Interactions between Financial Leverage and Product Quality in the Tourism & Leisure Industry: Testing the Moderating Role of Business Conditions

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ABSTRACT

The present study develops a new model and proposes new research impetus by searching the effects of financial leverage and its related control variables on the level of product quality offered by business firms. Another contribution of this research study to the literature is that the moderating role of business conditions in the effects of financial leverage on product quality is tested. Due to its importance among the other sectors, tourism and leisure industries have been selected in the case of United Kingdom (UK). The selection of the UK is important since it ranks 8th in attracting international tourists as of 2015 according to the statistics of World Tourism Organization. A panel data of 80 tourism and leisure firms in the UK have been constructed on quarterly basis as they were available from Thomson Reuters' DataStream. Results of empirical analyses provide a strong evidence of negative effects of financial leverage on product quality. Financial leverage impact negatively on firm-level investments as well. This study finds that business conditions and macroeconomic performance in the UK have positively significant effects on firm-level product quality; this shows that any positive climate in business environment at macro level would contribute to promotion of the quality levels of products offered by business firms. Another major finding of this new research study is that business conditions at macro level have significant moderating role in the relationship between financial leverage and product quality. This reveals that leverage positions of business firms are closely linked to business environment and this reality significantly impact on the level of product quality. This research study provides important and significant policy implications for policy makers.

Keywords: Leverage; Investment; Product Quality; Tourism; Leisure; Moderating Role.

ÖZ

Bu çalışma sahada ilk kez yeni bir model ve araştırma konusu önermektedir. Şöyle ki, ilk kez finansal kaldıraç aracının ve bağlantılı olduğu diğer faktörlerin işletmelerin sunmuş olduğu ürünlerin kalite seviyesine olan etkisi incelenmiştir. Bu çalışmanın, sahaya diğer bir etkisi ise, yine ilk kez, makro seviyede iş hayatı koşullarının ve makroenomik gelişmelerin finansal kaldıraç ile ürün kalite seviyesi arasındaki ilişkiye anlamlı bir etki edip etmediği de incelenmiştir. Bu bağlamda, diğer sektörler arasında çok önemli bir yere sahip olan turizm ve konaklama (sehayat, tatil) sektörü seçilmişdir. Ülke olarak, Dünya Turizm Örgütü raporuna göre 2015 yılı itibariyle dünya turizm sıralamasında 8. sırada olan İngiltere seçilmiştir. Çalışmayı yürütebilmek için İngiltere'de faaliyet gösteren ve Thomson Reuters kaynaklı DataStream veritabanında mevcut 80 firma seçilip panel verileri oluşturulmuştur. Sonuçlar, finansal kaldıraç oranlarının güçlü bir şekilde firma yatırımları ve ürün kalitesi üzerinde negatif yönde etki ettiğini göstermektedir. Diğer taraftan, ülkedeki iş koşulları ve makroekonomik performans da finansal kaldıraç aracılığı ile ürün kalitesine etki etmektedir. Bu çalışmanın diğer bir temel bulgusu da, iş koşullarının ve makroekonomik performansın finansal kaldıraç ile ürün kalitesi arasındaki ilişkiye de yüksek oranda anlamlı etki ettiği ortaya çıkarılmıştır. Sahada ilk kez yapılan böyle bir çalışmanın bulguları, firmaların yönetimleri açısından çok önemli mesajlar içermekte olup metin içerisinde tartışılmıştır.

Anahtar Kelimeler: Kaldıraç; Yatırım; Ürün Kalitesi; Turizm; Dinlenme; Aracı Rol.

To My Husband

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AIC	Akaike information criterion
ARDL	Autoregressive distributed lag
CO_2	Carbon dioxide
CUSUM	Cumulative sum
CUSUMSQ	Cumulative sum of squares
DOLS	Dynamic ordinary least squares
D-W	Durbin Watson
ECM	Error correction model
ECT	Error correction term
EU	European Union
FD	Financial Development
FDI	Foreign direct investments
FMOLS	Fully Modified Ordinary Least Squares
GDP	Gross Domestic Product
GLS	Generalized least squares
IPCC	Intergovernmental Panel on Climate Change
MENA	Middle East and North Africa region
MWALD	Modified Wald stat

OECD   Organization for Economic Co-operation and Development

R&D   Research and Development

VAR   Vector Autoregressive

Chapter 1

INTRODUCTION

In parallel to developments in technology including new management information systems, output quality in the business environment have garnered more attention the last couple of decades. No matter what the kind of industry is, a product is developed to meet the needs of potential customers (Xu, 2010). Business firms compete not only to generate profits but also provide quality goods/services in order to attract higher volume of customers. Quality of goods and services provided by business firms have been a major target of them and its importance continue to increase over time since it plays a very significant role in generating additional profits. Therefore, the quality of output can be easily linked to financial performance of business firms no matter what sector they are serving for. Many studies have examined the determinants of good/service quality in the management literature specially after the study of Parasuraman et al. (1988). Among some quality indicators in the services industry which were hinted in the management literature are quality of tangibles, reliability of services, assurance in services, empathy in services, and responsiveness while delivering services (Parasuraman et al., 1988). But, the quality indicators of manufacturing goods are different and depend on the type of goods. A typical good or manufacturing product is expected to be in good design, good appearance, useful life, service with free of error, performance, durability, and conformance (Garvin, 1987). The eight-dimensions of product/service quality have been also explained in the work of Garvin (1987). Additionally, as suggested also by Manez et al. (2016),

customers not only weigh up quality of products but also service against the money involved in buying process. Jafari (1982) defines primary tourism products as physical, environmental and socio-cultural characteristics or attributes. Benur & Bramwell (2015) suggest that the development of primary tourism products in destinations is a complex task owing to the many elements associated with. Many companies follow product differentiation as a selling strategy in order to compete with their rivals. Paton (2002) mention that product quality is likely to be positively correlated with both sales and the productivity of advertising. However, determinants of output (good/service quality) are not limited with those offered in the relevant literature. It was mentioned above that business firms compete in providing quality goods/services in order to attract higher volume of customers. Providing variety and differentiation is also another target for business firms. Benur & Bramwell (2015) suggest that diversity in tourism products as a strategy and alternatively concentrating on one or a few products as another strategy are likely to have potential advantages for destination competitiveness and sustainability in the tourism industry. On the other hand, Smith (1994) classified the tourism products into five categories: service, hospitality, physical plant, freedom of choice, and involvement. Xu (2010) finds that tangible physical plant is the most important component of nearly all tourism products. According to Xu (2010) again, "each tourism sector can be considered as a tourism product, attracting tourists by focusing on a particular business/leisure purpose".

On the other hand, economic and financial factors deserve also attention to investigate their effects on output quality in the business firms. For example, investments by firms are essential for business performance. Therefore, not only country conditions but also investment climate in the country is important for

business firms in order to serve to the market. Bernini et al. (2015) document the importance of investments for product quality in the case of export companies. Investment patters of firms are also affected by various factors such as leverage and financial structure as theorized by Modigliani & Miller (1958). Financial structure and financial factors, both external and internal factors, are major constraints for a firm's operations. Internal factors such as leverage, liabilities, equity structure, composition of assets are all important for driving operations of the firm in the markets. External factors such as investment climate, grading status of financial markets of the related country by important financial grading institutions, and behaviour of governments towards financial markets are some external financial factors that may affect firm's operations.

As mentioned above, business performance and even output quality of firms are likely to be affected by business environment, economic conditions in the countries, and financial conditions of firms such as their financial structure. Leverage as a measure of debt financing is likely to affect not only investment position of firms but also their output quality (See Bernini et al., 2015). It is very clear that firms can provide quality goods/services by showing higher emphasis on investments. Thus, the level of quality is closely linked to investments made by the firms. After financial crises, firms started to pay more attention on the importance of the liability structure (Chen et al., 2014). Here, it can be inferred that in order to survive against their rivals, firms tend to invest more after financial crises.

Norden & Kampen (2013) defines debt as an important and very flexible source of external corporate finance while they also mention that corporate leverage depends on the structure of corporate assets. As business conditions, various studies such as Norden & Kampen (2013), Bernanke & Gertler (1995), Gertler & Gilchrist (1994), and Kashyap et al. (1994) mention that frictions at the firm-level and the entire economy, especially asymmetric information between firms and lenders, are the key factors that affect the availability of debt finance to business firms and its form.

Additionally, country characteristics and lending technologies such as the nature of financial system, the nature of banking system and the legal environment are all likely to influence the scale and scope of debt financing for business firms (Norden & Kampen, 2013; Haselmann et al., 2010; Djankov et al., 2007; Berger & Udell, 2006). Therefore, an argument can be developed in order to propose that financial leverage and business conditions might exert statistically significant effects on output quality of business firms. All these internal (firm-level) and external (country-level) complexities are likely to influence not only financial performance of firms but also the quality of products that they provide to the related markets.

1.1 Aim, Importance, and Research Hypotheses of the Study

Having proposed a new research impetus, this study models and investigates the effects of financial leverage and business conditions on product quality in the tourism and leisure industries. The study will investigate if financial leverage and debt financing are likely to be a constraint for developing quality products in the tourism and leisure sectors. Since tourism products contain such items as package tours, restaurant services, providing tickets, arranging leisure activities, and related activities, searching interactions between firm leverage and product quality for the

first time in the literature to the best of author's knowledge, would be a very interesting research topic. Furthermore, as literature studies also document, international tourism is the world's largest industry which count about six to seven percent of global gross domestic product (GDP) (Dudensing et al., 2011; Fossati & Panella, 2000; Hall & Jenkins, 1995). On the other hand, Dudensing et al. (2011) suggest that the importance of tourism industry as a viable local economic development strategy continues to increase owing to its ability to bring new money (see also Breidenhann & Wickens, 2004; Fossati & Panella, 2000; Giaoutzi & Nijkamp, 2006; Lee & Chang, 2008). Therefore, carrying out new original research studies in the case of tourism, hospitality, and leisure industry is also a very important and significant contribution to the relevant literatures.

Additionally, the present study will also test the moderating role of business conditions on the effects of financial leverage on product quality. This role will be searched by considering direct and indirect effects as documented in Cohen & Cohen (1983). Tourism is a very sensitive sector to also external economic and political factors (Katircioglu, 2009; 2010). Furthermore, the role of external factors are likely to exert greater effects that firm level factors (Feridun, 2011). The Works of Katircioglu (2010) and Feridun (2011) document and prove that external economic and political factors such as war and terrorism are major threats for tourism and leisure related activities. Thus, it can be inferred that quality of product/service that a firm can provide can be affected not only firm level financial factors but also from country level and external factors. In this study, similar to the work of Chen (2007), external factors will be proxied by business conditions, which will be explained in

5

more details in the following chapters. Therefore, two research hypotheses are then developed in this study as mentioned below:

H1: Financial Leverage and Business Conditions exerts statistically significant effects on Product Quality

H2: Business Conditions significantly moderates the effects of Financial Leverage on Product Quality

The presents study extends the work of Bernini et al. (2015), who focused on the effects of financial leverage on export quality of French companies. Furthermore, this study contributes to the literature by adding the moderating effect of business conditions on the effects of leverage on product quality. In this study, 80 tourism and leisure companies in the United Kingdom (UK) have been selected in order to test two research hypotheses proposed above. It is important to mention that data availability is an important constraint for researchers; therefore, the selection of country with this respect has been done owing to data availability in the tourism and leisure sectors. Thus, this study is the first of its kind in the field as far as the uses of modelling approaches and tourism & leisure firms are concerned. It is strongly believed that results of this study will be important not only for tourism and leisure literature but also policy makers in the industry.

1.2 The UK Tourism Industry

United Kingdom is one of the most visited countries in the globe which ranks 8th out of attracting international tourists with 34.4 million (UNWTO, 2016). The exit of pound sterling from Exchange Rate Mechanism in 1992 and the reality that it was not included in the EURO area since 2002, the UK governments were able to allow volatility in their currency and therefore generate additional export revenues of goods

and services including international tourism. Figure 1 presents trends in tourist arrivals (in million) and tourism receipts (in billion USD) between 1995 – 2015.

In 2015, total number of international tourist arrivals to the UK was 34.4 million while the UK has generated 72.25 billion USD gross tourism revenues. As far as tourist arrivals are concerned, the UK ranks 8th, while it ranks 5th out of tourism receipts, and ranks 4th out of tourism expenditures in 2015 according to the statistics of World Tourism Organization (UNWTO, 2016).

