address the research questions pertaining to political freedom, the following equations need to be analyzed. For research question three (Q<sub>3</sub>: does the level of political freedom affects the destination's tourism competitiveness), the regression equation is as follow:

$$H3: TCI_{it} = \beta_0 + \beta_1 \ln PF_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$$

where PF represents political freedom for country  $i = 1, \dots, N$ , time  $t = 1, \dots, T$ .

To address research questions pertaining to economic freedom, the following equations need to be analyzed. Specifically, for research question five (Q<sub>5</sub>: does the level of economic freedom affects destination's tourism competitiveness), the equation is written as:

$$H5: TCI_{it} = \beta_{0i} + \beta_1 \ln EFit + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$$

where EF represents economic freedom for country  $i = 1, \dots, N$ , time  $t = 1, \dots, T$ .

Such relationships have not been previously addressed in the academic literature. Only few researchers have hinted the importance of freedom in tourism competitiveness (Nelson & Singh, 1998; Ritchie & Crouch, 2003; Shaffer & Hillman, 2000; Wint, 1998) and others have shown that the levels of competitiveness differ among countries based on their economic and political freedoms, however, not in terms of tourism (Das & DiRienzo, 2010).

Going back to the argument in chapter one and two on the role of government and its importance in improving tourism competitiveness, the researcher assumes that the levels of political and economic freedom will impact the tourism competitiveness. Previous research has shown the importance of government involvement in terms of tourism (Bull, 1995; Ritchie & Crouch, 2003; Tang & Jang, 2009). Since tourism is characterized by freeriders, government plays a key role in providing services/infrastructure where private sector is not able to. This is where externality argument is used for government intervention. However, if government

oversteps its power, thus impacts the level of freedom provided, this may cause the industry to be less competitive, as government is prone to failure. Such situation occurred in Mexico, where the government was involved in the development of the tourism sector during the initial stage, leading to competitive destination (Clancy, 2001). Thus, establishing proper level of government involvement is a key to successful tourism competitiveness. Therefore, this study hypothesizes that politically/economically free and politically/economically un-free destinations will exhibit lower levels of competitiveness than those destinations that are characterized as partially free. In other words, the level of political and economic freedom will impact tourism competitiveness in the destination.

Research Questions 4 and 6:

To address research question four (Q<sub>4</sub>: does the level of political freedom affects destination's quality of life), the following regression needs to be solved:

$$H4: QOL_{it} = \beta_0 + \beta_1 \ln PF_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$$

To address the research question six (Q<sub>6</sub>: does the level of economic freedom affects destination's quality of life), the equation investigated will be as follow:

$$H6: QOL_{it} = \beta_0 + \beta_1 \ln EF_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$$

In this instance, this study assumes that political and economic freedoms will impact residents' quality of life. Going back to Sen's argument about freedom, for citizens to experience better quality of life, freedom is central to such process. When freedom is restricted, it negatively impacts residents' well-being. Previous studies have provided evidence that those countries that have achieved higher level of economic and political freedoms reached higher level of quality of life (Dawson, 2003; de Haan & Siermann, 1998; de Haan & Strum, 2000; Doucouliagos &



Ulubasoglu, 2006; Stroup, 2007). Thus, countries that experience higher economic and political freedom will demonstrate better quality of life.

Research Questions 7 and 8:

In order to investigate if political and/or economic freedom act as mediators/moderators and to address research questions seven (Q<sub>7</sub>: does the level of political freedom affect the relationship between tourism competitiveness and quality of life) and eight (Q<sub>8</sub>: does the level of economic freedom affect the relationship between tourism competitiveness and quality of life), the following equations will be investigated:

$$\text{H7a: } TCI_{it} = \beta_0 + \beta_1 QOL_{it} + \beta_2 \ln PF_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$$

$$\text{H7b: } QOL_{it} = \beta_0 + \beta_1 TCI_{it} + \beta_2 \ln PF_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$$

$$\text{H8a: } TCI_{it} = \beta_0 + \beta_1 QOL_{it} + \beta_2 \ln EF_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$$

$$\text{H8b: } QOL_{it} = \beta_0 + \beta_1 TCI_{it} + \beta_2 \ln EF_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$$

To determine whether the moderator effect is significant, the equations seven through ten are compared to the original equation, the one without the moderator effect. If the change in R<sup>2</sup> (coefficient of determination) is significant, then a significant moderator effect is present (Hair et al., 1995).

This study assumes that political and economic freedom will play the role of moderator. Specifically, a destination may be politically and economically free, as in the case of the United States, and experience tourism competitiveness. On the other hand, a destination may be

politically and economically un-free, as in the case of Cuba, and still experience tourism. Thus, it is hypothesized that freedom will act as a moderator.

### Central American Region

Central America is composed of seven countries: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Panama, and Nicaragua. The region is considered one of the poorest areas in the world (Hammill, 2007). It is characterized by slow and volatile economic growth, associated with a shortage of qualified jobs. Overall, 43% of the population is classified as poor, with limited access to education and health services, unable to contribute to the countries' economic development. Hunger, under-nutrition, and shortage of jobs are among the region's most pressing problems (UN, 2013).

In addition to the socio-economic issues this region is facing, Honduras, El Salvador, and Guatemala (so called Northern Triangle of Central America) have been associated with the highest homicide rates in the world, according to the 2010 report by the UN office on Drugs and Crime, placing them in the top ten most dangerous countries in the world (UNODC, 2013). For the past two years, the city of San Pedro Sula (the second largest city in Honduras) was named one the most dangerous cities in the world with 169 homicides per 100,000 inhabitants (FoxNews, 2013). Additional descriptive information on each country are provided in Table 3.4.

Table 3. 4: Central America: country description

Country	Land Area (sq.km)	Population (2011)	GDP per Capita in US \$ (2011)	GDP growth % (2011)	Population below Poverty Line %
Belize	22,810	356,600	4,059	1.9	33.5 (2010)
Costa Rica	51,060	4,726,575	8,647	4.2	16 (2006)
El Salvador	20,720	6,227,491	3,702	1.5	30.7 (2009)
Guatemala	107,160	14,757,316	3,178	3.9	56.2 (2004)
Honduras	111,890	7,757,687	2,247	3.6	65 (2010)
Nicaragua	120,340	5,869,859	1,587	5.1	48 (2005)
Panama	74,340	3,571,185	7,498	10.6	28.6 (2010)

\*retrieved from World Bank (2013) & National Master (2013)

Therefore, it should not be a surprise that these countries have engaged in restructuring their economies away from traditional agriculture, moving towards services and manufacturing (Ulate, 2006; Cañada, 2010). Particularly tourism has been recognized as a primary development strategy for the region, becoming one of the main generating sectors of currencies in the economy (IHT, 2013; RIE, 2010). However, due to the disparity not only between the countries within the region, but also other developed nations, the Central American governments had hard times to catch up and to compete. Predominantly, due to political instability and violence in the region, tourism development was slower than in the nearby regions such as the Caribbean and southern Mexico. In addition, public policies addressing the tourism sector have not provided a sufficient environment for the industry development (UN, 2013).

It was not until the late 1990s that the area began to grow robustly as a whole, although Costa Rica and Panama did take off a bit earlier. In 1996, Central America's governments committed themselves to the tourism development by signing the Declaration of Montelimar, recognizing tourism as a central force for global competitiveness while diversifying the economies (RIE, 2010). During this time, the countries have pursued to open their economies to

trade, liberalizing their financial markets and external capital flow, accompanied by privatization and tax reform (Albasud, 2012; UN, 2012).

As a result, between 1990 and 2008, the Central American region has seen almost 400% increases in international tourist arrivals, growing at an average of 10% per year over the past decade (AlbaSud, 2012; UNWTO, 2013). Such growth came to a halt during the world economic crises of 2008 and 2009. During this time, the region experienced sharp decline in international tourist arrivals (7.4% ), one of the largest in the world (UNWTO, 2013). However, over the past few years, a steady increase has been seen. In 2011 approximately 8.2 million tourists visited the Central American region. Costa Rica accounted for 26.6% of the market share with 2.19 million arrivals, followed by Panama (17.8%) and El Salvador (14.3%), and in some cases surpassing the growth of their national economics (GDP) (IHT, 2013). Even though this growth occurred across the region, enormous differences in the tourism structure of each of the countries still exist today (Albasud, 2012; UN, 2012). Additional tourist information for the Central American region are summarized in Table 3.5.

Table 3. 5: Central America: tourism overview

Country	Arrivals (2011) (Thousands)	Arrivals % Variation (2010/2011)	Market Share (2011)	Currencies Generated (2011) (Millions of US\$)	Tourist receipts per arrival (US\$)	Number of Hotel Rooms (2008)
Belize	250.3	3.5%	3.0%	256.8	1,091.36	6,471
Costa Rica	2,192.1	4.4%	26.6%	1,975.5	1,042.48	41,759
El Salvador	1,184.5	3.0%	14.3%	615.1	561.93	7,967
Guatemala	1,224.8	0.5%	14.8%	1,350.2	1,131.04	43,708
Honduras	871.5	1.0%	10.6%	638.8	755.59	26,543
Nicaragua	1,060.0	4.8%	12.8%	377.1	305.55	7,408
Panama	1,472.6	11.2%	17.8%	2,916.7	1,927.35	16,441
<b>Total</b>	<b>8,255.8</b>	<b>4.4%</b>	<b>100%</b>	<b>8,130.2</b>	n/a	<b>150,462</b>

\*Table based on IHT (2013); UNWTO Compendium (2006-2010); WorldBank (2013) data

Economic growth, together with government intervention, can help the region successfully bridge the gap between developed and developing countries. What needs to occur is for governments to address institutional changes, allowing for social policies to be placed at the center of development strategy, achieving growth with equity (UN, 2012). As the World Bank (2012) states in its report: “with rising population, economic growth is the only sustainable mechanism for increasing a society’s standard of living. A good investment climate drives growth by encouraging investment and higher productivity”, which has been demonstrated in other countries around the world such as Hong Kong or Singapore. In these countries, governments encouraged, rather than hindered, the active role of the market (Wolf, 1988). The successful government policy intervention was a key to destination development and well-being of its citizens (Wint, 1998).

Therefore, this study is utmost important to this region since tourism is being put in the center of the development. Analyzing and understanding the relationship between tourism competitiveness and quality of life in the context of freedom has been crucial for this region more than ever before. Knowing how government impacts competitiveness and the well-being of the residents today will provide useful information on the changes that need to be made in the future.

## CHAPTER FOUR: RESULTS

### Introduction

The following chapter provides the results to the proposed hypotheses in order to determine the role of freedom in the relationship between tourism competitiveness and quality of life. At first, Tourism Competitive Index (TCI) is calculated for the Central America region and related ratings are provided. Then the chapter precedes to overview the descriptive statistics. Next, the methods of analyses are provided with the corresponding results. Finally, the chapter concludes with brief summary of the results.

### Data Description

This study investigates the relationship between tourism competitiveness and quality of life while intervening for political and economic freedom for the Central American region. The region is composed by seven countries, specifically, Belize, Costa Rica, Guatemala, El Salvador, Honduras, Nicaragua, and Panama. The data set employed in this study includes yearly time series data for these countries, covering the time period between 1995 and 2007. The constructs utilized in this study are tourism competitiveness index (TCI), quality of life (QoL), economic freedom (EF), political freedom (PF), corruption, and gross domestic product (GDP). The measurements have been adapted from indices published by the United Nations, Fraser Institute, Freedom House, World Bank, and Heritage Foundation. The basic description of each construct is summarized in Table 4.1 with its corresponding ranges and values for each range.

Table 4. 1: Construct representation

<b>Construct</b>	<b>Symbol</b>	<b>Range</b>	<b>Value</b>	<b>Variables Used</b>
Tourism Competitiveness Index	TCI	0 – 1	0 = no competitiveness; 1 = high competitiveness	Tourism receipt per arrival, tourism added value ration of GDP, growth rate of tourism receipts
Quality of Life	QoL	0 – 1	0.52-0 = low development 0.53-0.71 = medium development 0.72-0.79 = high development 0.80-1.00 = very high development	Health, education, living standards
Economic Freedom	EF	0 – 10	0-4.9 = low freedom (repressed) 5.0-5.9 = mostly unfree 6.0-6.9 = moderately free 7.0-7.9 = mostly free 8.0-10 = very high freedom (free)	Size of the government, legal structure & protection from property rights, access to sound money, international exchange, regulation
Political Freedom	PF	1 – 7	1 = free 3.5 = partially free 7 = not free	The ability to elect the head of state and other government leaders, the ability to select a candidate from competing political parties, the ability of government to establish public policy free from the influence of military, religious hierarchies, or other powerful groups
Corruption	Corr	0 – 100	0 = highly corrupt 100 = no corruption	Corruption
Gross Domestic Product	GDP	n/a	US \$	GDP

This study had four major research objectives which were compared to the baseline model. First objective was to investigate the relationship between tourism competitiveness and quality of life. The second objective was to investigate the impact of freedom on tourism competitiveness. The third objective was to analyze the role of freedom as it pertained to quality of life. The last objective was to evaluate if freedom (political and economic) has an intervening role in the relationship between tourism competitiveness and quality of life. The investigated research objectives with the proposed baseline models (BM) and corresponding hypotheses (H) are presented in the next table.

Table 4. 2: Baseline models and proposed hypotheses

<b>Baseline Models</b>	<b>BM1</b>	$QOL_{it} = \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$
	<b>BM2</b>	$TCI_{it} = \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$
<b>Research Objective One</b>	<b>H1</b>	$QOL_{it} = \beta_0 + \beta_1 TCI_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$
	<b>H2</b>	$TCI_{it} = \beta_0 + \beta_1 QOL_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$
<b>Research Objective Two</b>	<b>H3</b>	$TCI_{it} = \beta_0 + \beta_1 \ln PF_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$
	<b>H5</b>	$TCI_{it} = \beta_0 + \beta_1 \ln EF_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$
<b>Research Objective Three</b>	<b>H4</b>	$QOL_{it} = \beta_0 + \beta_1 \ln PF_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$
	<b>H6</b>	$QOL_{it} = \beta_0 + \beta_1 \ln EF_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$
<b>Research Objective Four</b>	<b>H7a</b>	$TCI_{it} = \beta_0 + \beta_1 QOL_{it} + \beta_2 \ln PF_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$
	<b>H7b</b>	$QOL_{it} = \beta_0 + \beta_1 TCI_{it} + \beta_2 \ln PF_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$
	<b>H8a</b>	$TCI_{it} = \beta_0 + \beta_1 QOL_{it} + \beta_2 \ln EF_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$
	<b>H8b</b>	$QOL_{it} = \beta_0 + \beta_1 TCI_{it} + \beta_2 \ln EF_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$

where  $i = 1, \dots, N$  represents the country,  $t = 1, \dots, T$  represents the time,  $D_{1-4}$  are the dummy variables employed, and  $\varepsilon$  and  $v$  is the disturbance terms.



### Tourism Competitive Index

Based on the discussion in chapter three, the data analysis begins with computation of the Tourism Competitiveness Index (TCI) for the Central America region following the same procedure as proposed by Croes (2012) and Croes and Kubickova (2013). However, first, the competition intensity level in a region is estimated through the Herfindahl-Hirschman Index (HHI) approach. HHI index refers to the degree of concentration of tourism activity in a geographic region and is an indication of market power of a destination. In other words, is the market monopolistic, represented by a single producer, or is competition present. If competition exists in the market place, then the competitive index can be calculated.

The index is calculated by taking the square of export shares of all export categories in the market. International tourism receipts were utilized to measure the competition intensity levels. The HHI index ranges from zero to one. The closer the value to zero, the more competitive the environment is. In the case of the Central American region, the area can be described as one with high competitive intensity as reported in figure 4.1.

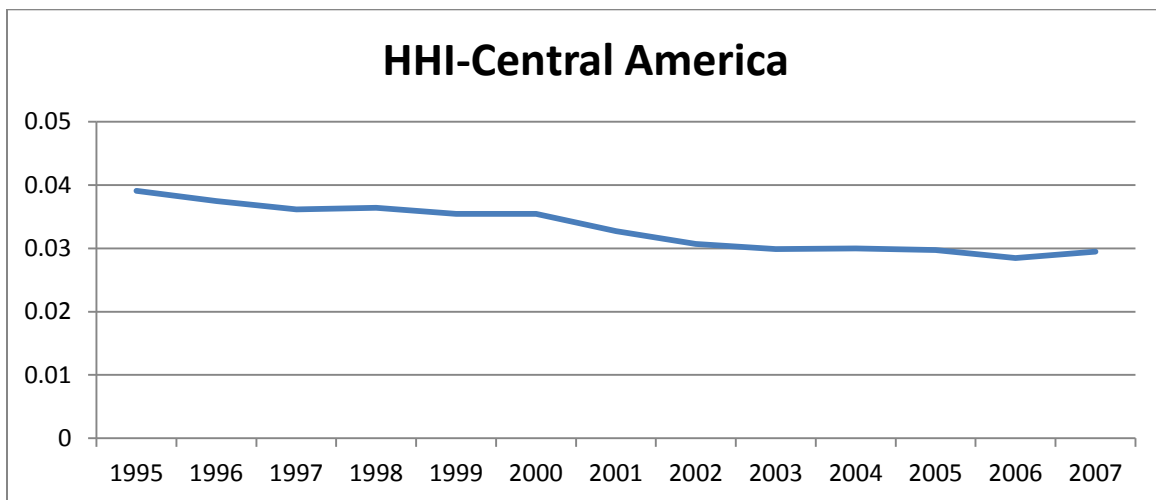


Figure 4. 1: HHI – Central America

From the graph, it can be observed that the values have decreased over time, suggesting that competitiveness intensity level has strengthened over the years, stretching from 0.039 in 1995 to 0.0295 in 2007.

The HHI is extremely low, persistently being around 0.03 (multiplied by 10,000 equals to 300), suggesting that Central America represents a highly competitive market situation. While the overall market seems at first very competitive, there are in particular two dominant countries, Costa Rica and Panama, that shape the competition patterns in the region as revealed in Graph 4.2.

It can be noted that Costa Rica's position has eroded over time due to increased competition, decreasing from 0.19 in 1995 to 0.09 in 2007. Nevertheless, Costa Rica's position is still strong compared to other destinations in the region and enjoying a participation rate of tourism receipts in the region equivalent to 233 times larger than Nicaragua in 1995. On the other hand, Panama has increased its share of tourism receipts from 0.04 in 1995 to 0.06 in 2007, representing 50% increase over thirteen years. The most significant increase has been recorded by El Salvador, changing from 0.0078 in 1995 to 0.024 in 2007, a total of 207% increase over the time span. In addition, Belize has lost market share, changing from 0.002 in 1995 to 0.0015 in 2007. Graph 4.2 provides the information on the market share by country in the region.

