THE VALUE RELEVANCE OF ACCOUNTING INFORMATION IN THE UK, THE NETHERLANDS, GERMANY AND FRANCE

EFFECTS ARISING FROM THE ADOPTION OF INTERNATIONAL FINANCIAL REPORTING STANDARDS

By

GEORGE S. KONTOPOULOS

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CASS BUSINESS SCHOOL
CITY UNIVERSITY
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DEPARTMENT OF MANAGEMENT

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Supervisors:
Professor Georges Selim
Mr. David Tyrrall

Examiners:
Professor Terry Cooke
Professor David Citron

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List of Abbreviations

ADR = American Depository Receipt

ARC = Accounting Regulatory Committee

ASC = Accounting Standards Committee

ASB = Accounting Standards Board (UK)

BVPS = Book value per share

CAP = capitalisation

CAR = Dutch Council for Annual Reporting

CNC = French National Accounting Council

COB = French Stock Exchange Council

CRC = French Accounting Standard Setting Body

DRSC = German Accounting Standards Committee

EBITDA = Earnings before Interest, Tax, Depreciation, and Amortisation

EMH = Efficient Market Hypothesis

EPS = Earnings per share

EFRAG = European Financial Reporting Advisory Group

EU = European Union

FASB = Financial Accounting Standards Board

FRS = Financial Reporting Standard (UK)

GAAP = Generally Accepted Accounting Principles

GDP = Gross Domestic Product

GoB = German Principles of Regular Accounting

IAIS = International Association of Insurance Supervisors

IAS = International Accounting Standards

IASB = International Accounting Standards Board

IASC = International Accounting Standards Committee

ICAEW = Institute of Chartered Accountants England & Wales

IFAC = International Federation of Accountants

IFRIC = International Financial Reporting Interpretations Committee

IFRS = International Financial Reporting Standards

IOSCO = International Organisation of Securities Commission

LIFO = Last In First Out (Inventory)

LSE = London Stock Exchange

MNE = Multinational Enterprises

NIB = Non-Information Based Trading

OECD = Organisation for Economic Cooperation and Development

SAC = Standards Advisory Council

SIC = Standing Interpretations Committee

SEC = Security & Exchanges Commission

SME = Small & Medium sized Enterprises

SSAP = Statements of Standard Accounting Practice (UK)

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Declaration

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Abstract

Many researchers have tried to compare the value relevance of accounting information under national GAAP with that of the newly implemented IFRS in EU countries. However, due to the unavailability of data they limited their studies to either analysing reconciliations from national GAAP to IFRS or examining firms that voluntarily adopted IFRS before the 1st January 2005.

The novelty of this research is that it compares annual accounts of firms for the pre and post IFRS period and examines the change in the value relevance of accounting information. The theoretical framework of the regression model comes from Ohlson (1995). The data consists of 50 firms in each observed country (i.e. the UK, the Netherlands, Germany, and France) that are tested for a 4 year period (2003-2006).

The results of this study are intriguing. There is an observed overall increase in the value relevance of accounting information. However, the magnitude of the change is not the same for all countries. Countries like France, which were initially sceptical to the idea of applying international standards, indicated higher levels of value relevance of accounting information than the UK and the Netherlands. Germany was the country with the highest number of early IAS adopters. Although such firms were excluded from the sample, Germany emphatically remained one of the countries with the highest level of value relevance of accounting information. On the other hand, the UK and the Netherlands were the countries with the highest positive change in value relevance between the pre and post IFRS periods. Future research will tell whether the observed overall increase, during the transition-to-IFRS period, in the value relevance of accounting information will become a long-term trend for these countries.

CHAPTER 1 – OVERVIEW OF THE STUDY

1.1. Introduction

Accounting culture and legislation developed in a quite distinct way around Europe. This fact obliged users of the accounts that needed to examine financial statements in another country to have to be educated about several national GAAPs. In many cases investors found it extremely demanding and difficult to make judgements about a foreign firm's financial reporting or even make cross-country firm comparisons.

As international trade increased and multinational enterprises started to expand around the globe, the need to harmonise accounting practices started to emerge. International companies with subsidiaries in many countries also found it expensive to prepare financial reports in each country. In addition, accounting legislation was different, making it very difficult for MNE's companies to cope with transforming their subsidiary's accounts each time to match different accounting practices.

International Financial Reporting Standards were introduced in all EU countries' consolidated accounts from the 1st January 2005, as an attempt to harmonise accounting practices and add value to the European convergence. The aim of this research is to shed light on whether IFRS are managing to increase value relevance of accounting information in some major European countries.

First attempts to harmonise accounting practices led to quite "weak" forms of harmonisation. In the early stages EU leaders were sceptical of the idea of harmonisation as countries were not willing to drop national legislation and practices in favour of adopting international standards. Although EU Directives first established the basis for harmonising accounting, many countries reduced their importance using a policy of exemptions and constraints. But this practice was not only followed in the EU. IASC also faced problems at the beginning of its existence as many companies in European countries started to use a "regulatory cherry-picking" policy towards the adoption of the standards, which led to the development of "IAS-lite" and the revision of IAS 1. Companies that comply with IFRS should nowadays make an explicit and unreserved statement in the notes to that effect, which highlights their compliance to the full set of international accounting standards. This might have been unintentional, i.e. by not having adequate information or education in implementing IAS. On the other hand, a number of companies intentionally applied some of the standards and declared compliance with IFRSs when this was not really the case.

Nevertheless, over that period countries started to understand the importance of harmonising accounting practices. Two important institutions have taken the lead in this, i.e. IASB in Europe and FASB in the US. The focus of this study will be on the changes IFRS introduced into the EU from the 1st January 2005 in four selected countries – the UK, the Netherlands, Germany and France.

These changes in financial reporting across the EU countries are expected to affect not only the users of the accounts like investors, accountants, auditors, governments but also other institutions like stock exchanges. A basic aim of this study will be to examine the effects of the value relevance of accounting information after the introduction of IFRS. More specifically, it will test whether after the implementation of those standards, the association between the EU companies' stock price and their financial reporting will increase. If this happens, then IASB will have accomplished one of the main purposes of its existence; to help financial statement users make investment decisions based on a fair presentation of companies' accounts.

The research question of this study, which is based on the aforementioned argument, is:

"Are International Financial Reporting Standards more value-relevant than European national GAAPs?"

1.2. Objectives of the study

Therefore, the main objective of the study is to identify changes in the value relevance of accounting information from the transition from national GAAPs to IFRS in EU countries. More specifically, the study will carry out an in-depth examination of the following issues:

(i) Compare the degree of change in the value relevance of accounting information before and after the introduction of IFRS for the observed EU countries.

(ii) Examine the value relevance in investor oriented accounting systems under IFRS compared to that of creditor oriented accounting systems.

(iii) Analyse the effects of value relevance on small, medium and large capitalisation firms before and after IFRS.

(iv) Examine the suggested increase in the value relevance of book values as compared with earnings in the observed EU countries.

1.3. Importance of the study

Many studies have argued that it is very important to examine the effects of the transition, from national GAAPs into IFRS, in the EU. This study adds value to the literature that studies the implementation of new international standards focusing on the change in the value relevance of accounting information.

The globalisation of capital markets leaded investors be far more careful in the investment choices they make asking for certain guarantees upon the financial "well-being" of foreign companies. The introduction of commonly applied international accounting standards fills investors' need for relevance, reliability and comparability of financial reporting across the EU.

The examination of IFRS is important as it changes financial reporting in EU. It can be suggested that IFRS are a huge step towards EU integration. A lot of papers argue that as the same accounting practices will be commonly applied in the EU, the volume of trade within the EU will increase (investors more confident in investing in other countries as they can more easily comprehend foreign firms' accounts; comparability is seen as the long-term target) and the cost of capital for firms will decrease (as companies with cross-listings will not have to adapt their accounts to each EU country's national GAAP).

However, the IASB will have to demonstrate that fair value accounting will make financial reporting more reliable and transparent in order to justify the transition from national GAAPs to IFRS. Moreover, the IASB should be able to demonstrate that it can improve relevance and to an extent the value relevance of accounting information, i.e. the association between financial reporting and stock market price. Only when these issues are realised, will investors in the EU be able to make well-founded judgements about the companies they want to invest in.

In addition, there is an added aspect in making accounts relevant. In 2001, companies like Enron collapsed. These companies were trying to give a false image of their financial situation. Although they seem to have reduce debts disclosed in their balance sheet in order to show a "healthier" financial picture, certain accounting standards promoted by FASB permitted many of their activities (like that which permitted the parent company to keep the finances of the partnership off its books for as little as 3 percent equity investment). IASB believes that fair value accounting is the only way such examples will diminish (rules vs. principle based accounting). Both accounting standard setting bodies have taken action in order to make companies reflect their true economic risk in their accounts. The urge for fair value accounting and fair accounts' representation relates to high value relevance of accounting information. More specifically, if a firm's stock market performance is a close reflection of its financial situation and vice versa, international standards will have achieved relevance and reliability. Consequently, it will be important to examine whether IFRS are capable of increasing the value relevance of accounting information into the observed countries.

Furthermore, except for general economic and financial conditions that make this study significant, it can be suggested that the existing literature has not yet managed to address the question of whether IFRS are more value relevant than national GAAPs. As already stated, value relevance was established by Ohlson (1995). Afterwards, many studies examined the value relevance of accounting information within or across different countries (like Penman 1998, Collins et al. 1999, White 1999, Ali and Hwang 2000, Bakshi and Ju 2001, Arce and Mora 2002, Ashbaugh and Olsson 2002). Some researchers also used a "before-after an event" approach to assess the value relevance of accounting information. One research (Joos and Land 1994) was measuring the value relevance of accounting information “before and after” the introduction of EU Directives in several European countries (Joos and Lang 1994). During the last few years and as the annual reports under IFRS were not yet available for research (mandatory use took effect from the 1st January 2005), researcher were examining differences between national GAAP and IFRS using firms that either voluntarily adopted IAS/IFRS before 1st January 2005 or even used reconciliation from national GAAP to IFRS reports to measure the change in the value relevance of accounting information (Hung and Subremanyam 2004, Lin and Paananen 2007, Schiebel 2007).

This study’s aim is to compare annual financial reporting data under national GAAP (accounts year ending 2003 and 2004) with financial reporting data under IFRS (accounts year ending 2005 and 2006) for the same sample of listed firms within four observed countries i.e. the UK, the Netherlands, Germany, and France. Therefore, it is interesting to observe the transition in this new set of available data and analyse the results.

1.4. Limitations of the study

Every research has some limitations to the extent that examines the effects of a particular phenomenon. These limitations result not only from the scarcity of resources, such as time and funds available to the researcher, but also from logistical problems associated with a large study.

One, a limitation of this study is that four countries were selected i.e.: the UK, the Netherlands, Germany, and France. Due to time and funding limitations this research could not possibly be expanded to cover all the EU countries that adopted IAS by 1st January 2005. The size of data required would also exceed the purpose of this study. Therefore these results cannot be generalised for the whole of the EU. However, the selected countries have firms that concentrate more than 75% of the market capitalisation inside the European Union.

Furthermore, the sampling technique had some limitations. The research could not include all listed companies in each EU country again due to time constraints and the size of the sample data, and certain industries had to be excluded (intangible-intensive) to avoid distorting the credibility of this study. Therefore, it cannot be suggested that these firms are representative of the total population of firms in these countries. Random sampling was used in order for this research not to be biased.

In addition, the time lag was decided to be four years, examining the value relevance of firms two years before the introduction of IFRS (2003-04) and two years after the introduction of IFRS (2005-06). The researcher could not extend at this stage the study to cover more years (backwards and forwards), due to time and funding limitations. However, further research is planned in order to observe future changes in the value relevance of accounting information.

Moreover, the research depends on the assumptions of the regression model that deals with the value relevance of accounting information. Ohlson's (1995) linear regression model refers to three basic assumptions. First, that the present value of expected dividends determines the market value. Second, that accounting data and dividends satisfy the clean surplus relation, and dividends reduce book value without affecting current earnings. Third, a linear model frames the stochastic time-series behaviour of abnormal earnings. Ohlson argued that this model is based on an important implication; dividends reduce book value but leave current earnings unchanged. Many other factors captured by the standard error can certainly play a role in the value relevance of accounting information and are not captured by this specific model.

In addition to that, there are some limitations regarding price regression. Kothari and Zimmerman (1995) did extensive research comparing price versus return regression models used in the value relevance of accounting information literature. Although they found price regressions less biased on the slope (earnings coefficients), they did identify some problems in White's (1980) heteroscedasticity. Their suggestion was that both models should be treated with care given that there are certain econometric limitations.

It should be also considered that value relevance tests using stock prices as a benchmark could be presented as imposing a narrow focus on how information is reflected in stock market investors' expectation. Holthausen and Watts (2001) suggest that with a variety of demands for financial reporting from parties, other than stock market investors, value relevance tests may thus be less relevant to the goal of standard setters and the objectives of financial reporting. Moreover, Morck et al. (2000) argue that stock prices may incorporate information in a different manner across countries.

Additionally, there was a variety in the proportional use of international accounting standards before the introduction of IAS in the selected countries (early adoption). For example, Germany was the country with the highest number of firms voluntarily following IAS before 2005 (early adopters) or applying US GAAP. Given that for the two-year period before IFRS only firms following national GAAP were selected, the sample of German firms following national GAAP was smaller compared to other countries[1]. However this was the only way to measure the actual effect of the

[1] For more see Table 4 pp.109

transition to IFRS; to juxtapose pre-IFRS firms' accounts (under national GAAP) with the post-IFRS results. For the same reasons, it can be regarded as limitation that ADRs were also excluded.

Last but not least, the results for the third hypothesis depend on the distinction made between large, medium, and small capitalisation firms. The categorisation of firms according to market capitalisation (top 30% large capitalisation firms, middle 40% medium capitalisation firms, bottom 30% small capitalisation firms) was chosen after considering all other available options analysed on chapter 5. However, it does not take into account differences in market capitalisation across these four countries as well as capitalisation indices that do exist and thus can be presented as a limitation of this study.

1.5. Framework of the study

The logic behind the analysis of the chapters is the following.

The first chapter provides the reader with some introductory information about this research. It most importantly analyses the objectives as well as the limitations of this study.

In the second chapter, a partial the history of international accounting is presented. The study then analyses the international differences as well as the way the demand for international accounting started to develop. Subsequently, the researcher refers to the main players that promoted the harmonisation idea, focusing especially on IASB. Then, key studies about the transition from national GAAP to IFRS in EU countries are examined. The purpose of this chapter is to familiarise the reader with the development of the relevant accounting history and the different stages that led to the current accounting scene.

In the third chapter, background information about the selected countries is provided. More specifically, there is a reference to each country's accounting history and an analysis of the transition to IFRS. This chapter is used as a connection between the theoretical background and what actually took place in the four observed countries.

The fourth chapter is more specific. An extensive analysis of the value relevance literature and some of the most important articles that drove this research are highlighted. Various regression models are presented and the justification behind the chosen ones is provided. The researcher also examines some possible factors that can affect value relevance. Then, the hypotheses to be tested are presented along with the reasons that led the hypothesis development. In some cases, the hypotheses are divided into sub-hypotheses corresponding to the four observed countries.

In the fifth chapter the researcher analyses the adopted methodology. More specifically the regression model that will help measure the value relevance of accounting information before and after the introduction of IFRS is explained. The way the model is decomposed to test the last hypothesis is also analysed. The collection of data as well as the basic steps of the sampling process is illustrated. Some restrictions and limitations during this process are identified.

The sixth chapter is divided into two parts. The first part presents the results for individual countries' hypotheses while in the second part there is an analysis about the results corresponding to group hypotheses. This chapter ends by reviewing the most important findings of the research.

The last chapter sums up the findings and presents some concluding remarks as well as some areas for future research.

CHAPTER 2 – BACKGROUND OF THE STUDY

2.1. Introduction

Accounting has a long history in European countries and can be seen as a major convergence factor inside the European Union. The progress over many centuries from simple local records to internationalisation of accounting policies has been slow, but the major influences can be indentified. As early as 1970, the American Institute of Certified Public Accountants (AICPA) defined accounting as:

"… a service activity. Its function is to provide quantitative information, primarily financial in nature, about economic entities that is intended to be useful in making economic decisions, in making resolved choices among alternative courses of action".

AICPA offered an important insight into what will be regarded as a top priority among international organisations later on; the issue of preparing financial information in order to help users of those accounts make wise investment decisions.

It is interesting to observe historically how some countries contributed to the formulation of today's accounting. The Romans first developed some form of book-keeping and the calculation of profit. In the fourteenth and fifteenth century the commercial world paved the way for the accounting profession in Italian city states. The Italian method of double entry bookkeeping started to spread around Europe and gradually to the whole world.

During the nineteenth century, Britain took the lead in accounting matters and in the twentieth century the US followed. Therefore, English became established as the world's language of accounting. Various accounting techniques and concepts started to be imported and exported around the world.

2.2. Causes of international accounting differences

As was briefly stated earlier, accounting systems were developed quite differently around the world. This diversity was caused by a number of factors that derived from the economic and political structure of those different countries. These accounting differences, many times perceived as part of each country's culture, formed an obstacle to the harmonisation process. In this study legal system and environmental differences are identified among the development of accounting systems, although the main emphasis will be on analysing the results that the former category had and will have upon accounting practices.

2.2.1. Financial reporting differences

There are two main types of categorisations used in comparative accounting studies. Researchers use either legal system differences, splitting countries as code or common law accounting systems, or financial system differences which are used to distinguish between financial reporting systems. Either categorisation can lead to different groupings, although some similarities do exist. This research is employing financial system differences as a basis of separating the observed countries into different financial reporting systems, labelling Germany and France as creditor oriented countries and the UK and the Netherlands as investor oriented ones.

Zysman (1983) classified financial systems as capital market based, credit based governmental and credit based financial institutions. A capital market based financial system is one with active liquid markets in which prices and thereby resources are determined by markets (eg. UK and US). Credit based financial systems have weaker markets and are normally less liquid. A credit based financial governmental system is one in which prices are influenced by government (eg France and Japan) and a credit based financial institutions system is one in which financial institutions are dominant (eg Germany). While the Netherlands does not have an active market for corporate control, Germany and France both have credit-based financial systems.

Similarly, according to Nobes (1998) financial reporting systems should be divided initially into two classes, named as A and B. A corresponds to what some have called Anglo-Saxon accounting and B to continental European. He suggests that there are two aspects of financial reporting which can be separated: measurement and disclosure. The measurement issues seem to be driven by the equity/creditor split, and the disclosure issues by the outsider/insider split.

The structural differences of this categorisation between investor and creditor oriented accounting systems can be easily identified in the table below:

Table 1 – Investor vs. creditor oriented systems

Aspects of financial reporting	Feature	Class A – Investor oriented	Class B – creditor oriented
Measurement	Provisions for depreciation and pensions	Accounting practice differs from tax rules	Accounting practice follows tax rules
	Long-term contracts	Percentage of completion method	Completed contract method
	Unsettled currency gains	Taken to income	Deferred or not recognised
	Legal reserves	Not found	Required
	Profit and loss format	Expenses by function (e.g. cost of sales)	Expenses recorded by nature (e.g. total wages)
	Cash flow statements	Required	Not required, found only sporadically
	Earnings per share disclosure	Required by listed companies	Not required, found only sporadically
Disclosure		Outsiders	Insiders
	Examples of countries	**UK, Netherlands**	**Germany, France**

Source: Nobes (1998)

The equity/creditor split leads to different kinds of objectives in financial reporting. Systems serving equity markets are required to provide relevant information on performance and the assessment of future cash flows in order to help with the making of financial decisions. Systems in a creditor environment are required to calculate prudent and reliable distributable (and taxable) profit. By contrast, the outside/inside split leads to different amounts of information: where outsiders are important, there is a demand for more published financial reporting. Most times, equity financing systems are those which are associated with large number of outsiders, so that Class A systems are an amalgam of equity and outsider features. The opposite is happening for Class B.

As presented in the table above, the UK and the Netherlands are categorised as investor oriented accounting systems, while Germany and France as creditor accounting ones.

2.2.2. Environmental differences

One other important factor that had led to the differentiation of accounting systems was definitely culture. Over the years, each country's culture started to influence with the accounting system which was then adjusted to the distinct characteristics and needs of each nation.

Hofstede's (1987) cultural dimensions are frequently referred on this issue. Based on data collected from IBM employees in 1970, Hofstede identified the following four categories, i.e. individualism versus collectivism, large versus small power distance, strong versus weak uncertainty avoidance, masculinity versus femininity.

Gray (1989) extended the model of Hostede (1987) to link culture with accounting practices. As he explained:

"…the value systems of attitudes of accountants may be expected to be related to and derived from societal values with special reference to work related values. Accounting "values" will in turn impact on accounting systems…"

Gray [1989:5]

Gray defined four accounting values, i.e. professionalism, uniformity, conservatism and secrecy. These values interact with capital markets to formulate the accounting systems that include financial reporting practices and professional structure.

Salter and Niswander (1995) found strong connections in the theories of Holstede and Gray. According to their tested hypotheses they found that countries with strong uncertainty avoidance were likely to develop accounting systems based on prescriptive legal requirements and statutory control (creditor oriented countries). Market capitalisation was significantly and positively correlated to professionalism and negatively correlated to legal uniformity, conservatism and secrecy.

These theories support the association between culture and accounting practice highlighting the role culture plays in formulating differences among countries throughout the world.

Apart from the legal system categorisation, which is clear and easily defined, cultural differences also play an important role in influencing accounting practices among different countries.

Culture managed to lead the way for the harmonisation process through the nations' interest to discover how other social frameworks were developing nearby and around the world. Characteristic examples can be found in countries like Germany and France which developed similar accounting systems (creditor oriented countries) as did the UK and Ireland (investor oriented countries) possibly due to the geographical position and interaction with of their neighbours throughout the centuries.

2.3. Drivers of international accounting

It can be argued that international accounting can be seen as a result of globalisation. Increased trading volume among countries around the world and internationalisation of investment activity are the main reasons why new common communication languages needed to be invented and implemented:

"The need for international standards is clear. As businesses and trade barriers between nations become less restrictive, differences among national accounting and auditing standards become more troubling. International competition has forced many firms to look for new markets. It has also led investors to finance the expansion and modernisation needed to keep pace and advance in world markets."

Houston M., Reinstein A., (2001)

In this section some factors that influenced the harmonisation process will be considered. The way the definition of harmonisation evolved during these years in order to include the forthcoming fundamental changes will also be observed, i.e. the evolution of multinational enterprises and stock markets, and the need for international regulation.

2.3.1 Multinational enterprises

According to Nobes and Parker (2006), during the First World War, people and investments started to be exported on a larger scale to the rest of the world as the US emerged as a major industrial power. Countries like the UK, the US, Germany, France and the Netherlands played a major role in expanding foreign investment. The motivation of these countries to increase trading activities created Multinational Enterprises (MNEs) which made their appearance during the Second World War. A multinational corporation is defined in a number of ways – by its scale of foreign operations, world-wide distribution of assets, nationality of owners, suppliers of capital and employees, and sources of profit. Activities of the MNEs' were really important to international accounting as they opened the way for transferring the accounting technology of one country to another. However, MNEs had to prepare financial statements in accordance with the laws and practices of their home countries, so the users of financial accounts (lenders, investors, and managers) had to familiarise themselves with the financial reporting systems of more than one country. However, according to Choi and Levich (1991) there are some mechanisms that allow investors to cope with this diversity. Increased value relevance could arise from relying less on these coping mechanisms and more on published accounts.

As years passed by and MNEs increased their number and size throughout the world, members of the international accounting profession expressed a need for standardised accounting practices. Organisations such as the United Nations and the Organisation for Economic Cooperation and Development (OECD) began to issue guidelines to multinational corporations that included financial reporting. These guidelines were very important in the process of harmonising accounting as MNEs dominate world trade. With the exception of the US, Fortune Global 500 (2004) indicated the UK, the Netherlands, Germany, and France as the countries with the largest share of the world's top 500 MNE's by revenues.

2.3.2. Evolution of stock markets

Cross-border listings have gained in importance over the last decades as many companies have become more international in their orientation. Empirical studies suggest that the cost of equity capital generally declines when companies have a foreign listing. According to Chominard and Souza (2003-04), this can be explained by a decline in transactions costs or by an improvement in the quality and quantity of firm-specific information available to investors. In addition, technological processes and the liberalisation of capital flows have fostered considerable competition among global stock exchanges for equity listings and trade. The authors also suggest that the London Stock Exchange leads the world in the number of foreign company listings although New York and other North American exchanges added together also indicate a large number of foreign listings. However, a major role in these listings is the policy of each stock exchange and the requirements that new companies have to fulfil in order to be listed. The fact that the FASB and the IASB are now considering convergence between US GAAP and IFRS, and the US has eliminated reconciliation requirements for IFRS financial statements, are certainly moves towards accounting harmonisation.

2.3.3. International regulation

Financial regulation around the World is governed by standards set by three main groups of regulators – for banking the Basel Committee, for securities firms and markets the International Organisation of Securities Commission (IOSCO), and for insurance companies the International Association of Insurance Supervisors (IAIS).

All three organisations have helped in the development of a convenient regulatory practice and the majority of countries in the World are signed up. However, these principles do not appear to have been very effective in preventing possible crashes or crises like the Asian financial crisis. Steps are being taken by these organisations towards:

- Establishing increasing acceptance of core principles of supervision, being equally applied to all countries
- Creating increasing acceptance of the need for external monitoring to ensure compliance with those core principles
- Developing a willingness by supervisors to work much more closely with international financial institutions as they are the leaders of that monitoring exercise
- Pursuing a desire, along with the international financial community, to consider more carefully the threats to financial stability and to put in place better incentives to avoid such crises

This new alliance and awareness of the huge public costs ensuing from financial system failures is gradually putting pressure on countries to engage in financial system reform and restructuring programmes like international accounting standards.

2.4. IAS – Promotion of the harmonisation idea

The aforementioned factors i.e. the undeniable increase of trading and transaction activity among several countries coupled with certain other facts like the rise of MNEs and the development of capital markets increased the pressure for common practices among these countries in preparing and measuring financial reporting. Harmonisation did not appear recently, but was a word widely used on many occasions during World history.

Just before the First World War, harmonisation had started to become a regular reference in the meetings of country leaders in Europe and across the World. Especially across the EU, it tended to be associated with the supranational legislation already effective in member states.

"Harmonisation is the process of increasing comparability of accounting practices by setting bounds to their degree of variation"

Alexander and Nobes [2001]

A key distinction of the harmonisation procedure was made by Tay and Parker (1990). They separated *de jure* harmonisation (that of rules, standards, etc.) and *de facto* harmonisation (that of corporate financial reporting practices). For example, a country or a company may choose not to adopt a harmonisation rule or standard but might be forced by the international market to produce English-language financial reports that follow Anglo-American practices.

Most researchers perceive harmonisation as a vital procedure that could benefit users of accounting information and could lead to comparability and reliability of financial accounts. Elnathan (1992) argued that the benefits of harmonisation will lead to the exclusion of unfamiliar or misleading accounting practices across national borders. Weber (1992) contended that the rationale for the harmonisation of accounting standards would be beneficial to the global economy by facilitating transactions, standardising information for decision makers, improving financial markets' information, and improving government accountability.

However, harmonisation has been used very broadly in order to describe the procedure of implementing a common financial reporting practice. One of the researchers that focused on that premise was Most (1994). He emphasized the use of harmonisation as more of an abstract meaning rather than a well bounded terminology and argued that:

"Harmonisation is the reconciliation of different accounting and financial reporting systems by fitting them into common broad classifications, so that form becomes more standard while content retains significant differences"

Most [1994]

Most (1994) has given a very important definition of harmonisation. He basically focused on the very important matter of de jure vs. de facto harmonisation. Many early attempts to harmonise accounting practices, although significant in concept could not persuade countries to drop national practices and adopt an international perspective. A characteristic example is the EU Directives which were an important step towards harmonising accounting. However, in many cases EU countries introduced a number of constraints to these Directives and reduced their desired effect. According to Street and Gray (2000), even in the early stages of the introduction of International Accounting Standards, companies in many European countries have chosen to partially adopt standards, leading to the well-known phenomenon of “IAS-lite”.

The EU made some important steps in establishing the proper economic and legal environment to allow an international independent organisation like IASB to take action and unify different accounting systems into one robust, reliable and understandable set of rules. It would be interesting to observe how this issue developed over the past decades.

2.4.1. IASB – Historical overview

The IASC

The International Accounting Standards Board was preceded by the International Accounting Standards Committee, which was founded in London (1973-2001). The IASC was a private sector committee created by professional accounting bodies from Australia, Canada, France, Germany, Japan, Mexico, the Netherlands, the United Kingdom and Ireland, and the United States. In 1977 international accounting activities were organised by the International Federation of Accountants (IFAC). In 1981, the IASC and the IFAC agreed that the IASC would have full and complete autonomy in the setting of International Accounting Standards. All members of IFAC automatically became members of IASC and this relationship lasted until the restructuring of IASC in 2000. By then, the IASC board meetings were opened up to the public.