These figures show that tourism revenues provide important input to the economy of the UK thinking that UK is now on the way to be out of European Union and its economy might go recession apart from 2016. London is also the center of financial markets; about 40 percent of the whole stock volume is traded in London Stock Exchange. Stocks traded in the UK are about 78.82 percent of GDP in the UK and 3.02 percent of the world's GDP volume as of 2014 (World Development Indicators, 2016).

1.3 Brief Methodology

In order to test research hypotheses of this study, 80 tourism and leisure firms in the UK have been selected as they are available in Thomson Reuters' DATASTREAM software. Unbalanced panel data on quarterly basis have been constructed for 80 companies in MS Excel software. Then, panel data econometric procedures have been adapted to unbalanced panel data via EVIEWS 9.5 statistical software in order to test research hypotheses of the study.

Data range for all the British firms was fixed to the 1960:Q1 – 2015:Q1 period (n = 17,681 observations); however, firm-level data ranges differ in the whole panel data set. Thus, panel data that has been constructed for this study is unbalanced.
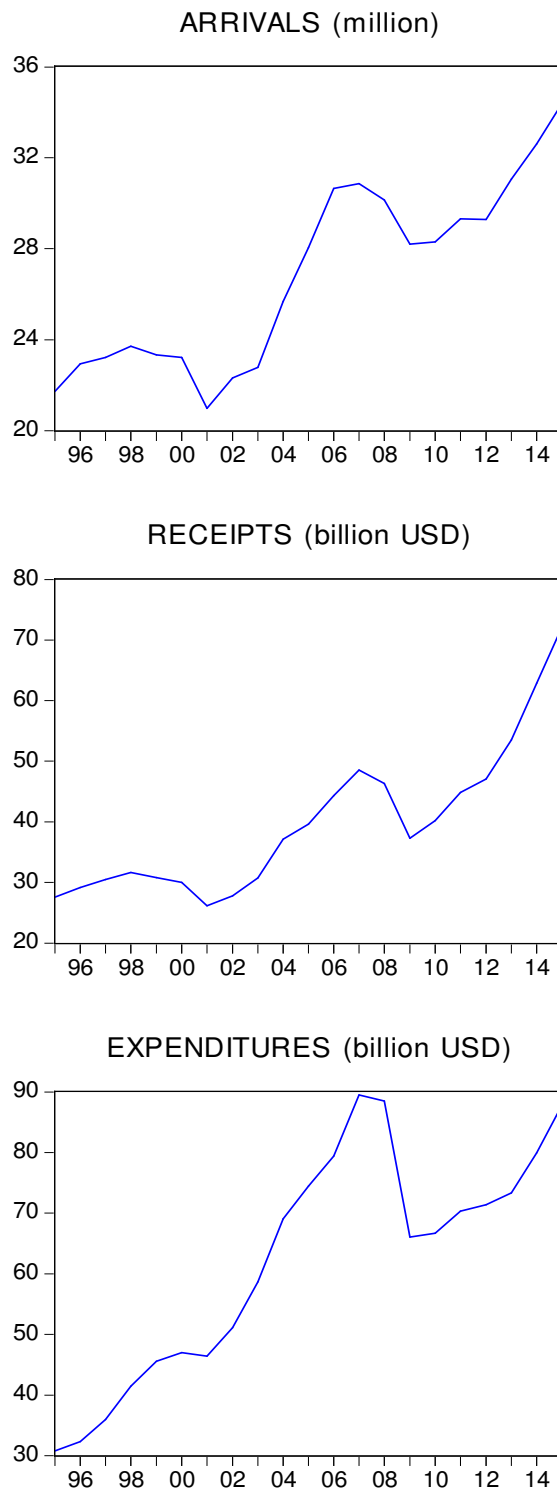
Figure 1: International Tourist Arrivals and International Tourism Receipts in the UK

Prior to empirical analyses, panel unit root tests have been adapted to see stationary nature of series under inspection. Then, different forms of models as described in

equations to be presented in the following chapters are estimated with / without selected control variables for comparison purposes as far as robustness of results are concerned. The selection process of control variables in the present study will be explained in details in the related chapters.

1.4 Structure of the Study

After Introduction chapter, Chapter 2 reviews related studies in the field; Chapter 3 describes the theoretical setting of modelling approaches designed for the study; Chapter 4 is the first empirical chapter that analyze the effects of financial leverage on product quality in the tourism and leisure firms; Chapter 5 is the second empirical chapter that tests the moderating role of business conditions on the effects of financial leverage on product quality; and Chapter 6 concludes the research study by providing policy suggestions and directions for further research.

Chapter 2

LITERATURE REVIEW

This chapter reviews related studies in the field. Due to constructing two modeling approaches in the present study, this chapter is also divided into two sections in order to provide readers better literature review information. Although many studies analyzed the effects of financial leverage on various aggregates such as investments, very rare studies have focused on interactions between financial leverage and product quality. This chapter will review these studies.

2.1 Financial Leverage and Product Quality

The study of Bernini et al. (2015) question if corporate financial structure would matter for a firm's ability to compete in international markets through output quality. They found a negative effect of firm's leverage on export quality in the case of a large sample of French manufacturing exporters. Bellone et al. (2010) studies on the interactions between financial constraints and firms' export behavior and find that firms enjoying better financial health are more likely to become exporters and financial constraints act as a barrier to export participation. In their study, Coricelli et al. (2012) prove that leverage hurt productivity growth by adapting firm-level analysis. Kugler & Verhoogen (2012) studies on the interactions among prices, plant size, and product quality and find that quality differences of both inputs and outputs play an important role in generating the price–plant size correlations. Norden & Kampen (2013) focus on the US firms and find that corporate leverage depends on the structure of corporate assets.

Lang et al. (1996) considers interactions among leverage, investment, and firm growth and find that there is a negative relation between leverage and future growth at the firm level and, for diversified firms, at the business segment level. In their study, Lang et al. (1996) also suggest that leverage does not reduce growth for firms which are known to have good investment opportunities; it is negatively related to growth for firms whose growth opportunities were either not recognized by the capital markets or were not sufficiently valuable to overcome the effects of their debt overhang. Matsa (2011) examines if debt financing can undermine a supermarket firm's incentive in order to provide product quality and find that highly leveraged firms are likely to degrade their products' quality in order to preserve current cash flow for debt service.

2.2 Business Conditions and Economic Performance

Interactions between financial leverage and output quality are likely to be affected from country characteristic factors such as business environment, financial system and banking system (Bernini et al., 2015; Norden and Kampen, 2013). Business conditions (or environment) are likely to affect not only economic aggregates of the country but also business firms operating in the economy. Business conditions might exert significant effects on financial leverage of firms and therefore on product quality indirectly.

The study by Sodeyfi & Katircioglu (2016) examine interactions between business conditions and economic performance in different regions of the world and find that business environment significantly affect economic activities in the countries. They also find that oil prices also do not only affect economic growth of countries but also industrial activities of business firms. On the other hand, Dudensing et al. (2011)

study on the relationship between tourism promotion and business challenges and find that promotion of tourism products is significantly affected by economy wide business challenges in the case of USA. Especially, Dudensing et al. (2011) hint on the role of internet technology in developing a tourism product in the USA. Many studies have also proved the effects of business cycles in tourism demand functions in the literature (Guizzardi & Mazzocchi, 2010; Katircioglu & Yorucu, 2009).

Various studies such as Norden & Kampen (2013), Bernanke & Gertler (1995), Gertler & Gilchrist (1994), and Kashyap et al. (1994) have focus if frictions at the firm-level and the entire economy would be effective on leverage and generally find that those frictions significantly affect debt financing or financial leverage. Fricke & Menkhoff (2015) study on the interactions between financial conditions, macroeconomic factors and disaggregated bond excess returns by using a panel data and find that bond excess returns are driven by macroeconomic factors and financial conditions in the markets. Various authors including Fricke & Menkhoff (2015) and Wright and Zhou (2009) suggest that business firms need to pay strong attention to macroeconomic factors when shaping their financial strategies. Bos & Kool (2006) prove the relationship between individual bank efficiency and local market conditions.

Chapter 3

THEORETICAL SETTING

The present study proposes two research hypotheses as described in Chapter One. This Chapter will describe theoretical modellings in order to test these hypothesis. The chapter will compose of two sections which will be designed separately for each hypothesis under inspection. Firstly, conceptual model of this research study will be introduced:

3.1 Conceptual Model

Two hypotheses of this study will be conceptualized which will contain two separate models. The conceptual model of the study can be described in Figure 2:
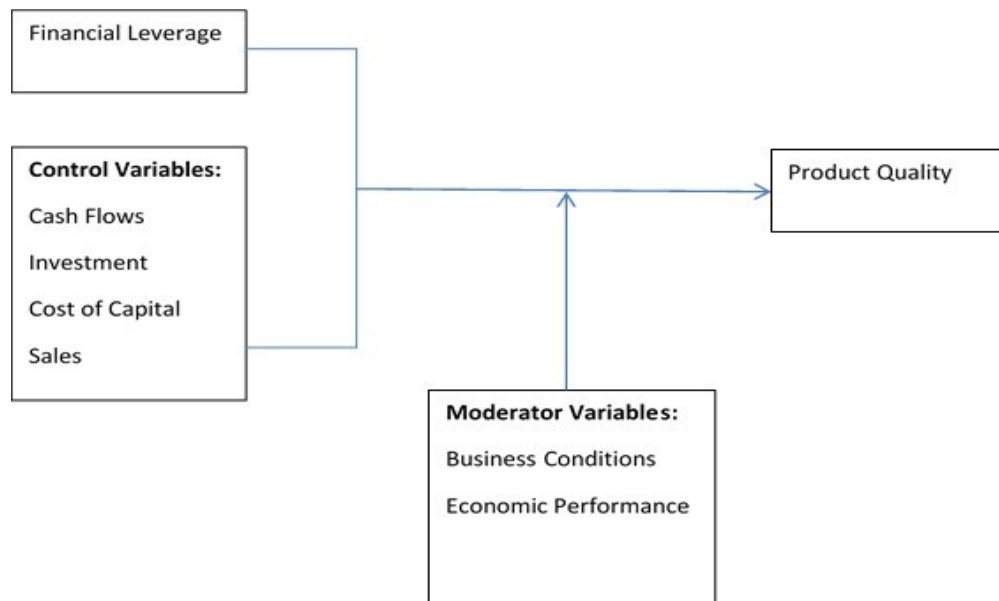
Figure 2: Conceptual Model of the Research

The conceptual model plotted in Figure 2 describes direct effects of financial leverage on product quality and indirect effects of business conditions and macroeconomic performance of country on product quality. In parallel to suggestions in the relevant literature, control variables have been also added to conceptual model in Figure 2; they are firm level cash flows, firm level investment, cost of capital, and sales. In order to provide robust results, these control variables are needed even since they are closely interrelated with financial leverage in the firms.

3.2 Modelling the Effects of Financial Leverage on Product Quality

The main hypothesis or argument of this research study is that financial leverage affects product quality in tourism and leisure firms. In addition to the likelihood that financial leverage might affect product quality directly, in the literature, it is extensively argued that this effect might be also through investments made in the company. Thus, it will be important to estimate also if leverage exerts significant effects on firm's investment. Thus, two models will be offered in this section:

3.1.1 Investment Model

Firstly, in Investment-Model, it will be investigated if financial leverage exerts statistically significant effects on firm level investments. While estimation process, control variables as suggested by various studies such as Bernini et al. (2015) and Guariglia (2008) will be added to Investment-Model:

$$\ln I_t / K_{t-1} = \beta_0 + \beta_1 \ln \Delta s_t + \beta_2 \ln \Delta s_{t-1}$$

$$+ \beta_3 \ln CF_t + \beta_4 DUM \times (CFN)_t + \beta_5 DUM \times (CFP)_t + \beta_6 \ln Lev_t + \varepsilon_t$$

$$(1)$$

Where I_t / K_{t-1} is the firm level investment to lagged capital; s is company sales with and without lagged effects; CF is cash flows; DUM(CFN) is dummy variable for

negative cash flows as 1, otherwise zero; DUM(CFP) is dummy variable for positive cash flows as 1, otherwise zero; Lev is financial leverage; and ε_t is error term.

3.1.2 Quality Model

Secondly, Quality Model will be estimated in order to investigate the effects of financial leverage on product quality of firms. Then, the proposed model will be:

$$PQ_t = \beta_0 + \beta_1 \ln I_{t-1} / K_{t-2} + \beta_2 \ln \Delta s_t + \beta_3 \ln \Delta s_{t-1}$$

$$+ \beta_4 \ln CF_t + \beta_4 DUM \times (CFN)_t + \beta_4 DUM \times (CFP)_t + \beta_4 \ln Lev_t + \varepsilon_t$$

$$(2)$$

Where PQ_t is the proxy for product quality offered by tourism and leisure firms. The construction of PQ variable will be explained in the forthcoming chapter of this research study.