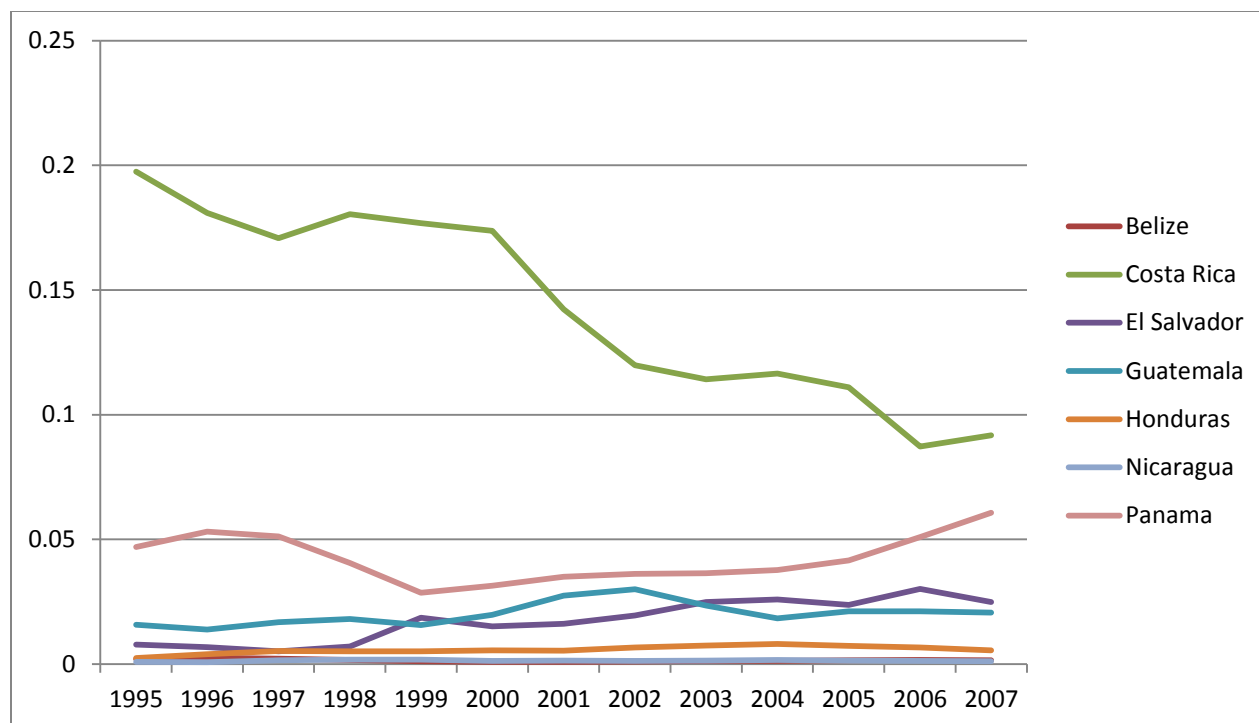


Figure 4. 2: HHI - By country

Based on these results, it can be determined that a competitive environment exists in the region. The estimation of the Tourism Competitive Index (TCI) will provide additional corroboration of the previous results.

As discussed in Chapter 3, the TCI index is composed of three outputs. The first output reflects the current performance in the global tourism market scaled by size (tourism receipt per capita), the second output represents dynamism of performance over time (average tourism receipt growth rates), and the third output characterizes the size of the industrial base in the economic structure (tourism added values as percentage of the GDP). The weights for each of the variables were derived from the Pearson’s correlation that was then normalized to 1. Specifically, the weight for tourism receipt per capita was 0.556, the weight for average tourism receipt growth rates was 0.042, and the weight for tourism added value as a percentage of the

GDP was 0.401 respectively. Lastly, the TCI index was computed by adding all three variables into a single value creating a scale based on the country and year investigated. The ranking of the seven Central American countries over a time span of thirteen years (1995-2007) is summarized in Table 4.3. The closer the index value to 1, the more competitive the country is said to be.

Table 4. 3: Tourism Competitive Index

<b>Country</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>Overall Rank</b>
Belize	0.959	0.979	0.962	0.957	0.957	0.969	0.971	0.982	0.994	0.984	0.999	0.985	0.968	<b>1</b>
Costa Rica	0.450	0.449	0.471	0.539	0.529	0.675	0.582	0.611	0.491	0.497	0.438	0.369	0.415	<b>2</b>
El Salvador	0.064	0.019	0.068	0.107	0.092	0.071	0.093	0.155	0.112	0.107	0.077	0.119	0.073	<b>5</b>
Guatemala	0.042	0.050	0.082	0.062	0.037	0.121	0.102	0.080	0.021	0.027	0.061	0.057	0.070	<b>6</b>
Honduras	0.091	0.137	0.139	0.127	0.131	0.145	0.114	0.148	0.179	0.192	0.129	0.125	0.118	<b>4</b>
Nicaragua	0.007	0.052	0.075	0.036	0.019	0.047	0.047	0.054	0.061	0.080	0.023	0.017	0.020	<b>7</b>
Panama	0.249	0.269	0.306	0.287	0.256	0.261	0.263	0.332	0.264	0.289	0.290	0.369	0.414	<b>3</b>

The TCI reveals the order of sequence from higher to lower ranking as follows: Belize, Costa Rica, Panama, Honduras, El Salvador, Guatemala, and Nicaragua. It is interesting to note that the top three countries consistently score higher than the lower three countries. It is important to draw the attention to Belize, which has been ranked number one on the TCI index, outperforming countries such as Costa Rica and Panama, well known for their tourism. It can be noted that Belize has much higher percentage of tourism added value as a percentage of GDP than Costa Rica and Panama and together with Panama outperformed Costa Rica in average tourism receipt growth rate. The findings also reveal that destinations' approach to competition differs systematically from each other in terms of performance and two distinct groups of countries have emerged within the group. In particular, the top performance group is represented by Belize, Costa Rica, and Panama. This group of countries seems far ahead of the 'stragglers', represented by El Salvador, Guatemala, Honduras, and Nicaragua.

Next, the analysis will move to descriptive statistics for each of the constructs utilized in this study.

#### Descriptive statistics overview

The data analysis begins with the examination of the descriptive statistics for the region as a whole. For better interpretation, corruption, GDP, and EF were transformed to values ranging between zero and one. In addition, political freedom and corruption were reverse coded. In terms of political freedom, zero now represents not free environments and seven signifies free environments. In the case of corruption, zero represents no corruption and one signifies a highly corrupt environment. Figure 4.3 presents the average constructs' rankings for the region.

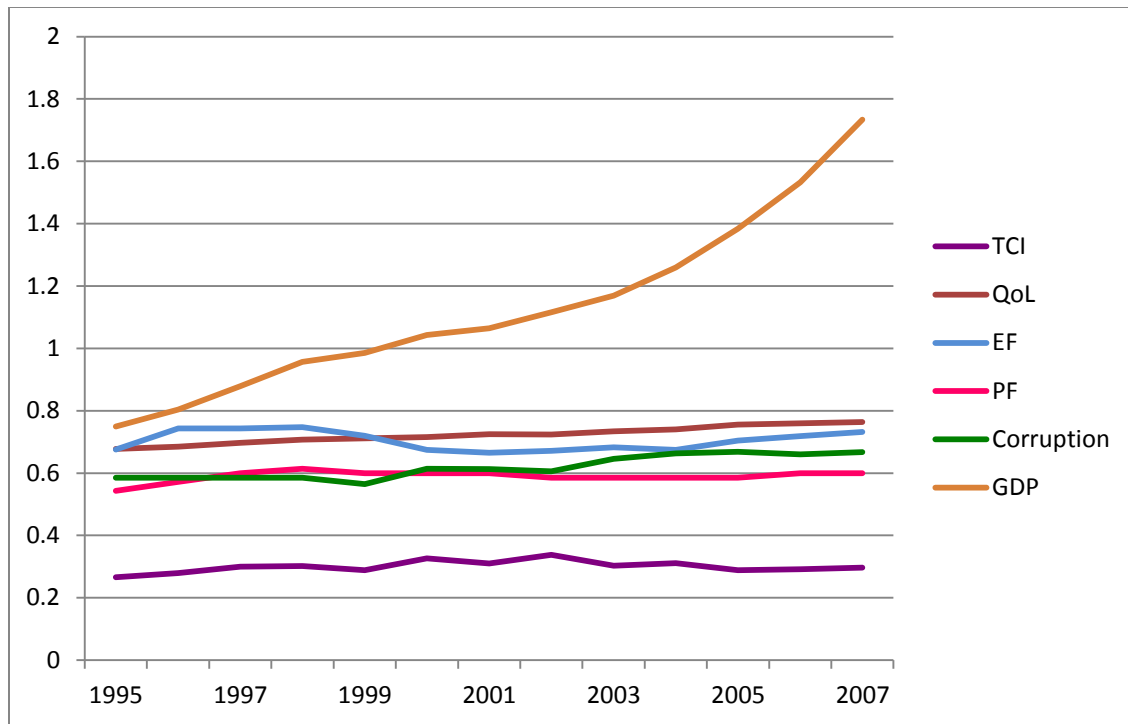


Figure 4. 3: Average constructs ranking for the region (1995-2007)

As can be observed, tourism competitiveness and quality of life has been on the same level with no major variations throughout the years. On the other hand, GDP has more than doubled, increasing respectively from 0.749 billion dollars in 1995 to 1.73 billion dollars in 2007 for the region. Political freedom has also improved, changing from partially free in 1995 to free in 2007. The same can be said about economic freedom which has increased from 6.75 (high) in 1995 to 7.32 (very high) in 2007. On the other hand, corruption has worsened over the years, starting at 58.57 in 1995 and ending at 66.71 in 2007, getting very close to corrupt environment (represented by 100). The basic descriptive statistics for individual countries is reported in Table 4. 3, providing means and standard deviations.

Table 4. 4: Descriptive statistics

	TCI		QoL		EF		PF		Corruption		GDP+	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<b>Region Average</b>	<b>0.300</b>	<b>0.018</b>	<b>0.722</b>	<b>0.027</b>	<b>6.757</b>	<b>0.001</b>	<b>2.09</b>	<b>0.17</b>	<b>61.87</b>	<b>3.73</b>	<b>11.28</b>	<b>2.86</b>
<b>Belize</b>	<b>0.974</b>	0.013	<b>0.760</b>	0.019	<b>6.376</b>	0.202	<b>1.00</b>	0.00	<b>52.30</b>	4.73	<b>0.89</b>	0.22
<b>Costa Rica</b>	<b>0.501</b>	0.084	<b>0.833</b>	0.023	<b>7.487</b>	0.333	<b>1.00</b>	0.00	<b>50.00</b>	6.06	<b>16.95</b>	4.20
<b>El Salvador</b>	<b>0.089</b>	0.033	<b>0.698</b>	0.052	<b>7.553</b>	0.475	<b>2.15</b>	0.37	<b>57.15</b>	6.33	<b>14.09</b>	3.17
<b>Guatemala</b>	<b>0.062</b>	0.028	<b>0.647</b>	0.036	<b>6.939</b>	0.493	<b>3.38</b>	0.50	<b>63.84</b>	11.78	<b>21.70</b>	5.73
<b>Honduras</b>	<b>0.136</b>	0.026	<b>0.658</b>	0.048	<b>6.663</b>	0.458	<b>2.84</b>	0.37	<b>74.69</b>	8.46	<b>7.33</b>	2.63
<b>Nicaragua</b>	<b>0.041</b>	0.023	<b>0.648</b>	0.051	<b>6.596</b>	0.451	<b>3.00</b>	0.40	<b>79.23</b>	11.58	<b>5.35</b>	0.99
<b>Panama</b>	<b>0.296</b>	0.048	<b>0.812</b>	0.030	<b>7.666</b>	0.488	<b>1.30</b>	0.48	<b>55.92</b>	7.97	<b>12.68</b>	3.26

Note: + in billions



Table 4.4 reveals that the region's quality of life is 0.722. The Central American region is represented by two countries that have very high quality of life (Costa Rica and Panama), one country with high quality of life (Belize), and four countries that have medium quality of life (El Salvador, Guatemala, Honduras, and Nicaragua). It can be concluded that the level of education, healthcare and living standards in Costa Rica or Panama are much higher than those in Honduras or Guatemala.

The region's economic freedom is 6.757. Economic freedom represents the size of the government in terms of expenditure and taxes, its legal structure, freedom to trade, and regulations of labor, business, and credit. In terms of economic freedom, the region can be divided into two distinctive groups, those with high economic freedom, such as Costa Rica and El Salvador and those with medium economic freedom, such as Nicaragua and Belize. Costa Rica and El Salvador provide the opportunities for business to trade internationally without any restriction. Their companies have access to sound money, and there is some control over labor and credit. However, in the case of Nicaragua and Belize, governments provide higher control over these initiatives.

As a whole, the region is relatively politically free. In other words, the countries have good electoral processes and the free functioning of government. The majority of the countries in the region are politically free except for Guatemala and Nicaragua, which can be characterized as partially free. The citizens' of Nicaragua and Guatemala are more restricted when it comes to electing the head of state and/or other government leaders than in for example in Panama or Costa Rica.

The level of corruption is very high in the region, being 61.87 out of maximum 100. The higher the number, the more corrupt the destination is. To put this into perspective, Sub-Saharan Africa has the highest corruption in the world with value of 70.7 (Heritage, 2013). Therefore, it can be seen that the Central American region is not that behind from the worst region in the World in terms of corruption. Thus, the region thrives in briberies and favoritisms. The most corrupt countries are Honduras (74.69) and Nicaragua (79.23). These countries live in the world of bribery and favoritism before anything can be accomplished. Even though Costa Rica has the best score out of all countries in the region, it still experiences high levels of corruption. On average, the corruption level for Costa Rica was 50, starting at 35 in 1999 and increasing to 58 in 2007.

Finally, the average GDP per destination is 11.28 billion dollars. GDP ranges from 0.89 billion dollars in Belize to 21.7 billion dollars in Guatemala. Even though Belize GDP is only 0.89 billion dollars, Belize GDP per capital is twice of GDP per capita in Guatemala. Another example is Panama which has GDP per capita eight time of Honduras. In addition, the source of GDP also varies among the countries of the region. In Panama and Costa Rica, services accounts for about 70-80 percent of their GDP and agriculture accounts for only 3-5 percent. On the other hand, services in Guatemala and Honduras account only for 50 percent of the GDP (much lower than in Panama or Costa Rica) and agriculture for about 10-20 percent of GDP (higher than in Panama or Costa Rica) (WorldBank, 2014).

### Methods of Analyses

This study utilizes a series of procedures to test proposed hypotheses. These processes comprise of several steps needed to be implemented in a precise order. In order to provide better visualization and understanding to the reader, the data analysis was divided into three major stages.

#### *Stage One – Data Suitability*

The first stage comprises of data transformation, testing for suitability of data for panel analyses, and conducting the Hausman test. Figure 4.4 provides better visualization of the steps taken in this phase.

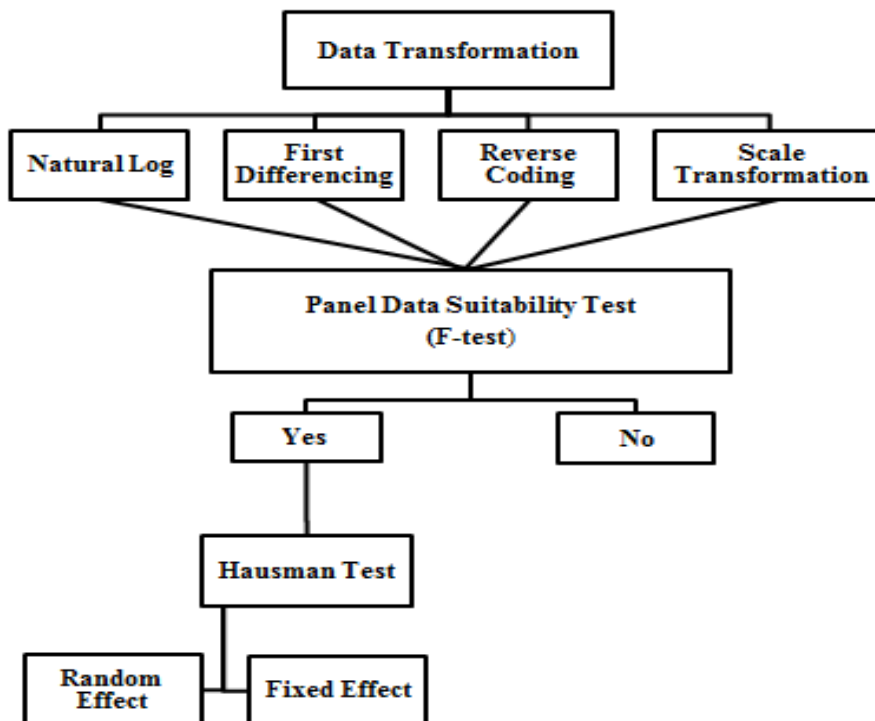


Figure 4. 4: Decision three for Stage One analyses

First data are transformed, and then panel data suitability test is performed. If data are suitable for panel data analysis, the Hausman test can be performed to determine if random effect of fixed effect is preferred in regression analyses.

### Data Transformation

Before any analyses can start, the first step is to transform variables for better interpretation of the results. First, political freedom index had to be reverse coded and then transformed to a scale ranging from zero to ten in order to match the scales and the directions of the other variables utilized in this study (Stroup, 2013). The following equation was employed:

$$B_i = \frac{A_i - A_0}{A_n - A_0} \times 10 \quad (4.1)$$

where  $B_i$  represent the new transformed value,  $A_i$  represents the original scale,  $A_0$  is the lowest possible score on original scale, and  $A_n$  is the highest possible score on the original scale (Veenhoven, 1993). This equation is only utilized when transforming to a scale from zero to ten, and is very similar to the normalization equation. Likewise, corruption had to be reversed coded to ensure that all items forming a composite scale are scored in the same direction (Zikmund et al., 2010). In addition, the values were divided by ten to achieve a scale ranging from zero to ten, allowing for better interpretation of the results. In the case of corruption, zero represents no corruption and ten represents high corruption.

Additionally, GDP, corruption, economic and political freedom values were naturally log transformed ( $\ln(x)$ ). The natural logarithm (logarithms base  $e$ ) was utilized as opposed to the regular logarithm as it allows for interpretation of a percentage difference (difference of 1 in X corresponds to  $z\%$  in Y). No log transformation was necessary for quality of life and tourism

competitiveness as the indices already ranged from zero to one, thus, being represented in the percentage changes from period to period.

Finally, in order to remove countries' difference and allow for better comparison across countries, first difference was utilized, which can be expressed as:

$$d_{(t)} = x_{(t)} - x_{(t-1)} \quad (4. 2)$$

### Suitability of Data for Panel Analyses

Next, the suitability of data for panel analyses is tested, therefore the assumption of homogeneity is tested (Frees, 2004). The test examines whether or not the intercepts and slope coefficients are assumed homogenous across regions. The equation of the homogenous (pooled panel data) can be expressed as

$$Y_{i,t} = \alpha + \beta'_{i,t} + \varepsilon_{i,t} \quad (4. 3)$$

under the assumption that the  $\varepsilon_{it}$  are independently normally distributed over  $i$  and  $t$  with mean zero and variance  $\sigma^2_{\varepsilon}$ , F-test can be used to test the restrictions postulated (Univ, 2014). The null hypothesis of homogeneity can be expressed as  $H_0: \alpha_1 = \alpha_2 = \dots = \alpha_n = \alpha$ . If the calculated value of F test is smaller than the critical value, the null hypothesis of homogenous slopes and intercepts should be accepted. If the null hypothesis is accepted, this means that the data can be pooled and the panel data modeling approach is appropriate (Song et al., 2009). However, if the null hypothesis is rejected, then the data cannot be pooled, and therefore the panel data approach is not appropriate (Frees, 2004; Song et al., 2009).