The IASC established three main sub-groups in order to organise its work on IAS, i.e. an international Consultative Group, an international Advisory Council, and a

Standing Interpretations Committee (SIC). The Consultative group would play an important role in the process of setting up IAS and in gaining acceptance for the resulting standards, the Advisory Council would promote the acceptability of IAS and enhance the credibility of IASC's work and the SIC would develop interpretations of existing Standards and would issue guidelines on practical issues.

When IASs were first issued they permitted several alternative accounting treatments. The IASC first wanted to gain credibility among different countries. Along with the SIC they contributed a great deal to improving and harmonising financial reporting around the World. It was essential at that time that IAS were quite flexible in order not to discourage companies to adopt the standards or turn their interest to other standard setters like FASB in the United States. However, in 1993 the IASC started a project to reduce many of these alternative accounting practices. Four years later it ended up with revised IASs which unfortunately did not meet the level of general acceptance and appliance in the countries that it wanted to reach.

Role of the EU

As noted in Ernst & Young (International GAAP 2007), the EU has a long history of supporting the harmonisation procedure among different countries. In fact, since the beginning of its creation the EU has tried, taking as an example the successful political union, to expand in other important areas like the economic and financial field.

During the 1980s the EU issued the most important Directives in the area of financial reporting, the Fourth and Seventh Directives, which were adopted into the national legislation by EU countries. The principal objective of the Fourth Directive was to achieve harmonisation in respect of formats, valuation rules and note disclosures; whilst the Seventh established a requirement for EU companies to prepare consolidated accounts on a common basis (although some EU countries had no history of consolidated accounts).

The Fourth Directive focused not only on increasing uniformity but also equivalence among the different accounting practices. The Fourth Directive's first draft was published in 1971, before the UK, Ireland and Denmark had entered the EU. The draft was heavily influenced by German company law. The influence of the UK and Ireland was such that a much amended draft was introduced in 1974 including the concept of "true and fair" view. Therefore, the "true and fair" view of financial position, and profit/loss made its appearance in the disclosure requirements of the Directive.

The Seventh Directive was first developed as a way to control the huge increase in the number of multi-national enterprises and the different ways of interpreting financial reporting. The Seventh Directive surely was a great step towards international harmonisation. One reason is that investors who operate internationally are likely to be more interested in the performance and prospects of groups, rather than that of companies in a specific country.

These Directives were issued under the company law harmonisation programme of the EU. However, these Directives were not mandatory law. They would apply on companies, but the member states had the option of adjusting, if they thought it necessary, their national legislation according to these provisions. The Directives were issued as a level playing field in which countries could add further requirements if they believed them important, as long as these were not incompatible with the EU Directives.

In fact the EU Directives did succeed in leading the way to harmonising accounting practices, but more specific regulation was needed in order for accounting to move forward. This regulation came on 13 February 2001, when the European Commission published an EU Regulation that would require publicly traded EU companies to prepare, by 2005 at the latest, consolidated accounts under IAS. The proposed Regulation also provided an option for member states to permit or require the application of endorsed IAS by unlisted companies. This EU Regulation had a completely different effect from the aforementioned Directives, as it directly applied to companies of each member state of the EU. This move is argued to be a significant shift towards harmonisation within the EU as it was applied to approximately 7,000 companies.

IASC's relations with IOSCO

Parallel to the EU, other international organisations like IOSCO played an important role in the harmonisation process. As the IASC was gaining acceptance around the world, it started to reach agreements with several other regulatory bodies like IOSCO, SEC and FASB.

According to Ernst & Young (2007), the International Organisation of Securities Commission (IOSCO) is the leading international grouping of securities market regulators. It comprises ninety-one countries. In 1987, IOSCO joined the Consultative Group of IASC and supported the comparability project. IOSCO focused on the efforts of IASC to provide acceptable international standards for multinational securities offerings. In 1994, IOSCO reviewed IASC's rules and commented on what standards should change and to what extent in order for IOSCO to recommend

IASC's standards for use in cross-border listings and offerings. Both IASC and IOSCO agreed on the need for high quality, comprehensive IAS. Thus IASC started to work on these recommendations in order to persuade IOSCO to recommend it as an international standard setter. IOSCO started the review on these core standards in 1999. However, at that time the US Securities and Exchange Commission (SEC) played an important role making it unlikely to allow IOSCO to endorse IAS due to the differences these standards had with the US GAAP. FASB claimed that it had identified 255 differences between US GAAP and IASC standards. In May 2000, IOSCO announced the completion of its assessment of the IASC's development of "core standards". In the light of SEC's Concept Release, IOSCO concluded that it had assessed 30 IASC standards and considered them suitable, but subject to one proviso. The proviso stated that each IOSCO member, in deciding how to implement IASC standards could choose to apply some given "supplement treatments". These supplement treatments weakened the IASC/IOSCO agreement and its desired results.

The IASB

As was mentioned earlier, the International Accounting Standards Board (IASB) was the successor of IASC, which undertook complete standard setting responsibilities from 1st April 2001.

The International Accounting Standards Board is an independent, privately-funded accounting standard-setter based in London, UK. The Board members come from nine countries and have a variety of functional backgrounds.

The IASB is committed to developing, in the public interest, a single set of high quality, understandable and enforceable global accounting standards that require transparent and comparable information in general purpose financial statements.

In addition, the IASB co-operates with national accounting standard-setters to achieve convergence in accounting standards around the world.

The IASB is structured in the following way:

Figure 1 – IASB Structure

Source: IASB website

2.4.2. EU and the politics of accepting and implementing IAS/IFRS

The role of IASB is that of an international independent standard setter. However, political lobbying driven by preparers, users of the accounts or even governments is interfering in the process of developing new standards.

Nobes and Parker (2006) suggest that political lobbying is not just letter writing or even campaigning against a standard. The lobbying must be able to put pressure on the standard setting body. The pressure may involve threats to withdraw funding or other vital support to the standard-setter, or appeals to public opinion by debating it in the media. In recent decades, tactics of bringing pressure even involved executive and legislative branches of the Government.

The IASB came across political lobbying acts against certain standards. The introduction of IAS 39, which is about the measurement and the recognition of financial instruments, caused a major debate in the EU. More specifically in 2001, the European Commission encouraged the European private sector to form a body to screen IFRSs for technical soundness. The new body that was created was the European Financial Reporting Advisory Group (EFRAG). In order for the Commission to receive advice on a "political level", the Accounting Regulatory Committee (ARC) was created consisting of Government representatives from EU member states. IAS 39 put the relationship between these parties to a test. In July 2003, French President Jacques Chirac intervened in the debate on the proposed fair valuing of financial derivatives suggesting that this standard could possibly have devastating effects on French companies. The European Central Bank and the Basel Committee also raised concerns about aspects of this standard that would create volatility. In 2004, ARC finally recommended the endorsement of the standard but minus two "carve-outs". This forced IASB to issue an amendment to IAS 39 in 2005. However the "carve-out" on hedge accounting for core deposits remained.

In many cases, standards may conflict with economic interests of particular parties within a specific country willing to adopt IFRS. This conflict between the adoption of a standard and the discomfort of a particular lobby can cause the willingness of implementing the particular standard to dwindle. For example, UK lobbying for the property industry had led to the temporary exemption for investment properties to meet the requirements of SSAP 12 to depreciate fixed assets. This exemption was extended more than three years before finally SSAP 19 became effective and SSAP

12 was amended to make the exemption for investment properties permanent. Even in its recent published standard FRS 15 on the measurement of tangible fixed assets, the ASB managed to exempt investment properties, despite the Board previously suggesting that such exemption was not justified.

In addition, experts in the field have also warned that European companies could even lobby for a move towards US GAAP if the European Union will not continue to endorse the International Accounting Standards. According to Shin (2005), such a condition began from the introduction of IAS 39 where the dispute among the IASB, the European Commission, and central banks around Europe was far from over. Political influences are again playing a crucial role in the procedure of introducing this standard. Many people believe that this standard will have the same effect that FAS 133 had in the United States. However, companies in the EU are not required to report on a quarterly basis as in the US and IAS 39 allows a wider range of options than FAS 133. The conclusion is that the introduction of IAS will certainly affect earnings differently, making EU companies adopt new tactics and policies in structuring their financial reporting figures. Arguably, one of the best options that the European Commission has as at 2008 is to support a partial endorsement of the standard until further agreement of the countries can be achieved.

An example of a company that dropped IAS in favour of US GAAP in 2004 was Phylon Fund Limited, an investment company listed on the Irish Stock Exchange. Nigel Sleigh Johnson, head of financial reporting at the ICAEW, described the move as a “worrying development”. He added that: “One of the great fears is that, if the uncertainty continues over whether Europe goes wholeheartedly with IAS, there may be lobbying to use US GAAP”. Sleigh Johnson said that anecdotal evidence suggested German-listed companies had also expressed disquiet over the continuing uncertainty.

He concluded: “If we get to the point that Europe is not endorsing international standards, then the whole thing will be undermined. We could get concerted pressure from major European companies to use US GAAP instead. There is then a real risk of IAS being discredited”.

The relations between IASB, SEC, and FASB have long been debated. The FASB and the IASB have worked more closely together since two former FASB members (Tony Cope and Jim Leisenring) and some staff from the FASB joined the IASB. Then, in 2002, one IASB member (Bob Herz), was appointed the new FASB chairman. According to Nobes and Parker (2006), in 2001/02 some other facts also led the US to turn to principles-based standard setting. Large companies like Enron and WorldCom were surrounded by huge accounting scandals, and Andersen (one of the big 5 accounting firms) collapsed. In late 2002, the IASB and the FASB announced a convergence project to eliminate as many differences as possible by 2005. IFRS 5 was the first standard designed to achieve convergence. Moreover, at their meetings in April and October 2005, the FASB and the IASB reaffirmed their commitment to the convergence of US generally accepted accounting principles (US GAAP) and International Financial Reporting Standards (IFRSs). According to IASB, a common set of high quality global standards remains the long-term strategic priority for both the FASB and the IASB. The FASB and the IASB recognise the relevance of the “roadmap” for the removal of the need for the reconciliation requirement for non-US companies that use IFRSs and are registered in the US. Therefore, the politics of gaining FASB’s support to the amendments of IAS/IFRS standards or the issuance of new ones seems to be crucial for the future of IASB.

2.5. Studies examining IAS/IFRS introduction in the EU

Many studies have been conducted to either test the implementation of the new standards into the EU, or to compare their effectiveness contrary to the national GAAPs over the last few years. This part of the research will introduce some of the main articles that examined the IAS/IFRS implementation in the EU before 2005. These studies tested the new standards using data from early IFRS adopters and firms' reconciliations from national GAAP to IFRS.

The study by Salter et al. (1996) was among the first studies to test the comparability of financial reporting practices and IASC proposed rules in 27 IASC member countries. The authors followed a qualitative methodology to find that the code-law based countries (Germany, Italy, and Japan) will have to significantly change their accounting practices in certain areas to comply with the new IAS. The countries with the highest level of agreement with the IAS revisions were found to be members of the Anglo-Saxon community like the US, the UK, and Canada. Among the items identified as the most difficult to harmonise across the countries were the treatment of mergers, accounting for development costs, and revenue recognition on long term service contracts.

Some studies also examined whether the introduction of IAS/IFRS in the EU has increased accounting quality. A study by Soderstrom and Sun (2007) provided some answers. In a review of the previous literature they compared studies dedicated to the voluntary adoption of IFRS with those that examine the mandatory IFRS adoption. They found a positive impact from voluntary IFRS adoption. However, they argue that these results cannot be generalised for the period of mandatory adoption. They consider that the accounting quality under IFRS depends on the quality of these standards, a country's legal and political environment, and its financial reporting incentives. The authors argue that cross-country differences are likely to remain following IFRS adoption as accounting quality is a function of the firm's overall institutional setting, including the legal and political system of the country of which the firm resides.

Another study that tried to investigate whether IAS is associated with higher accounting quality was that of Barth et al. (2007). They examined firms applying IAS from 21 countries. They found that these firms showed higher quality of earnings and therefore less earnings management (thus more earnings variability), more timely loss recognition, and more value relevance of both earnings and book values than a matched sample of firms applying non-US domestic standards. Therefore, the authors also found evidence that there is an improvement in quality between the pre-IAS and the post-IAS period.

There are also some studies that offer insights into the application of IFRS in EU countries. They examine whether IFRS information is used by investors in a different way from national GAAP information. They also attempt to measure the economic consequences of mandatory IFRS.

One important study was that of Kinnunen et al. (2000) who tested whether the information content of IAS earnings was greater for foreign investors than to those using local GAAP. The empirical evidence was based on companies listed in the Helsinki Stock Exchange over an 8 year period. Their findings suggest that domestic investors find information content only in local GAAP earnings, while foreign investors consider both national GAAP and IAS earnings informative. Therefore, according to the authors IAS helps to meet foreign investors' information needs.

Another noteworthy study was that of Armstrong et al. (2007) who examined the European stock market reaction to events predicted to affect the adoption of IFRS in the EU. They identified 11 such events (like EFRAG drafts) from 2002 to 2004. Their sample consisted of approximately 4,000 firms with the UK, France, and Germany having greater representation. They found significant positive (negative) market responses to events that increased (decreased) the likelihood of harmonisation under IFRS. They also found that non-ADR firms were expected to obtain greater benefits from IFRS than ADR ones.

A similar study was that of Christensen et al. (2007) that followed key events surrounding IFRS adoption in the UK. They examined the economic consequences for UK firms of the European Union's decision to impose mandatory IFRS. The authors estimated a counter-factual proxy for a UK firm's willingness to adopt IFRS using the example of German firms moving from national GAAP to international standards. They suggested that larger firms derive greater benefits from voluntarily adopting IFRS. These firms have low levels of debt financing and large foreign exposure, lower disclosure costs, and greater demand for information so are most likely to adopt an international accounting regime voluntarily. Contrary to other studies portraying IFRS as a uniformly good thing or a uniformly bad thing, the authors suggested that it is important to recognise that some firms gain and some firms lose from complex, mandatory-accounting changes such as the move to IFRS. Their conclusion will be important for the current study as well.

Another study was that of Daske et al. (2007). In their paper they studied the economic consequences of the introduction of mandatory IFRS. They particularly analysed the effects on market liquidity and cost of equity capital in 26 countries and used firms that voluntarily adopted IFRS. They found that capital market benefits existed only for countries with strict enforcement regimes and institutional environments that provide strong reporting incentives. They also argued that effects are weaker when local GAAP are closer to IFRS, in countries with IFRS convergence strategy, and in industries with higher voluntary adoption rates. Overall, their results are consistent with the view that reporting quality is shaped by many factors in countries' institutional environments, pointing in particular to the importance of firms' reporting incentives and countries' enforcement regimes.

In another study again published by Christensen et al. (2007), the authors tested whether mandatory IFRS reconciliations can convey new information beyond the existing UK GAAP. Their research is linked to previously published surveys by PwC (2005, 2006) who suggested that mutual fund managers altered their investment decisions based on these restatements. Christensen et al., linked these IFRS reconciliations with the timing of their disclosure in the UK. They showed that earlier announcements are associated with analysts' pressure and later announcements are associated with relatively poorer results. Their former findings implied that analysts consider the content of IFRS reconciliations to be useful in the valuation of firms. They suggested that firms that believe that the IFRS transition was unfavourable to them exercised discretion on the timing of disclosure.

Moreover, Horton and Serafeim (2007), investigated whether there is any market reaction and value relevance of information in transitional documents required by IFRS 1. The authors focused on the UK market and their sample consisted of 297 listed firms. They found that for those firms whose IFRS earnings adjustment is negative, the daily abnormal earnings for that day are negative and significant. Their model also revealed that adjustments attributed to impairment of goodwill, share based payments, employee benefits and deferred taxes are incrementally value relevant. Most of these issues are also analysed in the following chapter.

Capkun et al. (2007) also analysed the transition of seven EU countries from local GAAP to IFRS. This study, contrary to others, studied the mandatory transition to IFRS from 2004 to 2005. They concluded that IFRS had a small but statistically significant impact on firms' net income and owners' equity. Their results suggested that IFRS disclosures are value relevant in both, common and code law accounting systems, but their importance is much higher in code law accounting systems.

In addition, Lee et al. (2008) examined the impact of mandatory IFRS by the EU on the cost of equity capital. The authors used a sample of 17 EU countries for a 10 year period (1995 to 2006). They classified those countries according to their financial reporting incentives and enforcement and then they tested for the cost of equity capital reduction. The results of this study indicated that Germany and the Netherlands had limited cost of equity capital reduction between the pre- and post-IFRS period. However, the UK experienced significant reduction in the cost of equity capital after the adoption of IFRS.

The majority of the aforementioned studies have used either firms that voluntarily adopted IFRS prior to 2005 or reconciliations between IFRS and national GAAPs to capture the accounting changes and the value relevance of the transition.

It can be suggested that studies which use firms that voluntarily adopted IFRS prior to 2005, face some methodological issues. Soderstorm and Sun (2007) argue that these firms may have inherent characteristics that affect their adoption decision in addition to the hypothesised economic consequences. This self-selection problem may bias either for or against finding any results. Firms whose accounting methods are closer to IFRS may want to adopt IFRS due to the lower cost of this change. Other firms may expect a large benefit out of the transition, such as facilitation of stock issuance in an international stock exchange which may not be representative of the benefit of adoption for all firms in the economy. Therefore, this sample of firms can provide a distorted message about the change in the value relevance of accounting information.

It can also be argued that, in most cases, studies that use firms' IFRS reconciliation reports are not able to capture the real "transition effect" either. In these cases, accounting information was restated in order to make financial statements comparable and was not oriented to convey proprietary information about the EU firms. For example, a number of adjustments in the reconciliation reports can be anticipated by the users of the accounts, therefore the surprise factor is missing. Although any additional information will lead to a market reaction, these restatements for past events cannot be compared with explicit information that appears in the annual accounts.

The advantage of this new study is that it manages to capture the "transition effect" using annual accounts under previous national GAAPs compared with those published under IFRS. Therefore, the same companies in the four observed countries are being tested under different sets of standards and that will reveal the real change in the value relevance of accounting information.

Last but not least, there is a study endorsed and supported by the European Commission. The ICAEW (2007) did research on the "EU Implementation of IFRS and the Fair Value Directive". The Fair Value Directive is amending the Fourth Directive, the Seventh Directive and the Bank Accounts Directive on the valuation rules for annual and consolidated statements of certain types of companies, banks, and other institutions. The survey was done on each EU member state and its main results are presented below:

- France and Germany on the one hand and the UK and the Netherlands on the other, appear to have a uniform reaction to the implementation of the Fair Value Directive. In ICAEW research, German and French legislation share a lot of similarities and the same is happening for the English and the Dutch one. This supports the decision of this research to group as a investor oriented system the UK and the Netherlands and as a creditor oriented one Germany and France.
- The on-line survey revealed that IFRS had some important implications for the users of accounts. IFRS were found to make financial statements easier to compare across the EU and across competitors within the same industry, as well as to improve the quality of disclosure. 51% of preparers seemed confident that fund managers and analysts fully understand the impact of IFRS on their companies' accounts. Some preparers were still not convinced of the improved efficiency of EU capital markets under the new standards. Auditors were generally more inclined to agree with assertions about the positive effects of IFRS.
- Derivatives, Financial Instruments, and Deferred Taxation were the most difficult areas for the users of the accounts to understand. Whilst some findings revealed that more needs to be done on individual standards, in most of the cases the respondents' answers were encouraging for IFRS implementation.
- A number of participants argued that it was too early to conclude with any certainty that the migration to IFRS had been a success.
- It was also emphasised that the experience of smaller quoted companies was often very different from larger companies. Resources available to manage the

transition and to deal with ongoing changes were far more limited in smaller firms. The current research supports the assertion that there is a difference between the value relevance of small and large capitalisation firms, however the extent of that difference is country-specific.

2.6. Summary

This chapter analyses the reasons that led to the creation of IASB and the transition from national GAAP to IFRS. It began by explaining possible causes for the differences in accounting, mostly focusing on legal systems and environmental differences. Afterwards, it highlighted the drivers that created the need for harmonising accounting practices. Then, a brief historical overview about the IASB and its relationship with other organisations was provided. Last but not least, recent studies have examined the initial reactions after the introduction of IAS/IFRS in the EU were presented. The majority of these studies depended on either firms that voluntarily adopted IFRS before 2005, or on firms' reconciliations between IFRS and national GAAP. This background on the introduction and first implementation of IFRS gives the reader a good idea not only of what has happened up until now but also the reasons why study brings new evidence by utilising annual reports in the UK, the Netherlands, Germany, and France for the pre and post IFRS period.

CHAPTER 3 – INDIVIDUAL COUNTRY ANALYSIS

3.1. Introduction

Several measures have been employed by researchers to examine the results of IFRS implementation in the EU. Two popular methods of making within and cross country comparisons of national GAAP and IFRS are: the harmonisation indices approach (developed by Van der Tas, 1988) and the value relevance regression model (developed by Ohlson, 1995). The researcher has chosen the latter method for this particular research, although this chapter has some similarities with the former study as it refers to differences between national GAAP and IFRS on specific items of financial statements.

The harmonisation index methodology was first used by Van der Tas as a measurement of the degree of concentration or consensus around a particular practice. This was the first attempt to identify ways of quantifying the degree of harmony in financial reporting practice using the H (within-country comparisons) and I (cross-country comparisons) indices. Other researchers like Archer et al. (1995), as well as Jagannath and Nanjegowda (2008), followed the same methodology to make within-country and between-country comparisons of specific items on financial statements.

One problem of Van der Tas's model is based on its dependence on explicit items in the balance sheet and income statement. The choice of financial statement items, if the harmonisation index method was employed, is quite crucial as this method can be quite subjective (Aisbitt, 2001). Using different combinations of items could have led to dissimilar results. It is understandable that, especially for the period before the introduction of IFRS, the comparison of such items across different GAAPs is difficult considering different meanings and uses of accounting terms. The value relevance regression model surpasses this problem by using bottom-line figures like earnings and book values.

However, in order to research comprehensively the transition of the four observed countries into IFRS, an understanding of some key differences between national GAAP and IFRS is considered important. Some specific items of the accounts need to be analysed and compared to the newly implemented standards. Therefore, although this research focuses on bottom line figures to make comparisons, this chapter is used to further explain some key accounting issues that arise between national GAAPs and IFRS in the observed countries.

This chapter is essential for the research as it is used to bridge the background information about IFRS in the EU with the transition phase in the selected countries i.e. the UK, the Netherlands, Germany, and France. Some historical facts along with key differences between national GAAP and IFRS are therefore presented in support of the view that each country had to face diverse problems and was at a different level of readiness in accepting IFRS.

3.2. The UK

3.2.1 Accounting history and transition to IFRS

Prior to the establishment of standard setting bodies to the UK, both company law and professional accountants have been the main developers and reformers of accounting rules for many years. First and foremost, UK GAAP had separated financial accounting from taxation. As Roberts et al. (2002) argue tax law has developed separately from accounting law and there was no requirement that accounting profit should be calculated under fiscal rules to be an acceptable base for taxable profit. Edwards (1976) speculated that the fact that income tax predated any development of accounting may be one reason why the tax authorities in the UK had historically not relied closely on company accounting rules.

In addition, the Stock Exchange played a central role in the UK economy and accountancy. Annual accounts were presented to shareholders. Publicly available accounting information was considered important in order to help investors identify the companies they wanted to invest their money in. Therefore, the English accounting system was investor-oriented.

Moreover, the Government did not interfere in setting accounting standards. That role was left to independent professional accounting bodies, who were influential members of various company law amendment committees. Nobes and Parker (2002) provide us with an overview of the role of professionalism in accountancy. Accounts were constructed by professional accountancy firms, who also had a more general consultancy role.

For about 40 years the Companies Act 1948, which was the regulation for company accounts, distinguished between reserves and provisions, introduced many disclosure requirements, and led the way in obliging directors to prepare financial statements that give a “true and fair” view. This Act of 1948 changed afterwards to incorporate more rules and converged with the objectives of the European Directives. In the 1970s, the ICAEW set up the Accounting Standards Committee (ASC). The role of the ASC was to develop Statements of Standard Accounting Practice (SSAP).

Another important stage in the standard-setting process was the review of the Dearing Committee. The issue of replacing ASC with the Accounting Standards Board (ASB) who had full-time paid, rather than part-time unpaid members was discussed. Therefore, the ASB was becoming more formal and more organised being independent of the professional institutes. This Board's standards were called Financial Reporting Standards (FRS) and the need to bring UK GAAP closer to the US one was emphasised by the Dearing Committee.

During the 1990s the need for convergence in accounting rules started to emerge. Especially across the Atlantic, US and UK standard setters and practitioners were moving towards common accounting practices that would help international companies and investors. The UK was the European country that led the way in formulating the framework and the base for what would later be accepted by all European countries as International Accounting Standards (IAS).

3.2.2. Key differences between the UK GAAP and IFRS

Although the new International Standards were based on the English accounting system, there are some identifiable changes that UK GAAP had to make in order to converge towards IFRS. For example, although LIFO was not allowed under UK GAAP, IAS had allowed, in some specific cases, the use of this method. An analysis of some major differences is presented below.

However, it must be noted that the UK appears to have more key differences from the other observed countries, not due to the higher gap between the English and International accounting standards, but due to a higher availability of data.

Deferred taxation

First of all, some important differences between UK GAAP and IAS appear in the treatment of deferred taxation. In IAS 12 deferred taxation is recognised on the basis of taxable temporary differences. Temporary differences include all timing differences and many permanent differences. Under FRS 19, deferred tax is recognised on the basis of timing differences.

Moreover, under IAS 12 deferred tax is always recognised on revaluation gains. Under FRS 19, deferred tax on revaluation gains is only recognised (i) if there is a binding agreement to sell the revalued asset and the gain expected to arise on sale has been recognised; or (ii) where an asset is continuously revalued to fair value with changes in fair value being recognised in the profit and loss account.

Furthermore, IAS 12 prohibits the discounting of deferred tax. FRS 19 permits, but does not require, discounting of deferred tax. In addition, IAS 12 requires a reconciliation of the total (current and deferred) tax charge to the standard tax charge. FRS 19 requires the reconciliation to be carried out for the current tax charge.

For example, Liberty International plc (www.liberty-international.co.uk), a property and investment management company previously provided deferred taxation in full on timing differences rather than valuation surpluses on long-term investments where disposal was not contemplated. After adoption of IAS, the company recognised an additional deferred tax liability of £817 m. associated with the revaluation of investment properties. Also, the medical company Smith & Nephew plc, previously recognised deferred tax in respect of all timing differences, in contrast with 2005 where it recognised deferred tax for all taxable temporary differences in line with

IAS 12. It also published a table disaggregating its deferred tax assets and liabilities across its temporary differences.

Segmental reporting

A further dissimilarity between UK GAAP and IFRS is to be found between IAS 14 and SSAP 25 on segmental reporting. Although IAS 14 is now superseded by IFRS 8, it was in operation for the observed period of this study. Therefore while IAS 14 applied to entities whose equity or debt securities are publicly traded or in the process of being so, SSAP 25 applied to public companies, banking and insurance companies and groups and certain other large entities. Disclosure requirements were more extensive in IAS 14.

According to IAS 14, an enterprise must look to its organisational structure and internal reporting system to identify reportable segments. This standard also declares that one basis of segmentation is primary and the other is secondary. Extensive disclosure is required for primary segments, with considerably less information required to be disclosed for secondary segments. This differs from SSAP 25 which did not make such a distinction.

Another difference was that the 1989 Companies Act and SSAP 25 each contained an exemption from the disclosure requirements where disclosure would be "seriously prejudicial" to the entity's interests, whilst there was no such exemption in IAS 14.

Finally, the management-based approach of IAS 14 differed from the risk/returns approach of SSAP 25, although in practice the results might be similar.

A characteristic example comes from a retailer of electrical goods. In 2004 DSG International plc (www.dsgiplc.com) disclosed a segmental analysis for its turnover and operating profit across its UK and international retail segments. In 2005, following IAS 14 "Segment reporting", DSG identified its business divisions as the dominant source of risk and return and therefore its primary format, with geographical segmentation as the secondary format.

Furthermore, in 2004 Sainsbury's (www.sainsburys.co.uk), which is one of the major supermarkets in the UK, disclosed by segments turnover, profit before and after exceptional items and net assets. On the other hand, when it adopted IAS 14 "Segment reporting" and disclosed by segment revenue and a division of assets, liabilities, capital expenditure, depreciation, amortisation and impairment by segments. The segments, retailing and financial services were similar to those previously recognised, though food retailing USA, previously a discontinued segment, disappeared.

Tangible fixed assets

A profound difference between IAS 16 and FRS 15 is in handling tangible fixed assets. IAS 16 "Property, plant and equipment" requires a company to choose either the cost model or the revaluation model in accounting for classes of property, plant and equipment. IAS 16 also excludes from its scope property, plant and equipment classified as held for sale in accordance with IFRS 5, biological assets related to agricultural activity (covered by IAS 41), the recognition and measurement of exploration and evaluation assets (covered by IFRS 6) and mineral rights and mineral reserves. FRS 15 does not exclude these types of asset from its scope.

However, there is a key difference in principle between IAS 16 and FRS 15, where a company adopts a policy of valuations. IAS 16 requires revaluations to be at fair value. It states that fair value is usually 'determined from market-based evidence' (for land and buildings) or ‘market value’ (for plant and equipment), which is generally taken to mean open market value. FRS 15 uses the ‘value to the business’ model and requires revaluations to ‘current value’, which is defined as being the lower of replacement cost and recoverable amount.