3.3 Modelling the Moderating Role of Business Conditions on the Effects of Financial Leverage on Product Quality

In this section, the moderating effect of business conditions in Figure 2 will be described. This study proposes that business conditions might have a moderating role on the effects of financial leverage on product quality. The moderating effect as plotted in Figure 2 can be estimated by introducing interaction variables, which were suggested by Cohen & Cohen (1983) and have been also used by Chen & Myagmarsuren (2013). Furthermore, business conditions are closely interrelated with macroeconomic performance of country as also suggested by Chen (2010). Then, the model with interaction variables can be written as:

$$PQ_t = \beta_0 + \beta_1 \ln I / K_{t-1} + \beta_2 \ln \Delta s_t + \beta_3 \ln \Delta s_{t-1}$$

$$+ \beta_4 \ln CF_t + \beta_5 DUM \times (CFN)_t + \beta_6 DUM \times (CFP)_t$$

$$+ \beta_7 \ln Lev_t + \beta_8 \ln BC_t + \beta_9 \ln MP_t$$

$$+ \beta_{10}\left(\ln I / K_{t-1} \times \ln BC_t\right) + \beta_{11}\left(\ln I / K_{t-1} \times \ln MP_t\right) +$$

$$+ \beta_{12}\left(\ln \Delta s_t \times \ln BC_t\right) + \beta_{13}\left(\ln \Delta s_t \times \ln MP_t\right)$$

$$+ \beta_{14}\left(\ln CF_t \times \ln BC_t\right) + \beta_{15}\left(\ln CF_t \times \ln MP_t\right)$$

$$+ \beta_{14}\left(\ln Lev_t \times \ln BC_t\right) + \beta_{15}\left(\ln Lev_t \times \ln MP_t\right) + \varepsilon_t \qquad (3)$$

Where BC denotes the proxy for business conditions and MP denotes the proxy for macroeconomic performance of country. Having statistically significant coefficients of BC, MP and interaction terms would mean significant moderating effects in Figure 2 (See Cohen & Cohen, 1983).

Chapter 4

FINANCIAL LEVERAGE AND PRODUCT QUALITY IN THE TOURISM AND LEISURE INDUSTRY

4.1 Introduction

This chapter includes empirical analysis of the relationship between financial leverage and product quality in the tourism and leisure firms of the UK. It is argued that leverage exerts statistically significant effects on the quality of tourism products in the UK. As mentioned in the previous chapters, firm-level investments are essential elements on the interactions between leverage and product quality. Therefore, in the empirical analyses, investments will be also considered in this study. In order to examine the role of investments in the relationship between leverage and product quality, Bernini et al. (2015) considers two empirical models where in the first model investments are dependent variable while in the second model product quality is dependent variable. In both models, leverage is added to the models as independent variable. Bernini et al. (2015) also assumes that firm sales and cash flows are also important factors to be considered as control variables when examining the relationship between leverage, investments, and product quality.

Due to critical role of investments on the interaction between leverage and product quality, Bernini et al. (2015) offers two separate models as mentioned in the previous chapter: Investment-Model as proposed in equation (1) and Quality-Model as proposed in equation (2). In this chapter, both models will be estimated to forecast the

direct and indirect effects of leverage on product quality in the case of tourism and leisure firms of the UK.

4.2 Data and Methodology

In this section data and methodology used in the present study will be explained in details. In the first stage, detailed information on data construction will be provided; thenafter, empirical methodology and econometric approaches for empirical analysis of the study will be provided.

4.2.1 Data

Data of this research study have been gathered from Thomson Reuter's DataStream and World Development Indicators from World Bank. All the data have been organized and finalized to be analysed in MS Excel. A total of 80 tourism and leisure firms from the UK have been downloaded as they are available from DataStream. Data range of each firm differs owing to data availability and their establishment dates; thus, unbalanced panel data has been constructed in MS Excel software. The list of tourism and leisure firms along with their data range are presented in Table A1 in appendix. Table 1 presents variables of the study to be used in empirical analyses:

Table 1: Variables of the Study

	Variable Name	:	Description
1.	I / K_{t-1}	:	Overall firm-level investments (USD) / overall firm-level capital (USD)
2.	$\Delta \ln S$	:	First difference of logatihmic sales (to obtain growth rate in firm sales)
3.	CF (cash flow)	:	The sum of after tax profits and depreciation to obtain firm's ability to internal resources
4.	DUM×CFN	:	Dummy variable = 1 multiplied by negative cash flow, otherwise it is zero
5.	DUM ×CFP	:	Dummy variable = 1 multiplied by positive cash flow, otherwise it is zero
6.	GDP	:	Gross domestic product of the UK at constant 2010 USD prices
7.	IND	:	Industrial value added of the UK at constant 2010 USD prices
8.	Lev	:	Financial leverage (total debt / shareholder's equity)
9.	PQ	:	Product quality as constructed in the present study

The first five variables in Table 1 have been selected in parallel to the work of Bernini et al. (2015) while GDP and IND for the overall economic activity & business conditions in parallel to the works of Sodeyfi & Katircioglu (2016) and Chen (2007). The assumption behind selecting GDP and IND as proxies for business conditions is that macroeconomic environment in the business sector are likely exert significant effects on firm-level business operations (Sodeyfi & Katircioglu, 2016; Chen, 2007).

4.2.1.1 Construction of Product Quality in Tourism and Leisure Industry

The variable of Product quality has been constructed based on the work of Bernini et al. (2015) where it is obtained by estimating a discrete choice model of consumer demand. Furthermore, in a study by Khandewal (2010), quality of imported goods has been based on import flows as a proxy for consumer demand for imported goods while Bernini et al. (2015) based export quality on export flows. Therefore, it can be inferred that tourism product quality of tourism and leisure firms in economics science can be obtained by consumer demand towards their products which can be generated by firm sales in parallel to Bernini et al. (2015). Then, construction of product quality in tourism and leisure activities can be expressed in a linear form as following:

$$Q^*_i = [\ln(s_1) - \ln(s_0)] - [\alpha p_i + \sigma \ln(s_{i/g})] \qquad (4)$$

$$Q^*_i = X_i \beta + Q_i$$

Where product quality is associated with a regression with sales difference of a firm over a time period in time (s), industry specific price deflator, and sales's share of firm in overall volume in the industry. Q^*_i is a proxy for 'residual market share of a variety obtained as the distance from the fitted market share computed using the estimated parameters of α and σ (Bernini et al., 2015: p.284). The estimated parameters of α and σ have been obtained by using methodology which is provided

in Appendix A of Bernini et al. (2015). Then, average quality level of a product can be written as:

$$Q^*_f = \sum_i w_i \times \left(Q^*_i - Q^*_{pd} \right)$$

Where w_i stands for a value share of sale i over the total sales of firm f in a given period, and Q^*_{pd} is the average product quality.

4.2.2 Empirical Methodology

Prior to regression models proposed in Chapter 3, panel unit root tests will be employed to investigate if series under inspection are stationary. Approaches proposed by Levin, Lin and Chu (LLC) (2002), Breitung t-test, Im, Pesaran & Shin (IPS) (2003), panel ADF (augmented Dickey-Fuller), and panel PP (Phillips-Perron) have been adapted to series in EVIEWS 9.5 software. Approach by Levin, Lin & Chu (2002) suggests common unit root process while the IPS and ADF/PP tests suggest individual unit root process for series. Furthermore, the null hypothesis of all of these unit root tests suggest the null hypothesis of a unit root (Katircioglu et al., 2009).

Following unit root tests, regressions models will be estimated for the proposed models in Chapter 3. In order to test for the suitability of fixed/random effects model for panel regression analyses, the Hausman test will be adapted as advised in the econometrics literature. The Hausman test follows a Chi-square (χ^2) distribution with the following null and alternative hypotheses:

H_0 : Random Effects Model [$E(\alpha_i / x_i)= 0$] is not suitable

H_1 : Random Effects Model [$E(\alpha_i / x_i)= 0$] is suitable

Where the acceptance of the null hypothesis indicates that random effects' specification should be used in regression models while the rejection of the null

hypothesis indicates that fixed effects' specification should be used in regression models. The following section presents results and discussion from regression models.

4.3 Results & Discussions

In this section, empirical results and their discussions will be provided in order to test the validity of the proposed model of the study. As a first step, panel unit root test results will be provided prior to further analyses.

4.3.1 Panel Unit Root Test Results

In this thesis, standard panel unit root tests have been adapted as they are available in EVIEWS software. Unit root tests have been carried out level forms of every variable without differencing in order to check if they are stationary. Furthermore, tests have been carried out in three different stages as advised extensively in the econometric literature in order to check for robustness of results (Katircioglu, 2010): (1) Tests with trend and intercept; (2) tests without trend but with intercept; and (3) tests without trend and without intercept.

Table 2 presents the results of panel unit root tests for the variables under inspection; tests have been adapted to the levels of series without differencing. Although different approaches in Table 2 provided different outcomes, there is very strong evidence that all the series of the study seem stationary at their levels. Thus, this concludes that series of the study are at I (0) forms.

Table 2: Panel Unit Root Tests

Variables		Levels				
	LLC	B_t stat	IPS	ADF	PP	Conclusion
I / K_{t-1}						
τ_T	1.02	-2.00**	0.93	130.35	178.90**	I (0)
τ_μ	-0.79	-	-1.44**	185.10*	266.74*	
τ	-0.74	-	-	177.20**	204.78*	
S						
τ_T	-0.71	7.60*	3.48	101.12*	102.92*	I (0)
τ_μ	3.03	-	7.49	83.95	85.06	
τ	5.97	-	-	67.83	56.96	
CF						
τ_T	0.47	1.80	2.74	103.13*	123.58*	I (0)
τ_μ	2.74	-	3.81	113.69*	124.39*	
τ	5.42	-	-	147.54*	148.61*	
Lev						
τ_T	15.29	-2.80	-20.63*	139.72	141.65	I (0)
τ_μ	-73.68*	-	-35.40*	211.66*	237.28*	
τ	-	-	-	-	-	
PQ						
τ_T	118.41	-1.10	-12.33*	42.38	27.11	I (0)
τ_μ	44.89	-	-6.36*	71.28*	33.83	
τ	-7.83*	-	-	333.71*	83.80*	

Notes: I / K_{t-1} stands for investment over capital; S is firm sales; CF is cash flows; Lev is leverage; and PQ is product quality. τ_T stands for the model with intercept and trend; τ_μ is the model with intercept but without trend; τ is the model without intercept and without trend. Optimum lag lengths has been selected based on Schwartz Criterion. * shows the rejection of the null hypothesis at the 1% level. Tests for unit roots have been carried out in E-VIEWS 9.5.

Since all the series of this research study are found to be stationary at levels and there is no need for differencing, standard regression analyses will be carried out in the next step. Firstly, the Hausman test has been run to determine if models random effects or fixed effects would be used. Results of Hausman test (χ^2 test results) are provided in each table of regression analyses.

4.3.2 Regression Results of Investment Model

Table 3 presents regression results of three Investment-Models with various control variables which are based on equation (1) described in Chapter 3. Results of Hausman

test in Table 3 confirm the suitability of random effects model since the null hypothesis of no suitability is rejected.

Table 3: Panel Regression Results of Investment Model

Dependent Variable: I / K_{t-1}

Regressor	Coefficient (p-value)		
	(1)	(2)	(3)
Intercept	0.242	0.140	0.143
	(0.064)	(0.317)	(0.317)
Δs_t	-0.452	0.161	0.160
	(0.937)	(0.563)	(0.565)
Δs_{t-1}	-	-0.160	-0.166
		(0.551)	(0.553)
CF_t	-0.911	0.492	0.474
	(0.894)	(0.890)	(0.894)
CF_{t-1}	-	-0.685	-0.718
		(0.848)	(0.844)
CFN_t	-		0.179
		-	(0.927)
CFN_{t-1}			
	-	-	-
CFP_t	-		0.372
		-	(0.958)
CFP_{t-1}	-		
		-	-
Lev_t	-0.223	-0.731	-0.731
	(0.053)	(0.000)	(0.000)
Lev_{t-1}		0.735	0.735
	-	(0.000)	(0.000)
R^2	0.786	0.807	0.807
Adj. R^2	0.786	0.807	0.807
S.E.	5.137	4.803	4.804
F-stat.	2866.966	1819.947	1414.588
F-prob	0.000	0.000	0.000
χ^2 (Hausman)	32.771	21.427	21.778
χ^2 (Prob)	0.000	0.003	0.009

Regression results in Table 3 show that leverage exerts negatively significant effect (β = -0.223, $p < 0.10$) on investment-capital (I / K_{t-1}) ratio while the coefficients of sales and cash flows are not statistically significant. The second model in Table 3 has been also estimated by random effects and it is seen that level effect of leverage on investment-capital ratio is again negatively significant (β = -0.731, $p < 0.01$) while its

24

lagged effect is positive and significant ($\beta = 0.735$, $p < 0.01$). The other coefficients either at level or lagged values are not again statistically significant. The second model shows that leverage exerts negative effects on investment-capital ratio while this effect becomes positive in longer periods.