### Hausman Specification Test

Next, the data is examined if random effect of fixed effect should be used for regression analyses. A panel data regression varies from a regular time-series or cross-sectional regression

in the way that it may have group effects, time effects, or both. These effects can be either fixed effects (FE) or random effects (RE). Random effect models assume differences in error variance while fixed effect models explores differences in intercepts across groups or time periods.

The Hausman test allows for comparing the fixed effect to random effect under the null hypotheses that the individual effects are uncorrelated with the other repressors in the model (UITA, 2014). The null hypothesis is that there is no systematic difference in coefficients. If the null hypothesis is not rejected ( $p > 0.05$ ), it can be suitable to assume that random effect is appropriate. If null hypothesis is rejected ( $p < 0.05$ ), then fixed effect is appropriate for data analysis (Clark & Linzer, 2012; STATA, 2014).

#### *Stage Two - Unit Root*

The second stage includes testing for unit root. The first step before moving to cointegration and causality test is to test if variables are stationary  $I(0)$ , or if they are non-stationary  $I(1)$ . Figure 4.5 summarizes the process in conducting unit root test.

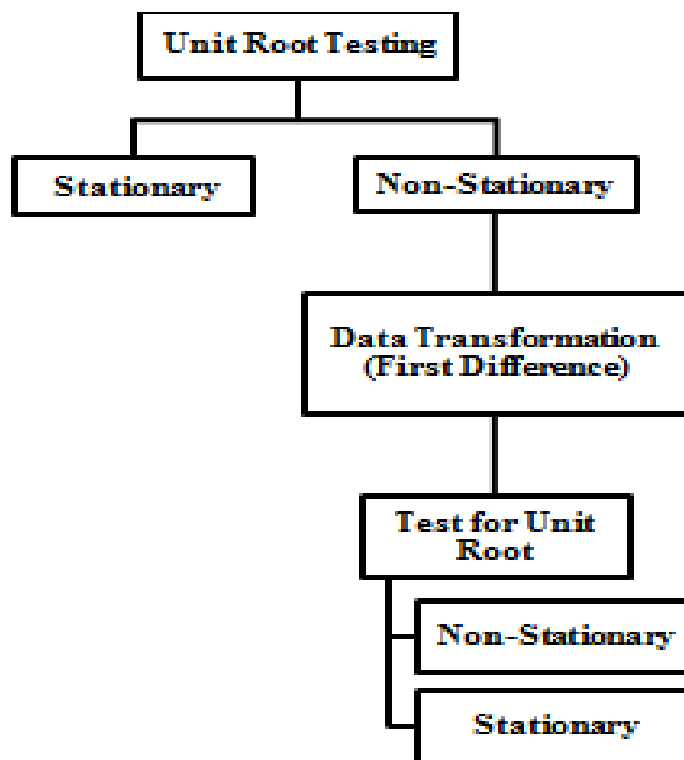


Figure 4. 5: Decision tree for Unit Root Test

In general, it is expected for the panel data to be non-stationary, in other words, their statistical properties do change over time. A Levin and Lin unit root test is being utilized, which allows for individual effects, time effects, and possibly a time trend (Levin & Lin, 1993). For time series variables, it is assumed that variables are non-stationary, however, when first difference, they become stationary. The null hypothesis indicates that the variables have a unit root. If the null hypotheses is rejected, the test is statistically significant, there is no unit root, thus the variable is stationary  $I(0)$ .

### Stage Three –VECM & Regression

The third stage in the data analysis deals with cointegration, the Vector Error Correction Model (VECM) analysis, and regression analysis. Figure 4.6 summarizes the thought process behind cointegration and VECM.

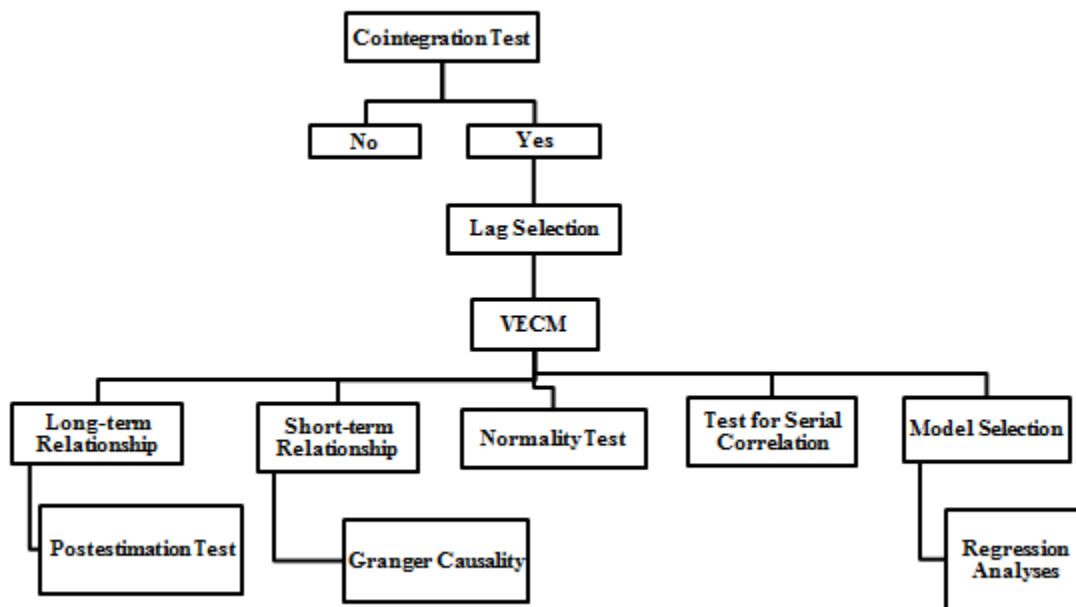


Figure 4. 6: Decision tree for stage two

#### Cointegration Selection

The cointegration test helps to determine how many equilibriums are present. It can be said that variables investigated are complementary with each other and are expected to be cointegrated. If a set of variables is found to have one or more cointegrating vectors, then Vector Error Correction Model is suited for data analysis (Baum, 2013; Hauser, 2014).

The Johansen procedure was employed to test for cointegration among the variables in the model as it can detect more than one cointegration relationship and is well suited for a



multivariate system (Verbeek, 1997). When the trace statistics is more than the critical value (5%), then the null hypothesis is rejected that there is no cointegration and the alternative hypothesis is accepted (there is cointegration). In other words, if the log likelihood of the unconstrained model is significantly different from the log likelihood of the constrained model, the null hypothesis is rejected (STATA, 2014). The Johansen test starts with zero cointegrations and continues until the first null hypothesis is not rejected. The null hypothesis of the trace statistics is that there are no more than  $r$  cointegrating relations (STATA, 2014). The trace statistics is derived from Johansen, based on:

$$-T \sum_{i=r+1}^K \ln(1 - \lambda_i) \quad (4.4)$$

where  $T$  is the number of observations and the  $\lambda_i$  are the estimated eigenvalues. The existence of cointegration suggests that Granger causality must exist in at least one direction between the investigated constructs.

### Lag Length Selection

In order to estimate a Vector Error-Correction model (VECM), the choice of the number of lags to include in the model must be determined. Introducing too many lags can waste degree of freedoms, while too few lags leave the equation potentially miss-specified, and/or it can cause autocorrelation in the residual (STATA, 2014). In addition, if the values in the past are still affecting today's value, more lags are necessary in order to provide more robust estimation and get the most powerful coefficients. The appropriate lag selection provides more power to the investigated regressions (STATA, 2014).

### VECM estimation

VECM results will provide the information if short-term and long-term causality exists. . Long-term effect can be understood as a relationship over period of time. In other words, not having immediate impact, this would be considered a short-term effect. The coefficient of the ECM ( $\Delta v_{t-1}$  and  $\Delta v_{t-2}$ ) in the cointegration equation indicates that any short-term fluctuation between the dependent variable and the independent variables will give a rise to a stable long-run relationship among variables (Asari et al., 2011).

The change of the lagged independent variable indicates the short-run causal impact (Temiz & Gökmen, 2011). Cointegration between two variables does not specify the direction of a causal relationship among variables (Asari et al., 2011). However, economic theory guarantees that there is at least one causal direction (Asari et al., 2011). Thus, the Granger causality test was utilized to further investigate this relationship. The Granger causality test assesses if variable  $x$  is said to Granger-cause a variable  $y$ . A failure to reject the null hypothesis indicates that  $x$  does not Granger-cause  $y$  (STATA, 2014).

### Normality Test

The log likelihood for the VECM is derived assuming the errors are independently and normally distributed or merely independent and normally distributed. The next stage of the analysis will be to test for normality (STATA, 2014). A series of statistics against the null hypothesis is produced for all equations jointly. The null hypothesis is that the disturbance for a particular equation is normally distributed (STATA, 2014). Jarque-Bera statistics will be utilized, which tests for skewness and kurtosis jointly. Skewness measures how symmetrical the data are and kurtosis has to do with how peaked the distribution is.

### Test for Serial Correlation

Most postestimation analyses of VECM models assume that the disturbances are not autocorrelated (STATA, 2014). Therefore, the next step in the data analysis is to check for serial correlation. In other words, are the data independent? In panel data models, serial correlation biases the standard errors and causes the results to be less efficient (Drukker, 2003). The Lagrange multiplier test for autocorrelation in the residuals was utilized in this study. The test is performed for each lags  $j=1, \dots, mlag()$  and the null hypothesis states that there is no autocorrelation at lag  $j$  (STATA, 2014).

### Selection of the most efficient models

Before the actual hypotheses can be investigated utilizing robust regression analysis, the appropriate lag selection must be determined. Particularly with time series data, one variable can have an influence on another variable with a time lag. Specifically, a variable  $X_t$  can be described as a value of the variable in period  $t$ . If a variable is lagged by one period, then  $X_{t-1}$  is the value of the variable in period  $t-1$ . VECM results are utilized to determine the appropriate lag selection for each construct and then applied to the regression analyses.

### Regression Analyses

Lastly, the proposed hypotheses were tested utilizing comparative regression analyses.

## Empirical Results

### *Stage One – Data Suitability*

First, the suitability for panel data analyses, the test of homogeneity is performed. The test examines whether or not the intercepts and slope coefficients are assumed homogenous across regions. The results for each proposed construct are summarized in Table 4.5.

Table 4. 5: Test of Homogeneity

<b>Hypotheses</b>	<b>F-statistics</b>	<b>p-value</b>	<b>Results</b>
BM1	0.37	0.495	Accepted
BM2	0.28	0.944	Accepted
H1	0.90	0.499	Accepted
H2	0.28	0.943	Accepted
H3	0.28	0.946	Accepted
H4	0.95	0.466	Accepted
H5	0.26	0.952	Accepted
H6	0.84	0.539	Accepted
H7a	0.28	0.944	Accepted
H7b	0.94	0.470	Accepted
H8a	0.26	0.952	Accepted
H8b	0.84	0.545	Accepted

The results in the first phase reveal that the data is suitable for panel data analyses as the test of homogeneity was not statistically significant at  $p < 0.01$ , therefore the data can be pooled and the panel data modeling approach is appropriate.

Since panel data regression may have group effects, time effects, or both, Hausman test of specification was performed to examine if the effects are fixed (FE) or random (RE).

Table 4. 6: Hausman specification test

Hypotheses	Ch <sup>2</sup>	p-value	Results
BM1	4.50	0.609	Random Effect
BM2	0.48	0.988	Random Effect
H1	4.60	0.708	Random Effect
H2	0.56	0.982	Random Effect
H3	0.53	0.999	Random Effect
H4	4.64	0.703	Random Effect
H5	0.58	0.981	Random Effect
H6	4.21	0.754	Random Effect
H7a	8.40	0.395	Random Effect
H7b	1.74	0.987	Random Effect
H8a	2.49	0.962	Random Effect
H8b	2.46	0.963	Random Effect

The results of the Hausman specification test in Table 4.6 reveal that the test cannot reject the null hypothesis that the difference in coefficients between the random effect and fixed effect estimators is not systematic. Additional results for the Hausman test are summarized in Appendix B. Therefore, the findings suggest that the random effect estimator is suitable for data analyses without fear of producing biased estimates.

*Stage Two – Unit Root Test*

Stage two tests for Levin and Lin unit root test. The results of Levin and Lin unit root test for each constructs are presented in Table 4.7.

Table 4. 7: Construct unit root test

Constructs	Level Form (w/out trend)	Level Form (w/ trend)	1 <sup>st</sup> Difference (w/out trend)	1 <sup>st</sup> Difference (w/ trend)
QoL	-6.69*	-24.43*	-28.54*	-29.46*
TCI	-1.81**	-1.87**	-3.74*	-3.18*
GDP	4.283	0.85	0.093	-1.73**
CORR	-0.90	-3.07*	-5.92*	-5.84*
EF	-2.13**	1.32	0.79	-1.61***
PF	0.09	-0.37	-3.49*	-3.28*

Note: \* significant at p< 0.01 \*\* significant at p< 0.05 levels of significance

From the results above, it can be summarized that GDP, corruption, and political freedom appear to be non-stationary in level form either with or without a trend. It is stationary only when integrated to first order with or without a trend. Initially, when running the first difference unit root test for economic freedom and GDP, the results were not significant. Since unit root test is based on the assumption of cross-sectional independence, it assumes that countries are independent. However, this study incorporates countries located in the same region, where these countries may have a possible influence on each other. Thus, it is possible to relax this assumption and allow for a limited degree of dependence via time-specific aggregate effects (SAS, 2014). This was utilized when analyzing economic freedom and GDP and the unit root became significant at  $p=0.05$ .

When utilizing non-stationary variables, conventional regression estimators, including VARs, encounter difficulties, yielding to a significant coefficient even though they are not related in any way. In addition, proceeding with regression without taking into consideration the possible long-run relationship between these variables may lead also to misspecification concerns (Corpuz, 2014). This was also demonstrated by Granger and Newbold (1974). Therefore, variables should not be estimated using ordinary regression analysis as there may be an equilibrium relationship. The co-movement between the variables and the presence of long-run relationship can be tested utilizing Johansen's Test for cointegration (Corpuz, 2014), which is being discussed in more details in the next stage.

In addition, the recommended preestimation Lags order selection statistics for each construct is presented in the next table. The appropriate lag selection provides more power to the investigated regressions. The table reveals different number of lags for each variable selected.

Particularly, the Likelihood Ratio (LR), the Final Prediction Error (FPE), the Akaike information criteria (AIC), Hannan-Quinn information criteria (HQIC), and the Schwarz Bayesian Information Criterion (SBIC) are provided. The difference between the criteria is based on the way in which they treat the extra lag.

Table 4. 8: Lag selection

<b>Constructs</b>	<b>LR (Lag)</b>	<b>FPE (Lag)</b>	<b>AIC (Lag)</b>	<b>HQIC (Lag)</b>	<b>SBIC (Lag)</b>
QoL	3	3	3	3	1
TCI	1	1	1	1	1
GDP	1	1	1	1	1
CORR	6	1	1	1	1
EF	1	1	1	1	1
PF	1	2	2	1	1

The results reveal that the number of lags for further analysis should be three for quality of life, one for tourism competitiveness, one for GDP, one for corruption, one for economic freedom, and one for political freedom. Including too few lags can leave the equation potentially miss-specified while too many lags can lead to waste of degrees of freedom (STATA, 2014)

### *Stage Three – VECM & Regression*

This section provides the VECM and regression results for each proposed objective and its hypotheses. The data analyses starts with testing for cointegration, Lag-order criteria, and selecting the appropriate number of Lags. Then the section concludes with testing for individual hypotheses, utilizing VECM models and regression analyses.

#### Johansen Test

First, the Johansen test had to be performed to indicate the number of cointegration in VECM test. At first, it was performed with all constructs and dummies; however, collinearity became an issue. After further investigation, it was determined that this collinearity may be

caused by dummy variables in the model. Therefore, one dummy variable at the time were eliminated from the data analysis. Once removing all dummy variables, collinearity was still present. Thus, collinearity had to be investigated among construct utilized in the study.

The simplest way to examine multicollinearity is to analyze a correlation matrix. A correlation coefficient is a statistical measure of covariation between two variables. In other words, the extent to which a change in one variable corresponds systematically to a change in another variable (Zikmund et al., 2010). The presence of high correlation is represented by values between 0.7 and 0.9, moderate correlation by values between 0.5 and 0.7, low correlation by values between 0.3 and 0.5, and linear correlation is less than 0.3 (Hair et al., 1995). Table 4.9 summarizes a correlation matrix for variables utilized in the study at level form.

Table 4. 9: Correlation Matrix

	QoL	TCI	EF	<b>PF</b>	CORR	GDP
QoL	1.000					
TCI	0.500*	1.000				
EF	0.392*	-0.208	1.000			
<b>PF</b>	<b>0.783***</b>	<b>0.719***</b>	0.255	1.000		
CORR	-0.515**	-0.544**	-0.409*	-0.604**	1.000	
GDP	0.056	-0.678**	0.553**	-0.274	0.079	1.000

Note: \* indicates low correlation (0.3-0.5), \*\* indicates moderate correlation (0.5-0.7), \*\*\* high correlation (0.7-0.9)

Based on the results from Table 4.9, collinearity can be observed between political freedom and quality of life (0.7837), which can be characterized as highly correlated. In addition, political freedom is also highly correlated with tourism competitiveness (0.7190). Such high correlation of political freedom with the dependent variables (tourism competitiveness and quality of life) suggests that using both predictors (corruption and political freedom) may not be appropriate (Hair et al., 1995).



In order not to eliminate political freedom due to collinearity, data transformation was performed. At first, political freedom was transformed utilizing Box-Cox transformation, logarithm transformation, and reciprocal transformation ( $1/x$ ). However, collinearity was still present. Finally, political freedom was standardized using the mean and standard deviation of the variable; however, collinearity was still present. Thus, political freedom has been eliminated from further analysis. For this reason, hypotheses 3, 4, 7a and 7b were also eliminated as one of their independent variables is political freedom.

Table 4.8 also reveals the evidence of moderate and low correlations. Moderate collinearity was detected between GDP and TCI (0.678), GDP and economic freedom (0.553), corruption and QoL (-0.515), and corruption and political freedom (-0.604). However, since this was only a moderate collinearity and no evidence of high collinearity existed as it was in the case of political freedom, there was no need for removing any of the variables mentioned. Low correlation also exists between corruption and economic freedom (-0.409), corruption and TCI (0.554), QoL and TCI (0.500) and economic freedom and QoL (0.392). Once again, these correlations are not a reason for any major concerns at this time.

After removing political freedom, one dummy at the time was added back to the model to see if collinearity was caused only by political freedom or due to the presence of dummies. However, a presence of collinearity was still found. Therefore, at the end, only quality of life, tourism competitiveness, economic freedom, GDP, and corruption were utilized in further investigation.

Finally, the Johansen test of cointegration could be performed. Six lags were utilized based on the recommendation that was provided earlier in the study. The results for trace statistics are summarized in Table 4.10.

Table 4. 10: Johansen tests for cointegration

<b>Maximum Rank</b>	<b>LL</b>	<b>Eigenvalue</b>	<b>Trace Statistics</b>	<b>5% critical value</b>
0	477.0967	.	79.1386	68.52
1	491.29514	0.27317	50.7418	47.21
2	503.02907	0.23178	27.2739*	29.68
3	509.76734	0.14051	13.7974	15.41
4	513.70593	0.08470	5.9202	3.76
5	516.66603	0.06435		

Based on the results from Table 4.10, critical value (29.68) is more than the trace statistics (27.2739), thus we can reject the null hypotheses and accept the alternative hypotheses that there is cointegration. In this case, there are two cointegrations in the Johansen test. The variables utilized in this study have long run association, in other words, in the long run, they move together.