According to PwC (2007), another important difference is clear in the recognition of revaluation losses. Revaluation losses that are due to a clear consumption of economic benefits are charged to the profit and loss account under FRS 15, whereas under IAS 16, if there is a previous revaluation surplus on that asset, the revaluation loss is first charged against the surplus to the extent of that surplus, with the balance of the loss then being charged to the profit and loss account.

Sainsbury’s can provide us with an example of the difference in the treatment of tangible fixed assets. More specifically, before the adoption of IFRS’s, Sainsbury’s measured its properties at cost and depreciated them over their estimated useful lives, though some previous revaluations were taken as deemed cost on adoption of FRS 15 "Tangible fixed assets". After the adoption of international standards, the company followed the cost model under IAS 16. It chose to incorporate the previous GAAP carrying value of properties as deemed cost. Sainsbury thus recognised land and buildings at cost less accumulated depreciation and any impairment loss.

Interests in joint ventures

In addition, important differences exist regarding interests in joint ventures. IAS 31 identifies three types of joint venture, namely jointly controlled ‘entities’, jointly controlled operations and jointly controlled assets. Under FRS 9 the definition is more restrictive than IAS 31 as only jointly controlled ‘entities’ are classified as joint ventures. Under IAS 31, 'entities' can be corporations, partnerships or other entities. Furthermore, for jointly controlled entities, IAS 31 requires use of either proportionate consolidation or the equity method as described in IAS 28 "Investments in associates". This requires that, when an investor's interest is reduced to zero, it recognises further losses only where there is a legal or constructive obligation to make payments. FRS 9 does not permit proportionate consolidation and requires use of the 'gross equity' method for joint ventures.

This requirement, under IAS 31, to use either proportionate consolidation or equity account interest in jointly controlled entities, includes those ventures that do not have subsidiaries, but do have interests in jointly controlled entities. However, under FRS 9, a venturer who is not required to produce consolidated financial statements because it has no subsidiaries, treats interest in joint ventures as investments and carries them at cost or valuation.

What is more, IAS has a more extensive exemption policy. FRS 9 exempts investment funds (for example, venture capitalists) from the requirement to gross equity account those investments over which they have joint control. IAS 31 excludes from its scope investments in jointly controlled entities held by venture capital organisations, mutual funds, unit trusts and similar entities including investment-linked insurance funds that upon initial recognition are designated as at fair value through profit or loss or are classified as held for trading and accounted for in accordance with IAS 39.

For instance, the property development and management firm “Land Securities plc” (www.landsecurities.com) was following the gross equity method of FRS 9 "Associates and joint ventures" and recognised on the face of the balance sheet the gross assets and liabilities of its £509 m. share of joint ventures, reporting joint venture turnover of £224 m. and other figures as separate lines on the income statement above profit before tax. Additionally, it disclosed separate summary income statements and balance sheet figures of its joint ventures in a note. Land Securities recognised its share in joint venture Telereal as a net deficit of £71 m.

After the adoption of IAS, the company followed IAS 31 and recognised its £830 m. interest in joint ventures in a single line of the balance sheet in line with the equity method. The company recognised on the face of the income statement £293 m. gain on disposal of its share of a joint venture, Telereal. It stated in a note that the carrying value was £nil and consideration received £293 m. Land Securities disclosed its share of profit after tax of Telereal as £16.7 m. during the period of disposal, but did not recognise it as income, treating it instead as an adjustment to the net liabilities of the venture.

3.3. The Netherlands

3.3.1. Accounting history and transition to IFRS

The Netherlands accounting history was closely related to its neighbouring countries like Germany, France and the UK (code law accounting systems).

Similar to the UK financial reporting practices, Netherlands' Company Law and the accountancy profession were the basic influences of financial reporting. However, as the Netherlands has long been a commercial country, accounting developments were also strongly influenced by international Dutch firms which were expanding towards the EU and the US.

According to Nobes (1998) categorisation, it can be suggested that the Netherlands can be grouped as code law accounting system, when countries are judged according to legal system differences, but as an investor oriented country, when the criterion is based on countries' financial reporting practices. That may explain the fact that although Dutch and UK GAAP have some similarities, there are also important differences in legal systems, capital markets, and corporate governance mechanisms (Camfferman and Cooke, 2002).

A noticeable difference Another important fact is that although the Amsterdam Stock Exchange played a vital role for the Dutch economy, it did not have such a direct influence on financial reporting. However, the increase in economic activity between 1880 and 1914 gave rise to a distinct professional group of accountants.

According to Roberts et al. (2002), before 1970 the statutory accounting law in the Netherlands contained rules mainly for the assets side with few references to the liabilities. Post et al. (1998) suggest that this lack of legislation can be attributed to the fact that: "*a small country in which many corporations are already affected by so many, and often so diverse, foreign standards simply cannot afford the luxury of another set of rules*".

The emphasis changed with the Act of 1970 on Annual Financial Statements. This Act required that financial statements give an "insight such that a well-founded opinion can be formed concerning the financial position and income of the enterprise, as well as, as far as the nature of financial statements allows, concerning solvency and liquidity". This "insight" criterion was in practice much like the "true and fair view" objective of the British accounting system. Choi and Meek (2008) even suggest that the Act of 1970 was done in preparation for the Fourth European Directive. After a few years the European Directives were incorporated into the company law.

3.3.2. Key differences between the Dutch GAAP and IFRS

The Dutch Council for Annual Reporting (CAR) has mainly focused its guidelines on large (listed) entities. Given the EU Regulation in respect of the adoption of IFRS, the CAR has moreover shifted part of its attention to small and medium-sized entities. This has resulted in new exemptions for medium-sized entities and a separate publication for small entities that includes significant exemptions compared to the requirements for large entities. The exemptions mainly relate to the presentation and disclosure requirements. To a lesser extent they also relate to requirements in respect of recognition and measurement.

The CAR continues to aim for harmonisation of Dutch GAAP and IFRS where possible. However, in 2004 the CAR decided not to incorporate the improvements project and IFRS 1 to 5. IFRIC 1 has also not yet been incorporated into Dutch GAAP.

Flexibility in the Dutch accounting system made the transition to IAS easier. However, differences still existed. Some examples of this were the deduction of goodwill from equity which is not allowed under IAS and provisions which under the Dutch GAAP can be made when there is no obligation and are not discounted, a rule that does not apply under IAS. A more detailed analysis of some of these differences follows below.

Employee benefits

As far as employee benefits are concerned, the Dutch GAAP has some main differences from IAS.

A basic difference according to KPMG (2006) is that unlike IFRS, in the Dutch GAAP a multi-employer defined benefit plan may be accounted for as a defined contribution plan if the following conditions are met: a) the entity participates in a multi-employer plan and the risks are shared equally among the participants, and b) the entity has no obligation to pay additional contributions in the event of a deficit within the multi-employer plan other than higher future premiums.

Another difference is that the Dutch Guidelines do not provide different accounting methods for the different pension (defined benefit or defined contribution) plans. Instead, a general requirement is given, indicating that the method employed for allocating pension costs to successive reporting periods should be based on prudent and generally accepted accounting principles.

Previously, the chemical company DSM (www.dsm.com) disclosed pension charges in a note but gave no additional information relating to its pension schemes. In 2005, in line with IAS 19 "Employee benefits", DSM expanded its disclosures and recognised, on the face of its balance sheet, prepaid pension costs and a liability for post-employment benefits. It disclosed that it uses the corridor method to recognise actuarial gains and losses in its income statement spread over the average remaining service lives of employees.

IAS 19 requires disclosure of information that enables users of financial statements to evaluate the nature of defined benefit plans and the financial effects of changes to those plans, including the principal actuarial assumptions used. Therefore, DSM disclosed the assumptions used relating to salary increase, discount rate, underlying inflation rate and medical claim inflation rate. However, in common with other Dutch companies, DSM is silent on its mortality rate assumption.

Goodwill

Some differences also exist between Dutch GAAP and IAS in goodwill. For example, in Dutch GAAP goodwill is amortised over its useful life and there is a rebuttable presumption that its useful life does not exceed 20 years. In very rare cases goodwill may be shown to have a useful life for more than 20 years. If the useful life does exceed 20 years, amortisation is still mandatory and the reasons for rebutting the presumption must be disclosed. IFRS do not allow the amortisation of goodwill. That should be reviewed for impairment at least annually at the cash-generating-unit (CGU) level. Moreover, unlike the IFRS, Dutch GAAP permits the reversal of impairments on goodwill in certain circumstances.

Moreover, Dutch companies treat negative goodwill differently. The IFRS states that if any excess of fair value over the purchase price arises, the acquirer should reassess the identification and measurement of the acquiree’s identifiable assets, liabilities and contingent liabilities and the measurement of the cost of the combination, and should recognised immediately in profit or loss any excess remaining after that assessment. On the other hand, in the Dutch GAAP (KPMG 2006) negative goodwill will be recognised in profit or loss, recognised as deferred income, netted against goodwill, or included in other reserves.

One characteristic example of a change in these treatments comes from a company in the steel production, ARCELOR SA (www.arcelor.com). This company adopted IFRS 3 "Business combinations", revised IAS 36 "Impairments of asset" and revised

IAS 38 "Intangible assets" from 1st January 2004. As a result, goodwill is measured at cost less accumulated impairment losses. Consequently, goodwill is no longer amortised but is subject to impairment testing annually, or more frequently if events and circumstances indicate that the carrying amount is not recoverable. Accordingly, the company recognised an impairment charge of €12 m. on goodwill totalling €31 m. at the beginning of the period. On the first application of IFRS 3 negative goodwill of €676 m. at 31 December 2003 had been derecognised with a corresponding adjustment to retained earnings.

Moreover, TNT (www.tnt.com), a logistics company using IFRS 3 has eliminated accumulated amortisation against the carrying amount of goodwill. TNT subjected goodwill to impairment testing and, following IAS 36 “Impairment of assets” the company disclosed the cash-generating units to which goodwill is allocated and stated the recoverable amount is based on value in use.

Share-based payments

IFRS 2 requires recognition of the fair value of shares and options awarded to employees over their period of service. The award is presumed to be for past services, if the award is unconditional without any performance criteria. However, under Dutch GAAP less guidance is provided for share-based payments. IFRS 2 also requires an entity to measure the fair value of the employee services received, by reference to the fair value of the equity instruments granted. Extensive disclosures are also required. On the other hand, in Dutch GAAP this is not applicable as recognition is not required.

A publishing and information company, VNU (www.vnunet.com) came across these changes in the treatment of share-based payment. Under Dutch GAAP, VNU did not recognise any charges for employee share options as they were issued at an exercise price equal to the share price on the date of grant. The company now recognises this as an expense in the income statement and the cost of employee share options are based on fair value. This follows IFRS 2 "Share-based payment" and VNU recorded expenses of €19 m. with €18 m. in equity.

Moreover, the banking firm ABN AMBRO (www.abnambro.com) had share-based incentive awards, the costs of which had not been recognised previously. In line with IFRS 2 "Share-based payment", ABN AMBRO recognised a charge of €61 m. on share-based compensation with a movement in equity of €87 m. It included a total carrying value of €22 m. on cash-settled plans that are recognised as liabilities. The number of options granted, forfeited, exercised and expired was disclosed as well as the use of a Lattice option pricing model for calculating the fair value of the options and the assumptions made in fair value calculation, which was also in line with IFRS 2.

3.4. Germany

3.4.1. Accounting history and transition to IFRS

As Germany was among the founder members of the EU, its accounting practices had a direct influence on other European countries like Austria and Hungary. German Commercial Code was based on the French Commercial Code. However, during WWII the French adopted the German approach to accounting practices and formally accepted that adoption after the war. However, approaches like the “true and fair view” introduced by the UK (also endorsed in the Fourth Directive) were seen as a violation of the German tax-driven accounting system.

In Germany, the development of the accounting law was linked to the formation of the national state. More specifically, according to Roberts et al. (2002) the General German Commercial Code of 1861 required an inventory (list of each company’s assets and liabilities) and a balance sheet. Profit and loss account came out a few years later. German accounting focused more on the importance of the balance sheet.

There was also a close link between the annual accounts and the tax accounts in Germany. Small businesses would prefer to produce one set of accounts which would satisfy both the tax and the accounting rules. Accounting was mainly regulated for taxation purposes, which is a characteristic of a creditor oriented accounting system.

Basic changes in accounting regulation in Germany were not launched until the new Commercial Code in 1897 when accounting law became more flexible and assets in stock corporations were required to be valued according to the Principles of Regular Accounting (GoB).

Moreover, Gray (1988) classified German accounting as highly secretive. However, since 1998 the change in regulation for group accounting and the pressure developed by internationally listed German companies, made accounting quite informative and publicly available.

A great move towards the enactment of the accounting standard setting process was the creation of the German Accounting Standards Committee (DRSC) in 1998 using the FASB from the US as a model. This Committee consists of seven independent experts and its standards were approved by the Ministry of Justice.

3.4.2. Key differences between the German GAAP and IFRS

As far as the move towards IAS is concerned, it is important to mention that, at the beginning, the idea of such a move found Germany quite unprepared. Research done by Salter et al. (1996) indicated that, on completion of the IASC comparability project, accounting practice in Germany ranked the lowest of the countries studied, in compliance with IAS. Some German practices had to change under the IAS regime such as the non capitalization of finance leases and the deduction of goodwill from reserves.

From 1996 onwards, the German accounting system has made important steps towards IAS. However, it will be interesting to examine some of the main differences that German GAAP had prior to the newly introduced IAS.

Financial instruments

As far as the treatment of financial instruments is concerned, in German GAAP there is no mandatory approach to the measurement and accounting of derivative financial instruments. Hence, the valuation of these instruments is based on the historical cost concept, the "Realisationsprinzip" and the "Imparitätsprinzip". On the other hand, IAS 39 "Financial instruments: recognition and measurement" requires that all primary and derivative financial instruments are recognised on the balance sheet. Moreover, IAS 39 declares that a financial asset or liability will be initially recognised at fair value.

A good example of the effects of the shift from German GAAP to IAS is provided by an Auto part retail company Beru AG (www.beru.com). This company actually disclosed the effects on valuation principles of differences between German GAAP and IFRS. Under both German GAAP and IFRS, financial instruments were initially entered at cost. Thereafter, under German GAAP, measurement was strictly at the lowest cost or market value, while IAS 39 "Financial instruments: recognition and measurement" required a move to valuation at fair value, with limited exceptions. For Beru, this resulted in notable shifts both in balance sheet values and on the income statement. The company disclosed that by adopting IFRS they reduced net income by €13.5 m. in 2003 in respect of financial instruments.

Furthermore, the telecommunication's provider Deutsche Telekom (www.telekom.com) recognised financial instruments on its balance sheet under other financial assets and liabilities. Following adoption of IAS 39 "Financial instruments: recognition and measurement", the company recognised: €1.3 bn. of loans and receivables; €317 m. available-for-sale financial assets and €445 m. of derivatives; €86 m. of held-to-maturity investments; and €9 m. of financial assets held for trading.

Non-current assets held-for-sale and discontinuing operations

There were also sometimes differences in the treatment of IFRS 5, which deals with the non-current assets held for sale and discontinued operations. In this article non-current assets held-for-sale and assets of disposal groups must be disclosed separately from other assets in the balance sheet. The liabilities must also be disclosed separately in the balance sheet. There are several other disclosures required, including a description of the non-current assets of a disposal group, a description of the facts and circumstances of the sale, and the expected manner and timing of that disposal.

For example, the mail delivery company Deutsche Post (www.deutschepost.de) did not recognise assets held for sale separately on the balance sheet. Under IFRS 5 "Non-current assets held for sale and discontinued operations", a company is required to present non-current assets or disposal groups held for sale separately from other assets on the balance sheet with liabilities disclosed similarly and not offset and presented as a single amount. A note discloses that the company intends to dispose of two German companies and the Danish branch of DHL Express. Following IFRS 5, assets totalling €28 m. and liabilities of €20 m. are disclosed separately on the balance sheet classified as held for sale.

Moreover, IFRS 5 defines a discontinued operation as a business that has either been disposed of or is classified as held for sale, and represents a separate major line of business or geographical area; is part of a single co-ordinated plan to dispose of a separate major line of business or geographical area; or is a subsidiary acquired exclusively with a view to resale. It also requires the results of the discontinued operation to be disclosed separately on the face of the income statement.

The pharmaceutical company Bayer (www.bayer.com) disposed of several businesses and applying IFRS 5 had to show two of them as discontinued operations. Accordingly, it disclosed separately on the face of the income statement €37 m. profit from discontinued operations. In a note the company published three tables showing an analysis of revenue, costs, and tax from discontinued operations and the net cash flows attributable to the operating, investing and financing activities of the operations.

Intangible assets

Differences also exist in the treatment of internally developed intangible assets. Under German accounting regulations self-produced intangible assets were not capitalised. However, this is contradicting IAS 38 which requires the recognition of intangible assets arising from development, provided they meet its recognition criteria. Beru AG (www.beru.com) noted an increase of 65% from €13.3 m. to €21.8 m. under IFRS as a result of the capitalisation of development costs under IAS 38 "Intangible assets".

Moreover, revisions to IAS 38 "Intangible assets" include removal of the assumption that the useful life of an intangible asset is always finite. The requirements now are that an intangible asset be regarded as having an indefinite useful life when there is no foreseeable limit to the period of expected cash flow generation arising from that asset.

To clearly distinguish the useful lives of intangible assets, the chemical and cosmetic company Henkel had in 2005 disaggregated its trademark rights and other rights assets across those with finite and indefinite lives. Additionally, it had reclassified €929 m. to assets with indefinite useful lives. The company's board was arguing that it had identified those assets with indefinite lives but, in accordance with previous IAS 38, amortised them over an assumed 20 year life. The subsequent revision of the standard allowed it to allocate an indefinite life to the assets hence the reclassification.

Another company that had to change its accounting policy was the automobile firm Porsche. The company stated that, under IAS 38 "Intangible assets", subscription rights are no longer capitalised. The accounting policies note added that vehicle development costs, which under German GAAP were expensed, were now capitalised provided that clear allocation of expenses is possible and that all the other recognition and measurement criteria of IAS 38 are met. Accordingly, during the year 2005

Porsche had capitalised €92 m. of development costs. In addition, goodwill will no longer be amortised but subject to impairment testing.

3.5. France

3.5.1. Accounting history and transition to IFRS

France appears to have many similarities with its neighbour Germany, as far as accounting practice is concerned. Its emphasis on a creditor oriented system may be traced to Napoleonic times. The German occupation in 1940 brought new ideas in France about reorganising the accounting system. Again, as a founder member of the EU, France was influenced by the EU Directives and was able to follow the development and evolution of the accounting rules in Europe.

In France, accounting law was highly controlled and related to tax law and this was concentrated on the balance sheet. Moreover, in times of high inflation tax law has permitted specific revaluations of fixed assets.

Although, German accounting according to Gray (1998) was classified as being quite secretive, in France this was not the case. The extensive use of notes to the accounts and various types of traditional disclosure like segmental reporting, management reporting and social balance sheets made French accounting quite transparent and informative.

The first Commercial law in 1807 was part of the reorganisation of French laws into Codes during the Napoleonic period. Company law was further reformed in 1867, which included a form of auditing for the public liability companies.

The National Accounting Council (CNC) came into existence in 1947, attached to the Ministry of Finance. However, the CNC had only an advisory role. The Comite de la Reglementation Comptable (CRC) was the standard-setter in French accounting.
In 1998, French listed companies were allowed to follow IASB rules. However, in 1999 the Stock Exchange Council (COB) in France stated that listed companies should still use the French GAAP as their primary accounting framework.

3.5.2. Key differences between the French GAAP and IFRS

Salter et al. (1996) indicated that in the early 1990s French companies scored above average for percentage agreements between the IAS and the national accounting practice. However, some major differences still existed between IAS and French GAAP like the lack of recognition of post-employment benefits, the capitalisation of set-up and advertising costs, the policy changes and the correction of fundamental errors that were passing through income.

Share-based payments

First of all, major differences existed in the treatment of share-based payments. According to French GAAP employee stock options plans are recorded at the date of exercise of the option as a capital increase. However, IFRS 2 states that stock options plans granted are to be accounted for as compensation over the vesting period. Moreover, compensation is determined at fair value at grant date, using a specific option pricing model like Black-Scholes, based on market conditions and on the terms and conditions of the plans.

A French company in the hotel and leisure service sector named Accor (www.accor.com) indicated some of those differences. Under French GAAP Accor disclosed share-based payment schemes and the amount of options exercisable, with no further information published. Following IFRS 2 "Share-based payment" in 2005, the company recognised a charge of €9 m. relating to equity-settled share-based payments. Expanding on the information given in 2004 and in line with IFRS 2, Accor disclosed that the fair value of the options was calculated using the Black-Scholes model, together with the assumptions upon which they are based, the number of options granted, expired and the weighted average exercise price.

The French telecommunications firm France Telecom (www.francetelecom.com) also made certain adjustments in treating share-based payments. Following adoption of IFRS 2 "Share-based payment", the company expanded its disclosures relating to its share-based incentive plans and disclosed that the fair value of share options at the date of grant was calculated according to a binomial option valuation model, together with information relating to the assumptions used. This followed IFRS 2 which required that a company disclose the weighted average fair value of options at the measurement date and information of how that fair value has been measured including: the option pricing model used and the inputs to that model. Thus, France Telecom recognised a charge of €58 m. in the income statement and an increase of €130 m. in equity in relation to its equity-settled share option schemes.

Financial instruments

French GAAP also had a lot of differences in recognising and measuring financial instruments especially in handling topics like hedge accounting and embedded derivatives.

A characteristic example comes from a well-known media and telecommunications firm in France Vivendi (www.vivendi.com), which declared that prior to IAS it valued marketable securities at cost, with a valuation allowance accrued if fair value has been less than the carrying value. Under IAS, Vivendi stated that it fair valued available for sale securities, though as a last resort, where fair value cannot be reliably estimated, financial assets were valued at historic cost less impairment losses. Consequently, marketable securities valued at €249 m. were reclassified to other investments at €1.2 bn. at 31 December 2004. Furthermore, Vivendi previously stated that most derivative instruments did not qualify as hedges and were recorded at the lower of fair value and cost, which was usually nil for interest rate swaps. However, under IFRS it applied hedge accounting to derivative financial instruments where the contracts qualified for this accounting treatment.

In addition, the French financial and insurance firm AXA (www.axa.fr) had some major reclassifications to make when it adopted IAS. The firm had previously used insurance industry specific French GAAP to account for derivatives. For items that qualified as hedges, changes in value were recognised in a similar manner to the hedged items. Derivatives that were not treated as hedges were recognised on the balance sheet at fair value, with unrealised losses recognised and unrealised gains offset by a provision until realisation. Under IFRS, AXA applied IAS 39 rules in accounting for derivatives, including hedge accounting. Consequently, it separated and recognised embedded derivatives at fair value on the balance sheet, noting that so far, the effect of this accounting method was not material. In a note, it disclosed unrealised capital gains and losses on macro hedges and other derivatives, which had a positive book value of €209 m. for insurance and negative €198 m. for other activities with a net deficit of €11 m.

Business combinations

Some differences also existed in treating business combinations. Under French GAAP amortization of goodwill on a straight-line basis over a maximum of 40 years was suggested. Market share could be recognised and was not amortised. Market share and goodwill were subject to impairment tests. Under IFRS, existing market shares as of 1st January 2004 are reclassified as goodwill and goodwill is subject to impairment testing.

For example, previously Air Liquide (www.lairliquide.com) had amortised goodwill over periods from 10 to 40 years, subject to impairment testing. Under exceptional circumstances, goodwill had been eliminated against reserves. Restructuring costs had been allocated against goodwill. Under IFRS 3, Air Liquide reversed €68 m. of goodwill amortisation for 2004. In addition, the company derecognised €108 m. restructuring costs capitalised as goodwill under French GAAP, as the costs were incurred after the acquisition. As required by IAS 36 "Impairment of assets", the company also disclosed the carrying amount of its €2.6 bn. goodwill allocated to significant cash generating units and recognised €6.6 m. impairment in the year.

Environmental issues

It should also be noted here the lack of consensus on some environmental issues between French GAAP and IAS that has created a diversity in the treatment of emission rights.

For example, Air Liquide stated that there is an absence of guidance from IFRS following the withdrawal of IFRIC 3 "Emission rights". It disclosed that, at each balance sheet date, it assessed if it had sufficient emission rights to cover its actual emissions. Where rights allocated exceed emissions, no asset was recognised and rights sold were recognised in profit or loss. Where actual emissions exceed rights, it recognised a net liability for the obligation to deliver allowances not covered by the rights received. This contrasted with several other French companies, such as Endesa, which followed the cost model under IFRIC 3 and capitalised emission rights at their fair value. However, it appears similar to that adopted by Fortum, which measured allowances received at nil value. The observed current lack of consensus does not support the aim of cross-company and cross-industry comparability. IFRIC currently plans to address the issue in the context of amendments to IAS 20 "Accounting for government grants and disclosure of government assistance" and IAS 37 "Provisions, contingent liabilities and contingent assets".

3.6. Summary

This chapter is identifying some key differences on specific items between national GAAPs and IAS/IFRS. This does not mean that these are the only differences between these national GAAPs and the implemented international standards. A summary of those differences is presented below:

Table 2 – Summary of key differences between national GAAPs and IAS/IFRS

	UK	Netherlands	Germany	France
Business combinations				✓
Non-current assets held-for-sale and discontinuing operations			✓	
Deferred taxation	✓			
Employee benefits		✓		
Environmental issues				✓
Financial instruments			✓	✓
Goodwill - intangibles		✓	✓	
Interests joint ventures	✓			
Segmental reporting	✓			
Share-based payments		✓		
Tangible fixed assets	✓			

Source: Developed by the author

*Note: ticks were used to pinpoint some key identifiable differences between IFRS and national GAAP noted in this research. Different practices in "un-ticked" areas may also exist.

It can be argued that these within-country differences on specific items between national standards and IFRS had an effect on the value relevance of accounting information. This can be inferred from the fact that these items were inter-related to earnings and book values tested by the value relevance regression model. These divergences from IFRS lead some researchers to categorise some countries as being the least capable of making an unproblematic transition into the new international standards. However, as it will become obvious during the next chapters, divergence from IFRS did not necessarily mean not value relevant financial reporting. In fact, this research is proving that countries like Germany, although quite different from IFRS, had quite high value relevant accounting information before the introduction of these international standards.

CHAPTER 4 – VALUE RELEVANCE OF ACCOUNTING INFORMATION & HYPOTHESIS DEVELOPMENT

4.1. Analysing the value relevance of accounting information

As explained earlier, value relevance regression analysis is used as the main methodology of this research. The value relevance literature is quite extensive starting from Ohlson (1995) who provided the theoretical background for these studies and ending with current articles that examine the value relevance of the newly implemented IFRS. A comprehensive analysis of some basic studies follows in order for the reader to understand the theoretical framework as well as the new input of the current study.

4.1.1. Value relevance background

Ohlson's model (1995) was based on the Efficient Market Hypothesis (EMH). The EMH originated from the study of Fama. It is important to analyse Fama's (1970) research as the main value relevance regression model of this study assumes a semi-strong form of market efficiency where, the stock price is reflecting all publicly available information (including earnings announcements). This is suggested as other private information cannot be easily captured or tested using financial reporting figures. This assumption, of a semi-strong form of market efficiency, is the underlying theoretical framework for most value relevance studies.

Fama (1970) provided important guidance to value relevance studies classifying market efficiency into three categories. He referred to a weak form of market efficiency where information is formed by historical prices, a semi-strong form where information is set using all publicly available information and a strong form of efficiency where information consisted of both private and public information. Therefore, there is a link between the relationship of prices and information that Fama suggests, and information and prices-earnings that Ohlson (1995) suggested. Moreover, the following studies identified a two-stage phase in testing value relevance. The first being when information is transferred into financial accounts (disclosure) and the second stage when accounting information is transmitted into the markets (publication and availability of information). The IASB is willing to increase the transparency in both phases, so that information provided will be more reliable for the users of the accounts.

As mentioned earlier, the theoretical justification of the regression model on the subject of using financial reporting for equity valuation was developed by Ohlson (1995). In this paper he used future earnings, book value and dividends in order to relate them to the equity market value. Earnings were used as a proxy for the information contained in the income statement, while book value was used as a proxy for the information used in the balance sheet. A change in book value would equal earnings minus dividends (referred to as a clean surplus relation). The model used was the following:

$$P_t = y_t + \sum_{\tau=1}^{+\infty} R_f^{-\tau} E_t[x_{t+\tau}^{-\alpha}],$$

Where P = market value or firm’s price at date t

y = book value at date t

R = risk-free rate plus one

E[x] = expected value of abnormal earnings at time t + τ

This format requires the change in book value to equal earnings minus dividends (net of capital contributions), which Ohlson refers to as a clean surplus relation. In order to find the relation that each of the three aforementioned variables i.e. earnings, book value, and dividends have with stock price of a certain firm, the author introduces three basic assumptions. First, that the present value of expected dividends determines the market value. Second, that accounting data and dividends satisfy the clean surplus relation, and dividends reduce book value without affecting current earnings. Third, a linear model frames the stochastic time-series behaviour of abnormal earnings. Ohlson argued that this model is based on an important implication; dividends reduce book value but leave current earnings unchanged.