The third model in Table 3 has been again estimated by random effects model and results are very similiar to those in the second model. To summarize, the effect of leverage in investment-model is negatively significant on investment-capital ratio while this effect becomes positively significant in longer periods. This major finding is parallel to the findings of Bernini et al. (2015) and in the expected direction since leverage might be constraint for the firms in the shorter periods but can become promoter in longer periods.

4.3.3 Regression Results of Quality Model

In this step, results of further three models of quality-model will be provided. Table 4 present regression results of Quality-Models again with various control variables which are based on equation (2) described in Chapter 3. All three models in Table 4 have been again estimated by random effects criterion. Regression results in Table 4 show that leverage exerts negatively significant effect ($\beta = -0.715$, $p < 0.01$) on product quality (PQ) in the fourth model.

Table 4: Panel Regression Results of Quality Model

Dependent Variable: PQ

Regressor	Coefficient (p-value)		
	(4)	(5)	(6)
Intercept	0.533	0.524	0.572
	(0.000)	(0.000)	(0.000)
I / K_{t-1}	0.055	-0.036	-0.122
	(0.042)	(0.088)	(0.468)
I / K_{t-2}		0.087	0.039
	-	(0.623)	(0.814)
Δs_t	0.618	0.232	0.562
	(0.000)	(0.519)	(0.872)
Δs_{t-1}		0.821	0.134
	-	(0.024)	(0.008)
CF_t	0.772	0.103	0.144
	(0.000)	(0.000)	(0.002)
CF_{t-1}		-0.399	-0.068
	-	(0.315)	(0.005)
CFN_t			0.794
	-		(0.578)
CFN_{t-1}			
	-	-	-
CFP_t			0.526
	-		(0.000)
CFP_{t-1}			
	-	-	-
Lev_t	-0.715	-0.028	-0.271
	(0.000)	(0.026)	(0.056)
Lev_{t-1}		0.758	0.504
		(0.014)	(0.087)
R^2	0.197	0.196	0.243
Adj. R^2	0.195	0.191	0.237
S.E.	0.501	0.494	0.486
F-stat.	78.424	37.948	39.956
F-prob	0.000	0.000	0.000
χ^2 (Hausman)	248.906	260.921	367.85
χ^2 (Prob)	0.000	0.000	0.009

It is important to mention that sales exert positively significant effects ($\beta = 0.618$, $p < 0.01$) on product quality as cash flows ($\beta = -0.618$, $p < 0.01$). The effects of leverage on product quality are again negative and statistically significant ($\beta = -0.028$, $p < 0.05$) in the fifth model at its level and positively significant ($\beta = 0.758$, $p < 0.05$) at its lagged value. Similiar results for leverage, sales, and cash flows have been obtained in the sixth model as well. Additionally, positive cash flows (CFP, profits) exert

positively significant effects on product quality while negative cash flows (losses) do not exert significant effects on product quality. Thus, it is again concluded that the effect of leverage in quality-model is negatively significant on product quality while this effect becomes positively significant in longer periods. Firm sales and cash flows generally exert positively significant effects on product quality. Results of quality-model enable us to infer that leverage is a constraint for tourism product quality in the shorter periods while it can be promoter in longer periods; however, firm sales and cash flows of firms are promoters of product quality in the tourism and leisure industry.

4.4 Conclusion

In this chapter, the effects of financial leverage on investments and product quality have been examined by also adding control variables such as firm sales and firm cash flows. Series used in regression analyses were stationary; thus, there wasn't any need to use difference of series in the empirical analysis. All of the Investment-models in this chapter have been estimated by random effects criterion as a result of the Hausman tests and due to the fact that fixed effects criterion was not applicable to the data set under inspection.

Analysis of 80 firms showed that leverage exerted negatively significant effects on firm-level investments and product quality in the tourism and leisure industry. However, it is observed that the effects of leverage on product quality is negative in the shorter periods while they become positive in the longer periods. This finding has an important implication showing that, in the shorter periods, financial leverage is a constraint for product quality in the tourism and leisure industry; while it might be promoter of the quailty of products in the longer periods. This is probably due realization of investments in longer periods due to debt financing. Thus, these results

are quite reasonable. Results of this analysis are parallel with the findings of Bernini et. Al (2015) who worked on the French exporting companies.

On the other hand, firm-level sales and cash flows did not have significant effects on overall firm-level investments while they exerted positively significant effects on product quality in the tourism and leisure industry of the UK. It might be important to note that positive cash flows (firm profits) exerted positively significant effects on product quality while negative cash flows (firm losses) did not. This has an important implication showing that during financial losses, product quality of tourism and leisure firms in the UK are not affected. Another finding of regression analyses of Investment-Models is that intercept was generally positively significant; this shows that when there isn't any change in explanatory variables, product quality of firms under inspection continues to improve significantly. This has also another implication showing that during sustainable leverage levels, firms can continue to improve their product quality.

Chapter 5

TESTING THE MODERATING ROLE OF BUSINESS CONDITIONS ON THE EFFECTS OF FINANCIAL LEVERAGE ON PRODUCT QUALITY

5.1 Introduction

One of the major contributions of this research study is that the moderating role of business conditions will be tested to see if business environment impacts on interactions between financial leverage and product quality in the tourism and leisure industry. The main argument behind this new research proposal is that firm-level operations are closely linked with country or economy wide conditions and developments. These conditions might be economic and/or political factors. Even foreign country or international economic conditions are highly likely to impact on firm-level business operations. This reality becomes more significant in the case of tourism and leisure industries since their customer profiles are mainly composed of foreign visitors. The overall business conditions and macroeconomic factors are important for business firms because positive climate in business conditions are likely to have positive economic effects on firms (Chen, 2007; Jeon et al., 2004). This will surely increase firm profits and earnings and lead to better performance of firms as also mentioned by Chen (2007). Any reverse development in business conditions will have negative effects on business firms' performances.

Sodeyfi & Katircioglu (2016) find that business conditions do also impact on macroeconomic performance of countries while Chen (2007) finds that overall business conditions impact on financial performance of business firms. As a new research impetus, this study will add new research question to investigate if business conditions and macroeconomic performance can impact on the product quality of business firms. Therefore, this study will examine business conditions in order to forecast if (1) they impact on macroeconomic performance and if (2) both business conditions and macroeconomic performance in the UK influence product quality directly and indirectly through financial leverage. Therefore, it is important to mention that this study will extend the works of Sodeyfi & Katircioglu (2016), Bernini et al. (2015), and Chen (2007).

Along with these research proposals documented above, in this chapter, it is aimed to investigates (1) the effects of business conditions on macroeconomy of the UK, (2) the direct effects of business conditions and macroeconomy on product quality in the British tourism and leisure industries, and finally, (3) the moderating role (indirect effects) of business conditions and macroeconomy of the UK on the effects of financial leverage on product quality in the tourism and leisure industries. As far as these new research proposals are concerned, the findings of this study will be novel in the literature and provide very important new research opportunities for scholars and policy implications for policy makers.

5.2 Data and Methodology

5.2.1 Data

The same data which was described in Table 1 of this study will be used in this chapter as well as they will be needed. Therefore, no change or addition will be made to data as they were available in Chapter 4. Finally, sources of data were explained also in Chapter 4. In the following section, empirical methodology of this chapter will be described in details.

5.2.2 Empirical Methodology

As mentioned at the end of section 5.1, this chapter will contain three empirical models. In this section, methodologies related with those models will be described:

5.2.2.1 Business Conditions and Macroeconomy

The aim of this section is to investigate interactions between GDP and industrial production (IND) in the UK. To give better implications to readers, a comparison will be also made by adding EURO area and European Union (EU) as aggregates and to make comparison among UK, EURO area, and EU countries.

Sodeyfi & Katircioglu (2016) mentioned that oil prices have driving force for business conditions and macroeconomic performance; therefore, oil prices will be added as control variable to the model. Annual data from World Development Indicators for years 1973 to 2010 will be used for econometric analyses. Oil prices for the UK, EURO area, and EU have been computed by oil prices in Dubai dollars divided by consumer price index (CPI) of the UK, of EURO area average, and of EU average in dollars (see Sodeyfi & Katircioglu, 2016; Chen, 2007).

Industrial value added has been taken to measure business economic activity in parallel to literature studies (Sodeyfi & Katircioglu, 2016; Chen, 2007). The effects of business environment on macroeconomic performance can then be modeled as:

$$GDP_t = f(IND_t, OIL_t) \tag{4}$$

Where GDP stands for gross domestic product; IND stands for industrial value added and represents business conditions; and OIL stands for oil prices as control variable . In order to estimate growth effects, equation (2) needs to be specified in double-logarithmic function (Katircioglu, 2010):

$$\ln GDP_t = \beta_0 + \beta_1 \ln OIL_t + \beta_2 \ln IND_t + \varepsilon_t \tag{5}$$

where ln stands for the natural logarithm of series in equation (5) and ε is the error term. Having the possibility that series in equation (5) might be non-stationary, the following error correctioon model (ECM) needs to be estimated to obtain error correction term as the speed of adjustment between long run and short run values of GDP and short term coefficients of series:

$$\Delta \ln GDP_t = \beta_0 + \sum_{i=1}^{t} \beta_1 \Delta \ln GDP_{t-j} + \sum_{i=0}^{t} \beta_2 \Delta \ln OIL_{t-j} + \sum_{i=0}^{t} \beta_3 \Delta \ln IND_{t-j} +$$

$$\beta_4 \varepsilon_{t-1} + u_t \tag{6}$$

where Δ stands for changes in lnGDP, lnOIL and lnIND, t is maximum number of lags, and ε_{t-1} denotes adjustment parameter of the error correction (ECT). Expected direction of sign for the ECT is should be negative showing the speed of adjustment to GDP towards its long-term path (Katircioglu, 2010).

In order to discover the stationary nature of series in equation (4), unit root tests are initially adapted. This study will employ Phillips-Perron (PP) approach. Unit root tests via PP approach are based on the null hypothesis of a unit root.

In the case of non-stationary series, prior to estimating regression equations as proposed in equation (5), cointegration tests need to be employed to see if there is any long run association between dependent variable and its regressors. This study will apply the bounds tests through the ARDL (autoregressive distributed lag) approach that has been proposed by Pesaran et al. (2001). The bounds tests are based on the F-statistics which are computed from the ARDL models. Critical values of lower bound and upper bound have also been provided in this thesis. Furthermore, F-tests are carried out in three different scenarios as suggested by Pesaran et al. (2001): F_{III}, F_{IV} and F_{V}. If computed F-value does not fall above upper bounds, the null of no long run association is accepted where in the case it is within lower and upper bounds, hypothesis test is not conclusive; finally, the null of no long run association can be rejected when computed test statistic is greater than upper bound (Pesaran, et al., 2001). Our model is then:

$$\Delta \ln GDP_t = a_0 + \sum_{i=1}^{t} b_i \Delta \ln GDP_{t-i} + \sum_{i=0}^{t} c_i \Delta \ln OIL_{t-i} + \sum_{i=0}^{t} d_i \Delta \ln IND_{t-i} + \sigma_1$$

$$\ln GDP_{t-1} + \sigma_2 \ln OIL_{t-1} + \sigma_3 \ln IND_{t-1} + \varepsilon_{1t} \tag{7}$$

In equation (7), Δ is the difference operator, t is maximum number of lags and ε_{1t} stands for the ECT. Bounds test will be carried out by F-test to decide for any level relationship between dependent and independent variables in equation (7) where the null hypothesis of no level relationship is $H_0 : \sigma_1 = \sigma_2 = \sigma_3 = 0$ and the alternative

hypothesis of a level relationship is $H_1 : \sigma_1 \neq \sigma_2 \neq \sigma_3 \neq 0$. An important advantage of searching long run relationships through the ARDL models is that this mechanism allows regressors to be in mixed order of integration at maximum order one, I (1).