#### Lag selection

Next, before running VECM model, the number of Lags had to be specified. Table 4.11 gives the Likelihood Ratio Test for the five variables in order to determine lag lengths.

Table 4. 11: Lag selection-order criteria

<b>Lag</b>	<b>LL</b>	<b>LR</b>	<b>FPE</b>	<b>AIC</b>	<b>HQIC</b>	<b>SBIC</b>
0	190.56		9.7e-09	-4.26	-4.20	-4.12
1	483.23	585.34	2.1e-11*	-10.41*	-10.07*	-9.56*
2	502.62	38.79	2.4e-11	-10.29	-9.66	-8.73
3	524.95	44.65*	2.5e-11	-10.22	-9.31	-7.96
4	541.97	34.03	3.1e-11	-10.04	-8.84	-7.06

The results reveal that the number of lags for further analysis should be one according to the final prediction error (FPE), Hanna-Quinn information criteria (HQIC), and the Akaike information criteria (AIC). On the other hand, the Likelihood Ratio (LR) suggests three lags. The difference between the criteria is based on the way in which they treat the extra lag. The optimal lag structure was determined by Likelihood Ratio (LR). The lag length of  $p=3$  determines the rank of cointegrated vectors in the cointegration test.

Now the testing can proceed to estimate the optimal lag selection for the regression equation. The VECM model revealed the following lag recommendations, summarized in Table 4.12.

Table 4. 12: VECM Lag suggestions

<b>Constructs</b>	<b>Lag(s) Recommended</b>	<b>Lag(s) Employed</b>	<b>Abbreviations</b>
TCI	Lag 1	Lag 1	L1TCI
QoL	Lag 1, Lag 2	Lag 1	L1QoL
Economic Freedom	Lag 2	Lag 2	L2EF
GDP	Lag 1	Lag 1	L1GDP
Corruption	Lag 1, Lag2, Lag3	No Lags	Corr

After investigating the various Lags as recommended by VECM, it was determined that Lag one will be utilized for TCI and QoL. In other words, the impact TCI has on other variables is not felt till the following year. The same can be said about QoL. In terms of economic freedom, it was determined based on the results that Lags two will be utilized. When it comes to GDP, Lag one was selected. On the other hand, corruption has immediate impact on the variables investigated, thus, no need for lagging. Now, that the cointegration relationship between the proposed hypotheses has been established, the next step is to provide further understanding of the proposed hypotheses with the comparative robust regression analyses.

## Baseline Models

Before the proposed hypotheses could be investigated, base line models were estimated. This will allow the research to understand how tested hypotheses are different or alike from each other. Specifically, two baseline models were examined. First baseline models looks at the impact of GDP and corruption on quality of life. The second baseline model looks at the impact of GDP and corruption on tourism competitiveness. The two models proposed in this study can be expressed as:

$$\text{BM1: } \text{QOL}_{it} = \beta_0 + \beta_1 \ln \text{GDP}_{it} + \beta_2 \ln \text{CORR}_{it} + \delta_1 \text{D}_{1it} + \delta_2 \text{D}_{2it} + \delta_3 \text{D}_{3it} + \delta_4 \text{D}_{4it} + \varepsilon_{it}$$

$$\text{BM2: } \text{TCI}_{it} = \beta_0 + \beta_1 \ln \text{GDP}_{it} + \beta_2 \ln \text{CORR}_{it} + \gamma_1 \text{D}_{1it} + \gamma_2 \text{D}_{2it} + \gamma_3 \text{D}_{3it} + \gamma_4 \text{D}_{4it} + v_{it}$$

The VECM results are summarized in Table 4.13.

Table 4. 13: VECM results – Baseline Models

	Dependent Variables	
	QoL (BM1)	TCI (BM2)
$\Delta v_{t-1}$	-0.097	<b>-0.177*</b>
$\Delta v_{t-2}$	-0.049	<b>-0.132**</b>
lnGDP (t-1)	0.011	0.008
lnGDP (t-2)	-0.024	0.011
lnGDP (t-3)	0.0004	0.026
lnCORR (t-1)	<b>0.558***</b>	-0.038
lnCORR (t-2)	<b>0.643**</b>	0.032
lnCORR (t-3)	0.308	-0.047

Note: \* significant at  $p < 0.01$ , \*\* at  $p < 0.05$  \*\*\* at  $p < 0.10$

The results with tourism competitiveness acts as a dependent variable reveal that the error correction term has the correct sign and is statistically significant at the one percent level and five percent level. This provides the evidence that there is long run causality running from GDP and corruption to TCI. In other words, GDP and corruptions jointly have a long term impact on

tourism competitiveness. In terms of quality of life being impacted by GDP and corruption, the findings reveal that there is no such long-term causality running from GDP and corruption to QoL. The findings for postestimation test confirming the existence of long-term relationships running from GDP and corruption to tourism competitiveness as the results are statistically significant (Table 4.14).

Table 4. 14: Postestimation test for long-term causality: Baseline Models

	BM2 chi <sup>2</sup>
$\Delta v_{t-1}$	<b>6.97*</b>
$\Delta v_{t-2}$	<b>3.78***</b>

Note: \* p<0.01, \*\*\* p<0.10

In terms of short-term causality, the VECM results show that there is an evidence of short term causality between corruption and quality of life at five and ten percent level of significant. A significant level up to 10% has been established as acceptable in this study. The researcher understands that with higher level of significant, the likelihood that the statistical expectations is true decreases, as researcher is more likely to commit Type I error (Zikmund et at., 2010). After testing for Granger causality, the results reveal that corruption ‘Granger-cause’ quality of life and quality of life ‘Granger-cause’ corruption (Table 4.15).

Table 4. 15: Granger causality: Baseline Models

<b>Null Hypothesis</b>	$\chi^2$	<b>Probability</b>	<b>Decision</b>
Corruption does not Granger-cause QoL	2.83	0.092	<b>Reject</b>
QoL does not Granger-cause Corruption	5.02	0.025	<b>Reject</b>

Next, the LM test for autocorrelation is performed.

Table 4. 16: LM test for residual autocorrelation

<b>Hypotheses</b>		<b>Lag 1 chi<sup>2</sup></b>	<b>p value</b>	<b>Lag 2 chi<sup>2</sup></b>	<b>p value</b>	<b>Lag 3 ch<sup>2</sup></b>	<b>p value</b>
BM1	QoL = GDP + Corr	8.44	0.48	2.40	0.98	3.19	0.95
BM2	TCI = GDP + Corr	13.21	0.15	12.31	0.19	4.52	0.87

According to the results in Table 4.16, the null hypothesis can't be rejected. In other words, there is no autocorrelation in the residuals for any of the three orders tested.

In addition, the test of normality had to be performed. The normality test results for each proposed baseline models are summarized in the next table.

Table 4. 17: Test of normality: Baseline Models

<b>Hypotheses</b>		<b>Chi<sup>2</sup></b>	<b>p-value</b>	<b>Results</b>
BM1	QoL = GDP + Corr	2265.81	0.001	Reject
BM2	TCI = GDP + Corr	2175.01	0.001	Reject

From the results above, it can be concluded that the null hypotheses of disturbance for a particular equation is normally distributed can be rejected. Thus, the disturbances are not normal, violating the assumption of normality when running regression analysis (Zikmund et al., 2010).

A series of transformation techniques was performed, ranging from logarithmic data transformation, to outlier elimination and Box-Cox transformation. Neither one of the techniques yield statistical significant results, therefore, a visual inspection of the data was performed via histograms to check for the distribution patterns. After visual investigation, the data appeared to be normally distributed.

Even though the normality check was satisfactory based on visual assessment and no autocorrelation was found, the existence of possible heteroscedasticity was still a major concern as it can invalidate statistical tests of significance (which was later confirmed when running

regression analyses). Error terms are said to be heteroscedastic if they do not have constant variance (STATA, 2014).

Heteroscedasticity may occur when the values of an independent variable become more extreme in either direction or when there are subpopulation differences or other interaction effects (STATA, 2014). In addition, measurement errors can also cause heteroscedasticity. One way to deal with heteroscedasticity is to use robust standard errors. Utilizing robust standard errors relaxes either one or both of the assumptions that errors ought to be independent and identically distributed (STATA, 2014). Therefore, when heteroscedasticity is present, robust standard errors should be utilized when running regression analysis. The use of robust standard errors does not change coefficient estimates, but it will provide reasonably accurate p-values (STATA, 2014). This discussion suggests that when regression is run, robust regression ought to be performed as opposed to regular regression, leading to accurate p-values.

Lastly, random effect robust regression analyses were performed. When quality of life was investigated, the dummy variables D1 (civil war in Guatemala), D2 (hurricane Mitch), and D4 (the September 11<sup>th</sup> terrorist attack) were included in the regression analyses. Dummy variable D3 (currency change in El Salvador) was eliminated as an inclusion in the regression analysis caused collinearity. When tourism competitiveness was investigated, only D2 and D4 were utilized for the same reason. The results for both regressions are summarized in Table 4.18

Table 4. 18: Regression results for BM 1

	QoL – Dependent Variable			TCI – Dependent Variable		
	Coef.	Std. Err.	z	Coef.	Std. Err.	z
<b>GDP<sub>t-1</sub></b>	0.074	0.031	<b>2.34**</b>	-0.051	0.091	-0.57
<b>Corruption</b>	0.014	0.010	1.37	0.002	0.014	0.20
<b>D1</b>	-0.001	0.004	-0.42			
<b>D2</b>	-0.004	0.009	-0.52	-0.012	0.010	-1.26
<b>D4</b>	-0.003	0.009	-0.40	-0.013	0.014	-0.87
<b>Const.</b>	-0.0009	0.003	-0.24	-0.002	0.008	-0.33
<b>Ch<sup>2</sup></b>	<b>24.14*</b>			<b>63.11*</b>		
<b>R-squared</b>	0.3218			0.0613		

Note: \* significant at p<0.01, \*\* p<0.05, \*\*\* p<0.10 levels of significance

Multiple regression analysis was conducted with GDP and corruption as the predictor variables and quality of life as the outcome variable in the first baseline model. The overall regression model produces a R<sup>2</sup> of 32.18%, which was statistically significant at chi<sup>2</sup> (7, 89) = 24.14, p < 0.01. Chi square is provided rather than F-statistics due to the use of random effect regression. If fixed effect would be utilized, then the F-statics would be provided. Corruption was positively related to quality of life (B = 0.014, z = 1.37, p > 0.1), however, not statistically significant. GDP was positively related to quality of life (B = 0.074, z = 2.34, p < 0.01), and statistically significant. In terms of dummies, civil war in Guatemala was negatively related to quality of life (B = -0.001, z = -0.42, p > 0.1) and not statistically significant. In terms of hurricane Mitch, it was negatively related to quality of life (B = -0.004, z = -0.52, p > 0.1) and not statistically significant. In terms of September 11<sup>th</sup> terrorist attack, it was negatively related to quality of life and not statistically significant (B = -0.003, z = -0.40, p > 0.1). The predicted equation can be written as:

$$L1QoL = -0.0009 + 0.074 * L1GDP + 0.014 * Corr - 0.001 * D1 - 0.004 * D2 - 0.003 * D4$$



The results reveal that the model as a whole is a significant fit to the data and GDP has the largest impact on quality of life. When GDP increases by one, quality of life is predicted to increase by 0.074 and when corruption goes up by one, quality of life is predicted to increase by 0.014.

In terms of tourism competitiveness acting as the dependent variable and GDP and corruption being the predictor variables, the overall regression model produces an  $R^2$  of 6.13%, which was statistically significant at  $\text{Ch}^2(7, 89) = 63.11, p < 0.01$ . Corruption was positively related to tourism competitiveness ( $B = 0.002, z = 0.20, p > 0.1$ ) and not statistically significant. GDP was negatively related to tourism competitiveness ( $B = -0.051, z = -0.57, p > 0.1$ ), however, not statistically significant. In terms of the dummy variables, the results reveal that hurricane Mitch has a negative impact on tourism competitiveness ( $B = -0.012, z = -1.26, p > 0.1$ ), however, not statistically significant. In terms of September 11<sup>th</sup> terrorist attack, it had a negative impact on tourism competitiveness and was statistically not significant ( $B = -0.013, z = -0.87, p > 0.1$ ). The predicted equation can be written as:

$$\text{L1TCI} = -0.002 - 0.051 * \text{L1GDP} + 0.002 * \text{Corr} - 0.012 * \text{D2} - 0.013 * \text{D4}$$

The results reveal that the model as a whole is significant fit to the data. It also indicates that when GDP goes up by one, tourism competitiveness decreases by 0.051, having much larger impact on TCI than corruption. In terms of corruption, when corruption goes up by one, tourism competitiveness improves by 0.002.

Now, the research can move to investigate each of the proposed research objectives.

Research Objective One: TCI & QoL

The first research objective was to investigate the relationship between tourism competitiveness and quality of life. The first hypothesis investigated quality of life by introducing tourism competitiveness to GDP and corruption. The second hypothesis introduced quality of life to GDP and corruption while investigating tourism competitiveness. The following research questions and corresponding hypotheses were proposed as summarized in Table 4.19.

Table 4. 19: Research Question 1 & 2

<b><i>Research Question 1</i></b>	<b><i>Does the level of tourism competitiveness affect (positively or negatively) the destination’s quality of life?</i></b>
H1 <sub>0</sub>	The level of tourism competitiveness does not affect (positively or negatively) the destination’s quality of life.
H1 <sub>1</sub>	The level of tourism competitiveness does affect (positively or negatively) the destination’s quality of life.
<b><i>Research Question 2</i></b>	<b><i>Does the destination’s quality of life affect (positively or negatively) the destination’s tourism competitiveness?</i></b>
H2 <sub>0</sub>	The destination’s quality of life does not affect (positively or negatively) the destination’s tourism competitiveness.
H2 <sub>1</sub>	The destination’s quality of life does affect (positively or negatively) the destination’s tourism competitiveness.

and can be expressed as:

$$H1_0: QOL_{it} = \beta_0 + \beta_1 TCI_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$$

$$H2_0: TCI_{it} = \beta_0 + \beta_1 QOL_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$$

The VECM results are summarized in Table 4.19.

Table 4. 20: VECM results – TCI & QoL

	Dependent Variables	
	QoL (H1)	TCI (H2)
$\Delta v_{t-1}$	0.028	<b>-0.195**</b>
$\Delta v_{t-2}$	<b>-0.086**</b>	-0.087
TCI (t-1)	-0.048	
TCI (t-2)	0.072	
TCI (t-3)	0.047	
QoL (t-1)		0.231
QoL (t-2)		-0.279
QoL (t-3)		-0.218
lnGDP (t-1)	0.012	-0.017
lnGDP (t-2)	-0.006	0.026
lnGDP (t-3)	0.021	0.060
lnCORR (t-1)	<b>0.095***</b>	-0.034
lnCORR (t-2)	0.076	0.001
lnCORR (t-3)	0.068	-0.050

Note: \* significant at  $p < 0.01$ , \*\* at  $p < 0.05$  \*\*\* at  $p < 0.10$

The results from table 4.20 reveal the evidence of long term causality. In terms of quality of life being the dependent variable, the results indicate there was long term causality running from tourism competitiveness toward QoL. In other words, when TCI is present in the investigated equation, there is an evidence of long-term relationship. In terms of tourism competitiveness being investigated, the error correction term had the correct sign and was statistically significant at the 5% level, thus providing the evidence of long-term relationship running from quality of life, GDP, and corruption toward TCI. The findings for postestimation test are revealed in the following table confirming the existence of long-term relationships.

Table 4. 21: Postestimation test for long-term causality: TCI & QoL

	H1 chi <sup>2</sup>	H2 chi <sup>2</sup>
$\Delta v_{t-1}$		5.94**
$\Delta v_{t-2}$	4.69**	

Note: \* p<0.01, \*\* p<0.05

In terms of short-term causality, the VECM results revealed the evidence of short term causality between corruption and quality of life, which was already found when investigating the relationship between quality of life, GDP, and corruption. However, there is no evidence of short-term causality between tourism competitiveness and quality of life.

Next, the LM test for autocorrelation is performed in order to determine the presents of autocorrelation in the residuals (Table 4.22).

Table 4. 22: LM test for residual autocorrelation: TCI & QoL

Hypotheses	Lag 1 chi <sup>2</sup>	p value	Lag 2 chi <sup>2</sup>	p value	Lag 3 ch <sup>2</sup>	p value
H1	16.84	0.39	5.86	0.98	7.12	0.97
H2	16.84	0.39	5.86	0.98	7.12	0.97

According to the results above, the null hypothesis can't be rejected. In other words, there is no autocorrelation in the residuals for any of the three orders tested.

In addition, the test of normality had to be performed. The normality test results for tourism competitiveness and quality of life are summarized in the next table.

Table 4. 23: Test of normality: TCI & QoL

Hypotheses		Chi <sup>2</sup>	p-value	Results
BM1	QoL = GDP + Corr	2553.46	0.001	Reject
BM2	TCI = GDP + Corr	1710.41	0.001	Reject

From the results above, it can be concluded that the null hypotheses of disturbance for a particular equation is normally distributed can be rejected. Thus, the disturbances are not normal, violating the assumption of normality when running regression analysis (Zikmund et al., 2010). Same results were found in the baseline model. Therefore, robust regression analyses were utilized to test the proposed hypotheses.

Lastly, random effect robust regression analyses were performed. When quality of life was investigated, the dummy variables D1 (civil war in Guatemala), D2 (hurricane Mitch), and D4 (the September 11<sup>th</sup> terrorist attack) were included in the regression analyses. Dummy variable D3 (currency change in El Salvador) was eliminated due to collinearity. When tourism competitiveness was investigated, only D2 (hurricane Mitch) and D4 (the September 11<sup>th</sup> terrorist attack) were utilized. The results for both regressions are summarized in Table 4.24.