Other important research study on how financial reporting can explain stock market price movement of a certain company was conducted by Joos and Lang (1994). Investigating the financial statements in companies based in three different countries namely, France, Germany and the UK, they examined the effects of different accounting measurement practices. In addition, using annual financial statement data and monthly prices and dividends for 1982-90, collected for these three countries they tried to measure the performance of these companies according to three basic financial ratios Return on Equity, Earnings Price ratio, Book to Value ratio, showing the degree of association between accounting data and stock price. They also tested the results for the period before and after the issuance of the EU Directives (Fourth and Seventh Directive) in order to observe if financial reporting comparability did improve. The degree of association between accounting data and stock price was measured using the regression:

$$MVE_{jt} = \beta_0 + \beta_1 EARN_{jt} + \beta_2 BV_{jt} + \varepsilon_{jt}\ , \qquad (1)$$

$MVE_{j,t}$ = Market value of equity for firm j at the end of the third month following the end of fiscal year t

$EARN_{j.t}$ = Earnings before extraordinary items for firm j for fiscal year t

$BV_{j,t}$ = Book value of equity for firm j at the end of fiscal year t

From the financial ratio analysis, they concluded that conservative accounting countries like Germany appear to have lower ratio indications than the other two countries. Therefore, German companies, assuming no accounting differences, seem to be less profitable than companies in the other two countries. At the same time, however, German companies seem to trade at higher multiples of earnings and book values. Low return on equity and earnings price ratio indications might be due to the German tax accounting system, which shields dividend income from taxes and potentially results in lower reported profitability but higher earnings multiples (creditor oriented accounting system). As regards the regression analysis, they found that French financial reporting was more value relevant than the UK and Germany. After the issuance of EU Directives, they found no evidence of increased r-squared, indicating that the Directives did not bring convergence between those countries.

The study of Joos and Lang (1994) is influential in this research using a pre- and post-event approach. The difference is that this research will test whether IFRS will affect the value relevance among four major EU countries. While the EU Directives were found to introduce no change in the value relevance of accounting information, IFRS revealed new information content to the users of the accounts. The Directives introduced a common ground for financial reporting practices in EU. However, due to a policy of constraints and caveats that each country adopted towards these

Directives, they did not manage to have a massive effect on the comparability of EU companies' accounts. The comparability of financial reporting across the EU is a long term target of IASB which has introduced mandatory accounting standards to the member states.

An important analysis of the regression model was also developed by Collins et al. (1997). Their research examined the value relevance of earnings and book values over time. The sample consisted of firms in the US over a period of 40 years (1953-93). The authors reported two main findings. First, the combined value relevance of earnings and book values has increased through the years. Second, while the incremental value of earnings has declined, it has been replaced by increasing value relevance of book values. Much of this shift from earnings to book values is explained in the paper by the increasing frequency and magnitude of one time items, the increasing frequency of negative earnings, and changes in the average size of firms and intangible intensity across time. What the authors are actually suggesting here is that if the income statement is smoothed and the balance sheet is left to incorporate the adjustments, the income statement will be more value relevant. Vice versa, if the balance sheet is smoothed, and the income statement is used for disclosing the adjustments, then the balance sheet will be more value relevant. Collins et al. decomposed the general regression model into two equations. This decomposition was used in Easton (1985) and was derived theoretically by Theil (1971):

$$P_{it} = \beta_0 + \beta_1 \mathrm{E}_{it} + \varepsilon_{it} \qquad (2)$$

And

$$P_{it} = \gamma_0 + \gamma_1 BV_{it} + \varepsilon_{it} \, , \qquad (3)$$

Where P = market value of equity

E = earnings in time t

BV = book value in time t

The error term captures other value relevant information not captured in earnings and book values.

It is useful to further analyse the way that Easton decomposed the model, as it will be included in the hypothesis testing part of this study. According to econometrics theory, someone is able to decompose a regression if he/she has previously checked if these two factors are interrelated. If they are, the model should not be decomposed. However, although Easton admits that the value relevance model would normally be misspecified, the purpose of the regression used in this study is different, justifying the decomposed model. The purpose of the regressions is simply to compare accounting earnings and book value to the market value of equity for information purposes. The important issue is that the information contained in earnings is not subsumed by information implicit in the market price of equity. In that way, Collins et al. (1997) were able to measure the incremental explanatory power of earnings and book value separately over time. They argued that "although to some extent, earnings and book values act as substitutes for each other in explaining earnings, they also function as complements by providing explanatory power incremental to one another". This decomposition of the model created another important variable in testing the value relevance of accounting information: the explanatory power common to both earnings and book values. This variable is important because it can be linked with disclosure (as it affects both earnings and book values) and will be further used in analysing the results of this research.

Another model in value relevance studies was presented by Hellstrom (2006), where the author investigated the value relevance of accounting information in a transitional economy like the Czech Republic. This study focused on the differences in value relevance between a transitional economy and a well-developed one. Companies from the Cekia financial database were selected for a period of 7 years from 1994 to 2001 and were compared to Finnish firms which were used as benchmark firms for developed economies. The intriguing part in this research was the way that Hellstrom tried to tackle the scale problem of an underlying undeflated price regression. The scale problem was traditionally solved by deflating the regression by stock price or lagged book values. However, the author suggests the use of a logarithmic regression. Using a popular econometric method in testing economic variables she used the log-values in both parts of the regression model.

$$\ln P_{jt} = a_0 + a_1 \ln EARN_{jt} + a_2 \ln BV_{jt} \qquad (5)$$

According to the author, such a regression would allow for a non-linear relationship between the market and accounting measures which can be assumed to lead to a more general modelling of the relationship between these measures. Although the validity of this logarithmic relation remains to be theoretically tested in the future, the empirical results indicated a 30-43% better explanation of the power of the model. Therefore, a relevant procedure can be put to the test by other researchers. It is noteworthy, that when this model was tested for the current research, r-squares did in fact improve. However, as the general picture and comparative results did not change with all the figures moving up respectively, it was decided to proceed using Ohlson's not-logged regression model. Another reason was that although the model is working better, the theoretical justification behind the logged model is still missing.

The general regression model (1) has been extensively used on several other occasions. Another application of this model can be found in the research conducted by White (1999) who in his PhD thesis examined the value relevance of accounting earnings and book values in Germany, Japan and the US for a period of 9 years (1986-95). The author also decomposed the model in order to find the explanatory power of earnings and book values separately for each country. The explanatory power of book value for market value of equity was found to be higher than that of earnings in Japan and Germany. In the US, the value relevance of earnings was found to be relatively higher than the book value, which was a surprising result given that FASB is balance sheet oriented. The implications of White's study show that investors in Germany and Japan pay more attention to book value figures as they were found to be more correlated than earnings, while investors in the US are more interested in earnings' figures. The study by White is significant in that it concludes by stating that using a single set of accounting standards is unwise given the diversity in the use of financial statements. The aim of this study will be to examine whether IFRS will manage to change financial statements' value relevance and will also provide information that can help the users of the account make economic decisions.

Arce and Mora (2002) also applied the regression model (1) to test the value relevance of earnings and book values to the market value of equity focusing on the distinction between code law and common law accounting countries. They hypothesised that differences in accounting rules were mostly responsible for the differences in the value relevance of accounting information. They examined a sample of eight European countries (two common law, six code law) for a period of 8 years (1990-98). They concluded that in code law countries, book value is more value relevant than earnings and vice versa for investor oriented countries. However, in France earnings were found to be more relevant. Value relevance of accounting information (both earnings and book value) was found to be greater in France, the UK and Germany. This research will also test the difference in the value relevance of accounting information between code law and common law accounting systems.

Equally important research was conducted by Ali and Hwang (2000). Using a sample of manufacturing firms in 16 countries for a period of 10 years (1986-95), they explored the relationship between measures of value relevance of financial accounting data and several country-specific factors suggested in previous research. More specifically, they decided to focus on five country-specific factors relating to the value relevance of accounting information and came up with important conclusions. Firstly, they found that the value relevance was lower for bank-oriented financial systems in different countries (as opposed to market-oriented). In order to measure the difference, they used debt-to-asset ratio. Consistent with Berglof's (1990) argument, firms in bank oriented systems are expected to have higher debt-to-asset ratios. Secondly, they suggested that value relevance was lower where private-sector bodies were not involved in the standard-setting process and Government was the only standard-setter. Thirdly, they argued that value relevance was lower for Continental model countries than British-American model countries (using accounting clusters, they divided countries into British-American, Continental, South American and Mixed Economy). Fourthly, they concluded that value relevance was lower when tax rules significantly influence financial accounting measurements. Finally they discovered that value relevance was higher when more was spent on external auditing services. Their basic argument focused on the fact that inter-country differences had the ability to interfere and change the relationship between accounting numbers and stock market metrics.

Germany has been extensively used in the value relevance literature as an example of a country moving from national GAAP to IFRS. There are numerous important studies that examine value relevance in Germany before and after the implementation of the international standards. A major role for the frequent use of Germany was the stakeholder orientation of the German GAAP and its historical cost accounting model that offered a good chance for researchers to contrast it with the newly introduced IFRS shareholder orientation and the fair-value accounting model. Germany also has a strong legal system in terms of rule of law and efficiency of the judicial system to ensure compliance with the chosen accounting standards.

Hung and Subremanyam (2004) were among the first studies trying to test the effects of adopting IAS and the value relevance for a sample of German firms between 1998 and 2002. Their study depended on 80 German firms that voluntarily adopted IAS. They found that book value plays a greater valuation role under IAS than under German GAAP. They also suggested that the contrary is happening for the explanatory power of earnings. They concluded that the variability between book values and earnings is higher under IAS than under national GAAP.

Moreover, Lin and Paananen (2007) also explored the value relevance of book values and earnings under IAS (2000-02) and IFRS (2003-04). Their sample consisted of German listed firms tested from 2000 to 2004. They compared these periods to 2005 results to see whether the mandatory adoption of IFRS has changed the value relevance of accounting information. They inferred that the fair-value orientation in IFRS increased the incremental explanatory power of both earnings and book values, with the market relying more on book values. Between IFRS (voluntarily) and IFRS (mandatory), they found that the incremental explanatory power of book values decreases significantly due to the larger and more profitable companies.

Schiebel (2007) also examined the value relevance of German GAAP versus that of IFRS, coming up with some intriguing results. He used German consolidated financial statements over a period of four years from 2000-2004. In this research the author regressed market capitalisations on IFRS consolidated equity book values of companies listed on the Frankfurt Stock Exchange. The main hypothesis of this research was that perfect value relevance would have been demonstrable if the consolidated equity book values had been so close to the market capitalisations that a regression analysis with market capitalisations as the dependent and consolidated equity book values as the independent variable would have shown a regression slope not statistically significantly different from 1. Against others, Schiebel concluded that value relevance under German GAAP was statistically higher from that observed under IFRS.

All these studies analysed the value relevance of accounting information in different countries. Many researchers used a before-after approach (for example, before and after the introduction of the EU Directives) in order to test whether the value relevance of accounting information increased or not after a certain event. Other studies tried to take advantage of the fact that some firms voluntarily adopted IAS before the mandatory application of these standards in 2005 or studied firms' reconciliation from national GAAP to IFRS.

The novel part of this study will be, using the theoretical background developed by these studies, to examine the actual value relevance effect of the transition of four EU countries into IFRS. For the first time, annual published financial statements will be used to compare the period before IFRS were introduced (2003-2004) with that after the implementation of IFRS (2005-2006). These statements offer the unique chance of studying the difference between national GAAPs and IFRS with respect to the value relevance of accounting information.

4.1.2. Factors affecting the value relevance of accounting information

Value relevance studies have long been debated in the accounting literature. Over the past few years certain factors have been identified as able to affect the regression analysis. Such factors may come either from dropping several assumptions that underlie the value relevance equation or may originate from the variety of market conditions and accounting practices observed in European countries. Some of these factors are analysed and explained below to help the reader comprehend this particular research environment.

Market inefficiency & information asymmetry

Traditionally, value relevance of accounting information models were based on market efficiency. More specifically, as explained earlier, value relevance regression model is based on the assumption of Fama's semi strong form of efficiency. Ohlson's model was tested based on that argument and many other researchers followed his example.

Important research that tested the effect of information asymmetries came from Leuz and Verrechia (2000). Although this study was not directly related to the value relevance of accounting information, it still provides us with important research ideas.

They suggested that information asymmetries create costs that reduce liquidity and increase firms' cost of capital. The only way to reduce information asymmetries is by offering increased disclosure to the users of the accounts. In that way, information asymmetries will diminish and proceeds will increase accompanied by lower costs of capital. Therefore, the objective of IASB in increased disclosure under IFRS seems justified using the authors' logic.

Many other researchers tried to examine the effects of dropping the market efficiency assumption or observing if this regression model also holds for inefficient markets. They examined whether inefficient information as well as information asymmetry can affect the value relevance regression model.

First, market inefficiency in value relevance of accounting information was introduced by Aboody, Hughes, and Liu (2002). They suggested that recent market "anomalies" challenged the implicit belief that the semi-strong form of market efficiency must hold. They showed that information about the measurement error could be extracted from future price changes under the weak assumption that all inefficiencies resolve over time. They did this by deriving a residual income based intrinsic value, and regressing stock return on a deflated lagged price. Their results provided strong evidence that conventional price regressions failed to capture the price effects of information contained in accounting variables that can be better captured using a return regression model.

Furthermore, Goodwin et al. (2002) tested value relevance in an inefficient economic environment. They argued that as information is typically not homogeneous, information not recognised in financial statements should also be value relevant. In addition, they connected Efficient Market Hypothesis and value relevance to a two-step procedure. In the first stage, information is transmitted to and filtered by the accounts. At the second stage, accounting information is transmitted to the markets. The important element in their research was that they took into account the possibility of market inefficiency, separating the testing of value relevance and market inefficiency. They even suggested a new classification of market efficiency that will fit better to value relevance i.e. to categorise information as either recognised in the financial statements, disclosed in the notes of the financial statements but not recognised, public information not in the financial statements, and private information.

In addition, Dontoh et al. (2004) provided a good example of the role market inefficiency plays in value relevance of accounting information by publishing research on the declining value-relevance of accounting information and the "Non-information based trading", which they defined as the unwanted noise that may distort the results of value relevance studies. They suggested that due to that noise there is an observed temporal decline in the association between stock prices and accounting information (earnings and book values). If, according to the authors, the accounting variables reflected nothing but information about changes in fundamental value, and no other data provided such information, the association between accounting variables and fundamental value would be perfect. However, the existence of non-information based trading (NIB) moves prices away from the security's fundamental value. In order to test this argument they used the approach of Collins et al. (1999) based on Ohlson's model. As, according to their observations, r-squares of the equation decreased over time, they continued to use a proxy for non-information based trading (NIB) by using parameters of the distribution of individual analyst's earnings forecast revisions and subtracting estimated information based trading from trading volume to obtain NIB trading. Their sample consisted of all the Compustat Industrial Annual database firms from 1983 to 2000, and for which the IBES database had data on individual analysts' one-year-ahead forecasts of earnings per share. Their conclusions found support for their theoretical prediction that the decline in the value relevance of accounting information may be due to non information based trading volume. Interestingly enough, this decline in value relevance over time was not depicted in this study after the exclusion of outliers in the sample data.

Scale effects and their impact on r-square observations

According to several researchers (Brown et al. 1999), scale effects play an important role in the value relevance regression model as they can distort the r-square observations. This study has also employed a number of measures in order to mitigate, and when possible eliminate, that effect.

Furthermore, Barth et al. (2001) comment on the fact that large capitalisation firms illustrate increasing value relevance. They suggest that this happens because larger firms typically have larger values for each variable. They also note that an underlying assumption of the regression model is that firms with more equity book value and more earnings will have higher market value of equity. That is, economically successful firms will have that success reflected in equity market value and in accounting performance measures. The authors tried to limit these scale effects as is also done in this research. The argument against that point may be that large capitalisation firms might already have developed high value relevant reporting with limited space for improvement. Therefore, it cannot be easily suggested that value relevance will remain high for a particular group of firms. This research clearly indicates that there is a lot of differentiation in the value relevance across different countries, groups of companies and even financial years.

Jermakowicz et al. (2007) also showed that firms with different market capitalisation can face distinct problems in implementing IFRS. The authors identified several drawbacks that high capitalisation DAX-30 German firms came across in adopting IFRS. Some of them were: the lack of uniform interpretation of IFRS, the continuing debate over IAS 39, the running of parallel accounting systems, the preparation of comparative financial statements for the past years, the lack of IFRS knowledge amongst employees and auditors, and the difficulties in training accounting staff and management. They also focused on the problem of harmonisation and streamlining of internal and external reporting, also noted in this research. The authors came to conclude that the benefits of implementing IFRS may differ across time periods, countries, and different size firms.

Regression models are based on r-square which is a measure of the explanatory power of the independent variables in a linear regression. In the regression of price on earnings and book value, r-square explained the degree of the association between stock market prices and financial reporting.

A primary concern in analysing r-square observations stems from coefficient bias, which can result from an omitted correlated variable related to scale. This concern arises as larger firms are expected to have larger values for each variable. According to Barth and Clinch (2001) the scale factor problem arises from the underlying assumption in equation (1) in which firms with more equity book value and more earnings have a higher market value of equity. Thus, economically successful firms have that success reflected in equity market value and in accounting performance measures. Moreover, as Brown et al. (1999) indicated, a positive relation between stock price and EPS in per share levels regression is likely to be exaggerated because some stocks have larger scale than others.

Moreover, heteroscedastic regression errors can also result from scale differences across firms. Although heteroscedasticity does not result in coefficient estimation bias, it can reduce estimation efficiency. Because the standard method for calculating coefficient estimate standard errors and thus, t-statistics is to assume homoscedasticity, these calculations may be incorrect. Barth and Kallapur (1996) also refer to this problem for testing the value relevance in cross-sectional studies.

Two approaches are commonly used to deal with scale problems associated with an omitted scale variable. The first is to include a proxy for scale as an explanatory variable in (1), and the second is to estimate r-square after deflating all variables by a scale proxy, like the number of shares outstanding.

Within-country factors can affect the value relevance of accounting information on the observed European countries. Factors such as: company size, company growth, and the stock market can affect the comparisons that will be made among different countries. Therefore this study aims at easing their influence using some proxies that will help eliminate extremes. As a proxy for company size, this research will use market capitalization; a proxy for company growth will be the growth to sales ratio, whilst price earnings ratio will be used as a proxy for stock market factors.

The explanatory power of earnings and book values

Certain factors seem to have the ability to affect the explanatory power of earnings and book values over time. Issues like intangible assets, reporting frequency of "one-event" items, negative earnings and accounting rules can contribute to the value relevance of earnings and book value.

Intangibles can be seen as the intellectual capital of a company comprising three main aspects according to IFAC (1998): human capital, relational capital (network) and organisational capital (structural), like brands, trade marks, and internet domain names. As far as intangible assets are concerned, Amir and Lev (1996) argue that financial reporting is of limited value for investors when valuing service and technology-based companies that invest in intangibles (R&D, human capital, and brand development). When companies have large amounts of unrecorded intangibles, financial reporting information could be misleading. In intangible-intensive industries we would expect to observe some noise over how earnings and book value are related to financial reporting. A characteristic example is the reporting of goodwill in the accounts. According to FRS 10, only goodwill purchased and not internally generated goodwill should be recognised in accounts. It is argued that the difference between market and book value represents the value of a firm's intellectual capital. Intangible assets are certainly a difficult matter to evaluate. For that reason, this study will not use firms from intangible-intensive industries like cellular telephone industries. In that way, a possible distortion of the results towards earnings, book values or both will be avoided.

"One-event" items tend also to affect the explanatory power of earnings over financial reporting. Elliot and Hanna (1996) argue that the market places less weight on special items than on earnings before special items. In that way, value relevance of earnings should be decreasing in non-recurring items. These items can also have an effect on book values. Researchers argue that firms separate from non-core businesses and firms experiencing financial difficulties are more likely to report one-event items than others. Therefore, book value relevance would increase for these items. In order for the current study to control these effects it was decided (as in Collins et al. 1997) to remove, during the sampling process, the top and bottom one and a half percent of either earnings to price or book to market values as well as the one and a half percent of firms with the most extreme values of one-time items as a percentage of income.

Furthermore, negative earnings can also affect the value relevance of earnings and book value. Collins et al. (1997) argue that value relevance shifts from earnings to book value when earnings are negative or firms face financial distress. They support the view that a firm's abandonment value becomes more relevant for assessing shareholder value as the firm experiences losses or financial difficulties. If book values are more closely associated with a firm's abandonment values than earnings, abandonment becomes more likely so the explanatory power of book value increases. That is why a dummy for firms with negative earnings is included in this research's model.

Increased disclosure

There are some studies that suggest that increased disclosure under national GAAP or even IAS/IFRS can change the value relevance of accounting information. Disclosure effects are studied in this research by examining changes in the explanatory power common to both earnings and book values (following Collins et al. 1997).

Alford et al. (1993) examine whether disclosure practices can lead to significant differences in the usefulness of accounting earnings. The authors analysed an extensive set of 17 countries with a variety of accounting standards. Their results reveal significant differences in the timeliness and information content of accounting earnings. France, the Netherlands, and the UK were found more informative or timelier than the US. Annual accounting earnings for Germany, Italy, and Sweden reflected less timely or less value relevant information than in the US accounting earnings.

Lapointe et al. (2006) explored the effect of voluntary disclosures on the value relevance of earnings. Their sample consisted of 90 Swiss firms tested for a period of 4 years. They used regression analysis and suggested that firms voluntarily disclose more information in their annual reports or comply with IAS or US GAAP make less use of discretionary accruals to smooth earnings than firms that do not. They also argued that voluntary disclosure is a substitute to voluntary compliance with IAS/IFRS. They also found that investors put a significantly lower valuation weight on discretionary accruals reported under IFRS, and interpreted this evidence as investors being in a better position to detect discretionary accruals when the firm either voluntarily discloses more information or voluntarily complies with IAS/IFRS.

These different papers can show the range of techniques used in testing the value relevance of accounting information and the possible problems that researchers need to resolve to increase the validity of their results. Certain factors affecting the value relevance were also analysed. After presenting the background studies on value relevance, the aim of the next section will be to explain how the need for the new study and the new hypotheses were developed.

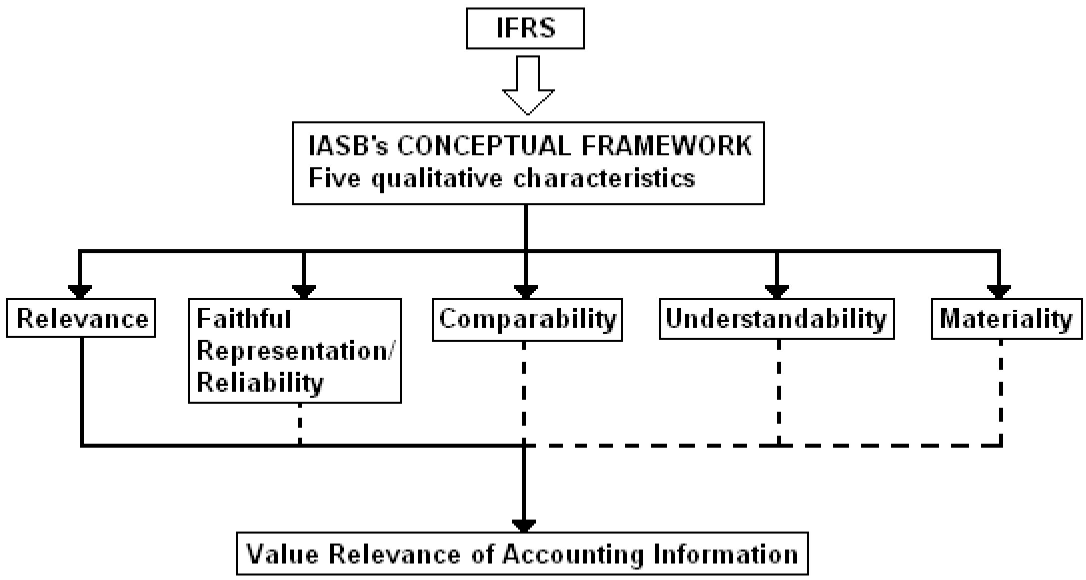
4.2. Development of the hypotheses tested

4.2.1. How value relevance of accounting information relates to the harmonisation idea and IFRS?

This research will mostly be concerned with examining whether the introduction of IFRS affected the value relevance of accounting information in European countries, i.e. whether IFRS has increased or decreased the association of financial reporting numbers with stock market price of listed companies.

A logical question that might be asked is: Where is the connection between value relevance and IFRS? An answer to this question is given in the figure presented below.

Figure 2 – Qualitative characteristics of financial statements



Source: Developed by the author

This research's aim is to examine whether IFRS can be more value relevant than national GAAPs, thus more useful for the users of the accounts. This diagram will assist in suggesting that increased value relevance is within the concepts of IFRS.

It can be observed that international standards' aims are analysed and explained through the IASB's and sometimes also through the FASB's Conceptual Framework (there are similarities given that both boards' target is convergence). The first one has given great importance to five qualitative characteristics that financial statements should comply with: relevance, faithful representation/reliability, comparability, understandability, and materiality. IASB's definition of relevance is:

"Information must be capable of making a difference in the economic decisions of users by helping them evaluate the effect of past and present events on future net cash inflows (predictive value) or confirm or correct previous evaluations (confirmatory value), even if it is not now being used."

Although, "relevance" is directly related to "value relevance", other qualitative characteristics can also play a role in the value relevance of accounting information. For example, faithful representation is about the correspondence or agreement between accounting measures or descriptions in financial reports and the economic phenomena they purport to represent. Thus, when faithful representation increases, value relevance should also increase. In the same way, comparability, undestandability, and materiality are also correlated with the value relevance of accounting information.

Moreover, the FASB has further categorised these qualities into primary qualities like relevance and reliability, a secondary quality i.e. comparability, and understandability which is defined as a user specific quality.

The assumption of this study is that if relevance has been enhanced after IFRS, increased value relevance should also be detected. Therefore, the question of whether these standards can increase the value relevance of accounting information in EU countries goes back to the roots of the existence of IFRS.

The basic research question is: *"Are International Accounting Standards more value relevant than European National GAAPs?"*. If the answer to this question proves to be "yes" then IFRS are moving towards these qualities and are most likely to improve the availability of information for investors. However, if the answer proves to be "no", then additional measures might be necessary for the IASB to make a turn towards these important principles.

Based on this question, we will start forming our hypotheses to be tested. However, due to time constraints and lack of availability of data it is not possible to examine each country inside the EU, so the researcher has decided to focus on four selected countries. The selected countries i.e. the UK, Germany, France and the Netherlands concentrate more than 75% of the total market capitalization in Europe according to the European Securities Exchange Statistics (2004). Therefore, they are a fairly representative sample of the firms adopting IFRS in Europe.

Furthermore, as each of them has a different capital market, a distinct accounting system and different overall size (GDP) it was decided to divide our hypothesis into five sub-hypotheses corresponding to these countries. In that way the researcher will be able to test whether there will be some contradictory results as to the direction of the effect of the value relevance of accounting information. In some countries the value relevance may increase, whilst in others value relevance may decrease after the adoption of IFRS.

Another thing that needs to be mentioned here is that many of these hypotheses are not directional. The reason for neutralising the hypotheses was that for an exploratory study of this nature it was considered more appropriate to assume no direction in the development of the hypotheses. Another reason may be that as the IFRS are quite new to accounting history, there are many controversial views on their implications and importance. So, in some cases results may go the opposite way to what we would normally expect for some countries in the EU.

Last but not least, the researcher has decided to test also how some *pairs of countries* may react to the introduction of IFRS in relation to the value relevance of accounting information. Therefore, some group hypotheses were also employed in the hypothesis development. For example, countries were categorised into creditor oriented and investor oriented accounting systems. Although some researchers may argue that nowadays such a categorisation could be in some cases problematic, this study suggests that some undeniable similarities among certain countries that lead to these groupings would help the analysis of this research.

4.2.2. Hypothesis testing

The basic research question is the basis for the formation of the first hypothesis. The underlying assumption of this research will be that the adoption of IFRS will change the value relevance of accounting information in these four countries. This research should allow the researcher to test the validity of this hypothesis for each country by making within-country comparisons of the period before IFRS were introduced with that after IFRS took effect.