Some time series data may show short-run dynamics, while they converge to the similar case of equilibrium in their long-run position. Because of this reason, this study goes to the next step that sets up an Error Correction Model (ECM). After confirming long run relationship, long run and short run, coefficients together with corrections term need to be estimated (Gujarati, 2004).

5.2.2.2 Business Conditions, Macroeconomy, and Product Quality

Secondly, the direct effects of business conditions and macroeconomic performance on the product quality of tourism and leisure firms of the UK will be investigated in panel data setting via panel data econometric procedures as described in Chapter 4 and by using the same data variables from Chapter 4. As a modelling technique, the following component of equation (3) in Chapter 3 will be estimated with this respect:

$$PQ_t = \beta_0 + \beta_1 \ln I / K_{t-1} + \beta_2 \ln \Delta s_t + \beta_3 \ln \Delta s_{t-1}$$

$$+ \beta_4 \ln CF_t + \beta_5 DUM \times (CFN)_t + \beta_6 DUM \times (CFP)_t$$

$$+ \beta_7 \ln Lev_t + \beta_8 \ln BC_t + \beta_9 \ln MP_t \qquad (8)$$

where BC is a proxy for business conditions in the country while MP is GDP as a supplement to business conditions. In equation (8), it is expected that Lev, BC, and MP exert joint and significant effects on PQ. Panel unit root test results in Chapter 4 will be also valid in this chapter prior to estimating models in this section.

5.2.2.3 The Moderating Role of Business Conditions and Macroeconomy

Finally, the indirect effects of business conditions and macroeconomic performance on the product quality of tourism and leisure firms of the UK will be investigated in panel data setting via panel data econometric procedures as described in Chapter 4 and again by using the same data variables from Chapter 4. By indirect effects, it is aimed to investigate if BC and MP significantly moderates the effects of financial leverage on product quality (Cohen & Cohen, 1983). In order to achieve this aim, interaction variables of BC and MP as multiplied with the other regressors are constructed; at the end of analyses, their corresponding coefficients need to be statistically significant (Cohen & Cohen, 1983). As a modelling framework, equation (3) in Chapter 3 will be estimated in this chapter in order to investigate if business conditions and macroeconomic performance significantly moderates the effects of financial leverage on the product quality of tourism and leisure firms in the UK. Finally, panel unit root test results in Chapter 4 will be also one more time valid in this chapter prior to estimating models in this section.

Lastly, the variance decompositions of product quality and its regressors will be estimated, which infers what ratio of the forecast error variance of the product quality could be explained by exogenous shocks to its determinants. Following variance decompositions, impulse response functions will be forecasted in order to see how the selected factors under inspection would react to the exogenous shocks in the other factors.

5.3 Results & Discussions

In this section, empirical results of three models as proposed in the previous sections will be presented and discussed. Firstly, interactions between business conditions and

macroeconomic performance will be examined prior to examining the role of business conditions in leverage – product quality nexus. The nexus between business conditions and macroeconomic performance will not only be considered for the UK but also for European Union countries and EURO countries for comparison purposes since UK is a part of European Union and it would be interesting to compare their results.

5.3.1 Results of Business Conditions vs Macroeconomic Performance

Table 5 present results of PP unit root tests for the variables of GDP, IND, and OIL of UK and EURO area and European Union. Results of PP unit root tests show that GDP, IND, and OIL are non-stationary at their levels but become stationary at their first difference. All the unit root test options, which are with trend and intercept, without trend but with intercept, and without trend and without intercept, have provided the same conclusions.

Table 5: PP (1988) Unit Root Tests

United Kingdom

Statistics (Levels)	lnGDP	Lag	lnIND	Lag	lnOIL	Lag
τ_T (PP)	-1.450	(0)	-2.316	(1)	-1.412	(0)
τ_μ (PP)	-0.457	(1)	-1.717	(2)	-0.629	(1)
τ (PP)	7.758	(2)	5.739	(0)	0.230	(1)
Statistics (First Differences)	ΔlnGDP	Lag	ΔlnIND	lag	lnOIL	Lag
τ_T (PP)	-8.741*	(2)	-5.214*	(2)	-5.815*	(2)
τ_μ (PP)	-6.554*	(1)	-6.045*	(2)	-7.727*	(2)
τ (PP)	-4.987*	(4)	-4.905*	(3)	-8.085*	(1)

European Union

Statistics (Levels)	lnGDP	Lag	lnIND	Lag	lnOIL	Lag
τ_T (PP)	-2.052	(3)	-1.353	(1)	-1.042	(0)
τ_μ (PP)	-0.968	(3)	-1.345	(2)	-1.619	(2)
τ (PP)	7.484	(2)	5.743	(2)	0.139	(1)
Statistics (First Differences)	ΔlnGDP	Lag	ΔlnIND	lag	lnOIL	Lag
τ_T (PP)	-6.247*	(1)	-7.122*	(0)	-7.815*	(0)
τ_μ (PP)	-8.414*	(3)	-8.050*	(0)	-5.727*	(0)
τ (PP)	-4.412*	(4)	-4.395*	(3)	-6.875*	(0)

Euro Area

Statistics (Levels)	lnGDP	Lag	lnIND	Lag	lnOIL	Lag
τ_T (PP)	-1.551	(0)	-1.530	(1)	-1.042	(1)
τ_μ (PP)	-0.998	(2)	-1.045	(0)	-1.619	(1)
τ (PP)	7.824	(2)	3.703	(1)	0.412	(0)
Statistics (First Differences)	ΔlnGDP	Lag	ΔlnIND	lag	lnOIL	Lag
τ_T (PP)	-7.347*	(1)	-8.112*	(3)	-6.748*	(2)
τ_μ (PP)	-8.424*	(2)	-7.105*	(2)	-7.762*	(2)
τ (PP)	-4.417*	(4)	-4.695*	(2)	-8.085*	(1)

NOTES: τ_T denotes the model with intercept and trend; τ_μ is the model with intercept but without trend; τ is the model without intercept and without trend. Numbers in parantheses are Newey-West Bandwith (as determined by Bartlett-Kernel). * denotes rejection of the null hypothesis at the 1% level. Tests for unit roots have been done in E-VIEWS 9.5.

In the next step, bounds tests to level relationships will be carried out to investigate cointegration and possible long-run equilibrium relationship between business conditions and macroconomic performance in the UK, Euro Area and European Union. The critical values for F-tests using small samples are presented in Table 6, which are gathered from Narayan (2005).

Table 6: Critical Values for the ARDL Modeling Approach

K=2	0.10		0.05		0.01	
	I (0)	I (1)	I (0)	I (1)	I (0)	I (1)
F_{IV}	3.66	4.37	4.36	5.13	5.98	6.97
F_V	4.47	5.42	5.38	6.43	7.52	8.80
F_{III}	3.37	4.37	4.13	5.26	5.89	7.33

Note: K is the number of regressors for the dependent variable in ARDL models, F_{IV} represents the F-statistic of the model with unrestricted intercept and restricted trend, F_V represents the F-statistic of the model with unrestricted intercept and trend, and F_{III} represents the F statistic of the model with unrestricted intercept and no trend. Source : Narayan (2005) for F-statistics.

Table 7 presents the results of the bounds tests for level relationship between business conditions and macroeconomic performance as modeled in equation (5). Bounds tests have been carried out in three different model options as mentioned previously and which are with restricted deterministic trends (F_{IV}), with unrestricted deterministic

trends (F$_V$) and without deterministic trends (F$_{III}$). Intercepts in these scenarios are all unrestricted (Pesaran, et al., 2001).

Results in Table 7 suggest that the application of the bounds F-test using the ARDL modeling approach suggest level relationships in the models as presented in the table. This is because the null hypotheses of $H_0 : \sigma_1 = \sigma_2 = \sigma_3 = 0$ in equation (5) can be rejected according to the bounds F-tests' results in the cases of the UK, Euro Area and European Union; macroeconomic performance (GDP) as a dependent variable is in a long-term relationship with business conditions and oil markets. Therefore, conditional ECMs can now be estimated to capture short term coefficients and error correction terms (ECTs) for each region, which is conditional upon imposing error correction term. However, prior to estimating ECMs, long-run coefficients will be estimated through the ARDL mechanism.

Table 7: Bounds Tests for Level Relationships

Variables	With Deterministic Trends			Without Deterministic Trend	
	F_{IV}	F_V		F_{III}	Conclusion
Euro Area					
F (lnGDP / lnOIL, lnIND)					H_0
p = 3*	9.851c	8.652c	p = 1*	9.764c	
4	1.842a	1.601a	2	3.936b	Rejected
5	1.773a	1.784a	3	3.265a	
6	1.345a	1.533a	4	0.987a	
European Union					
F (lnGDP / lnOIL, lnIND)					H_0
p = 3*	7.000c	6.432c	p = 1*	8.191c	
4	2.421a	2.036a	2	2.185a	Rejected
5	5.023 b	5.141 b	3	2.632a	
6	2.237a	2.684a	4	1.824a	
United Kingdom					
F (lnGDP / lnOIL, lnIND)					H_0
p = 1*	6.124c	8.578c	p = 1*	6.425c	Rejected
2	2.747a	3.189a	2	1.065a	
3	3.136a	2.378a	3	3.818a	
4	1.045a	1.115a	4	1.789a	

*Note: Schwartz Criteria (SC) was used to select the number of lags required in the co-integration test. p shows lag levels and * denotes optimum lag selection in each model as suggested by SC. F_{IV} represents the F statistic of the model with unrestricted intercept and restricted trend, F_V represents the F statistic of the model with unrestricted intercept and trend, and F_{III} represents the F statistic of the model with unrestricted intercept and no trend. [a] indicates that the statistic lies below the lower bound, [b] that it falls within the lower and upper bounds, and [c] that it lies above the upper bound.*

Results of level coefficients in the long-term periods are provided in Table 8. In the Euro Area, it is seen that long-term coefficient of oil price is -0.024 as expected and for industry is 0.702 again as expected which both are statistically significant at the 0.01 level. In the case of European Union, similar results have been obtained; however, the coefficient of lnIND is not significant. When the long term coefficients in the case of the UK are considered, it is again seen that business conditions exert positively significant effects on macroeconomic performance while oil prices exert negative effects.

Table 8: Level Coefficients in the Long Run Growth Models through the ARDL Approach

| | Dependent Variable | | Regressors | |
	lnGDP	lnOIL	lnIND	Intercept
Euro Area	-	-0.024*	0.702*	9.563
European Union	-	-0.018**	0.283	21.326*
United Kingdom	-	-0.035*	0.389*	42.508*

*Notes: * and ** denote the statistical significance at the 1 percent and 5 percent levels respectively.*

Finally, in the next step, estimations of ECMs and ECTs are provided in Table 9 and Table 10. It is observed that ECTs in the UK, Euro Area and European Union cases are negative and statistically significant; however, the ECTs in the EU and Euro area are less than 50 percent while ECT in the case of the UK is 86.23 percent. This finding raises a reality that there are important determinants that make GDP react to its long-term equilibrium path other than oil prices and business conditions in the EU and Euro area; but, business conditions in the UK are major determinant of macroeconomic performance that business activities lead to faster convergence of GDP towards its long term equilibrium path. For example, in the case of Euro Area, the ECT is -0.2545 (β = -0.2545, p < 0.01) denoting that GDP in the Euro Area reacts to its long term equilibrium path by 25.45 percent speed of adjustment every year through the channels of oil prices and industrial activity. In the case of European Union, the ECT is -0.2491 (β = -0.2491, p < 0.01) denoting that GDP in the EU reacts to its long term equilibrium path by 24.91 percent speed of adjustment every year through the channels of oil prices and industrial activity. And at the end, in the case of the UK, the ECT is -0.8623 (β = -0.8623, p < 0.01) denoting that GDP in the UK reacts to its long term equilibrium path by 86.23 percent speed of adjustment every year through the channels of oil prices and industrial activity.