Table 4. 24: Regression results: TCI & QoL

	QoL – Dependent Variable			TCI – Dependent Variable		
	Coef.	Std. Err.	z	Coef.	Std. Err.	z
<b>QoL<sub>t-1</sub></b>				1.23	0.27	<b>4.46*</b>
<b>TCI<sub>t-1</sub></b>	0.338	0.068	<b>4.95*</b>			
<b>GDP<sub>t-1</sub></b>	0.092	0.014	<b>6.25*</b>	-0.14	0.065	<b>-2.19**</b>
<b>Corruption</b>	0.023	0.015	1.48	-0.013	0.023	-0.57
<b>D1</b>	-0.01	0.002	<b>-5.48*</b>			
<b>D2</b>	-0.015	0.008	<b>-1.88**</b>	-0.013	0.014	-0.89
<b>D4</b>	-0.017	0.009	<b>-1.81**</b>	-0.024	0.015	-1.61
<b>Const.</b>	0.002	0.002	1.02	0.0001	0.006	0.02
<b>Ch<sup>2</sup></b>	<b>563.14*</b>			<b>73.68**</b>		
<b>R-squared</b>	0.6097			0.4464		

Note: \* significant at p<0.01, \*\* p<0.05, \*\*\* p<0.10 levels of significance

In terms of quality of life being the dependent variable, the results reveal that by adding tourism competitiveness to the baseline model, there is a major increase to the model's R<sup>2</sup>, increased from previous 32.31% to 60.97%. The model was statistically significant at chi2 (7,

89) = 563.14,  $p < 0.01$ . Tourism competitiveness was positively related to quality of life ( $B = 0.326$ ,  $z = 5.03$ ,  $p < 0.01$ ) and statistically significant. GDP was also positively related to quality of life ( $B = 0.338$ ,  $z = 4.95$ ,  $p < 0.01$ ) and statistically significant, same as in previous models. Corruption was positively related to quality of life ( $B = 0.023$ ,  $z = 1.48$ ,  $p > 0.1$ ) and not statistically significant. War in Guatemala (D1) was negatively related to quality of life and statistically significant ( $B = -0.01$ ,  $z = -5.48$ ,  $p < 0.01$ ). Hurricane Mitch (D2) was negatively related to quality of life and statistically significant ( $B = -0.015$ ,  $z = -1.88$ ,  $p < 0.05$ ). In terms of September 11th terrorist attack (D4), it was negatively related to quality of life and statistically significant ( $B = -0.017$ ,  $z = -1.81$ ,  $p < 0.05$ ). The predicted equation can be written as:

$$L1QoL = 0.002 + 0.338 * L1TCI + 0.092 * L1GDP + 0.023 * Corr - 0.01 * D1 - 0.015 D2 - 0.017 * D4$$

The results reveal that the model as a whole is significant fit to the data. After adding tourism competitiveness, the model's  $R^2$  increased significantly, pointing out that tourism competitiveness explains an additional 28.66% of the overall model. When tourism competitiveness increases by one, quality of life improves by 0.338. Tourism competitiveness has the largest impact on quality of life when compared to GDP (0.092) and corruption (0.023). GDP is still statistically significant while corruption remains statistically not significant. It can be concluded, that the level of tourism competitiveness does positively affect the destination's quality of life. In addition, all dummy variables were found to be statistically significant with minimal negative impact on quality of life.

In terms of tourism competitiveness being the dependent variable, the results reveal that by adding quality of life to the model, there is an increase to the model's  $R^2 = 0.4464$  when

compared to the model without quality of life. The model was statistically significant at Chi2 (7, 89) = 73.68,  $p < 0.05$ . Quality of life was positively related to tourism competitiveness ( $B = 1.23$ ,  $z = 4.46$ ,  $p < 0.01$ ) and statistically significant. GDP was negatively related to tourism competitiveness ( $B = -0.14$ ,  $z = -2.19$ ,  $p < 0.05$ ) and statistically significant, a change from the baseline model. Corruption was negatively related to tourism competitiveness ( $B = -0.013$ ,  $t = -0.57$ ,  $p > 0.1$ ) and not statistically significant. The predicted equation can be written as:

$$L1TCI = 0.0001 + 1.23 * L1QoL - 0.14 * L1GDP - 0.013 * Corr - 0.013 * D2 - 0.024 * D4$$

The results reveal that the model as a whole is a significant fit to the data. After adding quality of life, the model's  $R^2$  increased significantly when compared to the model without quality of life, pointing out that quality of life explains an additional 37.94% of the overall model. By increasing quality of life by one, tourism competitiveness will increase by 1.23, playing an important role in tourism competitiveness. In addition, by increasing GDP by one, TCI will decrease by 0.14 and by increasing corruption by one, TCI will decrease by 0.013. It can be concluded; that the level of quality of life does positively affect the destination's tourism competitiveness and plays a major role in tourism competitiveness.

In conclusion, the results reveal that there is bi-directional relationship between tourism competitiveness and quality of life. The finding confirms that quality of life impacts tourism competitiveness but that also tourism competitiveness impacts quality of life in the long term. There is no evidence of short-term relationship between these two constructs.

#### Research Objective Two: TCI & Freedom

The second research objective was to investigate the relationship between tourism competitiveness and freedoms (political and economic). Since political freedom was eliminated

from this study due to collinearity, only economic freedom was investigated. Economic freedom was introduced into the equation together with GDP and corruption, trying to explain tourism competitiveness. The following research question and corresponding hypotheses were proposed as summarized in Table 4.25.

Table 4. 25: Research Question 5

<i>Research Question 5</i>	<i>Does the level of economic freedom affect (positively or negatively) the destination's tourism competitiveness?</i>
H5 <sub>0</sub>	The level of economic freedom does not affect (positively or negatively) the destination's tourism competitiveness.
H5 <sub>1</sub>	The level of economic freedom does affect (positively or negatively) the destination's tourism competitiveness.

and can be expressed as:

$$TCI_{it} = \beta_0 + \beta_1 \ln EF_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$$

The VECM results are summarized in Table 4.26.

Table 4. 26: VECM results – TCI & EF

	H5
$\Delta v_{t-1}$	<b>-0.119***</b>
$\Delta v_{t-2}$	<b>-0.170***</b>
$\ln EF (t-1)$	<b>-0.208**</b>
$\ln EF (t-2)$	-0.116
$\ln EF (t-3)$	-0.004
$\ln GDP (t-1)$	0.005
$\ln GDP (t-2)$	-0.004
$\ln GDP (t-3)$	0.029
$\ln CORR (t-1)$	-0.056
$\ln CORR (t-2)$	0.008
$\ln CORR (t-3)$	-0.077

Note: \* significant at p<0.01, \*\* at p<0.05 \*\*\* at p<0.10



The results from table 4.25 reveal evidence of long term causality running from economic freedom, GDP, and corruption toward TCI. The results have the correct sign (negative) and they are statistically significant. The findings for postestimation test revealed in the following table confirm the existence of long-term relationships (Table 4.27).

Table 4. 27: Postestimation test for long-term causality: TCI & EF

	H5 chi <sup>2</sup>
$\Delta v_{t-1}$	<b>3.05***</b>
$\Delta v_{t-2}$	<b>2.91***</b>

Note: \*\*\* p<0.10

In terms of short-term causality, the VECM results show that there is an evidence of short term causality between tourism competitiveness and economic freedom. Thus, once economic freedom is added to the baseline model, an evidence of short-term relationships is presented between tourism competitiveness and economic freedom. Granger causality test was utilized to further investigate this relationship. The estimated results for Granger causality reveal that tourism competitiveness “Granger cause” economic freedom (Table 4.28).

Table 4. 28: Granger Causality: TCI & EF

<b>Null Hypothesis</b>	$\chi^2$	<b>Probability</b>	<b>Decision</b>
EF does not Granger-cause TCI	0.63	0.888	Do not reject
TCI does not Granger-cause EF	5.20	0.022	<b>Reject</b>

Next, the LM test for autocorrelation is performed in order to determine the presents of autocorrelation in the residuals (Table 4.29).

Table 4. 29: LM test for residual autocorrelation: TCI & EF

<b>Hypotheses</b>	<b>Lag 1 chi<sup>2</sup></b>	<b>p value</b>	<b>Lag 2 chi<sup>2</sup></b>	<b>p value</b>	<b>Lag 3 ch<sup>2</sup></b>	<b>p value</b>
H5	17.90	0.32	22.88	0.11	13.48	0.63

According to the results above, the null hypothesis can't be rejected. In other words, there is no autocorrelation in the residuals for any of the three orders tested.

In addition, the test of normality had to be performed. The normality test result is summarized in the table 4.30.

Table 4. 30: Test of normality: TCI & EF

<b>Hypotheses</b>	<b>Chi<sup>2</sup></b>	<b>p-value</b>	<b>Results</b>
H5	1802.85	0.001	Reject

From the results above, it can be concluded once again that the null hypotheses of disturbance for a particular equation is normally distributed can be rejected. Thus, the disturbances are not normal, violating the assumption of normality when running regression analysis (Zikmund et al., 2010). Therefore, a robust regression analysis was utilized to test the proposed hypotheses.

Lastly, random effect robust regression analysis was performed. Only dummy variables D2 (hurricane Mitch) and D4 (the September 11<sup>th</sup> terrorist attack) were included in the regression analyses. The results for regressions investigating the relationship between tourism competitiveness and economic freedom are summarized in Table 4.31.

Table 4. 31: Regression results: TCI & EF

	<b>Coef.</b>	<b>Std. Err.</b>	<b>z</b>
<b>EF</b>	-0.105	0.094	-1.11
<b>GDP</b>	-0.048	0.090	-0.054
<b>Corruption</b>	0.004	0.014	0.31
<b>D2</b>	-0.014	0.009	-1.49
<b>D4</b>	-0.019	0.019	-1.01
<b>Const.</b>	-0.002	0.008	-0.26
<b>Chi<sup>2</sup></b>	<b>80.84*</b>		
<b>R-squared</b>	0.0670		

Note: \* significant at p<0.01

The results reveal that by introducing economic freedom to the model with GDP and corruption, there is a minor increase to the model's  $R^2 = 0.0670$  when compared to the model without economic freedom, and statistically significant at  $\chi^2(7, 88) = 80.84, p < 0.01$ . Economic freedom was negatively related to tourism competitiveness ( $B = -0.105, z = -1.11, p > 0.1$ ) and not statistically significant. GDP was also negatively related to tourism competitiveness ( $B = -0.048, z = -0.054, p > 0.1$ ) and not statistically significant, same as in the baseline model. Corruption was positively related to tourism competitiveness ( $B = 0.004, z = 0.31, p > 0.1$ ) and not statistically significant. In terms of dummy variables, the results are very much the same as previously, where hurricane Mitch (DM2) is negatively related to tourism competitiveness and not statistically significant ( $B = -0.014, z = -1.49, p < 0.01$ ). In terms of September 11<sup>th</sup> terrorist attack (DM4), the result is negatively related to tourism competitiveness and not statistically significant ( $B = -0.019, z = -1.01, p > 0.1$ ). The predicted equation can be written as:

$$L1TCI = -0.002 - 0.105 * L2EF - 0.048 * L1GDP + 0.004 * Corr - 0.014 * D2 - 0.019 * D4$$

The results reveal that the model as a whole is statistically significant. It can be concluded, that the level of economic freedom does not affect the destination's tourism competitiveness. By increasing economic freedom by one, tourism competitiveness decreases by 0.105, however, such relationship was not significant. In addition, negative short term causality was found running from economic freedom to tourism competitiveness, providing evidence that economic freedom impacts tourism competitiveness.

### Research Objective Three: QoL & Freedom

The third research objective in this study was to investigate whether freedom impacts quality of life. Since political freedom was eliminated from this study due to collinearity, only

economic freed was introduced into the equation. The following research question and corresponding hypotheses were proposed as summarized in Table 4.32.

Table 4. 32: Research Question 6

<i>Research Question 6</i>	<i>Does the level of economic freedom affect (positively or negatively) the destination's quality of life?</i>
H6 <sub>0</sub>	The level of economic freedom does not affect (positively or negatively) the destination's quality of life.
H6 <sub>1</sub>	The level of economic freedom does affect (positively or negatively) the destination's quality of life.

and can be expressed as:

$$QOL_{it} = \beta_0 + \beta_1 \ln EF_{it} + \beta_2 \ln GDP_{it} + \beta_3 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$$

The VECM results are summarized in Table 4.33.

Table 4. 33: VECM results – QoL & EF

	H6
$\Delta v_{t-1}$	-0.101
$\Delta v_{t-2}$	-0.051
$\ln EF (t-1)$	<b>-0.491**</b>
$\ln EF (t-2)$	-0.245
$\ln EF (t-3)$	-0.286
$\ln GDP (t-1)$	0.011
$\ln GDP (t-2)$	-0.028
$\ln GDP (t-3)$	0.007
$\ln CORR (t-1)$	<b>0.691**</b>
$\ln CORR (t-2)$	0.495
$\ln CORR (t-3)$	0.460

Note: \* significant at p<0.01, \*\* at p<0.05

The results from table 4.33 reveal evidence of no long term causality running from economic freedom toward quality of life. In terms of short-term causality, the VECM results show that there is an evidence of short term causality between quality of life and corruption.

Such relationship was investigated in the first model tested and is not the objective of this study. In addition, economic freedom was found to have a short-term causality with economic freedom. Thus, once economic freedom is added to the baseline model, an evidence of short-term relationships is presented. Granger causality test was utilized to further investigate this relationship. The estimated results for Granger causality reveal that tourism competitiveness “Granger cause” economic freedom (Table 4.34).

Table 4. 34: Granger Causality : TCI & EF

<b>Null Hypothesis</b>	$\chi^2$	<b>Probability</b>	<b>Decision</b>
EF does not Granger-cause QoL	0.48	0.49	Do not reject
QoL does not Granger-cause EF	5.28	0.021	<b>Reject</b>

Next, the LM test for autocorrelation is performed in order to determine the presents of autocorrelation in the residuals.

Table 4. 35: LM test for residual autocorrelation: QoL & EF

<b>Hypotheses</b>	<b>Lag 1 chi<sup>2</sup></b>	<b>p value</b>	<b>Lag 2 chi<sup>2</sup></b>	<b>p value</b>	<b>Lag 3 ch<sup>2</sup></b>	<b>p value</b>
H6	17.26	0.36	17.73	0.33	6.66	0.97

According to the results above, the null hypothesis can't be rejected. In other words, there is no autocorrelation in the residuals for any of the three orders tested.

In addition, the test of normality had to be performed. The normality test result is summarized in the next table.

Table 4. 36: Test of normality: QoL & EF

<b>Hypotheses</b>	<b>Chi<sup>2</sup></b>	<b>p-value</b>	<b>Results</b>
H5	2851.12	0.001	Reject

From the results above, it can be concluded that the null hypotheses of disturbance can be rejected. Thus, the disturbances are not normal, violating the assumption of normality when running regression analysis (Zikmund et al., 2010). Therefore, a robust regression analysis was utilized to test the proposed hypotheses.

Lastly, random effect robust regression analysis was performed. The dummy variables D1 (civil was in Guatemala), D2 (hurricane Mitch), and D4 (the September 11<sup>th</sup> terrorist attack) were included in the regression analyses. The results are summarized in Table 4.37.

Table 4. 37: Regression results: QoL & EF

	<b>Coef.</b>	<b>Std. Err.</b>	<b>z</b>
<b>EF<sub>t-2</sub></b>	-0.003	0.075	-0.05
<b>GDP<sub>t-1</sub></b>	0.074	0.031	<b>2.37**</b>
<b>Corruption</b>	0.014	0.010	1.33
<b>D1</b>	-0.001	0.004	-0.30
<b>D2</b>	-0.004	0.009	-0.49
<b>D4</b>	-0.003	0.009	-0.37
<b>Const.</b>	-0.001	0.003	-0.34
<b>Chi<sup>2</sup></b>	<b>352.72*</b>		
<b>R-squared</b>	0.3231		

Note: \* significant at p<0.01, \*\* significant at p<0.05

The results reveal that by adding economic freedom to GDP and corruption, there is a very minor increase to the model's  $R^2 = 32.31\%$  when compared to the same model but without economic freedom. The model was statistically significant at  $\chi^2(7, 88) = 352.72, p < 0.01$ . Corruption was positively related to quality of life ( $B = 0.014, z = 1.33, p > 0.1$ ), however, not statistically significant. GDP was positively related to quality of life ( $B = 0.074, z = 2.37, p < 0.05$ ) and statistically significant, same as reported in the baseline model. Economic freedom was negatively related to quality of life ( $B = -0.003, z = -0.05, p > 0.1$ ) and not statistically significant.

In terms of dummy variable D1 (civil war in Guatemala), it was negatively related to quality of life and statistically not significant (B= -0.001, z = -0.30, p > 0.1). In terms of dummy variable representing hurricane Mitch, it was negatively related to quality of life and statistically not significant (B= -0.004, z = -0.49, p > 0.1). Dummy variable 4 (September 11th terrorist attack) was negatively related to quality of life and statistically not significant (B= -0.003, z = -0.37, p > 0.1). The predicted equation can be written as:

$$L1QoL = -0.001 - 0.003 * L2EF + 0.074 * L1GDP + 0.014 * Corr - 0.001 * D1 - 0.004 * D2 - 0.003 * D4$$

The results reveal that the model as a whole is a significant fit to the data. After adding economic freedom, the model R<sup>2</sup> increased very slightly, pointing out that economic freedom explains an additional 0.13% of the overall model. By increasing economic freedom by one, quality of life will decrease by 0.003, however, this result was not statistically significant. In terms of GDP, GDP is still statistically significant and by increasing GDP by one, quality of life will also increase by 0.074. In terms of corruption, it was not statistically significant. Thus, it can be concluded, that the level of economic freedom does not affect the destination's quality of life. All dummy variables had negative impact on quality of life and were not statistically significant.

In conclusion, the results reveal that economic freedom does not impact quality of life. In addition, there is no long-term relationship running between economic freedom and quality of life. However, a short-term causality was found running from quality of life toward economic freedom.

Research Objective Four: Freedom – the intervening variable

The last objective of this study was to investigate whether freedom is the intervening factor in the context of tourism competitiveness and quality of life. Once again, only economic freedom was analyzed in this section. In particular, would economic freedom moderate or mediate the relationship between tourism competitiveness and quality of life. The following research questions and corresponding hypotheses were proposed as summarized in Table 4.38.

Table 4. 38: Research Question 8

<i>Research Question 8</i>	<i>Does the level of economic freedom affect (positively or negatively) the relationship between tourism competitiveness and quality of life?</i>
H8 <sub>0</sub>	The level of economic freedom does not affect (positively or negatively) the relationship between tourism competitiveness and quality of life.
H8 <sub>1</sub>	The level of economic freedom does affect (positively or negatively) the relationship between tourism competitiveness and quality of life.

and are expressed as:

$$H8a_0: TCI_{it} = \beta_0 + \beta_1 QOL_{it} + \beta_2 \ln EF_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln CORR_{it} + \gamma_1 D_{1it} + \gamma_2 D_{2it} + \gamma_3 D_{3it} + \gamma_4 D_{4it} + v_{it}$$

$$H8b_0: QOL_{it} = \beta_0 + \beta_1 TCI_{it} + \beta_2 \ln EF_{it} + \beta_3 \ln GDP_{it} + \beta_4 \ln CORR_{it} + \delta_1 D_{1it} + \delta_2 D_{2it} + \delta_3 D_{3it} + \delta_4 D_{4it} + \varepsilon_{it}$$

The VECM results for both equations (TCI being the dependent variable in the first hypothesis investigated and then quality of life being the dependent variable in the second hypothesis investigated) are summarized in Table 4.39.



Table 4. 39: VECM results – Economic Freedom

	Dependent Variables	
	TCI (H8a)	QoL (H8b)
$\Delta v_{t-1}$	<b>-0.220**</b>	0.036
$\Delta v_{t-2}$	<b>-0.239**</b>	<b>-0.147*</b>
TCI (t-1)		-0.029
TCI (t-2)		0.063
TCI (t-3)		0.066
QoL (t-1)	0.359	
QoL (t-2)	-0.311	
QoL (t-3)	-0.049	
lnEF (t-1)	0.100	0.066
lnEF (t-2)	0.319	0.212
lnEF (t-3)	0.005	0.016
lnGDP (t-1)	-0.021	0.009
lnGDP (t-2)	-0.0003	-0.017
lnGDP (t-3)	0.057	0.028
lnCORR (t-1)	0.002	<b>0.124***</b>
lnCORR (t-2)	0.018	<b>0.693***</b>
lnCORR (t-3)	-0.054	0.071

Note: \* significant at  $p < 0.01$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.10$

The results from table 4.38 reveal evidence of long term causality. In terms of both hypotheses, the results reveal there was long term causality running from economic freedom, GDP, corruption, quality of life toward tourism competitiveness. In addition, the same results were found when quality of life was the dependent variable. The findings for postestimation test are summarized in the following table confirming the existence of long-term relationships.