Moreover, this study will test whether two pairs of countries will react differently after IFRS. For that reason a last sub-hypothesis will be included separating the countries to investor and creditor oriented accounting systems. Many researchers have studied the value relevance through this distinction in creditor-investor oriented accounting systems like Zysman (1983), Alford et al. (1993), Nobes (1998), Ali and Hwang (2000), and Lind and Paanen (2006). Investor oriented countries are normally expected to convey more value relevant information in financial reporting than creditor oriented countries do. However, no one can yet be sure how IFRS will affect this perception. This effect will be measured by comparing the difference in value relevance (r-square after IFRS minus r-square observation before IFRS) before and after IFRS for investor and creditor oriented countries. Germany and France will represent the creditor oriented accounting system as this pair has being extensively used like that in the literature. Also, as the Dutch GAAP has many similarities with the UK GAAP (ICAEW 2007), both being investor oriented accounting systems, it was grouped with the UK GAAP. Hence, it is hypothesised that:

H_1: ***"The adoption of IFRS will change the value relevance of accounting information in the EU"***

$H_{1.1}$: *"The adoption of IFRS will change the value relevance of accounting information in the **United Kingdom**"*

$H_{1.2}$: *"The adoption of IFRS will change the value relevance of accounting information in the **Netherlands**"*

$H_{1.3}$: *"The adoption of IFRS will change the value relevance of accounting information in **Germany**"*

$H_{1.4}$: *"The adoption of IFRS will change the value relevance of accounting information in **France**"*

$H_{1.5}$: *"The* **investor oriented countries** *(UK, Netherlands) will have different value relevance from the* **creditor oriented** *ones (Germany, France) after the adoption of IFRS"*

In addition, as already mentioned, the IFRS seem to emphasize the primary importance of the balance sheet over the income statement. The recognition of intangibles as well as other factors can play an important role in measuring the value relevance of accounting information. Earnings and book value in this research are treated to move inversely to one another as regards the value relevance of accounting information, as in Collins et al. (1997). Historically there were two views in accounting. UK practitioners promoted the importance of the income statement over the balance sheet. On the other hand, standard setters in these countries and in other countries in Continental Europe promoted the importance of the balance sheet over the income statement. Surprisingly, the IASB seems to adopt the latter viewpoint. Although IFRS had its origins in London and IASB is composed of a great number of Anglo-Saxon members, it seems to base its standards on a balance sheet oriented, fair value model, where the emphasis is on measuring the fair value of companies assets and liabilities. The measurement of net income will then rely on changes in the fair value of net assets.

Moreover, according to Haller et al. (2005), as the IASB has not yet decided on a single measurement basis for assets and liabilities (measuring some of them on a historical cost basis and others on a fair value basis known as a mixed attribute model), the determination of net assets as well as profit is influenced by a mixture of different measurement bases. IASB is primarily concentrated on recognition and measurement, paying less attention to the presentation of profit. As the IASB leaves many details regarding performance reporting to the discretion of the preparer of financial statements, companies feel tempted to use national rules in the absence of detailed IAS/IFRS. In some cases, even though companies are not compelled to use national rules, they prefer to carry on using familiar accounting practices than move onto using a new accounting approach. Nevertheless, it should be noted that IASB is currently (2007-2008) working on a new standard on the presentation of financial statements.

In order to test the second hypothesis the decomposition of the model (equations 2,3) was employed. Therefore the hypotheses will be:

H_2***: "The adoption of IFRS in the EU will increase the incremental explanatory power of book value, decreasing that of earnings"***
$H_{2.1}$*: "The adoption of IFRS in the* ***United Kingdom*** *will increase the incremental explanatory power of book value in this country, decreasing that of earnings"*
$H_{2.2}$*: "The adoption of IFRS in the* ***Netherlands*** *will increase the incremental explanatory power of book value in this country, decreasing that of earnings"*
$H_{2.3}$*: "The adoption of IFRS in* ***Germany*** *will increase the incremental explanatory power of book value in this country, decreasing that of earnings"*
$H_{2.4}$*: "The adoption of IFRS in* ***France*** *will increase the incremental explanatory power of book value in this country, decreasing that of earnings"*

Moreover, it would be important to observe if firms with low, medium, and high market capitalisation will experience a change in value relevance of accounting information after the adoption of IFRS. It was mentioned earlier that company size can affect the value relevance of accounting information as in Hayn (1995), Collins et al. (1997), and Barth and Clinch (2001). This study is the first to test the role of market capitalisation in comparison with the change in value relevance after the adoption of IFRS by dividing the sample in small, medium, and large cap firms. The proposed hypotheses are:

H_3 ***: "The adoption of IFRS in the EU will have different effects on small, medium, and large capitalisation firms"***
$H_{3.1}$: *"The adoption of IFRS in the* ***United Kingdom*** *will have different effects on small, medium, and large capitalisation firms"*
$H_{3.2}$: *"The adoption of IFRS in the* ***Netherlands*** *will have different effects on small, medium, and large capitalisation firms"*
$H_{3.3}$: *"The adoption of IFRS in* ***Germany*** *will have different effects on small, medium, and large capitalisation firms"*
$H_{3.4}$: *"The adoption of IFRS in* ***France*** *will have different effects on small, medium, and large capitalisation firms"*

Analysing these sets of hypotheses will indicate whether IFRS is capable of improving the correlation between stock market and accounting numbers. It will also show us whether IFRS are moving in the right direction for each of the observed countries or if additional measures are needed for IASB to succeed in its goals.

4.3. Summary

This chapter has made an analytical presentation of the previous literature on the value relevance of accounting information. The basic methodology and regression models used were presented and explained. Moreover, current studies on value relevance and IAS/IFRS were also examined. Previous studies were not able to use annual financial reporting data to compare the pre-IFRS and post-IFRS period. The development of the hypotheses to be tested was also presented. These hypotheses were based on the aforementioned theoretical framework, taking advantage of the new set of available data.

CHAPTER 5 – METHODOLOGY AND DATA COLLECTION

5.1. Methodology

Valuation model

The model is based theoretically on Ohlson (1995) who tried to express the value of a firm's equity as a function of its earnings and book value. Many researchers after Ohlson used the following price regression model to measure the value relevance of accounting information in different countries:

$$P_{it} = a_0 + a_1 E_{it} + a_2 BV_{it} + \varepsilon_{it}, \qquad (1)$$

Where P_{it} = share price of a firm i three months after the end of fiscal year t,

E_{it} = earnings per share of firm i at the end of the year t,

BV_{it} = book value per share of firm i at the end of year t,

And ε_{it} = error term, i.e. other value relevant information that cannot be captured by earnings and book value figures.

However, model (1) seems to be rather simplistic. Nowadays, other factors have been incorporated to improve the credibility of the model. Using the approach of Collins, Pincus and Xie (1999), and Dontoh et al. (2004), stock price is expressed as a function of its earnings and book value after controlling for differential accounting information conveyed by loss and profit firms. The inserted dummy variable will simply be one for loss making firms and zero otherwise. The importance of the insertion of such a variable into the model as well as the importance of the information content of losses is a well studied subject in the accounting literature (Hayn, 1994). Therefore the model will become:

$$P_{it} = a_0 + a_1 E_{it} + a_2 BV_{it} + a_3 DL_{it} E_{it} + a_4 DL_{it} BV_{it} + \varepsilon_{it} \,, \qquad (4)$$

Where, P_{it} = share price of a firm *i* three months after the end of fiscal year *t*,

E_{it} = earnings per share of firm *i* at the end of the year *t*,

BV_{it} = book value per share of firm *i* at the end of year *t*,

DL_{it} = indicator variable that is one if earnings are negative and zero otherwise,

And ε_{it} = error term, i.e. other value relevant information that cannot be captured by earnings and book value figures.

This study will make use of the augmented model (4) in order to observe whether the value relevance will change. This model was tested and found more capable of explaining the dependent variable showing higher r-squares and lower standard errors. The new model also allows control of the effect of negative earnings (mentioned by Collins et al. 1997) by allowing the coefficients for the loss and profit firms to be different.

At that point it should be mentioned that in some cases researchers also use a returns regression instead of a price regression or both as independent variables. For example Joos and Lang (1994) used both approaches to measure value relevance. The results from the price's as well as from the return's regressions were similar in that research.

However, according to Kothari and Zimmerman (1995) researchers suggest that in price models the slope or earnings response coefficients are less unbiased than those in return models. However, returns models have less severe heteroscedasticity problems. As both models have their weaknesses, the authors' suggestion is that researchers should be aware of the econometric limitations in designing their experiments. Based on the above, it was decided to use a price regression for this research and take all the necessary precautions to increase the validity of this research. In addition, some necessary clarifications should be made. Firstly, the earnings variable refers to earnings before interest and tax. Moreover, finance and utility firms are excluded as they have a different structure in financial reporting and the relationships among different financial statement items can be different. Thus, the samples would not be comparable.

All the variables in the regression are deflated with a scale proxy, which is the number of issued shares (Collins et al. 1997). Again, many other researchers have used other variables like total assets (Brown et al. 1999). Both measures seem to be quite reliable in deflating these variables. This measure is employed to diminish the heteroscedasticity effect. As was already mentioned, the best possible way to take into account heteroscedasticity is to deflate all variables by a scale proxy, as number of shares outstanding.

Furthermore, previous studies like Collins et al. (1997) using a time period of more than ten years also take into account a time trended variable. This variable was mainly used as time could have a serious effect on their observations. For example, a general market recession could affect a specific period in time and thus distort the results. However, due to the limited time lag of the current study (two financial years before IFRS, two years after IFRS), time trended factors are assumed not to play a significant role to our model. Therefore, such factors were not included in the model, although needed for studies with a greater time horizon like Collins et al. (1997) who investigated the value relevance over a forty year time period and included a time-trended variable.

Standardised beta coefficients and r-square decomposition technique

During the data analysis, adjusted r-square and standardised beta coefficients are used for comparison, in order to take into account variations in standard errors and in standard deviations, respectively. Standardised beta coefficients are able to offer us a robust number of differences between the explanatory power of book values towards earnings and earnings towards book values. Beta coefficient analysis appears in many accounting papers like Ball et al. (2000), and Dontoh et al. (2004).

However, another well-known technique was also used; Collins et al. (1997) used the r-square decomposition method, in order to take into account another important measure in the value relevance of accounting information. Collins used the explanatory power common to both earnings and book values which is not captured by the beta coefficients. This decomposition technique consists of three main parts:

(i) The incremental explanatory power of earnings

(ii) The incremental explanatory power of book value

(iii) The explanatory power of both earnings and book value

The decomposition of the model was used by Easton (1985) and first developed by Theil (1971) and was thoroughly explained along with its weaknesses during the literature review. The decomposed model is:

$$P_{it} = \beta_0 + \beta_1 E_{it} + \varepsilon_{it} \ , \tag{2}$$

$$P_{it} = \gamma_0 + \gamma_1 BV_{it} + \varepsilon_{it} \ , \tag{3}$$

If we denote the r-squares from the three equations as

$\bar{R}_T^2$ = total r-square of both earnings and book values (1),

$\bar{R}_2^2$ = r-square of the second equation, and

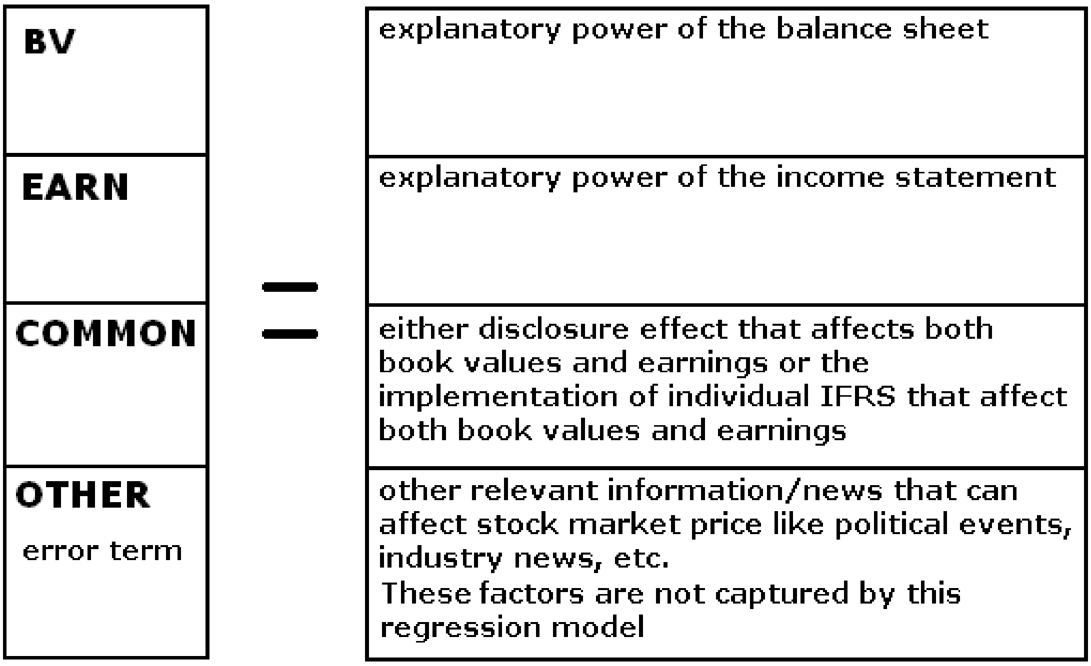
$\bar{R}_3^2$ = r-square of the third equation,

Then we will have that $\bar{R}_T^2$ - $\bar{R}_2^2$ = $\bar{R}_{BV}^2$, which will be the incremental explanatory power of the book value

And $\bar{R}_T^2$ - $\bar{R}_3^2$ = $\bar{R}_E^2$, which will be the incremental explanatory power of earnings.

The remaining $\bar{R}_T^2$ - $\bar{R}_{BV}^2$ - $\bar{R}_E^2$ = $\bar{R}_C^2$, will represent the explanatory power common to both earnings and book value. In this study this value will represent the disclosure effect.

Figure 3 - Factors affecting the stock market price



Source: Developed by the author

The explanatory power common to both earnings and book values is an important figure in the overall trade off between book values and earnings. It can be considered either as capturing the disclosure effect or as dependent to specific IFRS standards. This statement can be further analysed as follows: IFRS introduced more disclosure for European listed companies. Increased disclosure can affect both the balance sheet and the income statement. Therefore, an increase in the explanatory power common to both earnings and book values can be considered as the power of increased disclosure to explain the stock market price better.

Another explanation for this variable is that it may come from individual standards that affect both the balance sheet and the income statement, not solely the one or the other, or valuing the one distorting the other. For example, a standard that affects the balance sheet and the income statement is IAS 39. When a company applies IAS 39 it has to recognise the fair value of financial assets and liabilities, including derivative instruments on the balance sheet. Thus, the value relevance of the balance sheet will increase. At the same time, the firm has to include unrealised gains or losses to the income statement. Hedge accounting is used to reduce the income statement's volatility. Consequently, this standard has an immediate effect on both statements and can be categorised as common explanatory power to both earnings and book values in the regression model. The same is happening with IAS 17 which requires the capitalization on balance sheet at fair value of leases that were held off balance sheet. This has a significant impact on both statements (finance leases on balance sheet and operating leases in income statement). Therefore, it can be suggested that particular standards' implementation in specific countries drive this common explanatory power to be more value relevant than both the incremental explanatory power of book values and the incremental explanatory power of earnings.

The analysis of both the general (H1, H2, H4) and the decomposed model (H3) will be essential in our hypotheses testing.

Outliers and the use of z statistics

This research collects accounting information by randomly selecting 50 firms each year (2003 to 2006) coming from each of four major European countries. Regression results will reveal that there are some outliers in these randomly selected samples. As random sampling can offer the reader an important insight of how value relevant a specific market is, it was decided to analyse samples including outliers. However, this data was also compared to the same samples when outliers were identified and excluded from the regression results. Collins et al. (1997) have also measured r-squares after the exclusion of outliers. In linear regression outlier is an observation with large residual. In other words, it is an observation whose dependent variable value is unusual given its values on the predictor variables. Outliers can be identified from SPSS using histogram, scaterplot, or the SPSS boxplot. This research employs the SPSS boxplot to identify outliers. Outliers are defined if the y extends 1.5 box-lengths from the edge of the box, while extremes are those that extend more than 3 box-lengths from the edge of the box. The 5% trimmed mean (elimination of the top and bottom 5% of the cases and recalculation of the mean) was also compared with the original mean observed extremes' influence.

In order to compare r-squares coming from different sample sizes, z scores were employed. Brown et al. (1999) suggested that it is inappropriate to use r-square to make comparisons between different samples using a levels regression like model (1). The z score test is based on the statistical properties of r-square as in Cramer (1987). This test is extensively applied by Joos and Lang (1994), Harris et al. (1994), Arce and Mora (2002). It comes from the following equation:

$$Z = \frac{R_1^2 - R_2^2}{\sqrt{\sigma_{R_1^2}^2 + \sigma_{R_2^2}^2}},$$

where R_1^2, R_2^2 are the r-squares for countries 1 and 2 that are being compared and $\sigma_{(.)}^2$ its variance. As will become clear, a positive z score value will mean that r-square from country 1 is higher than r-square from country 2, and the other way round. Under the null hypothesis of no difference between both r-squares, the z statistic is approximately standard normal.

The z score will be used to compare total r-square figures across countries as well as book values' and earnings' incremental explanatory power across countries. In that way, the analysis after the exclusion of outliers will be a lot more meaningful and reliable.

5.2 Data collection

This research has taken several steps in order to identify a comparable sample of firms out of the population of companies in these countries. The sampling process is presented below:

- Step 1: Selection of countries and listed firms
- Step 2: Exclusion of ADR's, financial & utility firms (using GICS)
- Step 3: Prior to 2005 include only firms using domestic GAAP and full consolidation (first-time adopters IFRS1). Companies voluntarily following IAS (early adopters) or US GAAP were also excluded. This will be the final population of firms out of which random sampling will follow.
- Step 4: Scale proxies: market capitalisation, P/E, growth/sales (eliminate top & bottom 1.5 %, control for effects of extreme values)
- Step 5: Randomly select 50 firms from each country for each year

Selection of countries and firms

For the purpose of this research four major European countries were selected, namely: the UK, the Netherlands, Germany, and France. Due to data and time constraints it was not possible to include companies from the total population of EU countries. Therefore, the generalisation of the results for the IFRS, should be treated with care.

However, as this research has focused on top capitalisation countries the sample will hopefully be quite representative and able to depict trends. It is noteworthy that the chosen companies are included in LSE (London), Deutsche Borse (Germany), and Euronext (Paris, Netherlands, Brussels) which concentrate more than 75% of the total market capitalization in Europe according to the European Securities Exchange Statistics (2004). Moreover, these four countries, according to Maddison (2001), are top of the ranking in the EU in merchandise exports as a percentage of GDP at 1990 prices. This means that they fully support international trade and economic integration. Therefore, the researcher believes that the analysis of the results for these four countries is quite important.

The Thomson ONE Banker database was used throughout the sampling process. Listed firms were identified for the UK, the Netherlands, France, and Germany.

Exclusion of firms and survivor bias

Financial and utility firms were excluded from the sample, the reasons being that utilities are regulated and therefore their accounting system reflects regulatory requirements and financial firms have a different financial structure compared to other firms, i.e. the relationships between different financial statement items are dissimilar. In order to exclude these two industries a Global Industry Classification System was employed known as (GICS), choosing only energy, materials, industrials, consumer discretionary, consumer staples, healthcare, information technology and telecommunication services industries (GICS 10, 15, 20, 25, 30, 35, 45, and 50). This categorisation helped me include only the desired set of industries in the research.

Moreover, this study will use only active companies that are non-ADRs (have an American Depository Receipt), as this would affect the homogeneity of the sample of firms. Although this exclusion may rule out certain major types of firms, in countries like Germany such firms form a separate category and comply with distinct requirements that cannot match this study's sample of firms in other countries. Therefore, the inclusion of such firms in the sample may be subject to future research.

Moreover, companies that dropped out (ceased to exist) or their information became unavailable during the observed period, were replaced with new ones following exactly the same research steps presented above. The survivor bias is also tackled by selecting the new firms randomly. The companies that are replaced as well as the final sample of firms are noted in the appendix.

Table 3 – Process of selecting the final sample of firms*(Appendix)

Capturing the effect of the transition

For the period before the introduction of IFRS, only companies using domestic GAAP and full consolidation were used (first time adopters falling under the IFRS 1). The reason was that only by excluding firms that have previously used IAS/IFRS this research will measure the actual effect of the transition into the new international standards. Therefore, firms using ways of financial reporting other than 1 and 10 (local standards) in the "World Scope" database in the field "accounting standards followed" were eliminated. The final population of firms (after stage 3) in the observed countries was 511 firms for the UK, 222 from Germany, 266 from France, and 161 for the Netherlands respectively. In the case of Germany, a high proportion of firms were using international accounting standards (either US GAAP or IAS voluntarily) before the introduction of IAS, therefore the final selected sample was smaller than expected.

Scale effects

Table 3 indicates the limitation that emerges from choosing countries with a different market size. However, the sampling process will assist the researcher to eliminate scale effects that are common in most comparative studies.

Stage 4 of the sampling process tackles the scale effect problem. This research tried to eliminate scale effects by linking three within country scale factors (as in Arce and Mora, 2000) like company size, company growth, and stock market factors to three financial ratios measuring these effects namely market capitalization, growth to sales ratio, and price earnings ratio. The procedure of using these proxies will be the following: after putting the population of companies in ascending order according to these three ratios, top and bottom 1.5% of observations will be eliminated to reduce scale influences in our model (as in Collins et al. 1997). Besides, the regression was also deflated by the number of shares outstanding to further eliminate scale effects.

Final sample and observation period

This research is based on selecting a random sample of 50 firms from each country during the financial years from 2003 to 2006.

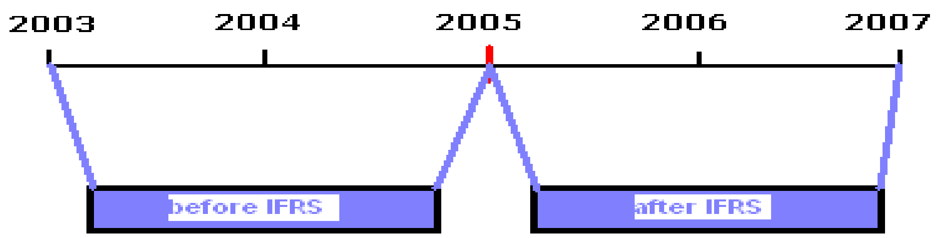
Table 4 – Population of firms in each country and random sampling

	UK	Netherlands	Germany	France
Population of Firms	511	165	222	266
Random Sample	50	50	50	50
%	9.78%	30.30%	22.52%	18.80%

Source: Developed by the author

Although, as depicted in Table 4, limitations do exist, it was decided to start testing the same number of companies from each country in order to make valid r-square comparisons. When due to the exclusion of outliers different sample sizes were compared, other econometric methods were also employed to deal with this inequality (z statistics). In addition, the same random sample of firms collected in 2003 was used for analysing observations for the following years 2004, 2005 and 2006 in order to increase the consistency of this research.

Figure 4 – Observation periods



Source: Developed by the author

Financial reports in the year ending 2003-04 will represent the period just before IFRS were introduced in EU, whilst from 2005-06 will indicate the period after IFRS have been applied in the EU. Full company accounts from “World Scope” database was used to download financial statements of these firms for each year. As far as the historical share price is concerned, the “DataStream” database was used through “Thomson One Banker” website. The researcher believes that these four observed years will provide us with evidence about whether value relevance of accounting information has changed or not.

Investor vs. creditor oriented accounting groups

In addition, Germany and France are chosen to represent creditor oriented accounting systems, while the UK will be representing investor oriented accounting ones. The Netherlands is considered to be a special case as although it can be categorised as a code law accounting system according to countries’ legal system differences, being quite different from the UK (Cafferman, Cooke 2002), it can be grouped as an investor oriented accounting system according to countries’ financial reporting practices. The researcher followed the latter criterion to distinguish between the “German–French” group versus the “UK-Dutch” one. This categorisation also relates to the recent ICAEW (2007) study that identified many similarities across the countries that are grouped together in this study.

Many studies have tried to classify countries into specific categories or groups. Some of the most popular studies are those of Da Costa (1978), Nair and Frank (1980), Nobes (1983, 1998), Gray (1988), Doupnik and Salter (1995), and D’Arcy (2001). Most of these studies present Germany and France as belonging to the same (weak equity, macro-uniform, Government-driven, tax dominated) sub-group. On the other hand, the UK and the Netherlands are presented in another (strong equity, micro-fair-judgemental, commercially driven) sub-group. Therefore, the current distinction this study makes about the selected observed countries can be justified.

Market capitalisation groups

For the distinction between small and large capitalisation firms the methodology of Gonenc and Karan (2003) was closely followed, taking the top 30% as top capitalisation firms, the bottom 30% as small capitalisation ones, leaving the middle 40% of the sample representing the middle capitalisation firms. The "Extel" database from Thomson ONE Banker was used to categorise firms according to their year ending market capitalisation figures, ranking them from top to bottom. Logically, the top 30% corresponded to large cap firms, the middle 40% were mid cap firms, and the bottom 30% as corresponding to small cap firms.

One alternative grouping of the data could be to match firms to the corresponding capitalisation index to which they belong. Examples of such indices are FTSE for the UK, AEX for the Netherlands, DAX for Germany, and CAC for France. However, although in countries like the UK the mapping of the firms towards FTSE 100, FTSE 250, FTSE Small CAP, and AIM was straight-forward, in other countries like Germany and the Netherlands there was not enough data to make this mapping. Therefore, not all of the 50 selected firms could be assigned to a corresponding capitalisation index. Thus, the arbitrary solution of taking the 30%-40%-30% categorisation was considered the more sound explanation; although certain assumptions do exist that limit the results of this study.

Another idea was to create an average capitalisation index for each country and group each country's firms according to cut-off points appearing in the percentage increase in average market capitalisation figures. This was also not successful as the testing of new groupings revealed a lot of non-significant r-squares. Thus, results were not trustworthy.

The option of constructing a general small, medium, and large capitalisation group out of all countries' firms, and then dividing them according to 30%-40%-30% was also not feasible. R-squares were very low and standard errors high. Moreover, regression models were non-significant. One possible reason for that may be strong country effects that do not allow for general groupings.

Indisputably, there were also several other measures used to separate firms into small, medium, and. large capitalisation ones. Previous literature has used price/book value ratio, price/earnings ratio, cash flow/price ratio, and dividend yield figures, along with market capitalisation. Dunis and Reilly (2004) suggest that each of them can be used for the distinction between value and growth stocks. However, market capitalisation was used as the most straightforward and profound measure for testing different firm's sizes. As the same sample of firms will be selected following the 30% large cap, 40% medium cap, and 30% small cap mapping across countries, z-scoring was also employed to make some comparisons.

5.3. Summary

This chapter analysed the methodology used in this research. In summary, the models used are the following:

$$P_{it} = a_0 + a_1 E_{it} + a_2 BV_{it} + \varepsilon_{it}, \quad (1)$$

$$P_{it} = \beta_0 + \beta_1 E_{it} + \varepsilon_{it}\ , \quad (2)$$

$$P_{it} = \gamma_0 + \gamma_1 BV_{it} + \varepsilon_{it}\ , \quad (3)$$

$$P_{it} = a_0 + a_1 E_{it} + a_2 BV_{it} + a_3 DL_{it} E_{it} + a_4 DL_{it} BV_{it} + \varepsilon_{it}\ , \quad (4)$$

The author then discussed a number of issues associated with the use of the models, explaining why price regression was used instead of returns regression, the deflation of the regression model by a scale proxy, and the role of outliers which lead to the use of z statistics, were examined.

Afterwards, the sampling process was analysed. Each step was thoroughly explained in order for the reader to have a comprehensive understanding of the data collection process. Special attention was given to the categorisation between the code and investor oriented accounting groups of countries, and the distinction between small, medium, and large capitalisation firms which both led to the hypotheses tested in the research.

CHAPTER 6 – PRE & POST IFRS PERIOD RESULTS AND ANALYSIS

6.1 Individual country analysis

During this part of the research, the regression results for each individual observed country will be analysed namely for the UK, the Netherlands, Germany, and France. It will be important not only to help the reader make cross-country comparisons of these results, but also to monitor how the value relevance of accounting information may increase or decrease within the borders of each individual country during the observed period. At this point, however, it should mentioned again that for this pre-IAS period only companies that are using local GAAP and full consolidation were used (which fall under "first-time adopters" according to IFRS 1).

Moreover, all the comparisons were made using adjusted r-square and standardised beta coefficients. Adjusted r-square was preferred in order to take into account the differences in standard error and make valid comparisons. Outliers proved to be capable of distorting the results significantly; therefore the author decided to re-run the regressions to capture their effect as well.

6.1.1. Descriptive statistics

A first step in the data analysis was to observe the frequency distribution of the sample of 50 firms for each country. Descriptive statistics provide a useful statistical overview of the data and give indications for the existence of outliers or extremes.