Table 9: Conditional Error Correction Models through the ARDL Approach

Panel (a). Euro Area　　　　　　　　　　　　　　　　*Panel (b). European Union*

Dependent Variable: GDP (5, 1, 3)[*]　　　　　　　　Dependent Variable: GDP (5, 5, 2)[*]

Regressor	Coefficient	Standard Error	T-Test	Regressor	Coefficient	Standard Error	T-Test
$\hat{u}_{t-1}$	-0.2545	0.0554	-4.5911	$\hat{u}_{t-1}$	-0.2491	0.0630	-3.9504
$\Delta \ln GDP_{t-1}$	0.2047	0.1539	1.3299	$\Delta \ln GDP_{t-1}$	-0.0845	0.1680	-0.5028
$\Delta \ln GDP_{t-2}$	0.2782	0.1484	1.8747	$\Delta \ln GDP_{t-2}$	0.1328	0.0426	3.1131
$\Delta \ln GDP_{t-3}$	-0.0454	0.0346	-1,3111	$\Delta \ln GDP_{t-3}$	0.0888	0.0467	1.8995
$\Delta \ln GDP_{t-4}$	-0.1168	0.0366	-3.1908	$\Delta \ln GDP_{t-4}$	-0.0977	0.0343	-2.8436
$\Delta \ln OIL$	-0.0037	0.0017	-2.1852	$\Delta \ln OIL$	-0.0024	0.0015	-1.6444
$\Delta \ln IND$	0.4582	0.0147	31.0414	$\Delta \ln OIL_{t-1}$	0.0038	0.0020	1.9218
$\Delta \ln IND_{t-1}$	-0.0718	0.0736	-0.9753	$\Delta \ln OIL_{t-2}$	0.0030	0.0020	1.5292
$\Delta \ln IND_{t-2}$	-0.1585	0.0785	-2.0190	$\Delta \ln OIL_{t-3}$	0.0057	0.0018	3.1556
Intercept	0.0027	0.0020	1.3399	$\Delta \ln OIL_{t-4}$	0.0038	0.0013	2.8560
				$\Delta \ln IND$	0.4984	0.0171	29.0232
				$\Delta \ln IND_{t-1}$	0.1663	0.0909	1.8298
				Intercept	0.0044	0.0030	1.4373

Adj. R^2= 0.9866, S.E. of Regr. = 0.0021,　　　　Adj. R^2= 0.9900, S.E. of Regr. = 0.0020,
AIC = -9.1610, SBC = -8.7076,　　　　　　　　AIC = -9,3041, SBC = -8.7146,
F-stat. = 189.5564, F-prob. = 0.000,　　　　　　F-stat. = 165,4214, F-prob. = 0.000,
D-W stat. = 2.2312　　　　　　　　　　　　　　D-W stat. = 2.3838

*Note: * denotes p lag structures in the model.*

Table 10: Conditional Error Correction Models through the ARDL Approach

Panel (c). United Kıngdom

Dependent Variable: GDP (2, 3, 2)[*]

Regressor	Coefficient	Standard Error	T-Test
$\hat{u}_{t-1}$	-0.8623	0.0599	-14.3777
$\Delta \ln GDP_{t-1}$	0.4243	0.0662	6.4059
$\Delta \ln OIL$	0.0072	0.0027	2.6300
$\Delta \ln OIL_{t-1}$	0.0302	0.0040	7.5135
$\Delta \ln OIL_{t-2}$	0.0177	0.0025	6.9567
$\Delta \ln IND$	-0.1015	0.0327	-3.1036
$\Delta \ln IND_{t-1}$	0.3940	0.0405	9.7063
Intercept	0.0341	0.0026	12.8519

Adj. R^2= 0.9404, S.E. of Regr. = 0.0031,
AIC = -8.3852, SBC = -7.9894,
F-stat. = 39.3564, F-prob. = 0.000,
D-W stat. = 2.8723

*Note: * denotes p lag structures in the model.*

On the other hand, when the short term coefficients are evaluated in Tables 9 and Table 10, it is observed that mixed signs of coefficients have been obtained which can be explained by the regional and country specific economic realities. But, generally, the sign of short term coefficients for the level of oil prices (without lags) are negative as expected. And finally, diagnostic test results provided in Tables 9 and Table 10 show that results are robust and do not contain any autocorrelation.

5.3.2 Results of Direct Effects of Business Conditions and Macroeconomic Performance

As previously mentioned, series in panel data were stationary at their levels; therefore, estimating regression models with level forms of series would be robust. Table 11 presents the results showing the direct effects of leverage, business conditions, and macroeconomic performance on the product quality of tourism and leisure firms in the UK. In the direct effects' model, GDP and IND are added to regression models as exogeneous variables as proxies for business conditions which is advised by Chen (2007). Two separate models have been estimated as observed from Table 11 which contains various forms of CFN and CFP variables.

As can be seen from Table 11, including GDP and IND to quality-model gave better results. This increase the probability of that reality that firm-level financial factors as included in the models of this study are interrelated with macroeconomic factors such as GDP and IND. Table 11 clearly shows that business conditions (IND) and macroeconomic performance (GDP) of the UK exert high, positive, and significant effects on product quality level of the British tourism and leisure firms.

Table 11: Panel Regression Results of Direct Effects

Dependent Variable: PQ

Regressor	Coefficient (p-value)	
	(7)	(8)
Intercept	0.491	0.494
	(0.000)	(0.000)
I / K_{t-1}	0.032	0.130
	(0.640)	(0.049)
I / K_{t-2}	-	-
Δs_t	0.630	0.103
	(0.000)	(0.000)
Δs_{t-1}	-	
		-
CF_t	1.750	0.213
	(0.000)	(0.000)
CF_{t-1}	-	-
CFN_t	-	0.262
		(0.702)
CFN_{t-1}		
	-	-
CFP_t	-	0.160
		(0.000)
CFP_{t-1}	-	
		-
Lev_t	-0.740	-0.238
	(0.000)	(0.023)
Lev_{t-1}		
	-	-
$\Delta \ln GDP$	9.731	19.352
	(0.054)	(0.000)
$\Delta \ln IND$	2.285	5.359
	(0.096)	(0.036)
R^2	0.203	0.255
Adj. R^2	0.200	0.250
S.E.	0.499	0.490
F-stat.	54.170	54.334
F-prob	0.000	0.000
χ^2 (Hausman)	239.121	360.066
χ^2 (Prob)	0.000	0.000

It is important to mention that both GDP and IND have been added to the quality-model in logarithmic forms. Equation (7) excludes also positive and negative CFs while equation (8) include them; but, no matter whether CFN and CFP are excluded or not, results of the effects of the other regressors including leverage, GDP, and IND are very similar and draw the same conclusions. Again, the effects of financial leverage

on product quality are negatively significant like those in Chapter 4. As a result of adding GDP and IND to the Quality-Model, the coefficients of the other regressors such as firm-level investment-capital ratio, firm sales, and firm cash flows have now positively significant effects on the product quality in the case of the British tourism and leisure firms.

5.3.3 Results of Moderating Effects of Business Conditions and Macroeconomic Performance

Finally, in this section, the moderating effects of business conditions and macroeconomic performance on the interactions between financial leverage and product quality are analysed in the tourism and leisure firms of the UK. Table 12 and table 13 presents the results of the moderating effects of business conditions and macroeconomic performance. As mentioned earlier in this study, moderating effects includes interaction variables.

Results in Table 12 and Table 13 provides mixed evidences; however, each one of them deserves important implications for policy makers. First of all, the coefficient of leverage in equation (9) of Table 12 is again negatively significant ($\beta = -0.746$, $p < 0.01$) while it is not significant in equation (10) that contains positive and negative CFs. Secondly, the coefficients of GDP and IND are positively significant proving that they exert significant and positive effects on the quality of products of tourism and leisure firms in the UK all the time.

Results in Table 12 show that firm-level investments, firm sales, and firms' cash flows generally exerts positively significant effects on the quality of products. This provides

important implications for tourism and leisure firms that monetary wealth plays a

significant role in their product and service quality.

Table 12: Panel Regression Results of Indirect (Moderating) Effects

Dependent Variable: PQ

Regressor	Coefficient (p-value)	
	(9)	(10)
Intercept	0.509	0.323
	(0.000)	(0.000)
I / K_{t-1}	0.543	0.301
	(0.182)	(0.001)
I / K_{t-2}	-	-
Δs_t	0.836	0.657
	(0.000)	(0.000)
Δs_{t-1}	-	
		-
CF_t	0.0003	0.0007
	(0.000)	(0.000)
CF_{t-1}	-	-
CFN_t	-	0.003
		(0.507)
CFN_{t-1}		
	-	-
CFP_t	-	0.425
		(0.000)
CFP_{t-1}	-	
		-
Lev_t	-0.746	0.766
	(0.000)	(0.339)
Lev_{t-1}		
	-	-
$\Delta \ln GDP$	7.031	11.597
	(0.039)	(0.000)
$\Delta \ln IND$	1.215	2.558
	(0.096)	(0.098)
$I / K_{t-1}*GDP$	0.332	0.065
	(0.083)	(0.695)
$I / K_{t-1}*IND$	0.934	1.307
	(0.011)	(0.000)
Δs_t*GDP	0.286	0.229
	(0.000)	(0.000)
Δs_t*IND	0.808	0.889
	(0.041)	(0.098)
CF_t*GDP	0.869	0.241
	(0.000)	(0.000)
CF_t*IND	0.198	0.390
	(0.073)	(0.049)
CFN_t*GDP	-	-0.763
		(0.948)
CFN_t*IND	-	-0.0001
		(0.283)
CFP_t*GDP	-	0.173
		(0.000)
CFP_t*IND	-	0.254
		(0.075)

Table 13: Panel Regression Results of Indirect (Moderating) Effects

Dependent Variable: PQ

Regressor	Coefficient (p-value)	
	(9)	(10)
Lev_t*GDP	2.890	1.176
	(0.000)	(0.000)
Lev_t*IND	0.304	1.896
	(0.075)	(0.000)
R^2	0.681	0.668
Adj. R^2	0.678	0.663
S.E.	0.310	0.345
F-stat.	193.175	126.703
F-prob	0.000	0.000
χ^2 (Hausman)	116.805	990.194
χ^2 (Prob)	0.000	0.000

The results in Table 13, the coefficients of interaction variables are worth of examining. In equation (9), firstly, GDP significantly moderates the effects of all the main variables which are investments, sales, cash flows, and financial leverage; this conclusion is because of the fact that the coefficients of interaction variables of GDP with investments, sales, cash flows, and financial leverage are positively significant. Secondly, in equation (9), the similiar results have been obtained in the case of interaction variables of industrial value added with investments, sales, cash flows, and financial leverage; this finding means that business conditions also positively moderates the effects of selected regressors including financial leverage on the product quality.

Results in equation (10) of Table 12 and table 13 attract similiar attention from policy makers. While the interaction effect of GDP with investments is not significant, the interaction effect of IND with investments is positively significant ($\beta = 0.934$, $p < 0.05$). Secondly, the interaction effects of GDP and IND with firm sales are positively significant denoting that business conditions positively moderates the effects of firm

46

sales on the product quality. Thirdly, the interaction effects of GDP and IND with firm cash flows are again positively significant denoting that business conditions positively moderates the effects of firm cash flows on the product quality. Fourthly, the interaction effects of GDP and IND with only positive cash flows but not negative ones are positively significant denoting that business conditions positively moderates the effects of profits on the product quality. And finally, the interaction effects of GDP and IND with financial leverage in the British tourism and leisure firms are positively significant denoting again that business conditions positively moderates the effects of leverage on the product quality.

Table 14 presents the variance decomposition results, which prove that in the initial periods, low levels of the forecast error variance of product quality levels are explained by exogenous shocks to its regressors namely leverage, sales, cash flows, investments, and business conditions.

Table 14 shows that these ratios continue to increase moderately in the later periods. But, in general all the forecast variances in general are not so high no matter which factor is dependent variable. For example, the forecast error variance of firm-level product quality by a shock to the leverage variable is 0.1318 percent in period 10. This ratio is 1.086 percent in the case of GDP when product quality is dependent variable. All the other forecast variances when the other dependent variables are considered are also presented in Table 14. It is evident from these tables that forecast variances explained by business conditions are higher compared to firm-level data. Finally, Figure 3 provides line plots of impulse responses between product quality

47

and its regressors. It is observed that, the response of product quality to shocks in
leverage is negative but at low levels over time.