Table 4. 40: Postestimation test for long-term causality: Economic Freedom

	H8a chi <sup>2</sup>	H8b chi <sup>2</sup>
$\Delta v_{t-1}$	5.38**	
$\Delta v_{t-2}$	5.80**	4.35**

Note: \* significant at  $p < 0.01$ , \*\*  $p < 0.05$

In terms of short-term causality, the VECM results show that short-term causality exists between corruption and quality of life. Such relationship was discussed in the earlier hypothesis and is not a main objective of this study. As it refers to quality of life and tourism competitiveness, there was no evidence of short term causality.

Next, the LM test for autocorrelation is performed in order to determine the presents of autocorrelation in the residuals.

Table 4. 41: LM test for residual autocorrelation: Economic Freedom

<b>Hypotheses</b>	<b>Lag 1 chi<sup>2</sup></b>	<b>p value</b>	<b>Lag 2 chi<sup>2</sup></b>	<b>p value</b>	<b>Lag 3 ch<sup>2</sup></b>	<b>p value</b>
H8a	6.03	0.98	12.85	0.68	8.55	0.93
H8b	13.22	0.65	12.60	0.70	7.49	0.96

According to the results above, the null hypothesis can't be rejected. In other words, there is no autocorrelation in the residuals for any of the three orders tested.

In addition, the test of normality had to be performed. The normality test results for each proposed hypotheses are summarized in the next table.

Table 4. 42: Test of normality: Economic Freedom

<b>Hypotheses</b>	<b>Chi<sup>2</sup></b>	<b>p-value</b>	<b>Results</b>
H8a	1742.03	0.001	Reject
H8b	2369.70	0.001	Reject

From the results above, it can be concluded that the null hypotheses of disturbance for a particular equation is normally distributed can be rejected. Thus, the disturbances are not normal, violating the assumption of normality when running regression analysis (Zikmund et al., 2010). Same results were found in the baseline model. Therefore, robust regression analyses were utilized to test the proposed hypotheses.

Lastly, random effect robust regression analyses were performed. In these regressions only dummy variable D4 (the September 11<sup>th</sup> terrorist attack) were utilized due to collinearity when additional dummy variables were presented. The results for both regressions are summarized in Table 4.43.

Table 4. 43: Regression results: Economic Freedom

	Dependent Variables					
	TCI (H8a)			QoL (H8b)		
	Coef.	Std. Err.	z	Coef.	Std. Err.	z
<b>QoL<sub>t-1</sub></b>	0.041	0.131	0.31			
<b>TCI<sub>t-1</sub></b>				0.323	0.086	<b>3.72*</b>
<b>EF<sub>t-1</sub></b>	1.44	0.349	<b>4.14*</b>	0.011	0.082	0.14
<b>EF*TCI</b>				0.392	1.386	0.28
<b>EF*QoL</b>	-9.07	3.752	<b>-2.42**</b>			
<b>GDP<sub>t-1</sub></b>	-0.14	0.066	<b>-2.23**</b>	0.093	0.021	<b>4.37*</b>
<b>Corruption</b>	-0.021	0.022	-0.98	0.018	0.017	1.05
<b>D4</b>	-0.030	0.022	-1.37	-0.015	0.009	-1.53
<b>Const.</b>	0.0007	0.004	0.17	0.0009	0.002	0.45
<b>Ch<sup>2</sup></b>	<b>38.00*</b>			<b>331.25*</b>		
<b>R-squared</b>	0.5083			0.6041		

Note: \* significant at p<0.01, \*\* p<0.05, \*\*\* p<0.10 levels of significance

The results reveal that by adding economic freedom as the intervening variable when tourism competitiveness is the dependent variable, there is an increase to the model's R<sup>2</sup> when compared to the model that investigated quality of life only. A R<sup>2</sup> increased from 44.64% to 50.83% which was statistically significant at  $\chi^2(7, 88) = 3.87, p < 0.1$ . The intercept was statistically significant (B = -9.07, z = -2.42, p < 0.05) and negative. Quality of life was positively related to tourism competitiveness (B = 1.44, z = 4.14, p < 0.01) and statistically significant. On the other hand, economic freedom was not statistically significant (B = 0.041, z = 0.31, p > 0.01). In addition, GDP was negatively related to tourism competitiveness (B = -0.14, z

= -2.23,  $p < 0.05$ ) and statistically significant. Corruption was negatively related to tourism competitiveness ( $B = -0.021$ ,  $z = -0.98$ ,  $p > 0.1$ ) and not statistically significant.

In conclusion, the results reveal that the model as a whole is a significant fit to the data. After adding the interaction effect, the model  $R^2$  increased by 6.19%. The interaction effect was statistically significant, pointing out that economic freedom does in fact act as a moderator when tourism competitiveness acts as a dependent variable. By increasing economic freedom by one, tourism competitiveness will increase by 1.44, having large impact on tourism. In addition, long-term relationship was found between economic freedom and quality of life and tourism competitiveness. However, there was no evidence of short-term effect.

In terms of quality of life being the dependent variable, the results reveal that by adding economic freedom as the intervening variable, there is a slight decrease to the model's  $R^2$  when compared to the model with only tourism competitiveness. A  $R^2$  slightly decreased from 60.97% to 60.41% which was statistically significant at  $\chi^2(7, 88) = 331.25$ ,  $p < 0.01$ . The intercept was not statistically significant ( $B = 0.392$ ,  $z = 0.28$ ,  $p > 0.1$ ). Tourism competitiveness was positively related to quality of life ( $B = 0.323$ ,  $z = 3.72$ ,  $p < 0.01$ ) and statistically significant. GDP was also positively related to quality of life ( $B = 0.093$ ,  $z = 4.37$ ,  $p < 0.01$ ) and statistically significant, same as in previous models. Corruption was positively related to quality of life ( $B = 0.018$ ,  $z = 1.05$ ,  $p > 0.1$ ) and not statistically significant. September 11<sup>th</sup> dummy variable was negatively related to quality of life and not statistically significant ( $B = -0.015$ ,  $z = -1.53$ ,  $p > 0.01$ ).

The results reveal that the model as a whole is a significant fit to the data. After adding the interaction effect, the model  $R^2$  slightly decreased. Even though a long-term effect was found,

the interaction effect was not statistically significant, pointing out that economic freedom does not act as a moderator when quality of life is a dependent variable. In addition, by increasing tourism competitiveness by one, quality of life will improve by 0.32. When GDP is increased by one, quality of life will improve by 0.093, having a minimal impact on quality of life. It can be concluded, that economic freedom does not affect the relationship between tourism competitiveness and quality of life.

Since economic freedom does not act as a moderator, the possibility of economic freedom acting as a mediator must be investigated. A four step procedure developed by Baron and Kenny provides the evidence if a variable is a mediator in the relationship between independent and dependent variables. The four steps show that:

- i. There is a significant relationship between the independent variable and dependent variable
- ii. The mediator is related to dependent variable
- iii. The independent variable is related to the mediator
- iv. The strength of the relationship between independent and dependent variables is significantly reduced when the mediator is added to the model (Baron & Kenny, 1986)

When following the procedure listed above, it has been shown that there is a significant relationship between independent variable (TCI) and dependent variable (QoL) as discussed in Hypothesis 1. The next step investigates if the mediator (economic freedom) is related to dependent variable (QoL). Based on the results in Hypothesis 6 (investigating the relationship between quality of life and economic freedom), it can be concluded that the relationship was not statistically significant. Thus, economic freedom does not act as a mediator either.

### *Testing for Assumptions*

Lastly, the models need to be checked for robustness and stability. The residuals for each hypothesis are computed and tested for unit root. Furthermore, the data is tested for serial correlation. The results for each of the assumptions are presented below.

#### Unit Root Test for Residuals

Before any conclusion can be made based on the findings presented above, the residual must be calculated and tested if they are stationary. The Augmented Dick-Fuller unit-root test (ADF) has been utilized in order to investigate if a variable follows a unit-root process (a random walk). The null hypothesis is that the variable contains a unit root, or in other words, it is not stationary. The alternative hypothesis is that the variable is stationary, or it does not have a unit root (STATA, 2014). The desirable outcome is for the variable to be stationary. The test can be conducted by either excluding constant, including the trend term, or by including lagged values of the difference of the variable in the regression (STATA, 2014). The results of the test are sensitive to lag selection, thus, the optimal lag selection was determined utilizing the most common Lag selection as suggested by Lag-order selection statistics. The ADF model can be expressed as:

$$\Delta y_t = \alpha + \beta y_{t-1} + \delta_t + \zeta_1 \Delta y_{t-1} + \dots + \zeta_k \Delta y_{t-k} + \epsilon_t$$

where  $k$  is the number of lags specified and  $\delta_t$  is the time trend option which by default is not included. The results for ADF with recommended lag selections are summarized in Table 4.44.

Table 4. 44: ADF test for Residuals & Lag selection

<b>Residual (e)</b>	<b>Lag(s) Recommended</b>	<b>Test Statistics</b>	<b>Residuals Constant</b>	<b>Residuals Trend</b>
BM 1	0	-9.60*	0.00000	0.001
BM 2	0	-9.33*	0.00005	-0.009**
H1	0	-10.17*	0.00005	-0.001
H2	0	-10.32*	0.0003	-0.024**
H5	0	-8.45*	0.000	-0.008**
H6	0	-9.60*	-0.0001	0.006
H8a	0	-9.52*	0.0004***	-0.027**
H8b	0	-9.88*	0.0000	-0.002

Note: \* significant at  $p < 0.01$ , \*\* significant at  $p < 0.05$ , \*\*\* significant at  $p < 0.1$

The results of the ADF test in Table 4.34. indicate that all residuals for proposed hypotheses were stationary at  $p=0.01$ , thus, producing valid estimates. If residuals would be found non-stationary, the estimates would indicate ‘spurious regression’, resulting in high  $R^2$  and high z-ratios, leading to results with no real economic meaning.

### Serial Correlation

Next step in the data analyses is to check for serial correlation. In other words, are the data independent? In panel data models, serial correlation biases the standard errors and causes the results to be less efficient (Drukker, 2003). Number of tests for serial correlation in panel-data exists today, however, the test proposed by Wooldridge is very attractive as it requires relatively few assumptions and is easy to implement (Drukker, 2003). The null hypothesis states that there is no serial correlation. Rejection of the null hypotheses concludes that the data have first-order autocorrelation. Table 4.45 summarizes the results for each hypotheses proposed.

Table 4. 45. Wooldrige Test for Autocorrelation

<b>Hypotheses</b>	<b>F statistics</b>
BM1	0.165
BM2	0.279
H1	0.121
H2	0.069
H5	1.73
H6	0.035
H8a	1.31
H8b	0.002

Note: \* significant at  $p < 0.05$  levels of significance

Based on the results in Table 4.45, it can be determine that there is no presence of serial correlation. Thus, the results are significant and have real economic meaning.

### Conclusion

By applying comparative analysis, the results reveal how proposed models behave when different variables are introduced at a different time. The first scenario utilized QoL as a dependent variable. When economic freedom was introduced into the baseline model, the model significance level and  $R^2$  did not change much. In other words, economic freedom did not have an impact on quality of life. However, when tourism competitiveness was introduced into the same baseline model, the model becomes significant and TCI explained about 28.66% of the overall model. Thus, it could be concluded that tourism competitiveness is important in terms of the impact it has on quality of life. When the interaction effect was introduced, the result was statistically not significant, indicating, that economic freedom does not act as a moderator/mediator between quality of life and tourism competitiveness. In addition,



Guatemalan war, hurricane Mitch, and September 11<sup>th</sup> terrorist attack had a negative impact on quality of life, however, they were found to be not statistically significant.

The second scenario investigated was with tourism competitiveness as the dependent variable. The baseline model, including GDP and corruption was statistically significant. When economic freedom was introduced into the baseline model, the results were still statistically significant. In addition, economic freedom was found to be not statistically significant, pointing out that economic freedom does not impact tourism competitiveness. However, when quality of life was introduced into the baseline model, the overall model was statistically significant and quality of life explained about 37.94% in tourism competitiveness. Therefore, it can be concluded that quality of life has a significant positive impact on the success of tourism in the region. In addition, when interaction effect was introduced, the overall model explained about 46.79% of the model. The interaction effect was statistically significant, indicating that economic freedom acts as a moderator in the relationship between tourism competitiveness and quality of life.

In summary, the comparative analyses reveal the following findings:

1. Economic freedom does not impact quality of life or tourism competitiveness
2. Tourism competitiveness explains about 28.66% in QoL and has a positive impact on QoL
3. Quality of life has a positive impact on TCI and explains about 37.94% in TCI
4. Economic freedom does not act as a moderator/mediator between TCI and QoL when QoL acts as a dependent variable

5. Economic freedom does act as a moderator between TCI and QoL when TCI acts as a dependent variable and it has a negative impact on the relationship
6. Long-term causality was found in all hypotheses tested when QoL was the dependent variable and TCI was present as an independent variable in the investigated hypotheses
7. Long-term causality exists in all hypotheses investigated when using TCI as dependent variable
8. Short-term causality runs between QoL  $\rightarrow$  EF and TCI  $\rightarrow$  EF
9. When QoL is dependent variable, Guatemala war, hurricane Mitch, and September 11<sup>th</sup> terrorist attack have negative impact on QoL
10. When TCI acts as dependent variable, hurricane Mitch and September 11<sup>th</sup> terrorist attack have negative impact on TCI, but are not statistically significant

The next chapter will elaborate in more details on the conclusions drawn in this section.

## CHAPTER FIVE: CONCLUSIONS AND IMPLICATIONS

### Introduction

The following chapter provides a discussion of the main findings and summary of results. Detail interpretations of research objectives are provided. In addition, theoretical and managerial implications of this study are presented. Finally, the chapter concludes with limitations and suggestions for future research.

### Overview of the Study

The main objective of the study was to deepen the knowledge on the relationship between tourism competitiveness, quality of life, and freedom. The theoretical framework of this study was based on combining Sen's capability approach with the tourism competitiveness theory. Tourism competitiveness aims at enhancing the quality of life, while Sen's capability approach provides the ingredients for how to improve quality of life through freedom. Thus, the main premise was that the combination of the two theoretical frameworks is possible through the construct of quality of life. In this study the construct of quality of life was conceived from its objective dimension. Consequently, quality of life was measured through the Human Development Index (HDI) which combines income, education and health dimensions.

Specifically, this study had four major objectives. The first objective was to investigate the relationship between tourism competitiveness and quality of life. The second objective was to investigate if there is an empirical link between freedom and quality of life. The third objective was to investigate the relationship between freedom and tourism competitiveness. Lastly, the

fourth objective was to investigate if freedom is the intervening factor in the context of tourism competitiveness and quality of life.

### Expected Results

Before a data analysis was completed, the following expectations were made for this research study. In terms of control variables, it was expected that corruption will have a negative impact on quality of life and tourism competitiveness. Previous research has shown that the presence of corruption tarnishes the destination's image and weakens the country's business environment, which is needed for a destination's success (Das & DiRienzo, 2009; DiRienzo et al., 2007; Enrigh & Newton, 2004). In terms of economic development as measured by GDP, it was expected that GDP will have a positive impact on quality of life and TCI as countries with higher levels of development frequently have better access to health care with well-established education systems (Das & DiRienzo, 2009).

This study presumed that a bi-directional relationship will exist between tourism competitiveness and quality of life. Tourism competitiveness was assumed to improve the quality of life of residents by the choice and opportunities offered for individuals, households and government. In addition, improved quality of life will have an effect on tourism competitiveness as satisfied citizens are more productive, demand further services, and often start their own businesses, enhancing the overall tourist experience.

In terms of economic freedom and tourism competitiveness, this study assumed that higher levels of economic freedom will have a positive effect on tourism competitiveness. Previous studies have analyzed the correlation between economic freedom and economic growth and have found a positive relationship between the two (Scully & Slottje, 1991; de Vanssay &

Spindler, 1994; Nelson & Singh, 1998). Since the tourism industry has the greatest impact on destination development, it can be assumed that such positive relationship will also exist between the two construct investigated. Sen (1999) also supports the role freedom plays in the economic growth.

In terms of economic freedom and quality of life, this study assumed that institutions that provide high and stable economic freedom will also provide better quality of life for its citizens. This relationship was also assumed to be positive, since economic freedom has a positive and significant impact on economic growth, it can be argued that with higher economic growth, government will be able to collect additional taxes and fees. In turn, these taxes and fees may be reinvested in the education system and healthcare, providing better quality of life (Aixala & Fabro, 2009; de Haan Sturm, 2000; Nelson & Singh, 1998; Sen, 1999; Scully, 2002).

Finally, in terms of economic freedom being the intervening variable, the study looked at the possibility of economic freedom being either the moderator or mediator in the relationship between tourism competitiveness and quality of life. In other words, would economic freedom influence the strength of a relationship (moderator) or would it explain the relationship (mediator) between the two variables investigated. In this study, it was presume that higher levels of freedom will act as a moderating variable, influencing the strength of a relationship in a positive way. Table 5.1 provides a summary of expected results.

Table 5. 1: Expected Results

<b>Constructs</b>	<b>Quality of Life (QoL)</b>	<b>Tourism Competitiveness (TC)</b>
Corruption	↑ Corruption → ↓ QoL	↑ Corruption → ↓ TC
GDP	↑ GDP → ↑ QoL	↑ GDP → ↑ TC
Economic Freedom	↑ EF → ↑ QoL	↑ EF → ↑ TC
Quality of Life		↑ QoL → ↑ TC
Tourism Competitiveness	↑ TC → ↑ QoL	
TC (IV) & QoL (DV)	Moderator (Positive)	
QoL (IV) & TC (DV)		Moderator (Positive)

### Research Results

The main findings of this study reveal a short term bi-directional causality between quality of life and corruption. In addition, an increase in corruption has a positive impact on tourism competitiveness and quality of life. Furthermore, as expected, an increase in GDP positively impacts quality of life. However, an increase in GDP does not impact tourism competitiveness. In terms of the relationship between tourism competitiveness and quality of life, a bi-directional relationship exists with quality of life having greater impact on tourism competitiveness than tourism competitiveness has on quality of life. Additionally, economic freedom was found to negatively moderate the relationship between the two constructs. The results also reveal that a decrease in economic freedom positively impacts tourism competitiveness and quality of life as it pertains to the Central American region. Furthermore, the level of economic freedom does not influence quality of life but it impacts tourism

competitiveness in the long-term. The research results obtained during the statistical analyses are summarized in Table 5.2.