Table 5 – UK Descriptive statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
usto_06	50	1621.00	64.00	1685.00	517.6450	58.38662	412.85574	170449.860	1.273	.337	1.115	.662
ubv_06	50	5.54	-.37	5.17	1.6756	.16195	1.14514	1.311	.758	.337	.864	.662
uea_06	50	1.41	-.14	1.27	.3070	.04107	.29043	.084	1.312	.337	1.837	.662
usto_05	50	1440.50	37.50	1478.00	475.2502	46.38214	327.97128	107565.161	1.063	.337	.910	.662
ubv_05	50	5.79	.23	6.02	1.6242	.15720	1.11155	1.236	1.544	.337	4.433	.662
uea_05	50	1.39	-.22	1.17	.2598	.04127	.29183	.085	1.407	.337	2.407	.662
usto_04	50	1364.00	31.00	1395.00	383.8410	37.88077	267.85752	71747.649	1.788	.337	4.253	.662
ubv_04	50	6.21	.16	6.37	1.5274	.16328	1.15458	1.333	2.036	.337	6.378	.662
uea_04	50	1.53	-.62	.91	.1890	.03525	.24929	.062	-.052	.337	3.052	.662
usto_03	50	1154.66	42.00	1196.66	324.8864	31.35578	221.71882	49159.236	1.738	.337	4.488	.662
ubv_03	50	6.70	.15	6.85	1.4666	.16809	1.18859	1.413	2.381	.337	8.212	.662
uea_03	50	.99	.01	1.00	.2248	.02656	.18778	.035	1.960	.337	5.372	.662
Valid N (listwise)	50											

*Source: Developed by the author

Table 5 shows that the stock market price in the UK listed firms vary a lot, ranging from 1154.66 to 1621.00 in 2006. If the distribution is perfectly normal, which is a rather uncommon occurrence in the social sciences, the researcher would normally expect to obtain a skewness and kurtosis value of zero. The skewness for the variables in the UK is positive indicating that the values of the variables are clustered to the left at the low values. Earnings for 2004 (reconciliation reports) have negative skewness therefore tilted towards the high end values, which seems quite normal given the variations in the income statement figures. The kurtosis is highly positive in the UK which illustrates that the values tend to cluster in the centre with long thin tails. Standard deviation is large for the dependent variable (stock prices), therefore the mean is not representative of the sample.

Table 6 – Netherlands Descriptive statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
nsto_06	50	56.20	2.85	59.05	28.3308	2.13302	15.08275	227.489	.513	.337	-.429	.662
nbv_06	50	40.80	.36	41.16	10.4632	1.12013	7.92054	62.735	1.645	.337	3.603	.662
nea_06	50	5.97	-1.53	4.44	1.5630	.16859	1.19214	1.421	.200	.337	.288	.662
nsto_05	50	47.54	3.46	51.00	24.7642	1.76514	12.48141	155.786	.311	.337	-.661	.662
nbv_05	50	39.90	.74	40.64	9.4500	1.08187	7.64998	58.522	1.910	.337	4.827	.662
nea_05	50	7.53	-3.15	4.38	1.1330	.20028	1.41621	2.006	-.739	.337	2.746	.662
nsto_04	50	40.95	1.95	42.90	17.9540	1.39255	9.84679	96.959	.519	.337	-.459	.662
nbv_04	50	42.67	.50	43.17	9.0224	1.16511	8.23854	67.874	2.078	.337	5.545	.662
nea_04	50	6.62	-2.38	4.24	.9702	.15995	1.13099	1.279	-.182	.337	1.936	.662
nsto_03	50	38.35	1.65	40.00	14.7198	1.23370	8.72358	76.101	.734	.337	.055	.662
nbv_03	50	39.46	.45	39.91	8.6418	1.12419	7.94925	63.191	1.933	.337	4.497	.662
nea_03	50	8.87	-4.25	4.62	.9196	.19979	1.41273	1.996	-.491	.337	4.021	.662
Valid N (listwise)	50											

*Source: Developed by the author

As far as the Dutch data is concerned, the highest variations in the range are noted in the book value figures. The interesting fact is that the skewness for earnings of 2003, 2004 and 2005 is negative and therefore clustered to the right hand side at the high values which is an indication of the variability of earnings during the transition and first-time adoption period. The kurtosis is negative for the stock prices of 2003, 2004, and 2005 respectively. Standard deviation in the Netherlands is small, therefore the mean is quite representative of the sample.

Table 7 – Germany Descriptive statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
gsto_06	50	1273.05	1.95	1275.00	90.1688	31.14909	220.25735	48513.299	4.441	.337	20.690	.662
gbv_06	50	259.91	.81	260.72	32.0518	7.77589	54.98381	3023.219	3.285	.337	10.561	.662
gea_06	50	74.35	-.66	73.69	4.9770	1.58800	11.22886	126.087	5.092	.337	29.671	.662
gsto_05	50	808.65	1.35	810.00	70.1900	20.60719	145.71484	21232.814	3.944	.337	16.576	.662
gbv_05	50	214.46	.02	214.48	26.9884	6.72949	47.58470	2264.303	3.325	.337	10.602	.662
gea_05	50	47.28	-2.57	44.71	3.4358	1.07951	7.63328	58.267	4.231	.337	19.882	.662
gsto_04	50	683.84	2.16	686.00	59.3006	17.46315	123.48312	15248.082	3.897	.337	16.228	.662
gbv_04	50	171.69	.36	172.05	23.6836	5.34336	37.78323	1427.573	3.033	.337	9.112	.662
gea_04	50	38.50	-3.29	35.21	3.1374	.98198	6.94366	48.214	3.778	.337	14.966	.662
gsto_03	50	607.40	2.60	610.00	52.7004	15.62549	110.48893	12207.805	3.782	.337	15.304	.662
gbv_03	50	179.91	.68	180.59	22.0412	5.13220	36.29014	1316.974	3.238	.337	10.858	.662
gea_03	50	86.16	-.54	85.62	4.0908	1.82223	12.88508	166.025	5.613	.337	34.337	.662
Valid N (listwise)	50											

*Source: Developed by the author

Table 7 is showing that in Germany the stock market prices and book values have higher range than earnings. Skewness is positive therefore the sample is having fat right-hand tail, making the median a better indicator of the centre of the distribution than the mean. Kurtosis is also highly positive, indicating that the German samples' distribution is rather peaked (clustered in the centre). Standard deviations and variances for stock market price and book values are also high, which show that the mean cannot correctly represent the sample.

Table 8 – France Descriptive statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
fsto_06	50	646.93	2.07	649.00	78.7562	14.95966	105.78080	11189.578	3.760	.337	17.541	.662
fbv_06	50	394.83	.69	395.52	45.4568	11.61604	82.13782	6746.621	3.328	.337	10.749	.662
fea_06	50	84.65	-28.15	56.50	4.0824	1.45396	10.28106	105.700	2.564	.337	15.609	.662
fsto_05	50	686.99	2.01	689.00	71.2290	14.72824	104.14441	10846.058	4.670	.337	26.047	.662
fbv_05	50	315.73	.58	316.31	40.6282	9.98942	70.63590	4989.431	3.217	.337	9.945	.662
fea_05	50	35.69	-2.29	33.40	4.0380	.90871	6.42557	41.288	3.498	.337	13.358	.662
fsto_04	50	498.93	1.07	500.00	53.3320	10.49621	74.21944	5508.525	4.739	.337	27.350	.662
fbv_04	50	268.55	-.54	268.01	30.1792	6.76679	47.84843	2289.472	3.720	.337	15.406	.662
fea_04	50	34.09	-3.59	30.50	3.0666	.68348	4.83295	23.357	4.002	.337	21.372	.662
fsto_03	50	426.77	1.53	428.30	44.4960	9.15151	64.71097	4187.510	4.625	.337	25.881	.662
fbv_03	50	257.67	.69	258.36	28.5592	6.38774	45.16815	2040.162	3.754	.337	15.967	.662
fea_03	50	29.26	-.16	29.10	3.2650	.67905	4.80163	23.056	3.802	.337	17.815	.662
Valid N (listwise)	50											

*Source: Developed by the author

In France, the range of the sample is higher in stock market price and book values. Skewness is consistently positive indicating that data is clustered to the left hand side at the low values. Kurtosis is highly positive which shows that the sample is clustered towards the centre of the distribution. Standard deviation and variance is high for stock market price and book values which is an indication that the mean is not representative of the sample and median should be preferred as the centre of the distribution.

As discussed earlier, each country's sample was tested for outliers and extremes and regressions were run before and after the exclusion of certain outliers in order to show the differences in value relevance of accounting information under both samples. Where outliers are excluded, figures are compared using z scores.

6.1.1. The UK

$H_{1.1}$: "The adoption of IFRS will change the value relevance of accounting information in the United Kingdom"

It can be suggested that in the UK, being a country were there is the belief that accounting was and continues to be very similar to IFRS, the introduction of those new standards would not reveal a "surprise factor" to users of accounts. More specifically, it was not expected for the UK to have a noteworthy difference in the value relevance of financial statements before and after IFRS implementation. Surprisingly the UK is, according to this study, one of the countries where IFRS increased the value relevance of accounting information. This argument supported the decision to make the hypotheses non-directional.

The author has decided to present two tables; one that includes outliers and extremes and another that does not. In this way, it is easier for the reader to make comparisons between the two sets of figures. The results are the following:

Table 9 – The UK including outliers/ extremes

Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate	Change Statistics				
					R square change	**F change**	**df1**	**df2**	**Sig. F change**
2003	**.708**	**.501**	**.480**	**159.93**	**.501**	**23.59**	**2**	**47**	**.000**
2004	**.819**	**.670**	**.641**	**160.56**	**.670**	**22.84**	**4**	**45**	**.000**
2005	**.783**	**.613**	**.578**	**212.94**	**.613**	**17.81**	**4**	**45**	**.000**
2006	**.803**	**.645**	**.613**	**256.70**	**.645**	**20.44**	**4**	**45**	**.000**

Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t.	Sig.	95% Confidence Interval		Correlations			Collinearity Statistics	
	B	**St. Error**	**Beta**			**Lower Bound**	**Upper Bound**	**Zero-order**	**Partial**	**Part**	**Tolerance**	**VIF**
Constant	**168.2**	**38.89**		**4.33**	**.000**	**90.01**	**246.50**					
BV 2003	**-37.2**	**22.87**	**-.199**	**-1.63**	**.110**	**-83.23**	**8.80**	**.232**	**-.231**	**-.168**	**.706**	**1.416**
EAR 2003	**939.5**	**144.77**	**.796**	**6.49**	**.000**	**648.27**	**1230.7**	**.688**	**.687**	**.669**	**.706**	**1.416**
Constant	**146.8**	**43.55**		**3.37**	**0.02**	**59.15**	**234.59**					
BV 2004	**-30.1**	**27.64**	**.156**	**-1.08**	**.282**	**-85.77**	**25.55**	**.194**	**-.160**	**-.093**	**.517**	**1.935**
EAR 2004	**1219**	**138.8**	**.699**	**8.78**	**.000**	**940.08**	**1499.2**	**.689**	**.795**	**.752**	**.439**	**2.276**
Constant	**226.1**	**59.75**		**3.78**	**.000**	**105.70**	**346.4**					
BV 2005	**-7.52**	**39.91**	**.354**	**-.189**	**.851**	**-87.91**	**72.86**	**.393**	**-.028**	**-.017**	**.470**	**2.126**
EAR 2005	**926.7**	**136.3**	**.899**	**6.79**	**.000**	**652.4**	**1201.2**	**.724**	**.712**	**.631**	**.585**	**1.710**
Constant	**100.3**	**68.61**		**1.46**	**.151**	**-37.89**	**238.50**					
BV 2006	**61.39**	**36.97**	**.213**	**1.66**	**.104**	**-13.06**	**135.84**	**.521**	**.240**	**.148**	**.750**	**.1332**
EAR 2006	**1014**	**151.9**	**.757**	**6.68**	**.000**	**708.9**	**1320.8**	**.788**	**.706**	**.593**	**.691**	**1.447**

Source: Developed by the author

*Notes: The estimated regression models are based on ordinary least squares. Adjusted R-square and Standardised beta coefficients were used in order to make valid comparisons. BV stands for Book Values Per Share while EAR stands for Earnings Per Share. The regression model used is (4).

Table 10 – The UK excluding outliers/ extremes

Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate	Change Statistics				
					R square change	F change	df1	df2	Sig. F change
2003	.571	.325	.296	135.22	.325	10.85	2	45	.000
2004	.746	.584	.545	132.78	.584	15.07	4	43	.000
2005	.704	.495	.448	202.70	.495	10.55	4	43	.000
2006	.748	.560	.519	248.50	.560	13.68	4	43	.000

Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t.	Sig.	95% Confidence Interval		Correlations			Collinearity Statistics	
	B	St. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
Constant	117.5	32.95		5.387	.000	111.15	243.89					
BV 2003	7.201	22.073	.054	.326	.746	-37.25	51.65	.413	.049	.040	.547	1.828
EAR 2003	511.4	158.91	.533	3.218	.002	191.37	831.5	.569	.433	.396	.547	1.828
Constant	144.7	36.148		4.004	.000	71.840	217.63					
BV 2004	17.47	26.75	.253	.653	.517	-36.46	71.41	.403	.099	.064	.384	2.601
EAR 2004	853.3	158.9	.580	5.368	.000	532.76	1173.9	.617	.663	.528	.285	3.509
Constant	217.8	57.188		3.809	.000	102.48	333.14					
BV 2005	33.76	43.61	.467	.774	.443	-54.18	121.7	.504	.117	.084	.360	2.780
EAR 2005	667.7	176.8	.752	3.776	.000	311.07	1024.3	.614	.499	.409	.432	2.316
Constant	113.3	66.67		1.669	.097	-21.17	247.7					
BV 2006	83.08	39.78	.300	2.088	.043	2.850	163.32	.605	.303	.211	.620	1.614
EAR 2006	800.5	195.1	.582	4.102	.000	407.01	1194.1	.717	.530	.415	.558	1.793

Source: Developed by the author

*Notes: The estimated regression models are based on ordinary least squares. Adjusted R-square and Standardised beta coefficients were used in order to make valid comparisons. BV stands for Book Values Per Share while EAR stands for Earnings Per Share. The regression model used is (4).

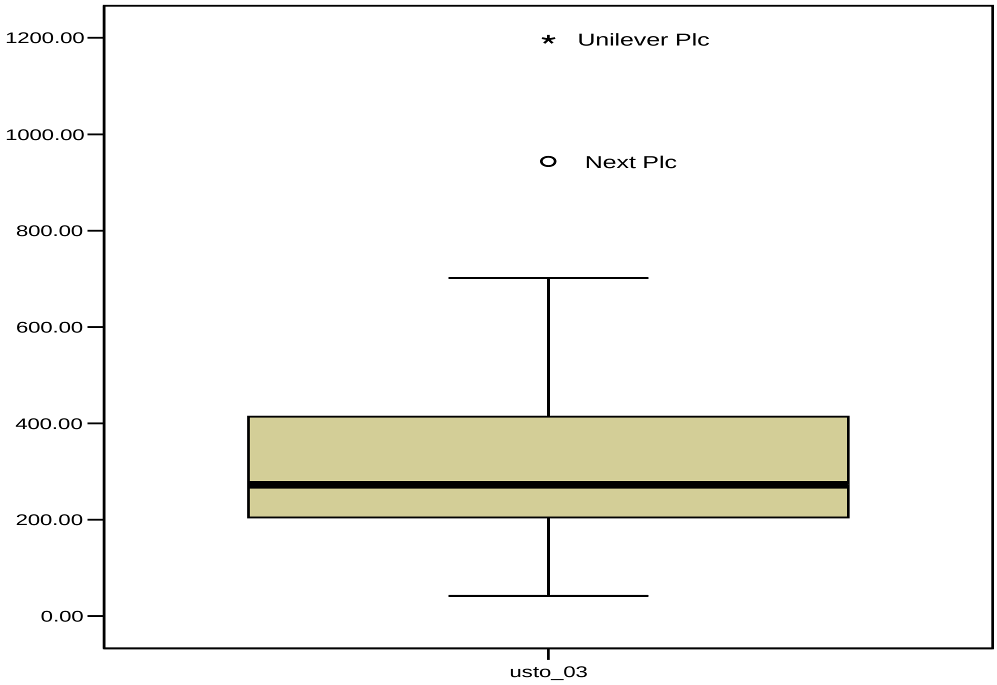
Table 9 above is providing evidence that the value relevance in the UK increases being 0.480 in 2003 and reaching a value of 0.613 in 2006. All these values are statistically significant using a 95% confidence interval. It seems that UK users of accounts find financial statements more relevant and explanatory after the adoption of IFRS.

As discussed earlier, several other papers capture this increase. Ball et al. (2000) argue that conservatism and timeliness observed in investor oriented accounting systems are also employed by the IASC, as it is following a "more transparent investor oriented approach to disclosure". Improved valuation on measurement and disclosure under IFRS raise expectations as international standards increase value relevance. Moreover, the study of Christensen et al. (2006) comes as supporting evidence to this argument. This paper was about whether IFRS reconciliations and US GAAP convey new information. The authors come to conclude that there is no impact on actual cash flows but that improved valuation and measurement on disclosure is profound under IFRS. This study's observed increase in value relevance can only be translated in new explicable information that came into the UK market and changed the value relevance of the accounts, i.e. the relation between stock market price and accounting data.

Furthermore, as expected in a country like the UK, the incremental value relevance of earnings constantly outperforms that of book values with a beta coefficient averaging 0.788 during the observed period 2003-06. However, it can also be observed that the explanatory power of book value increases from a negative value in 2003 to 21% in 2006. The same effects for book value were also observed after excluding outliers. Therefore, as IASB moves towards a balance sheet rather than income statement approach, the UK shows evidence of an increase in the overall value relevance of book value. In fact, given that the value relevance of earnings is stable over the years, the increase in the explanatory power of book values can be characterised as important.

When the sample was tested for outliers/extremes, two companies were identified as outliers. However, as the number of outliers was small, the results were not dramatically altered. Two firms were characterised as outliers / extremes in the UK: Next plc and Unilever plc.

Figure 5 - SPSS Boxplot identifying outliers/extremes for 2003



Source: SPSS - Developed by the author

* Outliers are points that extend more than 1.5 box-lengths from the edge of the box (noted as circles) while extremes are those that extend more than 3 box-lengths off the box (noted as asterisks). In this case Unilever is extreme while Next is outlier.

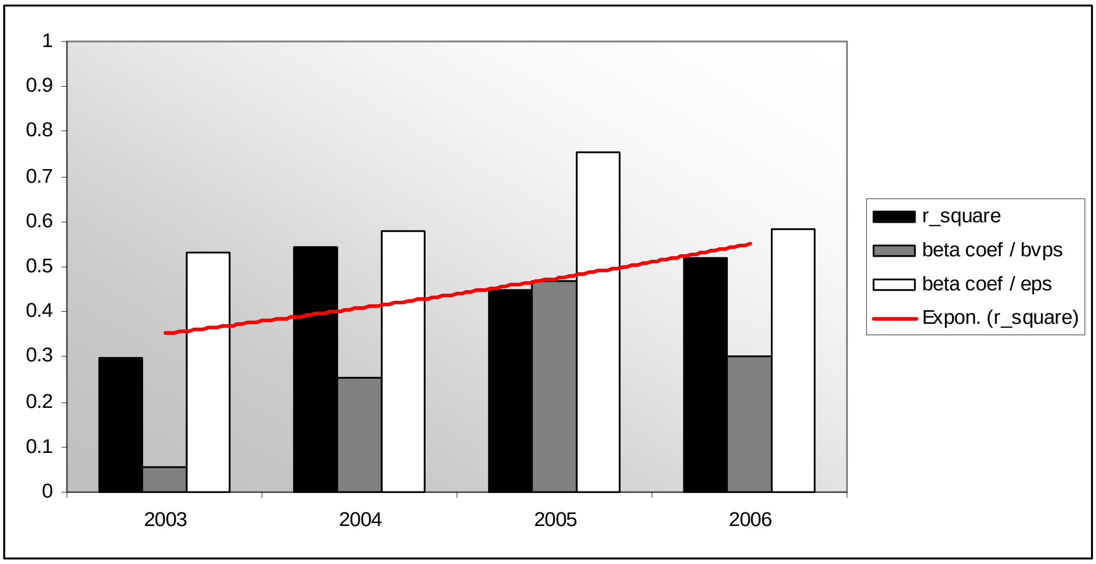
These firms were identified as outliers throughout the whole observed period. Both are categorised as large capitalisation firms. Both firms follow the lines of IFRS 1 "First-time adoption of International Financial Reporting Standards". The areas that mostly affect these two firms were goodwill, share-based payments, employee benefits, and financial instruments. It should be noted that Chapter 3 provided an analysis of the key differences between UK GAAP and IFRS not identifying major changes in the aforementioned areas. Next plc also stated that it has not adopted IFRS 7 “Financial instruments: Disclosures”.

Although in both cases (before and after taking into account outliers/extremes) there seems to be an increase in the overall value relevance of accounting information throughout the observed period, r-squares were lower after the exclusion of these two firms.

However, the explanatory power of earnings and book values after the exclusion of outliers/extremes is different. In Table 10, there is a trend to stable but lower value relevance for earnings (around 50% margin value relevant) and a clear trend of still increasing but higher value relevance for book values from 5% in 2003 to 30% in 2006. This is clear indication that the increase in the overall value relevance in the UK comes from the increase in the explanatory power of book value. This may not be surprising given that IFRS has a more balance sheet focus than UK GAAP traditional emphasis on earnings.

$H_{1.1}$ is accepted, as value relevance has changed after the adoption of IFRS and this change is for the better as financial statements point towards more relevant and reliable information available to the users of the accounts. The figures for the UK were the following:

Figure 6 – Value relevance in the UK excluding outliers/extremes



Source: Developed by the author

From the figure above (figure 6), previous comments can be justified as overall r-square is a bit lower in table 10 than it is in table 9, but increasing from 0.296 in 2003 to 0.519 in Y2006. The increasing r-square means that value relevance increases after adopting IFRS.

A figure of 0.519 denotes that book values and earnings explain the stock market price by 50% and there are other factors that could also play a role in explaining the value relevance of accounting information. The UK is identified as the country with the highest standard error in this regression model. There are a number of reasons that may explain this. There is a possibility that UK firms and analysts exploit other information concerning the stock market as equally relevant to financial reporting. It is commonly accepted that certain events within a company can also convey new information to the market like a potential merger, or a buy-out. Some analysts and investors may also rely on technical analysis, which is a technique moving away from fundamental analysis used to value stock price, or even use a combination of both.

Moreover, in 2004, r-square reaches its highest point either including or excluding outliers. There is a possibility that reconciliation reports (UK GAAP and IFRS information for one year only) can explain the jump in r-square. Interestingly enough, although 2004 was the reconciliation year, the explanatory power of the income statement rises afterwards. This result can be linked to the aforementioned Horton and Serafeim (2007) paper, which suggests that reconciliation adjustments appeared to be incrementally value relevant over and above the domestic GAAP numbers.

Nevertheless, the observed increase in the UK is remarkable and this is a sign of a change in the perspectives of the users of the accounts towards the reliability and relevance of IFRS.

6.1.2. The Netherlands

$H_{1.2}$: *"The adoption of IFRS will change the value relevance of accounting information in the Netherlands"*

The Netherlands was the only country that did not have outliers and extremes in the sample. In this country, the explanatory power of both earnings and book values has an increasing trend. However, it can be suggested that EPS is the main influence for the increasing value relevance as it denotes the highest increase from -0.49 to 0.75. The results for the Netherlands are:

Table 11 – Value relevance in the Netherlands

Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate	Change Statistics				
					R square change	**F change**	**df1**	**df2**	**Sig. F change**
2003	**.708**	**.501**	**.457**	**6.428**	**.501**	**11.309**	**4**	**45**	**.000**
2004	**.900**	**.811**	**.749**	**4.469**	**.811**	**48.215**	**4**	**45**	**.000**
2005	**.868**	**.753**	**.731**	**6.474**	**.753**	**34.269**	**4**	**45**	**.000**
2006	**.901**	**.811**	**.794**	**6.842**	**.811**	**48.278**	**4**	**45**	**.000**

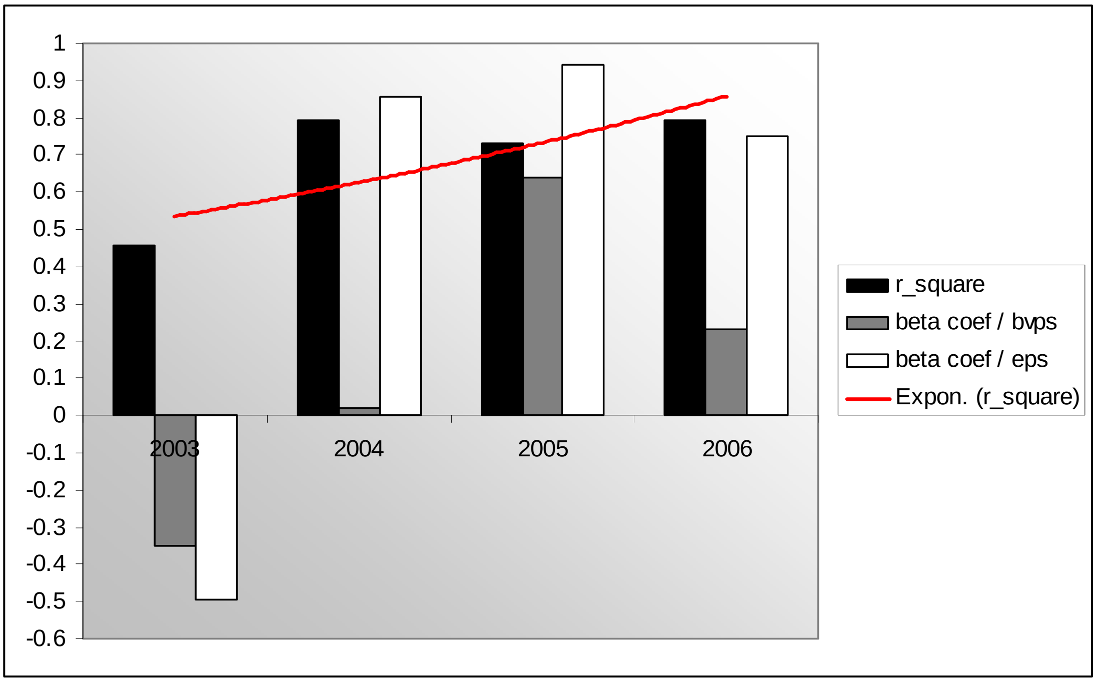
Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t.	Sig.	95% Confidence Interval		Correlations			Collinearity Statistics	
	B	**St. Error**	**Beta**			**Lower Bound**	**Upper Bound**	**Zero-order**	**Partial**	**Part**	**Tolerance**	**VIF**
Constant	7.725	1.530		5.049	.000	4.643	10.81					
BV 2003	.359	.140	**-.349**	2.559	.014	.076	.641	.571	.356	.269	.680	1.471
EAR 2003	3.517	1.110	**-.493**	3.169	.003	1.282	5.752	.423	.427	.334	.343	2.914
Constant	7.027	1.130		6.216	.000	4.750	9.303					
BV 2004	-.152	.130	**.018**	-1.17	.248	-.415	.110	.644	-.172	-.076	.354	2.829
EAR 2004	11.08	1.274	**.845**	8.701	.000	8.518	13.650	.835	.792	.564	.196	5.093
Constant	10.67	1.693		6.304	.000	7.262	14.081					
BV 2005	.143	1.78	**.640**	.805	.425	-.215	.502	.638	.119	.060	.461	2.170
EAR 2005	9.389	1.384	**.942**	6.786	.000	6.602	12.175	.672	.711	.503	.223	4.488
Constant	6.979	1.927		3.622	.001	3.099	10.860					
BV 2006	.252	.148	**.233**	1.697	.097	-.047	.551	.588	.245	.110	.691	1.448
EAR 2006	11.48	1.108	**.751**	10.36	.000	9.249	13.711	.860	.840	.672	.548	1.825

Source: Developed by the author

*Notes: The estimated regression models are based on ordinary least squares. Adjusted R-square and Standardised beta coefficients were used in order to make valid comparisons. BV stands for Book Values Per Share while EAR stands for Earnings Per Share. The regression model used is (4).

Figure 7 - Value relevance in the Netherlands



Source: Developed by the author

It can be inferred from table 11 that the total r-square for the Netherlands is increasing from 0.457 in 2003 to 0.794 in 2006. Therefore, both investor oriented accounting systems point towards an increase in value relevance after IFRS adoption, although this increase is modest for the UK. Netherlands is the country with the most notable change in the value relevance of accounting information after IFRS adoption.

Similarly in the UK, the beta coefficient of earnings in the Netherlands persistently outperforms that of book values having an average value of 0.850 during 2004-06. The incremental explanatory power of book values remained less than that of earnings, which is a regular characteristic of an investor oriented accounting system. It also supports the argument put forward for choosing to group the Netherlands with the UK as “investor oriented” countries following the categorisation of Nobes (1998). However, in the Netherlands, the earnings per share increased more in relevance than book values per share do, i.e. earnings in the Netherlands play a bigger role in the overall r-square increase.

As discussed earlier, Arce and Mora (2002) also suggest that in the UK and the Netherlands earnings have greater explanatory power over book values. They concluded that the balance sheet plays a more important role in valuation than the income statement in Continental countries, while earnings convey more information to value shares in investor oriented accounting systems.

However, it can be noted that there is a change in the explanatory power of book value over the years for investor oriented accounting systems. In the UK the explanatory power of book values increased from 5% to 30%, while in the Netherlands, it reached 23% emerging from negative or close-to-zero values before IFRS. Therefore, this may be an indication that both countries have started to move towards increasing the relevance of the balance sheet.

Conclusively, the hypothesis that the value relevance has changed for the Netherlands after the adoption of IFRS is accepted as this country indicated the highest difference in value relevance figures (14% increase).