Table 14: Variance Decompositions of Product Quality

		Variance Decomposition of QUALITY:		
Period	S.E.	QUALITY	LEV	SALES
1	0.085810	100.0000	0.000000	0.000000
2	0.116928	99.84791	8.59E-05	3.48E-06
3	0.140467	99.66259	0.004937	0.000188
4	0.159703	99.45754	0.014939	0.000659
5	0.176084	99.25558	0.029003	0.001516
6	0.190362	99.06952	0.046090	0.002838
7	0.203000	98.90492	0.065410	0.004704
8	0.214304	98.76284	0.086385	0.007184
9	0.224495	98.64170	0.108609	0.010345
10	0.233742	98.53858	0.131801	0.014247
Period	CF	INVKAP	GDP	IND
1	0.000000	0.000000	0.000000	0.000000
2	0.003670	0.032024	0.087581	0.028722
3	0.002963	0.037369	0.227863	0.064094
4	0.006389	0.036676	0.389147	0.094649
5	0.013959	0.033698	0.550263	0.115978
6	0.024887	0.030061	0.698833	0.127774
7	0.038435	0.026626	0.828315	0.131587
8	0.054030	0.023915	0.936036	0.129606
9	0.071258	0.022256	1.021804	0.124024
10	0.089832	0.021856	1.086947	0.116734

This finding is consistent with previous results in regression models. The response
of product quality to the other factors are again at low levels over time; its highest
response has been obtained toward a shock in GDP as a proxy of macroeconomic
performance; this finding is also consistent with previous regression models with
moderating effects. All of impulse response functions where the other factors have
been also selected as dependent variable are provided in Figure 4 in appendix.

As can be seen from Figure 3 and Figure 4 in appendix, response functions are
provided with +/- 2 s.e. (standard error) as confidence intervals; thus, as far as Figure
3 is concerned, responses of product quality of British tourism and leisure firms
towards the factors other than GDP seem to be insignificant. In the case of its

response to a shock in GDP as macroeconomic performance is statistically significant. The other interactions as far as impulse responses are concerned, can be observed in Figure 4 in the appendix section of this research study.

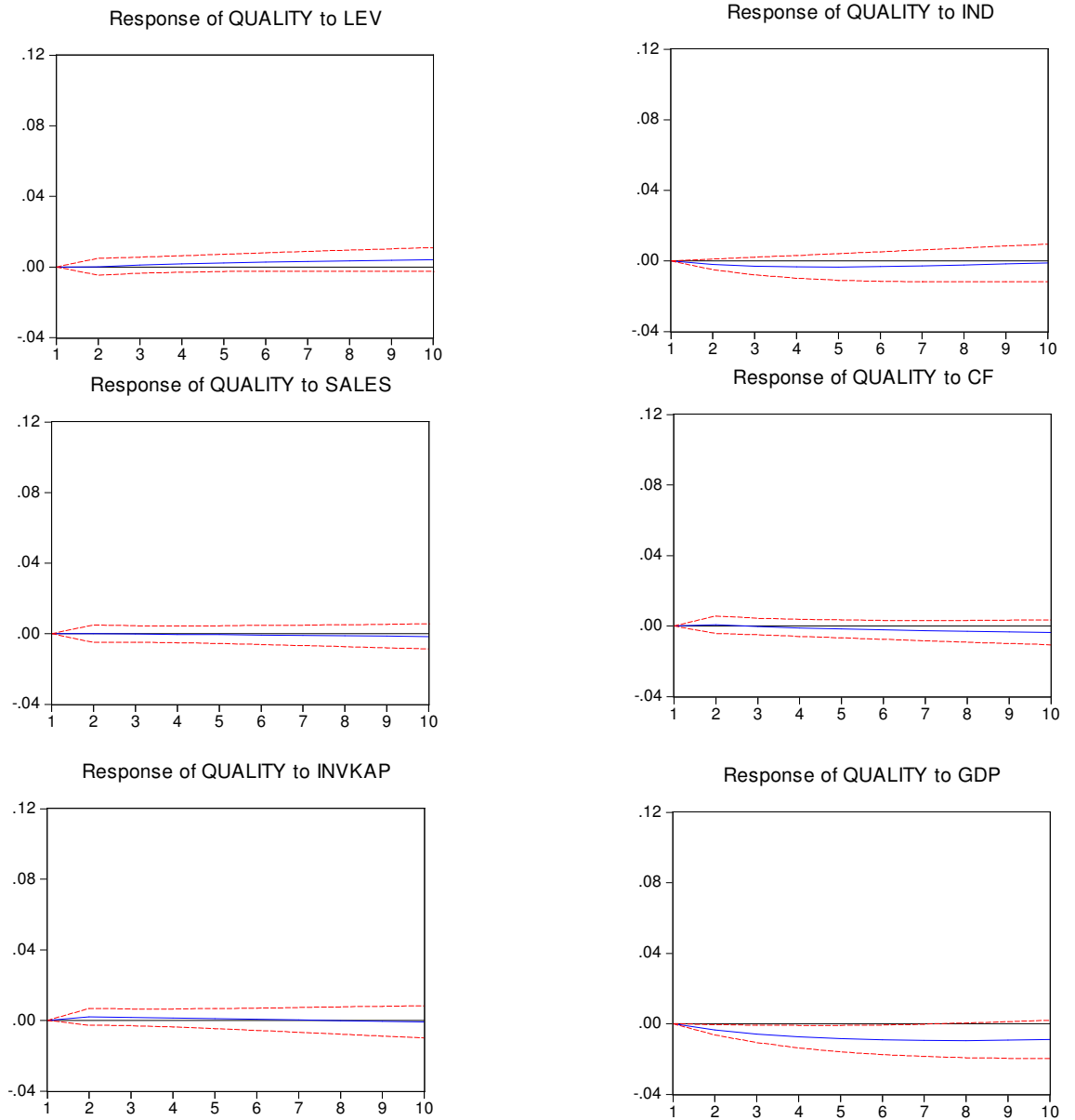Response to Cholesky One S.D. Innovations ± 2 S.E.

Figure 3: Impulse Responses of Product Quality

5.4 Conclusion

In this chapter, as a new research approach, the moderating role of business conditions on the effects of financial leverage on product quality in the case of the British tourism and leisure firms. Assuming that business conditions, macroeconomic performance, and firm-level operations are closely related, the effects of business conditions on macroeconomic performance of the UK have been also examined and compared with the other EU countries.

In order to analyze the effects of business conditions on macroeconomic performance, annual data that ranges from 1973 to 2010 based on its availability have been used in the study. Time series analyses for this relationship including bounds tests to level relationships and conditional error correction models under the ARDL approach have been adapted to time series data of industrial production as a proxy of business conditions, GDP as a proxy of macroeconomic performance, and oil prices as control variable as advised in the literature (Sodeyfi & Katircioglu, 2016). Results of time series analysis show that business conditions play a significant role in macroeconomic performance of the UK and the EU countries as business activities contribute to convergence of real GDP towards its long term equilibrium path. This study has shown that business conditions exert positively significant effects on macroeconomic performance while oil prices exert negative effects on business conditions. In the availability of rapid technological progress in the global energy sector, switching towards these new energy systems like renewable and green energies should be a major priority of countries in order to reduce or minimize negative effects of oil markets on the economies.

Secondly, the direct effects of business conditions on firm-level product quality along with financial leverage have been analyzed using quarterly firm-level data plus quarterly countrywide business conditions' data. Results showed that business conditions as proxied by industrial value added and GDP exert positively significant effects on the product quality of the British tourism and leisure firms. The coefficients of these effects are even considerably high. This finding shows that positive business climate in the UK will reflect to firm-level operations and product qualities significantly and positively as well. Results suggest that firm-level operations in the UK are closely related with business and economic environment. In the direct effects' models, the coeffficients of financial leverage are still negatively significant for product quality.

Finally, the indirect effects' models have been also estimated to forecast the moderating role of business conditions in quality-model proposed in this study. Models again have been analyzed using quarterly firm-level panel data plus quarterly countrywide business conditions' panel data. Results shows that business conditions and economic environment in the UK significantly moderates the relationship between financial leverage and product quality level in the British tourism and leisure firms. The coefficients of all of the interaction variables of business conditions (as proxied by industrial value added and GDP) with the main variables (leverage, sales, and cash flows) are statistically significant and they provide very strong evidence of the moderating role of business conditions as conceptualized in Figure 2. These major findings imply that business managers need to pay a very strong attention to business environment and macroeconomies while figuring out business strategies of their operations.

Chapter 6

CONCLUSION AND POLICY IMPLICATIONS

This research study aimed at investigating the effects of financial leverage on product quality in the case of the British tourism and leisure sectors. The selection of the UK as a study context was mainly due to (1) the fact that UK is one of the most visited tourist destinations in the world that ranked 8th in 2015 out of attracting international tourist arrivals (UNWTO, 2016) and (2) data availability. In the second stage, direct effects and indirect effects of business conditions on product quality have been also forecasted. Through indirect effects, researchers can test the moderating role of one factor in interactions between two other factors. Thus, in this study, the moderating role of business conditions on the effects of financial leverage on product quality in the case of the British tourism and leisure firms has been tested by adapting panel data. So, two research hypotheses have been developed in the study: (1) Financial Leverage and Business Conditions exerts statistically significant effects on Product Quality and (2) Business Conditions significantly moderates the effects of Financial Leverage on Product Quality.

In order to test for these new research hypotheses, a panel data of 80 British tourism and leisure firms has been constructed on quarterly basis which were summarized in appendix Table A1. Following panel unit root tests, panel regressions have been estimated via random effects criterion in order to test for the proposed research hypotheses of the study. As a statistical software, EVIEWS 9.5 (Econometric Views)

has been used in all of the empirical analyses. Prior to EVIEWS 9.5, all the data have been tabulated, organized and finalized in MS Excel software. The following section summarizes major findings of this research.

Prior to empirical analysis via panel regressions, it was important to detect stationary nature of variables under consideration. Panel unit root tests have been carried out with this respect and it is found that all of series in the dataset are stationary at their levels although some methods provided mixed evidence; thus, series were suitable for further empirical analyses at their level forms. Following panel unit root tests, the Hausman test has been carried out to see if random effects or fixed effects criterion would be suitable for regression estimations. Results confirmed the suitability of random effects' criterion in all of the models under consideration.

As the next steps, panel regression analyses have been carried out in order to test for the proposed research questions of the study. A total of 10 panel regressions have been estimated with this respect. It is very important to document that the effects of financial leverage on firm-level investments and product quality are all negative and statistically significant. Firm-level investments were also added to the models as advised in the literature (Bernini et al., 2015) due to the fact that leverage mainly affects firm's investments and therefore, product quality is affected from this happening. Some control variables as advised in the literature have been added to empirical models including firm sales, cash flows, and investment-capital ratio. Results showed that control variables were partially significant for product quality.

Secondly, regression models with direct effects have been estimated by adding proxies for business conditions to the original quality-models of the study. Business conditions in the present study have been proxied by gross domestic product and industrial value added as advised in the literature (Sodeyfi & Katircioglu, 2016; Chen, 2007). Prior to estimating direct effects' models, interactions between business conditions and macroeconomic performance in the UK have been also forecasted since there two components are closely related and they were likely impact on firm-level product quality. Results showed that business conditions exerted positively significant effects on macroeconomic performance. Furthermore, macroeconomic performance of the UK converges towards its long term equilibrium path as high as 86.23 percent through the channels of business conditions. Thenafter, results in the direct effects' models showed that business conditions and macroeconomic performance in the UK exerted high and positively significant effects on firms' product quality. In the direct effects' models, results for leverage and control variables provided better outcomes. Not only financial firm-level leverage but also firm sales, cash flows, and firm investment-capital ratios exerted significant effects on the product quality of the British tourism and leisure firms.

Finally, the moderating effects of business conditions and macroeconomic performance on the effects of firm-level financial leverage on firm-level product quality have been investigated through employing indirect effects' models and by constructing interaction variables as advised in the literature (Cohen & Cohen, 1983). Interaction variables have been computed via multiplying variables of business conditions by each regressor in the original model. Results showed that business conditions and macroeconomic performance of the UK significantly and strongly

moderates the effects of firm-level financial leverage on firm-level product quality in the case of the British tourism and leisure companies. Again in these models, financial leverage exerted negatively significant effects on product quality. Furthermore, models with indirect effects provided better results for firm-level sales, cash flows, and investments as their coefficients are generally significant for product quality. Following regression analyses, variance decompositions plus impulse response functions have been estimated for product quality against its regressors. At the initial periods, low levels of the forecast error variance of product quality levels are explained by exogenous shocks given to leverage, sales, cash flows, investments, and business conditions. In general all the forecast variances in general are not so high. And finally, impulse responses between product quality and its regressors have been estimated. It was observed that, the response of product quality to shocks in leverage is negative but at low levels again over time. This finding is consistent with previous results of this study in regression models. The response of product quality to the other factors are again at low levels over time; its highest response has been obtained toward a shock in GDP as a proxy of macroeconomic performance; this finding is also consistent with previous regression models with moderating effects.