Table 5. 2: Results Summary

				REGRESSION					VECM		
Research Objective	DV	IV		R <sup>2</sup>	Model Significant	IV Significant	Coef.	Intercept	Long-term	Short-term	Granger Causality
Baseline Models	BM1	QoL	GDP Corr	32.18%	Yes	Yes No	0.074 0.014		No	QoL & Corr.	QoL causes Corr Corr causes QoL
	BM2	TCI	GDP Corr	6.13%	Yes	No No	-0.051 0.002		Yes		
Research Objective One	H1	QoL	TCI GDP Corr	60.97%	Yes	Yes Yes No	0.338 0.092 0.023		Yes	No	
	H2	TCI	QoL GDP Corr	44.64%	Yes	Yes Yes No	1.23 -0.14 -0.013		Yes	No	
Research Objective Two	H5	TCI	EF GDP Corr	6.70%	Yes	No No No	-0.105 -0.048 0.0004		Yes	TCI & EF	TCI causes EF
Research Objective Three	H6	QoL	EF GDP Corr	32.31%	Yes	No Yes No	-0.003 0.074 0.014		No	QoL & EF	QoL causes EF
Research Objective Four	H8a	TCI	QoL & EF GDP Corr	50.83%	Yes	Yes No	-9.07 -0.14 -0.021	Yes	Yes	No	
	H8b	QoL	TCI & EF GDP Corr	60.41%	Yes	Yes No	0.392 0.093 0.018	No	Yes	No	



### *Economic Development*

This study utilized GDP as a control variable for economic development. As expected, GDP was statistically significant and had a positive impact on quality of life. This is aligned with previous research that points out that countries with higher levels of development frequently have better access to healthcare and tend to have well established education systems (Das & DiRienzo, 2009).

Surprisingly, the level of GDP was negatively related to tourism competitiveness. A possible explanation may have to do with the countries' level of competitiveness. For example, when investigating TCI, it can be observed that Nicaragua (0.007 in 1995) and Guatemala (0.042 in 1995) have very low competitive levels when compared to Belize (0.959 in 1995). In other words, tourism is not prominent in these countries as opposed to Belize. Such findings are also evident when comparing the direct contribution of tourism to GDP. In the case of Guatemala, tourism contributes 8.6% (2007) to the overall GDP as opposed to 34.8% (2007) in Belize (WTTC, 2014). Therefore, the level of tourism competitiveness does not impact GDP as expected, hence the negative sign.

Another possible explanation why such negative relationship exists is the high incidence of underground economy. Due to weak institutions, products and services are being produced but hidden from authorities to avoid taxes, labor standards, or other legal requirements (IMF, 2014). Especially in developing countries 'shadow' economy plays an important part as it is often viewed as the 'nursery' of future economic growth and serves as a buffer against economic uncertainty and underdevelopment. However, a business operated in the informal sector faces number of constrains, for example access to electricity, infrastructure, or technologies, making it

difficult to conduct business (IMF, 2014). According to IMF (2014), shadow economy accounts for about 46.6 percent of Central American GDP in 2000, compared to 14 percent in most advanced economies. Therefore, it is very important for governments to develop a system where this shadow economy is minimized through better policies and regulations.

### *Corruption*

This study also utilized corruption as a control variable. In the case of corruption, the results reveal that corruption has a positive impact on quality of life and tourism competitiveness. Specifically, bi-directional causality was found between quality of life and corruption, revealing short-term relationships among the two constructs. In other words, as corruption increases, quality of life improve and as quality of life improves, corruption increases in the short-term. In addition, corruption was found to have a long-term effect on tourism competitiveness. Such findings are surprising as this study expected corruption to have a negative impact on both constructs.

These findings go against most economists who view corruption as a major obstacle to development. Numerous researchers believe that countries with lower levels of corruption have government policies in place to support tourism development, while at the same time provide better services for their citizens (Das & DiRienzo, 2009; DiRienzo et al., 2007; Enright & Newton, 2004).

A possible explanation why corruption has a positive impact is in the way the construct is measured. A corruption level depends on how a society understands the rules and what constitutes a deviation. It also depends on personal values and moral views as it may vary among cultures and people. In one society, an action could be considered normal practice while in a

different one; it could be considered corrupt (Melgar, Rosi, & Smith, 2010). Therefore, corruption perception is a social phenomenon and is more evident in countries with high levels of income inequalities and macroeconomic instability. Since this is typical to the Central American countries, corruption is considered a normal practice in the society. This is why we see the short-term relationship with quality of life. In order for the citizens to ‘get things done’, they must pay bribes as the ‘officials’ will not provide them with their entitlements without some inducement (Melgar et al., 2010).

Another possible explanation may have to do with the institutional weakness which is often present in developing countries. In general, governments in these countries deal with inefficiencies and failures, making it often difficult for business or private citizens to navigate through the bureaucratic process, thus opening the door for corruption. As Aidt (2009) states: “corruption facilitates beneficial trades that would otherwise not have taken place. In doing so, it promotes efficiency by allowing individuals in the private sector to correct or circumvent pre-existing government failures of various sorts” (p. 272). For example, businesses/citizens pay bribes to government officials in order to speed up bureaucratic procedures and ‘get things done’ (Aidt, 2009). In addition, officials refuse to service clients unless a bribe is paid (Melgar et al., 2010). This may be a possible explanation why corruption is important in destination development as it pertains to tourism competitiveness in the Central American region.

#### *Tourism Competitiveness and Quality of Life*

The regression results revealed that a bi-directional relationship does exist between tourism competitiveness and quality of life. Specifically, tourism competitiveness had a positive impact on citizens’ well-being and explained about 28.66% of QoL. In addition, quality of life

was found to have a positive and significant impact on tourism competitiveness and explained about 37.94% of TCI.

Regression estimates are a good start for any empirical analysis as they provide first insight when testing different relationships. However, they are incapable of capturing the co-integration relationship that may exist between two variables (Hoxha, 2010). Therefore, a VECM analysis was performed and a long-term bi-directional causality was found to run between tourism competitiveness to quality of life. The VECM results confirm what the regression analyses have already suggested.

Such a relationship can be seen in Figure 5.1 where a consistent increase in quality of life leads to higher tourism competitiveness in the region over the investigated twelve years. The red line depicts such linear relationship.

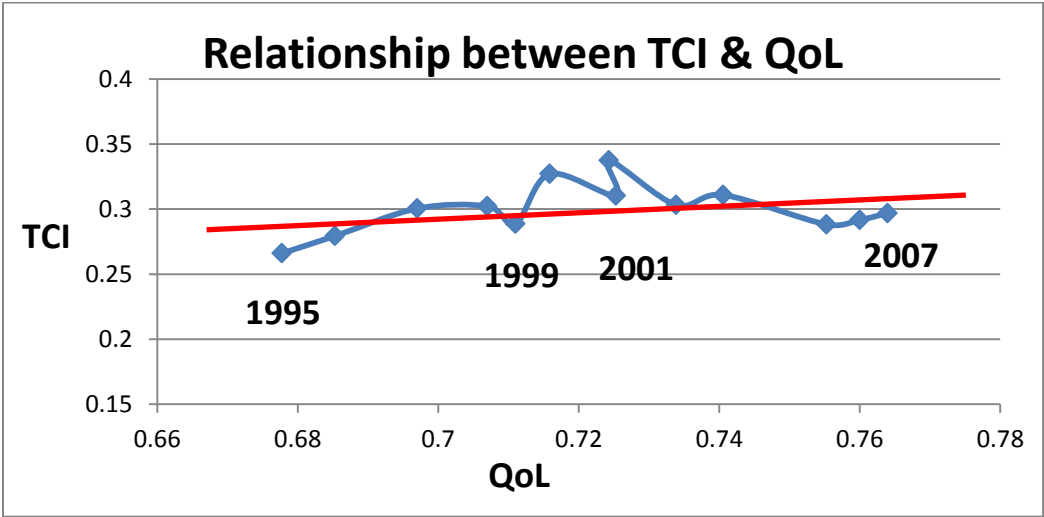


Figure 5. 1: Relationship between tourism competitiveness and quality of life

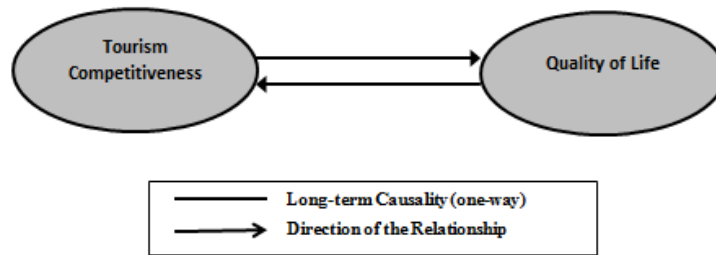


Figure 5. 2: Empirical relationship between TCI and QoL

### Tourism Competitiveness

The results reveal that tourism competitiveness has a positive impact on quality of life and are aligned with previous studies suggesting that an implicit unidirectional relationship exists between tourism and quality of life (Andereck & Vogt, 2000; Andereck, Valentine, Vogt, & Knopf, 2007; Andereck & Nyaupane, 2011; Deller et al., 2001; Fredline, Deery, & Jago, 2005; Kim, 2002; Rogerson, 1999; Marzuki, 2009; Meng, Li, & Uysal, 2010; Um & Crompton, 1990). In particular, the positive sign reveals that the benefits of tourism outweigh the negative impacts tourism can have on quality of life as measured based on health, education, and living standards. An increase in tourism competitiveness by one will improve quality of life by 0.33. Therefore, development of amenities, such as attractions, festivals, or restaurants, can not only be enjoyed by tourists, but also by local residents which would be provided with business, health and educational opportunities, impacting their quality of life.

The results provide the evidence for government intervention as align with Sen who strongly argued for the role of state. He claimed that economic growth translates into well-being only when government is able to develop programs that are able to achieve functioning in citizens' lives. Especially in developing countries, government needs to be more active in terms

of destination management as various government policies may affect travel and tourism both directly and indirectly (Bull, 1995). For example, a government intervention may range from imposing an arrival tax on tourists, creating a major marketing activity, environmental preservation, or provision of roads and airports (Bull, 1995; Croes, 2011). Because of the high cost, the private sector is unable to get compensated for producing an extra benefit, therefore generating underproduction (Hall, 2006). Therefore, government involvement is necessary in situations like these. Similar findings were presented in Croes (2012) study that pushed for government intervention based on the objective of development.

### Quality of Life

As it pertains to the Central American region, the findings reveal that quality of life plays an important part in tourism development. The results confirm previous suspicions that residents are important players who can influence the success or failure of tourism (Ap, 1992). Just few researchers have hinted such relationship (Andereck & Nyaupane, 2010; Andereck et al., 2007) and only two studies have looked at the relationship (Croes, 2012; Ridderstaat, Croes, & Nijkamp, 2014). For example, a study conducted by Ridderstaat, Croes, and Nijkamp (2014) indicated that quality of life is likely to affect tourism development positively in the long-run. Similarly, a bi-directional relationship was found in the case of Nicaragua where more government expenditures on human develop has triggered more skill acquisition, thereby boosting productivity (Croes, 2012).

However, what was not expected is that quality of life will have much larger impact on tourism competitiveness than tourism competitiveness had on quality of life. In the case of Central American region, an increase in quality of life by one will impact tourism

competitiveness by 1.23. In this study, since quality of life was measured through the evaluation of human development across nations, it can be concluded that better education, living standards, and overall health does positively impact tourism competitiveness in the long term. Therefore, governments in the region should concentrate on improving citizens' well-being by providing social programs in order to achieve functioning in their lives. For example, provision of education and training on the subject of tourism would benefit local tourist providers and their employees, increasing the quality of their products, and hopefully leading to larger market share (Semrad & Bartels, 2014).

#### *The role of Economic Freedom in Tourism*

##### The Relationship between Freedom & TC

The regression results reveal that there is no evidence of a relationship between economic freedom and tourism competitiveness. Even though the overall model was statistically significant, economic freedom was not. Therefore, economic freedom does not affect the destination's tourism competitiveness, contradicting the original assumption.

There may be two possible explanations to such findings. First, as Sen (1999) pointed out, other detractors still remain. There may be other factors that influence such relationship, such as income distribution, credit crunch, or availability and access to finance. The results also suggest that Sen's capability approach may not be applicable to the Central American region. For example, Sen often refers to the relationship among his five freedoms but he never establishes a scale of relationships among them (Navarro, 2000). Therefore, economic freedom may have no impact on tourism competitiveness as opposed to other freedoms (social freedom, transparent guarantees, and/or protective security).

This can be supported with the argument made in chapter three about Cuba and the USA. Cuba is ranked as one of the world's least economic free countries and is the least free country in the Latin America region, reaching 'repressed' status (Heritage, 2014). However, tourism has been growing in the region. Between 1995 and 2005, the average annual growth rate of international tourist arrivals was 11.8 percent, higher than in Belize or Costa Rica. In addition, Cuba had more arrivals in 2005 (2,261,000) than any of the Central American countries (WEF, 2014). To compare to the United States, the United States is characterized as economically free with 49,206,000 international arrivals in 2005. Thus, the level of economic freedom may not be the determining factor in tourism competitiveness as a country may be economically free or economically unfree and still experience tourism development.

A second possible explanation is in the way economic freedom is being measured. This study utilizes the Economic Freedom Index which is composed of five variables. Specifically, size of the government, legal structure and protection of property rights, access to sound money, international exchange rate, and regulation are being combined into one construct. It can be hypothesized that combining these variables together may not impact tourism competitiveness. However, these variables individually may have an impact on tourism competitiveness. In addition, the results may be spurious. In other words, there may be another variable that is the true causal factor for tourism competitiveness.

Finally, after specifying the VECM model, the results contradict previous regression results and the original assumption that higher levels of economic freedom will impact tourism competitiveness. The coefficients firmly support a long-term causality running from economic freedom to tourism competitiveness and also provide evidence of short-term causality running



from tourism competitiveness to economic freedom (Figure 5.3). Such findings provide evidence that freedom is a lever that either increases or decreases tourism competitiveness.

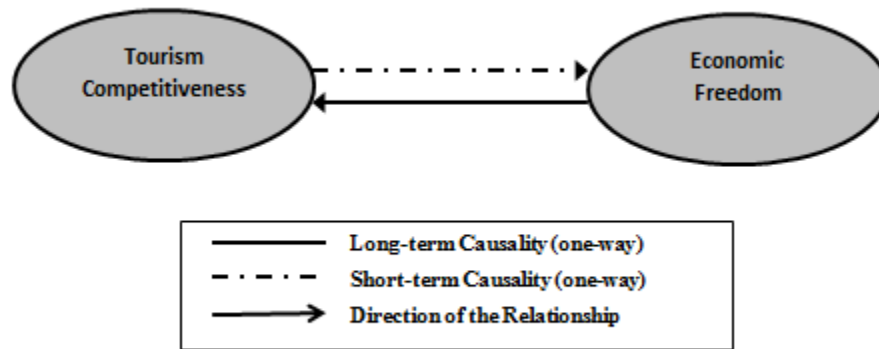


Figure 5. 3: Long-term & Short-term Causality between TCI & EF

The variation from the regression model may be attributed to the statistical procedures utilized. Regression analysis is a process that allows the research to understand the relationship between a single dependent variable and several independent variables (Hair et al., 1995). However, regression is incapable of capturing the co-integration relationship that may exist between two variables as a VECM model takes into account various information criteria and co-integration tests (Hoxha, 2010). Therefore, the difference between these two statistical procedures may exist. The relationship between economic freedom and tourism competitiveness for the Central American region is presented in Figure 5.4.

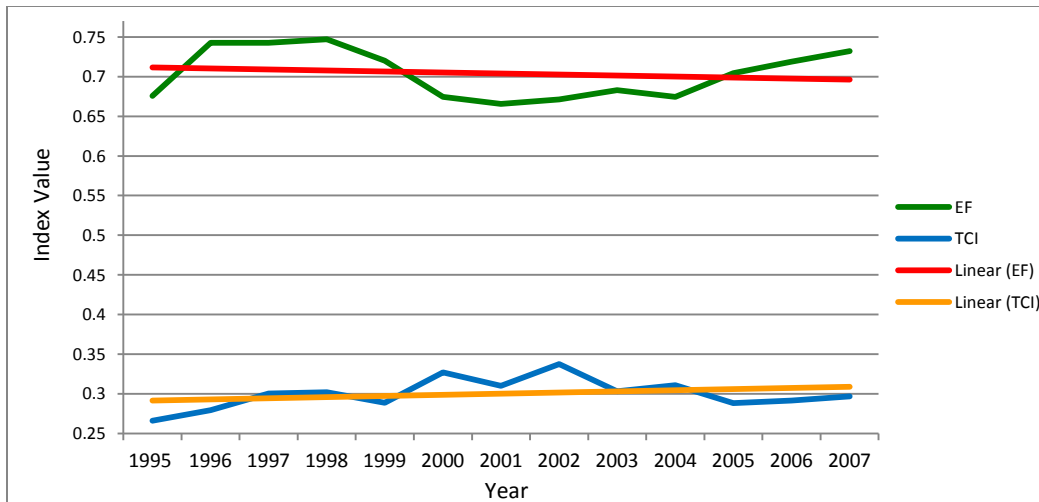


Figure 5. 4: Tourism competitiveness and economic freedom

The results reveal that as economic freedom decreases, the level of tourism competitiveness increase. A possible explanation may be due to the nature of tourism. Especially in developing countries, the private sector is not able to get compensated for producing an extra benefit (clean beaches). However, the extra benefit (clean beaches) will impact competitiveness. This is where the externality argument is used to justify government involvement. Croes (2011) has already pointed out that provision of public goods is crucial for tourism competitiveness, making it a compelling argument for government intervention. Since tourism is more susceptible to distortion and failure than other industries and embodied by freeriders, government involvement is important in terms of destination management, getting more involved in planning, legislation, financing, promotion, regulation, and monitoring tourism resources (Ritchie & Crouch, 2003; Tang & Jang, 2009). Therefore, government actions must be taken into consideration when developing tourism competitiveness, keeping in mind the possibility of failure.

Similarly, when investigating economic freedom as an intervening variable, regression and VECM results reveal that economic freedom acts as a moderator between tourism competitiveness and quality of life. In other words, economic freedom influence the relationship between the two constructs. However, when quality of life was the dependent variable, the results revealed that economic freedom does not act as a moderator or mediator. The relationship is presented in Figure 5.5.

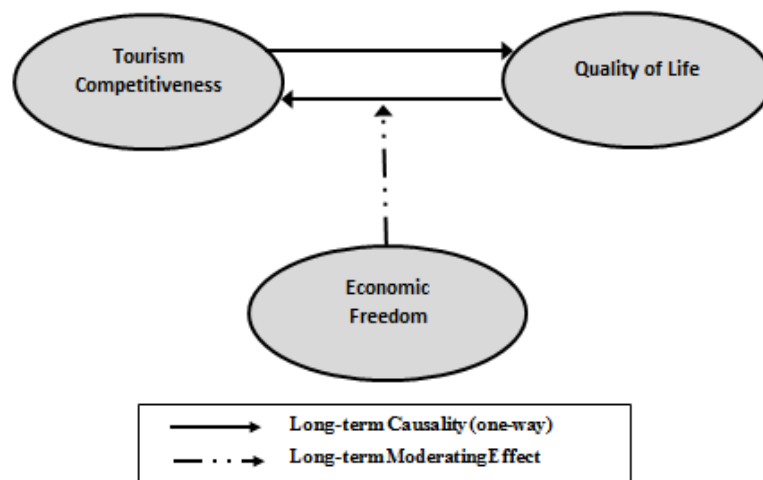


Figure 5. 5: Economic Freedom as Moderating Variable

Economic Freedom impacts TC Negatively

Surprisingly, the regression and VECM results reveal that economic freedom has a negative impact not only on tourism competitiveness, but also when economic freedom is used as a moderating variable. The results reveal a challenge for the Central American region. Previous results revealed the need for government involvement in tourism development. However, their involvement has a negative impact on tourism competitiveness.