6.1.3. Germany

$H_{1.3}$ = *"The adoption of IFRS will change the value relevance of accounting information in Germany"*

Germany, as described in the literature, has always had a traditional accounting system influenced by the government. This system appeared to be more creditor than investor oriented. Moreover, the firms' focus was more on internal reporting and private information rather than publicly available data. The results from the random sample were as follows:

Table 12 – Germany including outliers/ extremes

Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate	Change Statistics				
					R square change	F change	df1	df2	Sig. F change
2003	.984	.968	.966	20.488	.968	344.987	4	45	.000
2004	.954	.911	.903	38.499	.911	114.771	4	45	.000
2005	.913	.833	.818	62.167	.833	56.051	4	45	.000
2006	.776	.603	.569	114.864	.603	17.069	4	45	.000

Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t.	Sig.	95% Confidence Interval		Correlations			Collinearity Statistics	
	B	St. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
Constant	2.365	3.563		.664	.510	-4.811	9.541					
BV 2003	1.090	.096	.353	11.38	.000	.897	1.282	.755	.862	.302	.711	1.407
EAR 2003	6.397	.269	.736	23.77	.000	5.855	6.938	.937	.962	.630	.713	1.402
Constant	-2.26	6.837		-.331	.742	-16.032	11.511					
BV 2004	.502	.205	.158	2.449	.018	.089	.914	.743	.343	.109	.505	1.981
EAR 2004	15.13	1.128	.783	13.14	.000	12.869	17.409	.945	.895	.598	.493	2.027
Constant	3.845	10.869		.354	.725	-18.047	25.737					
BV 2005	.239	.243	.087	.987	.329	-.249	.728	.626	.146	.060	.592	1.690
EAR 2005	16.63	1.529	.817	10.88	.000	13.558	19.718	.909	.851	.663	.579	1.727
Constant	14.38	25.36		.567	.574	-36.698	65.459					
BV 2006	.032	.694	.007	.046	.964	-1.365	1.429	.654	.007	.004	.294	3.397
EAR 2006	15.08	3.396	.736	4.442	.000	8.245	21.942	.776	.552	.417	.295	3.395

Source: Developed by the author

*Notes: The estimated regression models are based on ordinary least squares. Adjusted R-square and Standardised beta coefficients were used in order to make valid comparisons. BV stands for Book Values Per Share while EAR stands for Earnings Per Share. The regression model used is (4).

Table 13 – Germany excluding outliers/ extremes

Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate	Change Statistics				
					R square change	F change	df1	df2	Sig. F change
2003	**.898**	**.807**	**.791**	**11.841**	**.807**	**37.678**	**4**	**36**	**.000**
2004	**.918**	**.842**	**.827**	**11.264**	**.842**	**54.628**	**4**	**41**	**.000**
2005	**.960**	**.921**	**.914**	**9.421**	**.921**	**119.909**	**4**	**41**	**.000**
2006	**.903**	**.815**	**.797**	**16.004**	**.815**	**45.295**	**4**	**41**	**.000**

Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t.	Sig.	95% Confidence Interval		Correlations			Collinearity Statistics	
	B	St. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
Constant	9.959	10.106		.985	.331	-10.542	30.461					
BV 2003	1.296	.452	.407	2.864	.007	.378	2.213	.838	.431	.210	.124	8.095
EAR 2003	7.765	2.312	.519	3.359	.002	3.077	12.453	.857	.488	.246	.222	4.500
Constant	2.361	2.648		.892	.378	-2.985	7.708					
BV 2004	1.247	.235	.512	5.312	.000	.773	1.721	.889	.693	.330	.321	3.120
EAR 2004	5.394	1.676	.286	3.191	.003	1.963	8.734	.834	.446	.198	.250	4.000
Constant	1.599	2.228		.718	.477	-2.901	6.099					
BV 2005	.820	.197	.385	4.159	.000	.422	1.218	.906	.545	.182	.250	4.006
EAR 2005	9.924	1.389	.526	7.145	.000	7.119	12.729	.915	.745	.313	.202	4.948
Constant	1.338	3.985		.336	.739	-6.711	9.386					
BV 2006	1.745	.244	.718	7.155	.000	1.252	2.237	.896	.745	.480	.379	2.635
EAR 2006	1.892	1.576	.122	1.201	.237	-1.290	5.074	.765	.184	.081	.349	2.867

Source: Developed by the author

*Notes: The estimated regression models are based on ordinary least squares. Adjusted R-square and Standardised beta coefficients were used in order to make valid comparisons. BV stands for Book Values Per Share while EAR stands for Earnings Per Share. The regression model used is (4).

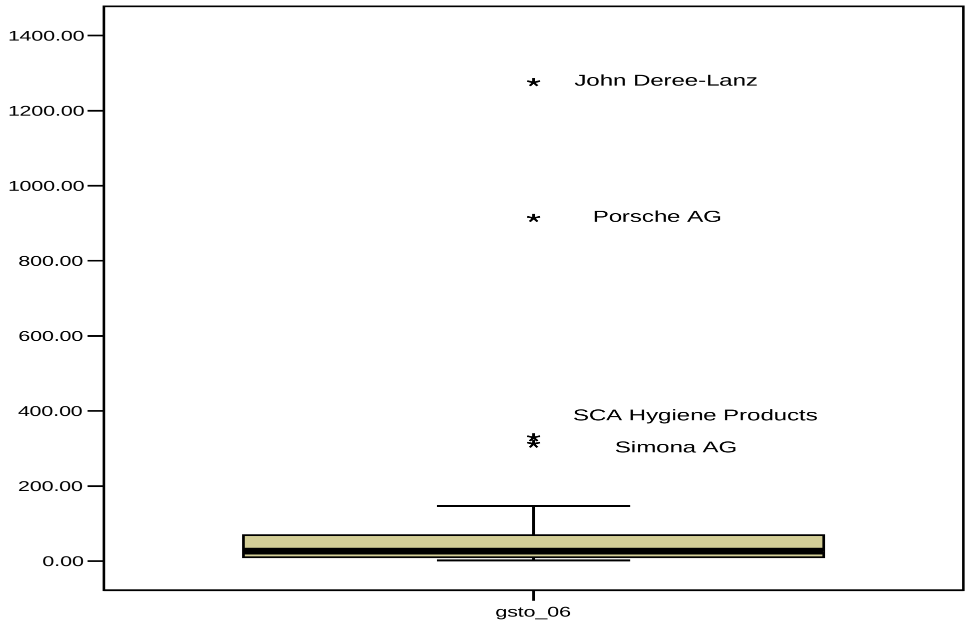
Table 12 shows that there is a declining r-square from 0.966 in 2003, which represents high explanatory power of the model thus high value relevance, to 0.569 in 2006 which is well below that score. Therefore, value relevance in Germany seems to be deteriorating each year. This declining trend in value relevance over time is depicted in several studies. One characteristic study is that of Dontoh et al. (2004), who suggest that the decline in the association between stock market price and accounting data is due to non-information based trading.

Furthermore, in table 12 earnings (income statement) seem to be more value relevant than book values (balance sheet) as described in the beta coefficients. Earnings' beta coefficients four-year average is 0.775 while that of book values' is 0.151. Hence, there is a clear indication that earnings constantly outperforms book values as far as value relevance is concerned.

However, value relevance in Germany was different when the random sample of fifty firms was tested for outliers/extremes. Within this sample, five observations were identified as extremes throughout the years 2003 to 2006. Outliers and extremes can cause the model to be biased because they affect the values of the estimated regression coefficients. The inclusion of these outliers causes a clear trend of declining value relevance in Germany. As in Collins et al. (1997), it was considered that these outliers distort the results and would have to be removed from the sample.

The new results are illustrated in table 13. Judging from the new results, there is an increase in the explanatory power of book values from 0.407 in 2003 to 0.718 in 2006 and a clear decrease in that of earnings from 0.519 in 2003 to 0.122 in 2006. Therefore, the inverse relationship between the incremental explanatory power of earnings and book values, seem to cancel out each other and cause a moderate increase in the total value relevance of accounting information. Collins et al. (1997) has also identified increasing explanatory power of book values over time along with a decreasing explanatory power of earnings. He also suggested that there is an inverse relationship between the incremental explanatory power of book values and earnings across time. Although Collins' sample consisted of US companies, results for both creditor oriented accounting systems (Germany and France) are quite similar. This is quite logical when there is a focus on one statement, using the other one as a place for differences.

Figure 8 – Example of SPSS boxplot identifying outliers/extremes for 2006



Source: SPSS - Developed by the author

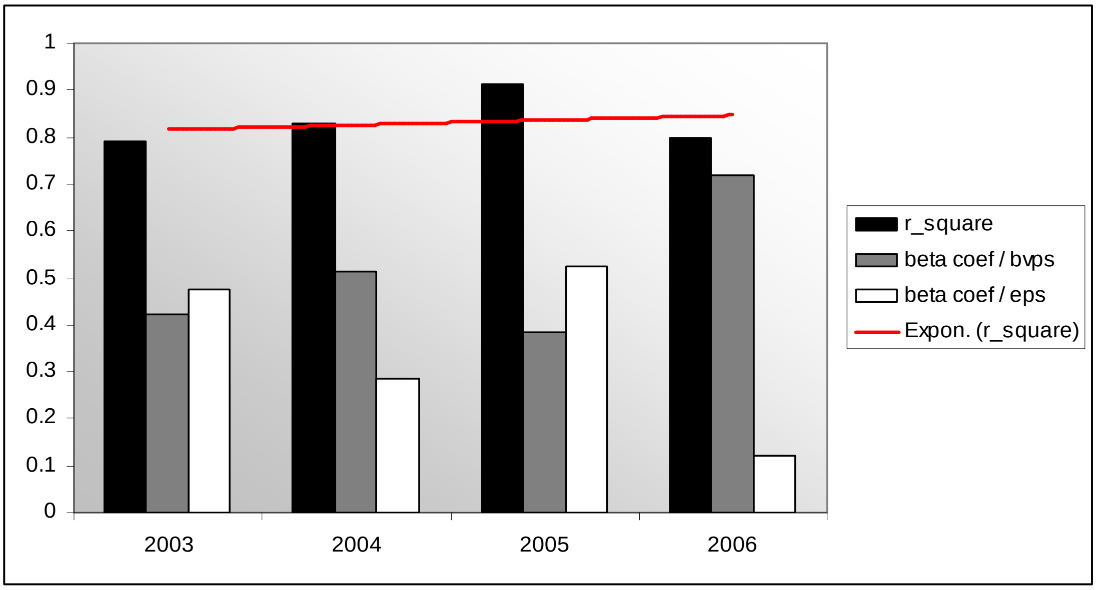
* Outliers are points that extend more than 1.5 box-lengths from the edge of the box (noted as circles) while extremes are those that extend more than 3 box-lengths off the box (noted as asterisks). In this case all points are extremes.

The firms identified as outliers in Germany were: Porsche AG (Auto manufacturer), John Deere-Lanz Verwaltungs-Altiengesell (Machinery makers), SCA Hygiene Products AG (Paper products & manufacturing), and Simona AG (chemicals speciality, manufacturer). These firms were continuously outliers or extremes for all the observed years.

The aforementioned study by Joos and Lang (1994) focused on value relevance before and after the adoption of EU Directives in the UK, Germany, and France suggesting that manufacturing was represented more heavily in Germany than in France and the

UK, which are countries more concentrated in the service industry. However, Joos and Lang concluded that although industry specific differences in profitability and valuation of accounting data are likely to be more pronounced between manufacturing and non-manufacturing firms, the inclusion of non-manufacturing firms did not change the results at all. This research's random sample consisted of several other industries like media and entertainment, consumer products and retailers, IT and information services. It would be interesting for future research to examine why manufacturing firms were identified as outliers in creditor oriented accounting systems and affected the value relevance of accounting information. They may do so as manufacturing is more subject to international markets than other sectors.

Figure 9 - Value relevance in Germany excluding outliers/extremes



Source: Developed by the author

Figure 9 indicates that value relevance was marginally higher in Germany during the transition period (2004-2005) which again coincides with research by Horton and Serafeim (2007).

As far as the hypothesis is concerned, figure 9 shows (after the removal of outliers/extremes) that the value relevance in Germany is high (having an average r-square of 0.832) but usually constant through time. As we can see it starts off at 0.79 in 2003 and remains around there in 2006. This is an indication of a fixed level of explanatory power of both book values and earnings to the stock price of the German firms. However, it is worth noting that value relevance has increased slightly from the introduction of IFRS and the null hypothesis, and that there will be a change in value relevance after the adoption of IFRS is accepted.

6.1.4. France

$H_{1.4}$: *"The adoption of IFRS will change the value relevance of accounting information in France"*

In France, value relevance (taken as an overall r square figure) closely resembles the figures presented in Germany. France is also characterised by a creditor oriented accounting approach. The regression results suggest decreasing value relevance from 2003 to 2006.

Table 14 – France including outliers/ extremes

Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate	Change Statistics				
					R square change	**F change**	**df1**	**df2**	**Sig. F change**
2003	**.969**	**.940**	**.934**	**16.570**	**.940**	**175.564**	**4**	**45**	**.000**
2004	**.966**	**.933**	**.927**	**20.030**	**.933**	**156.934**	**4**	**45**	**.000**
2005	**.906**	**.821**	**.805**	**46.014**	**.821**	**51.500**	**4**	**45**	**.000**
2006	**.820**	**.672**	**.642**	**63.250**	**.672**	**23.013**	**4**	**45**	**.000**

Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t.	Sig.	95% Confidence Interval		Correlations			Collinearity Statistics	
	B	St. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
Constant	2.170	2.953		.753	.466	-3.766	8.117					
BV 2003	-.387	.118	**.246**	-3.28	.002	-.625	-.149	.809	-.439	-.120	.197	5.057
EAR 2003	16.26	1.116	**1.212**	14.57	.000	14.019	18.515	.962	.908	.533	.195	5.124
Constant	3.564	3.548		1.005	.320	-3.582	10.709					
BV 2004	-.110	.112	**.058**	-.982	.332	-.335	.115	.795	-.145	-.038	.286	3.496
EAR 2004	16.22	1.143	**.923**	14.19	.000	13.927	18.531	.941	.904	.547	.268	3.727
Constant	8.095	7.956		1.018	.314	-7.928	24.119					
BV 2005	.514	.149	**.311**	3.45	.001	.214	.813	.821	.458	.218	.392	2.554
EAR 2005	9.987	1.655	**.471**	6.034	.000	6.653	13.321	.869	.669	.381	.382	2.618
Constant	30.73	10.648		2.886	.006	9.289	52.183					
BV 2006	.723	.202	**.563**	3.587	.001	.317	1.129	.801	.472	.306	.298	3.357
EAR 2006	3.352	1.826	**.244**	1.836	.073	-.325	7.029	.696	.264	.157	.232	4.315

Source: Developed by the author

*Notes: The estimated regression models are based on ordinary least squares. Adjusted R-square and Standardised beta coefficients were used in order to make valid comparisons. BV stands for Book Values Per Share while EAR stands for Earnings Per Share. The regression model used is (4).

Table 15 – France excluding outliers/ extremes

Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate	Change Statistics				
					R square change	F change	df1	df2	Sig. F change
2003	.833	.695	.665	13.653	.695	23.308	4	41	.000
2004	.890	.791	.771	12.204	.791	38.892	4	41	.000
2005	.902	.814	.796	16.660	.814	44.907	4	41	.000
2006	.807	.652	.618	25.052	.652	19.208	4	41	.000

Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t.	Sig.	95% Confidence Interval		Correlations			Collinearity Statistics	
	B	**St. Error**	**Beta**			**Lower Bound**	**Upper Bound**	**Zero-order**	**Partial**	**Part**	**Tolerance**	**VIF**
Constant	11.01	3.163		3.482	.001	4.624	17.398					
BV 2003	-.258	.255	**-.177**	-1.01	.317	-.773	.257	.698	-.156	-.087	.202	4.955
EAR 2003	10.99	2.166	**1.049**	5.076	.000	6.620	15.368	.827	.621	.438	.196	5.112
Constant	11.99	2.823		4.250	.000	6.296	17.697					
BV 2004	.092	.206	**.413**	.446	.658	-.324	.507	.794	.070	.032	.217	4.600
EAR 2004	9.854	1.887	**.719**	5.222	.000	6.043	13.666	.762	.632	.372	.170	5.866
Constant	11.39	3.841		2.967	.005	3.639	19.154					
BV 2005	.374	.056	**.356**	6.674	.000	.261	.487	.650	.772	.449	.918	1.089
EAR 2005	10.06	1.097	**.256**	9.178	.000	7.853	12.285	.710	.820	.618	.820	1.220
Constant	26.77	5.012		5.332	.000	16.631	36.912					
BV 2006	.326	.090	**.567**	3.616	.001	.144	.508	.671	.492	.333	.700	1.429
EAR 2006	5.797	.1223	**.421**	4.739	.000	3.327	8.266	.484	.595	.437	.264	3.792

Source: Developed by the author

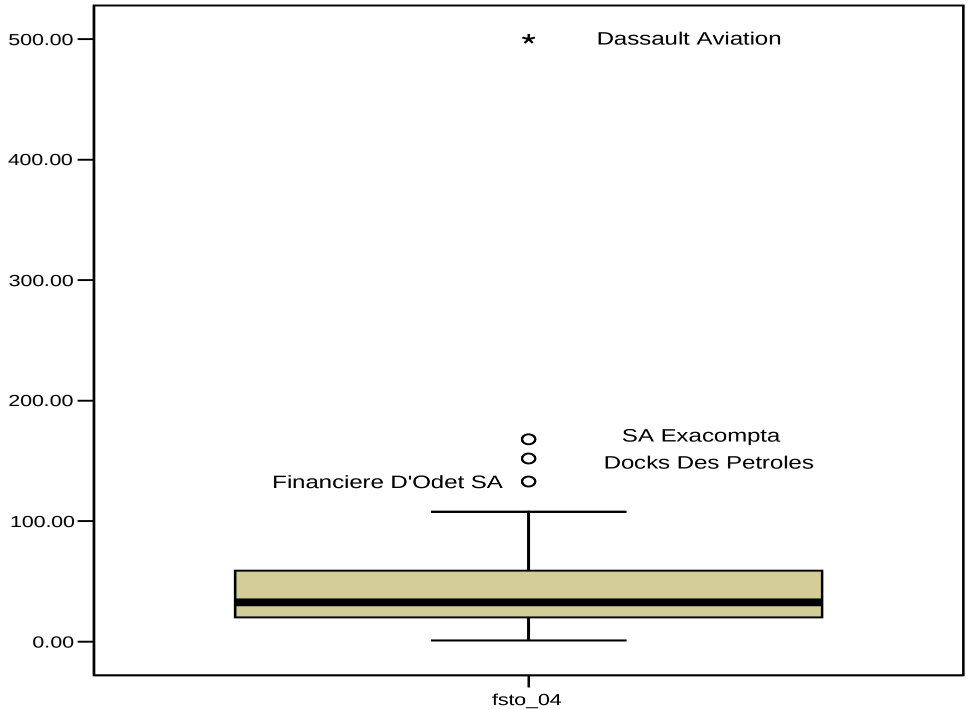
*Notes: The estimated regression models are based on ordinary least squares. Adjusted R-square and Standardised beta coefficients were used in order to make valid comparisons. BV stands for Book Values Per Share while EAR stands for Earnings Per Share. The regression model used is (4).

Table 14 provides evidence that value relevance in France has decreased from 0.934 in 2003 which is a high value relevance figure, to a 0.642 in 2006. This is a clear declining trend in France after the adoption of IFRS. As with Germany, this declining trend in value relevance was due to the inclusion of outliers in the selected sample.

Furthermore, in table 14 the incremental explanatory power of book value is constantly rising from a negative value -0.246 in 2003 to 0.563 in 2006. Contrary to that, the incremental explanatory power of earnings has dropped significantly from 1.212 in 2003 to 0.244 in 2006. As discussed earlier, Collins et al. (1997) also suggested that there is an inverse relationship between the incremental explanatory power of book values and earnings. He suggested that while the incremental explanatory power of "bottom-line" earnings has declined over the years, it has been replaced by increasing value relevance of book values. This relationship between earnings and book values was the same after the removal of outliers.

When the random sample was tested for outliers and extremes, approximately five to six companies each year demonstrated such characteristics and were extracted from the regression model. This had an immediate effect on value relevance figures as it turned from a declining movement to a more unwavering one.

Figure 10 – Example of SPSS boxplot identifying outliers/extremes for 2004



Source: SPSS - Developed by the author

* Outliers are points that extend more than 1.5 box-lengths from the edge of the box (noted as circles) while extremes are those that extend more than 3 box-lengths off the box (noted as asterisks). In this case Dassault Aviation is an extreme and the other points are outliers.

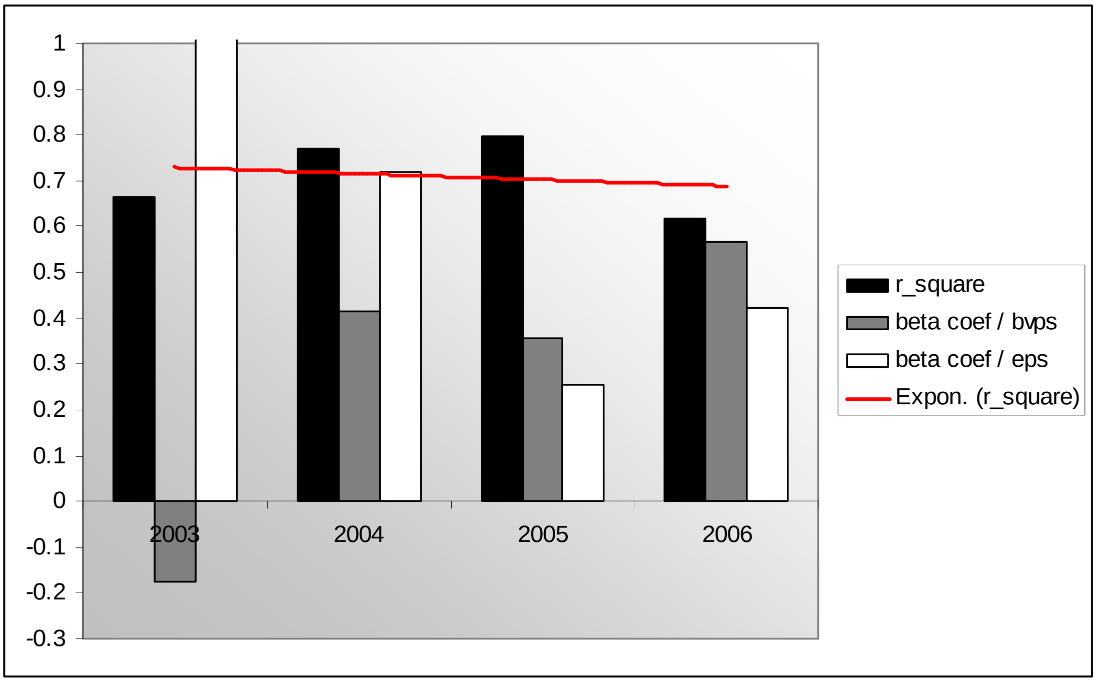
Contrary to Germany, only one firm was characterised as either outlier or extreme throughout the observed years 2003-2006 (Dasault Aviation), leaving the remaining outlier firms to change year by year (Camaieu, Docks des Petroles, Financiere d’

Odet, Bollore, Unedata, SA Exacompta and Neopost). Nevertheless, for each financial year four French firms were excluded from the sample as being either outliers or extremes.

It can be suggested that table 15 indicates a rather stable value relevance of accounting information over the observed years. It was approximately 67% in 2003 and ended up 62% in 2006. The pattern for the overall value relevance is the same as that of Germany. It is noteworthy that on average the r-square before the introduction of IFRS was (0.718) and after IFRS is (0.784).

Interestingly, value relevance was a bit higher during the transition period 2004 (0.771) and 2005 (0.796). This may be due to increased disclosure requirements companies during these years or can be interpreted as a sign that two different sets of accounts during 2004 (double disclosure) carried more relevant information (Horton and Serafeim, 2007). It is an interesting fact that the financial year 2004 was the year with the overall highest value relevance across all countries.

Figure 11 - Value relevance in France excluding outliers/extremes



Source: Developed by the author

As we can observe from the table above and the graph, value relevance in France is not affected by the introduction of IFRS. However, the conclusion is that IFRS do not change the explanatory power of earnings and book values.

Another remarkable observation comes from the relationship between the incremental explanatory power of earnings and the incremental explanatory power of book value. Although outliers and extremes were discarded, the inverse relationship between the incremental explanatory power of earnings and book values continues to hold. The coefficients in earnings dropped significantly from 1.049 in 2003 to 0.421 in 2006. On the other hand, the coefficients in book values increased from -0.177 in 2003 to 0.567 in 2006. It may be that France follows a “book value approach” adopted by the IASB and is moving in the same direction as IFRS[2].

However, generally the value relevance in France remains at the same levels although IFRS brought so many changes to French accounting. Arguably this is not what most French users of the accounts would expect. A plausible conclusion that can be drawn from the value relevance figures for both Germany and France is that creditor oriented accounting systems experience problems in materialising the positive effects of the transition to IFRS. This may be due to a straightforward “adjusting time” needed for these countries to reach a desired level of relevance and reliability (learning curve), or may be due to more complex traditional accounting rules and practices than cannot exist harmoniously within the IFRS accounting framework and need re-adjustment. Nevertheless, it should not be missed that these two countries have an overall higher

[2] As we can come to conclude, Germany and France are both indicating an increasing value relevance of book values and a decreasing trend in the value relevance of earnings.

r-square figure from the investor oriented accounting group despite value relevance being stable through the observed years.

Another interesting observation about France is the change in the relation between earnings and book values. Although before the introduction of IFRS, earnings were more value relevant from book values, international accounting standards completely turned this around. Arce and Mora (2002) also found earnings more value relevant than book values for France before IFRS despite following a creditor oriented accounting system. Interestingly, although traditional accounting focused on the income statement and regarded the balance sheet as a dumping ground for differences and nowadays IFRS point towards the importance of the balance sheet over the income statement, value relevance figures remain the same. Nevertheless, adopting a “book-value based” approach after IFRSs’ implementation, France has adapted efficiently to the IASB direction.

Another similarity to the aforementioned study is that overall France is the country with the greatest overall value relevance after the adoption of IFRS (average r square of 0.783 for Y2005-06).

In relation to $H_{1.4}$, this research can conclude that value relevance in France has not changed dramatically either for the better or for the worse. However, there is a change in the explanatory power of financial statements after the adoption of IFRS. Therefore the null hypothesis is accepted.

6.1.5. Summary for H_1

From the previous analysis we can observe that all the suggested hypotheses were accepted.

H_1: ***"The adoption of IFRS will change the value relevance of accounting information in the EU" (accepted)***

$H_{1.1}$: *"The adoption of IFRS will change the value relevance of accounting information in the* ***United Kingdom****" (accepted)*

$H_{1.2}$: *"The adoption of IFRS will change the value relevance of accounting information in the* ***Netherlands****" (accepted)*

$H_{1.3}$: *"The adoption of IFRS will change the value relevance of accounting information in* ***Germany****" (accepted)*

$H_{1.4}$: *"The adoption of IFRS will change the value relevance of accounting information in* ***France****" (accepted)*

It was purposely decided not to use directional hypotheses as it was not easy to judge the direction value relevance will take after the adoption of IFRS. However, this study provides evidence that value relevance changes after the adoption of IFRS. Although due to country specific effects the percentage changes and the directions were not the same, IFRS provide new/different information to the users of the accounts. Moreover, in France and Germany the change in value relevance was more modest than for the UK and the Netherlands.

A very interesting observation for the creditor oriented countries is that the highest value relevance figures were observed during the transition period towards IFRS (2004-2005). As we will come to realise in the group analysis, disclosure weaknesses in these two countries made dual reporting during these two years really significant in value relevance terms. The disclosure effect in this study is captured by the explanatory power common to both earnings and book values which will be analysed later.

On the other hand, the UK and the Netherlands, following a investor oriented accounting approach, indicated higher value relevance of the income statement throughout the observed period although the value relevance of the balance sheet is gaining importance. Value relevance in the UK and the Netherlands seems to be steadily increasing after the introduction of IFRS, a fact that highlights the new relevant information IFRS brought to the users of the accounts.

6.2. Group Analysis

Cross-country comparisons can also offer us important insight as to why there are differences after the IFRS implementation and what the possible reasons behind these variations are. IASB is trying to create a consistent basis of IFRS application and increase relevance and comparability of financial statements across Europe. However, it became clear from the individual country analysis that results on the value relevance of accounting information are mixed although IFRS were simultaneously applied. Group analysis will help the reader comprehend these cross-country differences.

6.2.1. Cross-country comparisons

As discussed earlier, z scores will be used to make cross-country comparisons when sample sizes are different. This score is used as the sample sizes of Germany (sample size 46 firms per year), France (sample size 46 firms per year), and the UK (sample size 48 firms per year), had to change to take into account the outlier effect, with the exemption of the Netherlands in which no outliers were identified (sample size of 50 firms). Therefore, as all four of the observed countries have different sample sizes, this technique is commonly used to make valid r-square comparisons. Other researchers in accounting papers like Joos and Lang (1994), Harris et al. (1994), and Arce and Mora (2002), also employed the same statistical method.