This study offered purely new and original research topic and found that financial leverage and business conditions exerted significant effects on the level of product quality in the case of the British tourism and leisure companies. Thus, major findings of this research offers important policy lessons for policy makers in the sector. Since the effect of leverage in investment-model is negatively significant on investment-capital ratio while this effect becomes positively significant in longer periods, leverage might be constraint for the firms in the shorter periods but can become

promoter in longer periods. This is probably due realization of investments in longer periods due to debt financing. Campello (2006) mentions that although many studies for the interaction between firms' financing decisions and their product market performance conclude that debt taking either might hurt or boost competitive performance, a firm may boost its performance by additional borrowing. Therefore, although debt-financing might be a constraint for the firms in the shorter periods, it may boost firm performance in the longer periods when resources are used efficiently.

Another major finding was that business conditions moderate the relationship between leverage and product quality implying that business managers need to pay a very strong attention to business environment and macroeconomies while figuring out business strategies of their operations. Results of this study revealed also that oil markets exert negative effects on economic activities; therefore, while business managers figure out their business strategies, switching to renewable and green energies would be a correct decision in their business operations and placing their tangible investments.

This research study is the first of its kind as far as (1) modelling approaches, (2) sample selected, and (3) country case are concerned. Being a purely new study, this research study offers further directions in research as well. Firstly, this study can be replicated for the case of the other tourist destination countries for comparison purposes. Secondly, modelling approaches established in this study can be adapted to the other manufacturing and services sectors. And finally, as further studies, different moderator variables can be easily adapted to the conceptual model proposed

in this research study. There is a clear point that for such further researches, data availability will be an important constraint as it is experienced in this research study. Thus, researchers will need to decide on their researches mainly based on data availability.

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APPENDICES

Appendix A: Firms and Data Ranges in Panel Data

Table 15: Firms and Data Ranges in Panel Data

	Firms	Data Range	# of Observations
1.	FIRSTGROUP PLC	1995: Q2 – 2015: Q1	80 obs
2.	GO-AHEAD GROUP PLC	1993: Q3 – 2015: Q1	87 obs
3.	CELTIC PLC	1995: Q3 – 2015: Q1	79 obs
4.	ENTERPRISE INNS PLC	1995: Q1 – 2015: Q1	81 obs
5.	ARSENAL	2005: Q2 – 2015: Q1	40 obs
6.	COMPASS GROUP PLC	1999: Q4 – 2015: Q1	62 obs
7.	NETPLAY TV PLC	2000: Q1 – 2015: Q1	61 obs
8.	GAMING RE	2000: Q4 – 2015: Q1	58 obs
9.	PUNCH TAVERNS PLC	2000: Q3 – 2015: Q1	59 obs
10.	WILLIAM HILL PLC	2001: Q1 – 2015: Q1	57 obs
11.	CARNIVAL PLC	1999: Q1 – 2015: Q1	65 obs
12.	MITCHELLS & BUTLERS	2001: Q4 – 2015: Q1	54 obs
13.	INTERCONTINENTAL	1979: Q4 – 2015: Q1	142 obs
14.	ICTL.HTLS.GP	1979: Q4 – 2015: Q1	142 obs
15.	DOMINO'S PIZZA GR	1999: Q1 – 2015: Q1	65 obs
16.	EASYJET PLC	1999: Q4 – 2015: Q1	62 obs
17.	NEWBURY RACECOURSE	2004: Q1 – 2015: Q1	45 obs
18.	MINOAN GROUP PLC	2003: Q2 – 2015: Q1	48 obs
19.	SPECIALIST INVES	2004: Q1 – 2015: Q1	45 obs
20.	HERMES PACIFIC	2006: Q4 – 2015: Q1	34 obs
21.	GOALS SOCCER CENTRES	2001: Q1 – 2015: Q1	57 obs
22.	GVC HOLDINGS	2011: Q1 – 2015: Q1	17 obs
23.	THOMAS COOK GROUP	2005: Q4 – 2015: Q1	38 obs
24.	J D WETHERSPOON	1990: Q3 – 2015: Q1	99 obs
25.	WETHERSPOON (JD)	1990: Q3 – 2015: Q1	99 obs
26.	NATIONAL EXPRESS GRP	1993: Q1 – 2015: Q1	89 obs
27.	ROTALA PLC	2004: Q4 – 2015: Q1	42 obs
28.	32RED PLC	2002: Q1 – 2015: Q1	53 obs
29.	888 HOLDINGS PLC	2002: Q1 – 2015: Q1	53 obs
30.	STAGECOACH GROUP PLC	1992: Q2 – 2015: Q1	92 obs
31.	ECOVISTA PLC	2007: Q1 – 2015: Q1	33 obs
32.	PLAYTECH PLC	2003: Q1 – 2015: Q1	49obs
33.	CINEWORLD GROUP PLC	2004: Q1 – 2015: Q1	45 obs
34.	TASTY PLC	2004: Q1 – 2015: Q1	45 obs
35.	BEST OF THE BEST PLC	2003: Q2 – 2015: Q1	48 obs
36.	FASTJET PLC	2002: Q3 – 2015: Q1	51 obs
37.	BOXHILL TECHNOL	2004: Q3 – 2015: Q1	43 obs
38.	ALL LEISURE	2003: Q4 – 2015: Q1	46 obs
39.	PEEL HOTELS PLC	1998: Q1 – 2015: Q1	69 obs
40.	RICHOUX GROUP PLC	1996: Q3 – 2015: Q1	75 obs
41.	CASTLE STREET INV	2010: Q1 – 2015: Q1	21 obs
42.	DP POLAND PLC	2010: Q1 – 2015: Q1	21 obs
43.	FLYBE GROUP PLC	2007: Q2 – 2015: Q1	32 obs

Table 15. (Continued)

|	Firms	Data Range	# of Observations
44.	ACTION HOTELS PLC	2012: Q1 – 2015: Q1	13 obs
45.	MERLIN ENTERTAIN	2009: Q1 – 2015: Q1	25 obs
46.	SNOOZEBOX HOLD	2011: Q1 – 2015: Q1	17 obs
47.	MILLENNIUM	1996: Q1 – 2015: Q1	77 obs
48.	SPORTINGBET PLC	2000: Q2 – 2015: Q1	60 obs
49.	FULHAM SHORE	2011: Q3 – 2015: Q1	15 obs
50.	SAFESTAY PLC	2011: Q1 – 2015: Q1	17 obs
51.	PATISSERIE H	2010: Q4 – 2015: Q1	18 obs
52.	EASYHOTEL PLC	2011: Q1 – 2015: Q1	17 obs
53.	SSP GROUP LIMITED	2010: Q4 – 2015: Q1	18 obs
54.	DJI HOLDINGS PLC	2011: Q1 – 2015: Q1	17 obs
55.	VELOX3 PLC	2010: Q1 – 2015: Q1	21 obs
56.	GREENE KING PLC	1979: Q2 – 2015: Q1	144 obs
57.	WHITBREAD PLC	1979: Q1 – 2015: Q1	145 obs
58.	MARSTON'S PLC	1983: Q4 – 2015: Q1	126 obs
59.	RANK GROUP PLC	1979: Q4 – 2015: Q1	142 obs
60.	AIR PARTNER PLC	1989: Q3 – 2015: Q1	103 obs
61.	LADBROKES PLC	1980: Q1 – 2015: Q1	141 obs
62.	RESTAURANT GROUP PLC	1988: Q1 – 2015: Q1	109 obs
63.	SPORTECH PLC	1984: Q4 – 2015: Q1	122 obs
64.	NEKTAN PLC	2011: Q3 – 2015: Q1	15 obs
65.	FULLER, SMITH	1984: Q2 – 2015: Q1	124 obs
66.	HEAVITREE BREWERY	1986: Q4 – 2015: Q1	114 obs
67.	YOUNG & CO'S BREWERY	1987: Q2 – 2015: Q1	112 obs
68.	EVERYMAN MEDIA	2010: Q1 – 2015: Q1	21 obs
69.	GAMEACCOUNT	2010: Q1 – 2015: Q1	21 obs
70.	ECLECTIC BAR	2010: Q3 – 2015: Q1	19 obs
71.	DART GROUP PLC	1988: Q2 – 2015: Q1	108 obs
72.	HYDRO HOTEL	2005: Q4 – 2015: Q1	38 obs
73.	PCG ENTERTAI	2011: Q1 – 2015: Q1	17 obs
74.	WIZZ AIR	2011: Q2 – 2015: Q1	16 obs
75.	REVOLUTION BARS	2011: Q3 – 2015: Q1	15 obs
76.	STRIDE GAMING PLC	2013: Q3 – 2015: Q1	7 obs
77.	ELEGANT HOTELS	2011: Q4 – 2015: Q1	14 obs
78.	ON THE BEACH	2011: Q4 – 2015: Q1	14 obs
79.	HOSTELWORLD GROUP	2012: Q1 – 2015: Q1	13 obs
80.	GYM	2012: Q1 – 2015: Q1	13 obs

Appendix B: Overall Impulse Responses
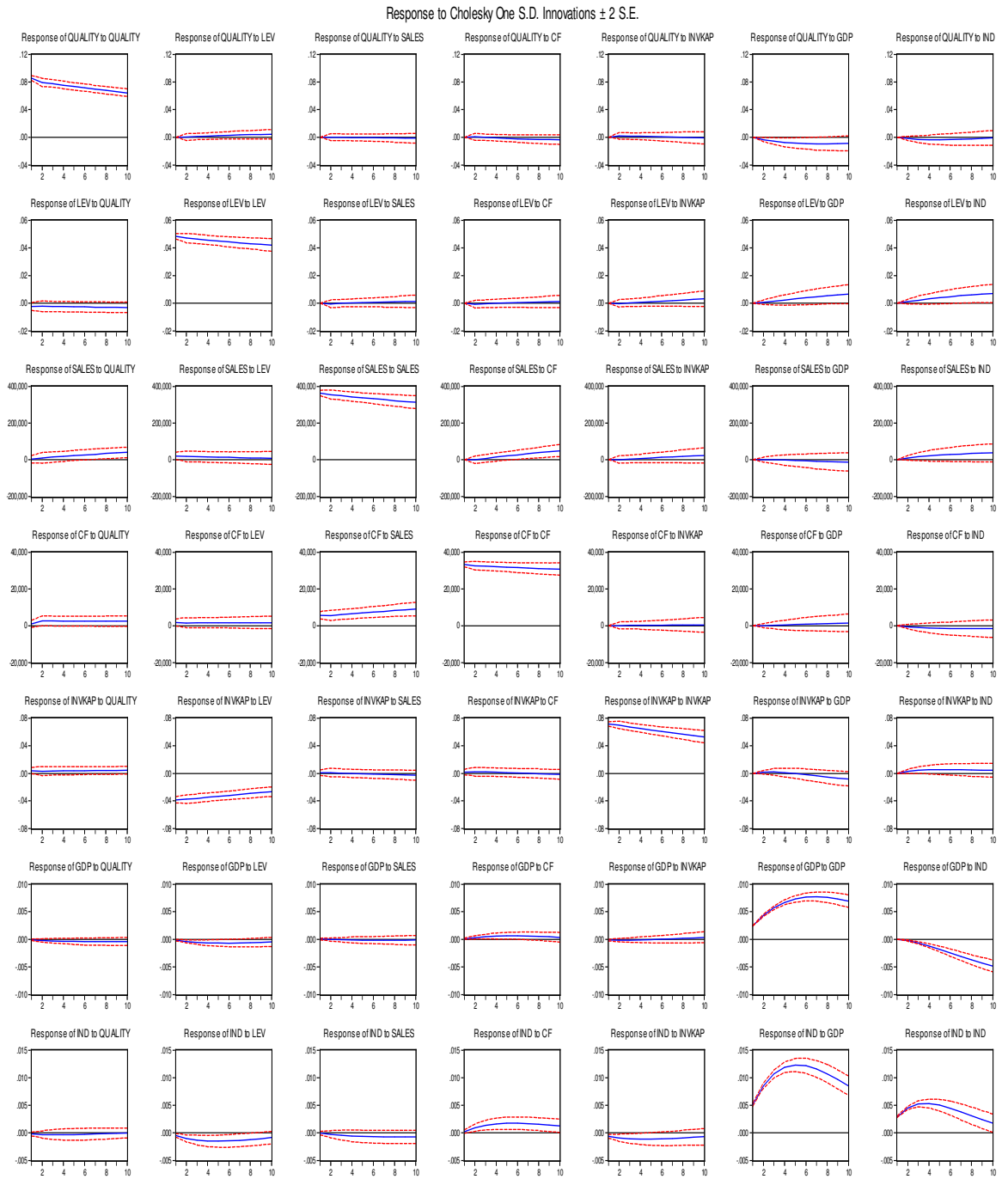
Figure 4: Overall Impulse Responses