A possible explanation why such relationship is negative may have to do with the institutional weakness which exists in the developing countries. As it is in the case of the Central

American region, the government can be characterized as inefficient and highly corrupt. Because of these inefficiencies and government inability to ‘get things done’, citizens turn to corruption. . By turning to corruption to achieve functioning’s, now the corruption plays an important part in the destination development. Therefore, it is important for the governments to develop an effective system in which it would positively impact tourism.

Another possible explanation has to do with an ‘underground’ economy which was discussed earlier. Due to weak institutions, products and services are being produced but hidden from authorities to avoid taxes, labor standards, or other legal requirements (IMF, 2014). Therefore, it is very important for governments to develop a system where this shadow economy is minimized through better policies and regulations. For example, the Central American region can concentrate on decreasing levels of corruption, creating a stronger legal environment, creating access to the formal economy, and strictly enforcing only the minimum necessary regulations (IMF, 2014).

#### *The role of Economic Freedom in Quality of Life*

The regression and VECM results in this study reveal that economic freedom does not affect quality of life in short or long-term. In other words, the size of the government, legal structure, regulations, and international exchange do not impact the residents’ quality of life. Such findings contradict the case made by Adam Smith, Sen and many others who argued that free markets in general are able to increase wealth, welfare, and quality of life (Berggren, 2003; de Haan & Sturm, 2000; Esposto & Zaleski, 1999; Jenkins & Henry, 1998; Stroup 2007, 2013).

A possible explanation why higher levels of economic freedom do not improve quality of life in the Central American region may be due to the economic development in the region. As Navarro (2000) states, political context may play a significant role when distinguishing between two countries that are free/unfree. Navarro continues that one cannot compare Castro's dictatorial regime with Pinochet's dictatorial regime or the liberal democracies of the United States with those of the Scandinavian countries (Navarro, 2000). Therefore, variations between regimes may have different or same impacts on citizens' quality of life.

To illustrate the previous scenario, if the region is compared to Cuba, it can be concluded that low levels of economic freedom can still lead to high quality of life. Cuba, as previously discussed, is characterized as one of the world's least economically free countries. However, the level of quality of life in Cuba surpasses Panama or Belize. For example, in 2007, Cuba ranked 51 in human development, while Panama ranked 62, Belize 80, and El Salvador 103 (UNDPO, 2014). On the other hand, the United States has high levels of economic freedom while at the same time high levels of quality of life. In 2007, the United States ranked number 12 on the human development index (UNDPO, 2014).

Another possible explanation may have to do with the measurements utilized in this study. As mentioned in previously, the construct of economic freedom may not impact quality of life, but each variable within the construct may lead to different results.

#### The Relationship between Freedom & QoL

In the case of the Central American region, a relationship exists between quality of life and economic freedom. As quality of life continues to increase, economic freedom persists to decrease. This is possibly due to the challenges and constraints developing countries face as

opposed to advanced economies; demanding the institution to intervene to create strategies that would improve citizens’ overall well-being. Therefore, governments need to spend money on public expenditures, creating social and compensatory programs to benefit its citizens (Rodrik, 2008). Such findings contradict the original assumption that a high level of freedom will improve quality of life.

In the case of Central America, suspension of civil and political rights may be necessary in order to advance socioeconomic rights (Navarro, 2000). Navarro believes that democracy has nothing to do with the levels of quality of life. Similar findings were found by Stroup (2007) who states that democracy in society has relatively small influence on all measures of well-being. He points out that countries with high level of economic freedom will likely yield less improvement in the quality of life as opposed to those with low level of economic freedom (Stroup, 2007).

The relationship between quality of life and economic freedom is presented in Figure 5.6.

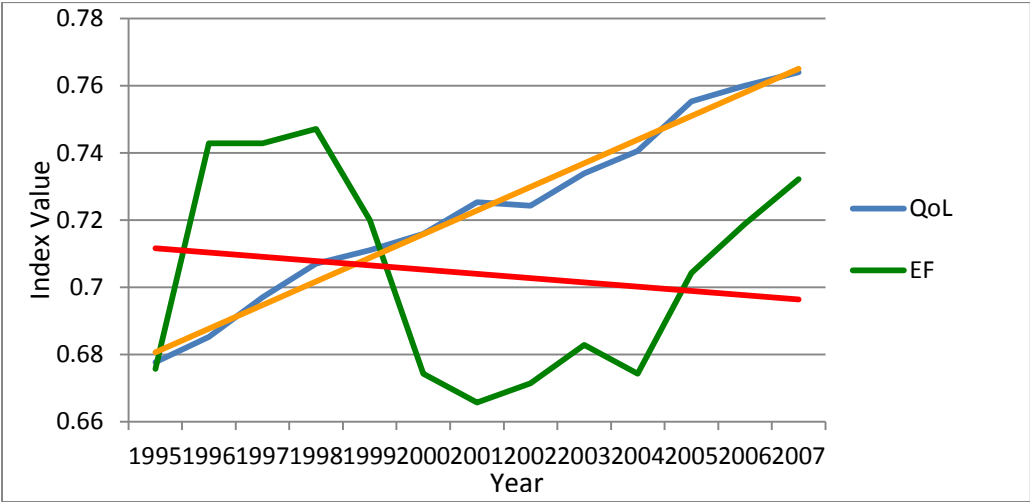


Figure 5. 6: Economic freedom and Quality of Life

### Economic Freedom impacts QoL Negatively

VECM results also reveal a negative short-term causality running from quality of life to economic freedom as presented in Figure 5.7.

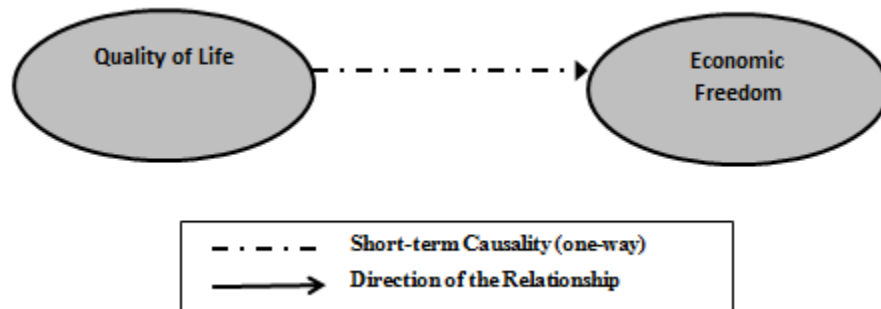


Figure 5. 7: Short-term Causality between QoL & EF

A possible explanation for such a relationship could be that government involvement is necessary in order to provide higher quality of life (healthcare, education). Due to the government involvement, new policies and procedures are put in place which may give a rise to inefficiency and corruption. Citizens become more frustrated with the government as they try to understand these policies/procedures. For example, in Honduras, the government expenditure on education has more than doubled from 3.2% in 1990 to 7.3% in 2007 (World Bank, 2014). On average, Honduras spends 30 percent of its total expenditures on education, compared to 15 percent in Guatemala or 20 percent in Costa Rica. Yet, it is continuously lagging behind in educational quality (Pavon, 2014). Corruption and negligence, including teacher absenteeism are some of the main causes of poor education quality (Transparency, 2014). This has been reflected in the overall dissatisfaction citizens' of Honduras have toward the public education system and the way government manages such issues. This makes a compelling argument why QoL has such a negative impact on economic freedom.

### Theoretical Implications

This study provides a number of theoretical implications to tourism literature regarding the understanding of competitiveness as it is swayed by government while also affecting quality of life. The contribution of this study is with respect to deciphering and understanding the context of tourism competitiveness and quality of life. This study combines Sen's capability approach with the tourism competitiveness theory and views quality of life as the central activity of humans. It also assumes that tourism competitiveness is an important vehicle in realizing this objective. The study integrates Sen's conceptualization of quality of life into the tourism competitiveness framework and empirically tests the relationship.

The first contribution of this study is not only in terms of model testing, but also model building by integrating freedom into the relationship as an intervening factor to decode the 'black box'. The findings revealed that economic freedom in fact has a negative moderating role when investigating the relationship between tourism competitiveness and quality of life as it pertains to the Central America region. This means that freedom plays an important role and needs to be considered by the government. This is the first time when economic freedom is investigated in such context and measured through Economic Freedom of the World index. It provides evidence that in the case of the Central American region, lower level of economic freedom negatively impacts the relationship between tourism competitiveness and quality of life grounded in the choice and opportunities theory. The results point out that the relationship may be more complex due to the multidimensionality of the constructs utilized in the study. In addition, the study reveals a short-term causality running from tourism competitiveness to economic freedom. Such



relationships have not been previously investigated in the context of tourism and add to the tourism literature.

The second contribution is in terms of the use of capability approach in the tourism literature. Only two previous studies have exploited quality of life from the capability approach. This study utilizes such approach and applies it to the Central American region. The results imply that capabilities and abilities citizens possess are important for tourism development. Provision of education and adequate healthcare not only improve citizens' quality of life, but also allow them to become agents of their own development (Croes, 2014). Employing capability approach as proposed by Sen may be suitable measure of quality of life as opposed to subjective measure so often utilized in the tourism literature. Thus, by investigating this phenomena as it pertains to the Central American region may provide early evidence to theory development.

The third contribution is that the study challenges Sen's capability approach who states that freedom is the primary objective and principle mean of development and an important part of growth (Sen, 1999). This study did not find that the level of economic freedom directly impacts quality of life as it pertains to the Central American region. Rather, the study revealed that as tourism competitiveness and quality of life increased the level of economic freedom decreased. Therefore, this study provides evidence that in the context of tourism competitiveness in the Central American region, higher levels of freedom do not improve quality of life as Sen proposes. Tourism development and the overall economic development level of the Central American region seem to require the intervention of the state and government in shaping economic development. However, government intervention practice occurs at the expense of economic freedom as measured by this study.

The last contribution is in terms of investigating the relationship between tourism competitiveness and quality of life. Previous studies have only investigated the impact tourism has on quality of life (Andereck & Vogt, 2000; Andereck, Valentine, Vogt, & Knopf, 2007; Andereck & Nyaupane, 2011; Deller et al., 2001; Fredline, Deery, & Jago, 2005; Kim, 2002; Rogerson, 1999; Marzuki, 2009; Meng, Li, & Uysal, 2010; Um & Crompton, 1990). However, a case could have been made that quality of life may impact tourism competitiveness. This study investigated such relationship and revealed that in fact, quality of life impacts tourism competitiveness in the long run. Once again, this may be early evidence of new insights that quality of life in developing countries impacts tourism competitiveness in the long-term. By systematic investigation of this relationship, similar findings may be found in other destinations, thus providing the evidence that new theory may emerge as it pertains to tourism and developing countries.

#### Managerial Implications

This study provides a number of managerial implications for the Central American region. First, this study reiterates the importance of tourism competitiveness in improving citizens' quality of life by the choice and opportunities offered for individuals. The study reveals that an increase in tourism can translate into additional revenues in the economy, which can be then spent on education, healthcare, or infrastructure, benefitting the local residents. In addition, amenities that are provided for tourists may be also utilized by residents (clean beaches, new stores), impacting their quality of life. Therefore, the policy makers' focus should not be only on increasing demand but also on creating social programs to enhance healthcare system and

education. Therefore, an overall regional strategy must be put in place that promotes tourism competitiveness over a long-term period while improving residents' quality of life.

The results of such strategies may not be imminent right away, however, once achieved; residents will be able to experience better quality of life in terms of their capabilities and abilities. Especially in the Central American region, governments' involvement will be a key to tourism promotion as private businesses are not compensated for producing extra benefit (clean beaches) due to high transaction cost (Hall, 2006). This confirms the existing theory that due to the nature of tourism, destination development requires government involvement, putting at risk when policy fails (Bull, 1995; Croes, 2011; Michael, 2001).

Second, this study provides evidence that economic freedom has a negative moderating effect on the relationship between tourism competitiveness and quality of life. Such discovery only reinforces the fact that the issue of free riders tourism faces and the role of 'shadow' economy in tourism development. This is particularly important for policymakers and political leaders in terms of destination management. It is imperative to create an environment that would decrease the size of 'shadow' economy. By providing legal structure, having access to sound money, regulations, and/or lowering corruption could possibly lower the level of 'shadow' economy, thus providing more taxes. By collecting more taxes, the government will have necessary income to reinvest back into the economy either on improving tourism product or on improving residents' quality of life through education and health care system.

Third, the policy makers in the Central American region need to understand how tourism competitiveness, quality of life, and economic freedom are interrelated. Due to such interconnected relationships, governments must be aware of the impact their policies and

regulations have on each construct. A drastic change in one will impact the entire system. For example, since quality of life was found to have a long term impact on tourism competitiveness, then government can assist in providing adequate education specifically geared toward the tourism industry while encouraging equality and education. This would in turn benefit tourism, providing more job opportunities, lower poverty and improving the overall economy of the region. Thus, once again, governments must have well-planned and well-thought policies and strategies that will benefit the entire destination, improve tourism competitiveness and quality of life, while providing adequate economic structure. However, due to the weak institution and government inefficiencies, their policies may rather have a negative impact, providing an opportunity for underground economy and corruption.

### Limitations

With any research, limitations will occur due to internal and external validity. In terms of internal validity, secondary data has been used for data analyses. Using secondary data poses a limitation on the ability of a researcher to verify the data's accuracy. Therefore, full trust is given to these reputable institutions collecting data employed in the study.

This study utilizes specific measurements for each variable. In the literature, a variety of measurements exist to measure, for example, tourism competitiveness or quality of life. By selecting a specific measure, the researcher is automatically placing a limitation on the study associated with that particular measure.

Furthermore, the concepts utilized in this study are comprised of number of different variables. For example, human development index is calculated based on three indicators (health,

education, and living standards), possibly omitting other indicators that could be included, thus inflicting one more limitation.

In terms of freedom construct, this study does not make reference to the political context between countries investigated as urged by Navarro (2000). For example, Cuba and Chile are both economically unfree and characterized by their dictatorial regime. However, Castro's regime is rooted in the peasantry and working class (Lenin socialism) while Pinochet's regime was rooted in dictatorship of a class (fascist capitalism). Not addressing it may pose another limitation on this study.

Another limitation deals with omitted variables. Although the panel data analysis technique has much to offer, it also has some limitations. The researcher is often faced with failing to include a relationship or factors that are part of the multivariate system, thus leading to potential biases, facing problems with interpretation and hypothesis testing (Brandt & Williams, 2007).

Additionally, when using multiple regressions with time series, one must use caution because of the autocorrelation nature of time series as time series violates the assumption of independence of error. In this case, Type I error rate will increase if autocorrelation is present. The challenge of time series is to extract the autocorrelation elements of the data either by understanding the trend or by modeling the underlying mechanism. In addition, inherent patterns in the data may restrain or enhance the effect of an intervention. Finally, panel analyses apply averages to all observations within the sample. This may be a potential issue as a country specific effect could be high and significant, however, unable to distinguish with the use of averages (Baltagi, 1995; Hsiao, 2006; Song, With, & Li, 2009, Shiu & Lam, 2008).

Another limitation has to do with the time span utilized. Since the measure of economic freedom was available yearly since 1995, prior years could not be considered as a part of the data analyses. There was a similar issue with the HDI index. Major changes were made to the index in 2008, providing inconsistent data. Thus, 2007 was selected as the last year utilized in this study.

Lastly, in terms of external validity, it is very difficult to generalize this study to other countries beyond those of Central America. Therefore, other countries should be included in the future for comparison purposes.

#### Future Research

The results of this study point out that the topic is rather complex and should be followed up with additional studies that will further expand the body of knowledge about tourism competitiveness, quality of life, and the role of government. The following opportunities exist for future research in this area:

- Utilizing different measures: Additional studies should be prepared by using different measures of each construct for comparison purposes. For example, instead of using Tourism Competitiveness Index, a measurement developed by the World Economic Forum could be utilized for tourism competitiveness to see if variance exists. The same can be applied to quality of life, which in this study is based on Sen's capability approach rather than widely used subjective approaches, omitting one's feelings and emotions. Therefore, subjective validation is required in a future study.

- Other Variables: The possibility of omitting variables in the analyses exists. Thus, future studies could include inequality or crime rate, which have been shown as a significant problem in developing countries. In addition, future studies should include political context. As mentioned earlier, there is a difference between two countries that may be economically unfree, as was demonstrated in the case of Cuba and Chile. Therefore, a follow up case study is usually suggested to minimize this limitation.
- Other Regions: Future studies should include not only developing countries in other parts of the world, but also developed countries to better understand the relationship investigated as it compares to the level of economic development and the stage of tourism cycle.
- Specific Destinations: It would be interesting to see how countries within the Central American regions vary among themselves as tourism development has been uneven, with some countries attracting more tourists than others (Hammill, 2007).
- Deconstruct Economic Freedom: Economic freedom has been found significant in explaining the relationship between tourism competitiveness and quality of life. Since economic freedom is composed of five variables, future research should analyze each variable separately, determining if any variation exists in explaining such relationship.
- Longer Time Span: Future studies should include larger data sets covering more years as different results were obtained when utilizing regression analysis and VECM. If larger data set is utilized, this difference may be eliminated with data sample.

## APPENDIX A: THE ECONOMIC FREEDOM OF THE WORLD INDEX



1. Size of Government
  - Government consumption spending as a percentage of total consumption
  - Transfer and subsidies as a percentage of GDP
  - Government enterprises and investment as a share of total investment
  - Top marginal income tax rate
2. Legal system and property rights
  - Judicial independence
  - Impartial courts
  - Protection of property rights
  - Military interference in rule of law and politics
  - Integrity of the legal system
  - Legal enforcement of contracts
  - Regulatory restrictions on the sale of real property
  - Reliability of police
  - Business costs of crime
3. Sound Money
  - Money growth
  - Standard deviation of inflation rate
  - Inflation rate
  - Freedom to own foreign currency bank accounts
4. Freedom to trade internationally
  - Amount of tax on international trade
  - Regulatory trade barriers
  - Black-market exchange rates
  - Controls of the movement of capital and people
5. Regulations
  - Credit market regulations
  - Labor market regulations
  - Business regulations

## APPENDIX B: HAUSMAN SPECIFICATION TEST

<b>Fixed Effect</b>				<b>Random Effect</b>			
<b>Hypotheses</b>	<b>F-statistics</b>	<b>p-value</b>	<b>R<sup>2</sup></b>	<b>Hypotheses</b>	<b>Ch<sup>2</sup></b>	<b>p-value</b>	<b>R<sup>2</sup></b>
BM1	0.81	0.56	0.04	BM1	3.61	0.72	0.04
BM2	0.88	0.51	0.06	BM2	5.03	0.54	0.06
H1	0.70	0.66	0.04	H1	3.64	0.82	0.04
H2	0.76	0.62	0.06	H2	5.04	0.65	0.06
H3	0.50	0.63	0.06	H3	4.98	0.66	0.06
H4	2.01	0.06	0.14	H4	3.03	0.07	0.14
H5	0.93	0.48	0.07	H5	6.45	0.48	0.07
H6	0.72	0.65	0.04	H6	4.11	0.76	0.05
H7a	0.66	0.72	0.06	H7a	4.98	0.76	0.06
H7b	1.75	0.10	0.14	H7b	12.93	0.11	0.14
H8a	0.82	0.58	0.07	H8a	6.52	0.58	0.07
H8b	0.64	0.74	0.04	H8b	4.20	0.83	0.05

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