Table 16 – z scores of total r-square figures across countries

	2003	2004	2005	2006
Z score total r-square UK vs. Netherlands	-0.005	-0.017	-0.010	-0.013
Z score total r-square UK vs. Germany	-0.040	-0.026	-0.029	-0.016
Z score total r-square UK vs. France	-0.030	-0.013	-0.017	0.000
Z score total r-square Netherlands vs. Germany	-0.100	-0.028	-0.067	-0.011
Z score total r-square Netherlands vs. France	-0.069	0.009	-0.022	0.035
Z score total r-square Germany vs. France	0.023	0.031	0.031	0.039

Source: Developed by the author

*When values are positive r-square of the first country is higher than that in the second country, when values are negative it is the opposite

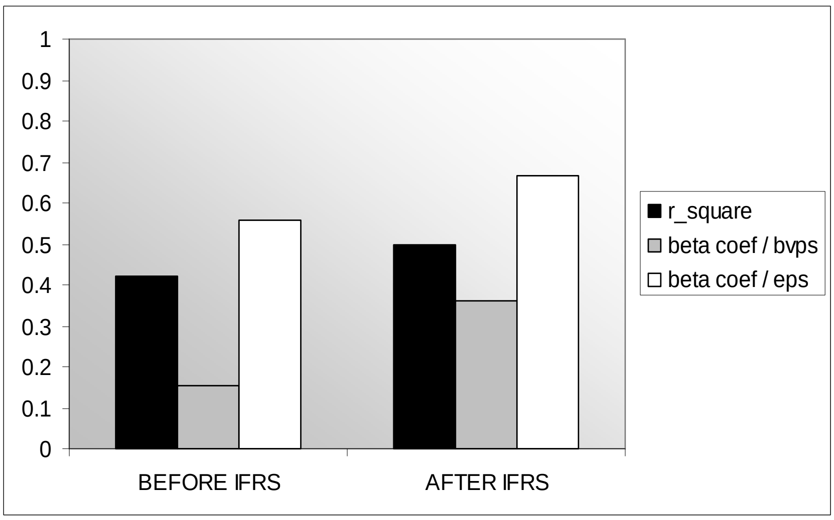
Table 16 can provide us with an indication of the movement of the r-square values across the selected countries. Germany is the country with the highest r-square across the financial years 2003 to 2006, as each z-score comparison made was proven better. France is the country with the second highest r-square figures followed by the Netherlands, with the UK being the country with the lowest r-square figures. Therefore, Germany is still the country with the highest value relevance of accounting information, although there is no noticeable increase in value relevance across these specific years. French financial statements are also quite relevant to the stock market price. Although in the UK and the Netherlands, value relevance increases through time, it remains at lower levels.

6.2.2. Investor vs. creditor oriented Accounting Systems ($H_{1.5}$)

$H_{1.5}$:"The investor oriented countries (UK, Netherlands) will have different value relevance from the creditor oriented ones (Germany, France) after the adoption of IFRS"

In order to tackle the obstacles to answering $H_{1.5}$ the grouping of the data will help the reader have a better understanding of the IFRS effects in the value relevance of accounting information. As mentioned earlier, in selecting Germany and France as "creditor oriented accounting systems" and the UK and the Netherlands as "investor oriented accounting systems" this study closely follows the categorisation of Nobes (1998). Therefore, the average of the statistical measures was used to separate the "before IFRS adoption" period (2003 and 2004) and compare it with the "after IFRS adoption" period (2005 and 2006). The results were the following:

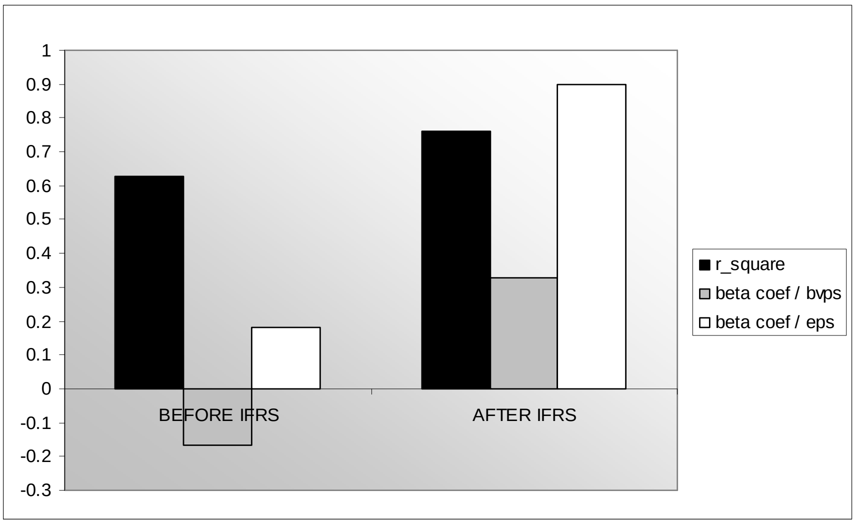
Figure 12 – Value relevance in the UK (before-after IFRS approach)



Source: Developed by the author

*Black = two year average total value relevance (adjusted r-square), Grey= two year average explanatory power of book value (standardised beta coefficient), White= two year average explanatory power of earnings (standardised beta coefficient). The regression model used was (4).

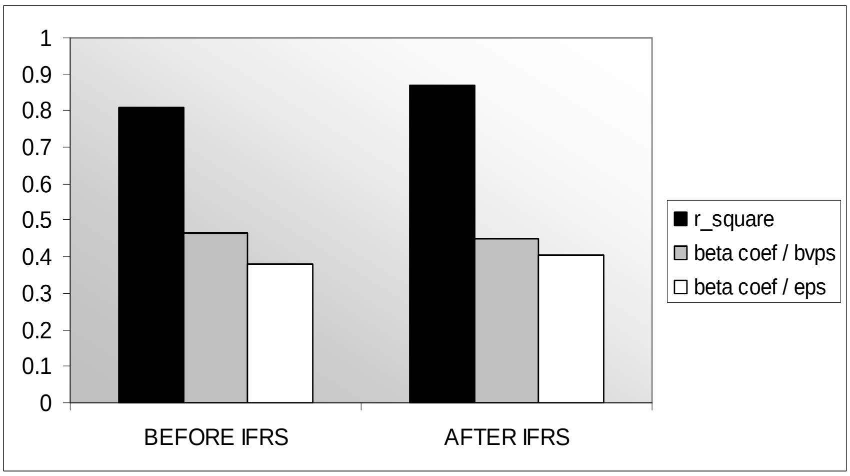
Figure 13 – Value relevance in the Netherlands (before-after IFRS approach)



Source: Developed by the author

*Black = two year average total value relevance (adjusted r-square), Grey= two year average explanatory power of book value (standardised beta coefficient), White= two year average explanatory power of earnings (standardised beta coefficient). The regression model used was (4).

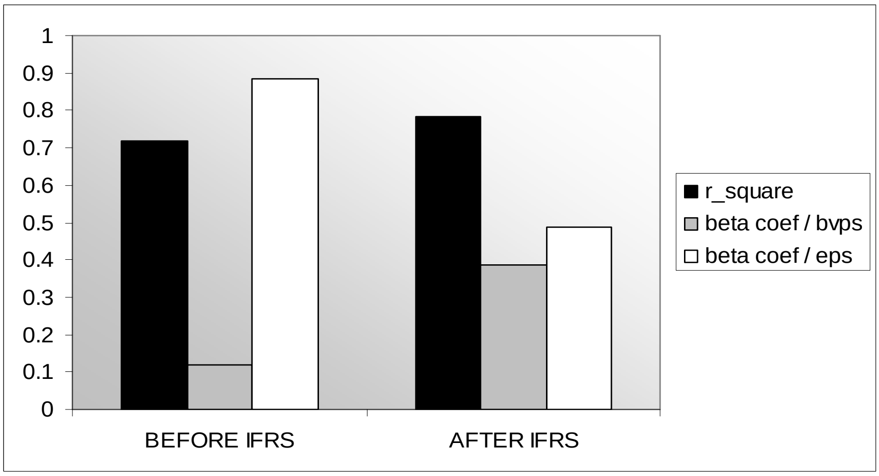
Figure 14 - Value relevance in Germany (before-after IFRS approach)



Source: Developed by the author

*Black = two year average total value relevance (adjusted r-square), Grey= two year average explanatory power of book value (standardised beta coefficient), White= two year average explanatory power of earnings (standardised beta coefficient). The regression model used was (4).

Figure 15 – Value relevance in France (before-after IFRS approach)



Source: Developed by the author

*Black = two year average total value relevance (adjusted r-square), Grey= two year average explanatory power of book value (standardised beta coefficient), White= two year average explanatory power of earnings (standardised beta coefficient). The regression model used was (4).

Analysing the graphs, there is a clear identifiable difference between Continental (creditor oriented) and Anglo-Saxon models (investor oriented). In creditor oriented accounting countries, value relevance of accounting information remains approximately at the same level after the introduction of IFRS. It is noteworthy that the change in the r-square for both countries is around 6%. It should also be pointed out that before IFRS, the overall value relevance for both countries is higher than that observed in investor oriented accounting systems. Value relevance of accounting information, although stable, is just around 80% high for the "after IFRS period" for both Germany (r-square 0.871) and France (r-square 0.784).

On the other hand, investor oriented accounting systems like the UK and the Netherlands show approximately 11% increase in their value relevance after the adoption of IFRS. More specifically, UK value relevance has increased 8%, while in the Netherlands value relevance is increased by 14%. It should be also stated that creditor oriented accounting systems outperform investor oriented ones, illustrating higher value relevance for both observed periods.

Another important point is that the UK has the lowest value relevance (50%) across the observed countries for the period after the introduction of IFRS. Germany is still the country with the highest value relevance of 87%, followed by France (78%) and the Netherlands (76%) which are both approximately at the same level.

A possible explanation for the high increase in value relevance in the UK may come from the number of cross-listings in each country. The UK is the country with the highest number of cross-listing firms in Europe. In the study of Tolmunen and Torsila (2000), the number of cross-listings in the UK was found to be almost triple the size of those observed in Germany and France. It seems possible that countries with a higher number of cross-listings viewed IFRS as a chance to lower their cost of capital, not having to adjust their statements to each country's national GAAP. German and French companies experienced a lower value relevance change as the number of cross listings was a lot smaller.

The moderate change in Germany and France can be considered logical in countries where the value relevance of accounting information was already high. Although this research cannot perform further tests to accept or reject this interpretation, other researchers may tackle this issue in another study.

Nevertheless, the moderate increase in Germany, France, and the UK accompanied with a higher increase in the Netherlands is an indication that value relevance has not dramatically changed. IASB aims to increase relevance, reliability, and comparability although it knows that it will not be an easy procedure. It would be very difficult for IASB to bring in vast changes in financial reporting at such short notice. Users and preparers need time to adjust to the changes and IASB is wisely taking a step-by-step approach in introducing new or changing accounting regulation.

The hypothesis that the effects for creditor oriented accounting systems were different to the effects noticed in countries following an investor oriented approach is accepted. Countries following creditor oriented accounting indicated a moderate increase after the adoption of IFRS while investor oriented accounting indicated a higher increase in the value relevance of accounting information.

6.2.3. Incremental value relevance of book values vs. earnings (H_2)

H_2 : *"The adoption of IFRS in EU will increase the incremental explanatory power of book value, decreasing that of earnings"*

As mentioned earlier, IASB seems to emphasize the primary importance of the balance sheet over the income statement. Historically there were two views in accounting. UK practitioners promoted the importance of the income statement over the balance sheet. On the other hand, standard setters in these countries and in other countries in Continental Europe were promoting the importance of the balance sheet over the income statement. The IASB seems to base its standards on a balance sheet oriented, fair value model, where the emphasis is on measuring the fair value of companies' assets and liabilities. The measurement of net income will then tend to rely on changes in the fair value of net assets. This argument is also presented in Haller et al. (2005).

This study's results come to shed some light into this trade off between earnings and book values. Although the previously tested beta coefficients can provide a general picture of the value relevance of earnings and book values, the explanatory power common to both earnings and book values is not taken into consideration. Therefore following a different viewpoint in the data analysis, the author will not only present the incremental explanatory power of book value per share and earnings per share but also the incremental explanatory power that is common for both book values and earnings per share as in Collins et al. (1997).

The values of book values and earnings will be compared across countries using z scores. Z scores are extensively used when the sample firm sizes are different across the compared countries.

Table 17 – z scores comparing book values per share across countries

	2003	2004	2005	2006
Z score UK BVPS vs. Dutch BVPS	-0.013	-0.018	-0.010	0.001
Z score UK BVPS vs. German BVPS	-0.042	-0.045	-0.036	-0.025
Z score UK BVPS vs. French BVPS	-0.025	-0.033	-0.010	-0.005
Z score Netherlands BVPS vs. German BVPS	-0.084	-0.084	-0.086	-0.086
Z score Netherlands BVPS vs. French BVPS	-0.033	-0.045	-0.003	-0.016
Z score German BVPS vs. French BVPS	0.040	0.030	0.062	0.052

Source: Developed by the author

*When values are positive BVPS of the first country is higher than that in the second country, when values are negative it is the opposite

As expected (Table 17), book values are more value relevant in Germany, which has the highest z score figures, compared to the other three countries. France is the country with the second highest book value across the observed years. Dutch book values are only higher than the UK ones which score last in the value relevance of book values across time.

Table 18 – z scores comparing earnings per share across countries

	2003	2004	2005	2006
Z score UK EPS vs. Dutch EPS	0.012	-0.025	-0.005	-0.014
Z score UK EPS vs. German EPS	-0.034	-0.024	-0.030	-0.004
Z score UK EPS vs. French EPS	-0.030	-0.015	-0.008	0.016
Z score Netherlands EPS vs. German EPS	-0.121	0.000	-0.081	0.028
Z score Netherlands EPS vs. French EPS	-0.109	0.025	-0.009	0.076
Z score German EPS vs. French EPS	0.010	0.020	0.053	0.046

*When values are positive EPS of the first country is higher than that in the second country, when values are negative it is the opposite

In table 18, the figures are quite different from the previous table. When value relevance of earnings is tested, the results are mixed. German earnings seem to be more value relevant, when compared to other countries. For example, z scores indicate German EPS more relevant from both the UK EPS and the French EPS. For 2004 and 2006 Dutch EPS appear more relevant than EPS in Germany and France. The UK EPS is more relevant than French EPS only in 2006, where EPS in the UK reaches almost 40%. This means that for 2006, the income statement explained 40% of the stock market price for the UK.

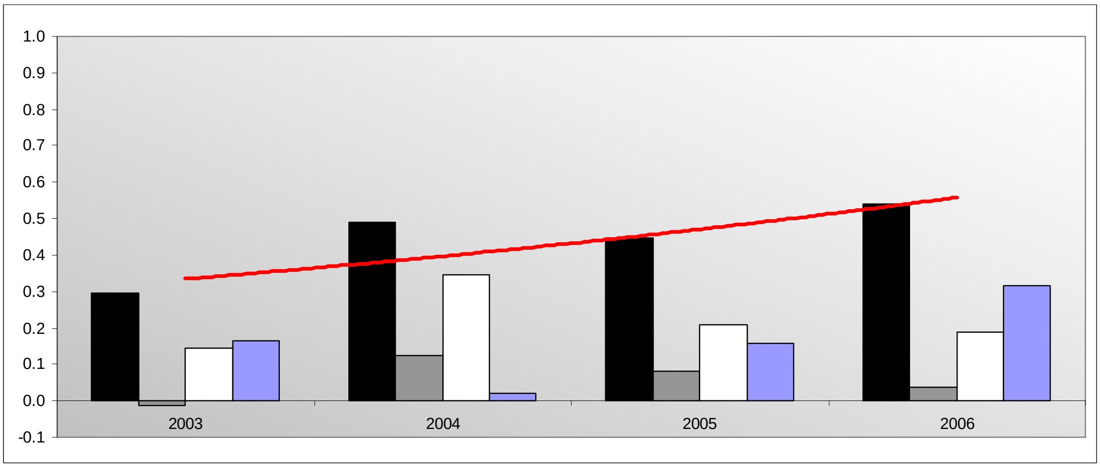
At that point it would be interesting to monitor, what was the actual value relevance of book value and earnings with respect to the explanatory power common to both book value and earnings, following the methodology of Collins et al. (1997). Using the r-square decomposition technique discussed in Chapter 5, Collins was able to capture the explanatory power common to both book value and earnings. The author has followed the same procedure to come up with the incremental explanatory power of book value, earnings, and the explanatory power common to both book value and earnings.

If common explanatory power is taken as a disclosure effect (as explained in Chapter 5), it seems that 2004 was the most relevant year due to the fact that companies had to prepare reconciliation reports along with financial statements according to the national standards. This increased disclosure affected both the balance sheet and the income statement. Therefore, an increase in the explanatory power common to both earnings and book values can be considered as the power of increased disclosure to explain the stock market price better.

The observed inverse relationship in the incremental explanatory power of earnings and book values is really important. This relationship is more profound in creditor oriented accounting systems like Germany (figure 9) and France (figure 11), than in the UK (figure 6) and the Netherlands (figure 7). A possible reason for that may be that the latter investor oriented oriented group was struggling more to adapt to the value relevance change from earnings to book values. Nevertheless, this inverse relationship can have important implications as it can imply that the increase in the incremental value relevance of book value (or earnings) may not improve the overall value relevance figure due to the inverse reaction of earnings (or book value).

$H_{2.1}$: *"The adoption of IFRS in the* ***United Kingdom*** *will increase the incremental explanatory power of book value in this country, decreasing that of earnings"*

Figure 16 – Value relevance with respect to book value, earnings, and explanatory power common to both book values & earnings (UK)



Source: Developed by the author

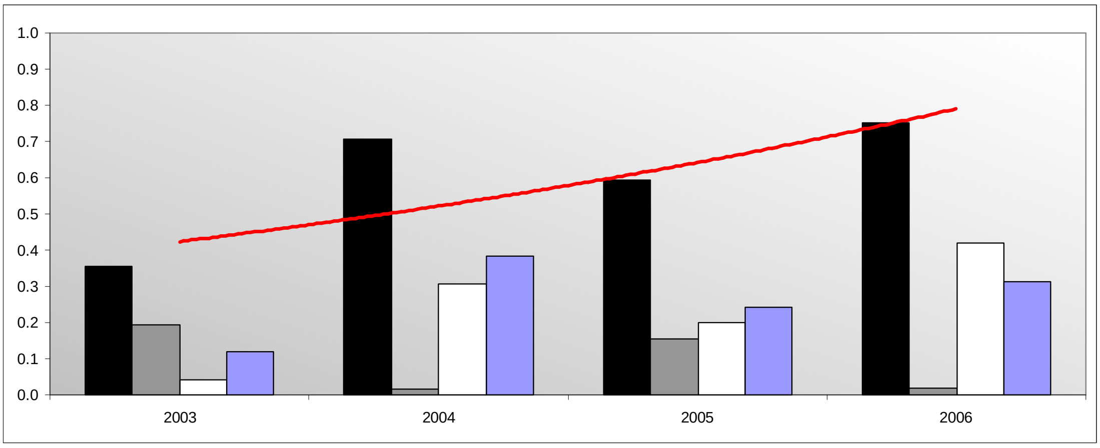
*Black = total r-squares, Grey = incremental explanatory power of book value, White = incremental explanatory power of earnings, Blue = explanatory power common to both earnings & book values, Red = Trend line – Exponential of total R-square. The regression models used were (1), (2), and (3).

In the UK, the explanatory power common to book values and earnings is lower than the incremental relevance figures of earnings and book values for 2003 to 2005. It is indicative that comparably to the other three countries, the UK experiences the smallest disclosure effect between the transition period of 2004 to 2005. In the UK, the incremental explanatory power of book value increased 5.0%, while that of earnings increased 4.3% (2003 to 2006). The highest increase was noted in the explanatory power common to both earnings and book values which was 15.1%. This denotes that in the UK, disclosure plays an important role in the value relevance especially after the introduction of IFRS, where this figure is increasing. However, in the UK the figures for common explanatory power are a lot less than in other countries like Germany and France where this figure clearly dominates. Moreover, the error term was the highest for the UK, supporting the notion that there is information which the model cannot capture that can drive the value relevance of accounting information.

The $H_{2.1.}$ is accepted as for the UK the incremental explanatory power of earnings is diminishing over time and the incremental explanatory power of book value is gaining in importance.

$H_{2.2}$: *"The adoption of IFRS in the* ***Netherlands*** *will increase the incremental explanatory power of book value in this country, decreasing that of earnings"*

Figure 17 – Value relevance with respect to book value, earnings, and explanatory power common to both book values & earnings (Netherlands)



Source: Developed by the author

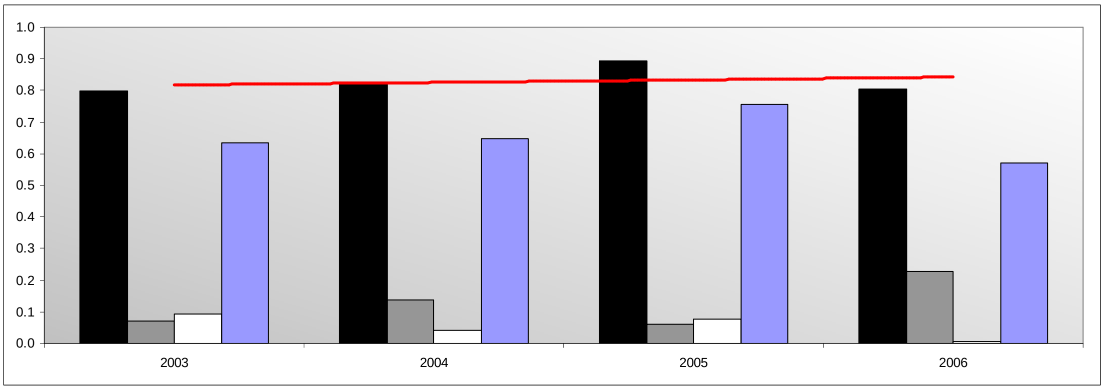
*Black = total r-squares, Grey = incremental explanatory power of book value, White = incremental explanatory power of earnings, Blue = explanatory power common to both earnings & book values, Red = Trend line – Exponential of total R-square. The regression models used were (1), (2), and (3).

In the Netherlands, explanatory power common to both book value and earnings provides new evidence. Beta coefficients indicate increasing book values over time. This new figure indicates that the increase was actually in explanatory power common to earnings and book values rather than just book values. Thus the value relevance of earnings is steadily increasing through the observed years, contrary to the decreasing relevance of book values. Book value drops 17.6% from 2003 to 2006, earnings increase 37.7% and common explanatory power also increases 19.6%. Therefore, the highest increase is depicted in the explanatory power of earnings. This situation in the Netherlands seems to be against the balance sheet oriented approach IASB is promoting. For the Netherlands, the explanatory power common to both book values and earnings is higher from the individual explanatory power of book value or earnings during the transition period 2004-2005. Therefore, this may be attributed to increased disclosure requirements during those years.

$H_{2.2.}$ is rejected as there is not yet a clear trend between book values and earnings. Although the incremental value relevance of book value increases contrary to that of earnings, time will tell whether book value will surpass the value relevance of earnings.

$H_{2.3}$: *"The adoption of IFRS in* ***Germany*** *will increase the incremental explanatory power of book value in this country, decreasing that of earnings"*

Figure 18 – Value relevance with respect to book value, earnings, and explanatory power common to both book values & earnings (Germany)



Source: Developed by the author

*Black = total r-squares, Grey = incremental explanatory power of book value, White = incremental explanatory power of earnings, Blue = explanatory power common to both earnings & book values, Red = Trend line – Exponential of total R-square. The regression models used were (1), (2), and (3).

A remarkable observation from the graphs above is that most of the value relevance of accounting information in Germany does not come from either book values or earnings, but from explanatory power that is common to both earnings and book values. This was not illustrated when analysing the beta coefficients (figure 9). Figure 18 indicates that for some years observed the explanatory power common to both earnings and book values is reaching 78% of the total value relevance.

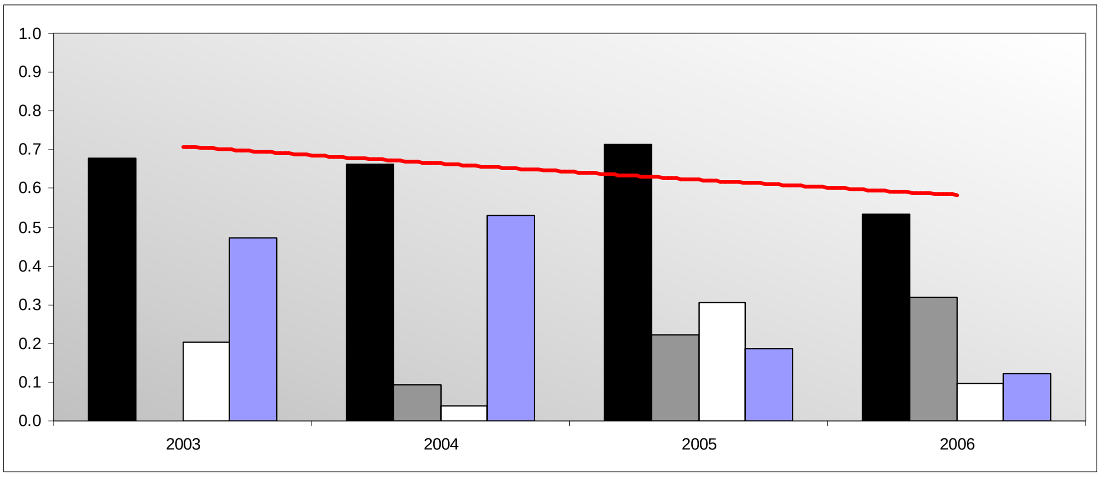
Germany is the country with the highest explanatory power common to both book value and earnings figures. Therefore, if the explanatory power common to both earnings and book values is considered to be driven from increased disclosure (that affects both the balance sheet and the income statement), then this played the most important role in Germany for the observed years. As can be observed from the graph, in Germany the common explanatory power for both earnings and book values peaked during the transition phase 2004 and 2005 and eased away after that in 2006.

The incremental explanatory power of book value constantly increases through time reaching 22% in 2006. Comparing 2003 to 2006, the incremental explanatory power of book value increased 15.9%, while both the incremental explanatory power of earnings and that of the explanatory power common to both earnings and book values decreased 8.9% and 6.4% respectively.

$H_{2.3.}$ hypothesis is accepted as there is a clear trend of increased value relevance of book value and decreasing value relevance of earnings.

$H_{2.4}$: *"The adoption of IFRS in* ***France*** *will increase the incremental explanatory power of book value in this country, decreasing that of earnings"*

Figure 19 – Value relevance with respect to book value, earnings, and explanatory power common to both book values & earnings (France)



Source: Developed by the author

*Black = total r-squares, Grey = incremental explanatory power of book value, White = incremental explanatory power of earnings, Blue = explanatory power common to both earnings & book values, Red = Trend line – Exponential of total R-square. The regression models used were (1), (2), and (3).

Contrary to what happened in Germany, in France the explanatory power common to both book value and earnings seems to decrease over time. In the 2006 it captures only 24% of the total value relevance figure. However, in 2004 where double disclosure was enforced, this figure reached its peak.

During the financial years 2003 and 2006, the incremental explanatory power of book value constantly increases by 31.6% following IASB's guidelines. This is the highest noted increase in the explanatory power of book value across the observed countries. The explanatory power of earnings and the common one decrease 10.8% and 35.3% respectively.

Therefore $H_{2.4.}$ is accepted as France was the country with the most profound inverse relationship in the incremental value relevance of earnings and book value.

All observed countries with the exception of Germany clearly show that the explanatory power of earnings outperforms that of book values. Even in France, which is characterised as a creditor oriented accounting system earnings are more value relevant than book values for 2003 and 2005. However, these value relevance figures for France are not new to the accounting literature as higher value relevance of earnings in France was also noted in the study of Arce and Mora (2002).

However, the situation seems to be changing as all the countries indicated that the explanatory power of book value increases through time. This is the path IASB is currently following, emphasizing the importance of the balance sheet over the income statement. All the countries that had the overall relevance of earnings outperforming that of book values, were at the same time indicating a significant increase in the relevance of book values. The Netherlands was the only country not indicating a clear trend. The ideal scenario for IASB is that all EU countries will show higher explanatory power of book values over earnings though time.

Conclusively, the H_2 that the introduction of IFRS will increase the incremental explanatory power of book value, decreasing that of earnings is accepted for all four countries.

6.2.4. Small, medium, and large capitalisation firms

H_3: *"The adoption of IFRS in EU will have different effects on small, medium, and large capitalisation firms"*

As mentioned earlier in this study, the argument that company size can affect the value relevance of accounting information is highly quoted in the accounting literature. Studies like those of Hayn (1995), Collins et al. (1997), and Barth and Clinch (2001) are some of the main ones that relate the value relevance of accounting information to firm size. Many studies in the value relevance literature take measures to exclude scale effects that can possibly distort final results. Collins's (1997) restrictions were also used to take into account scale effects. The methodology followed can be seen in Chapter 5. The hypothesis is again non-directional; hypothesising that there will be differences between these three groups but without arguing for or against the direction of that move.

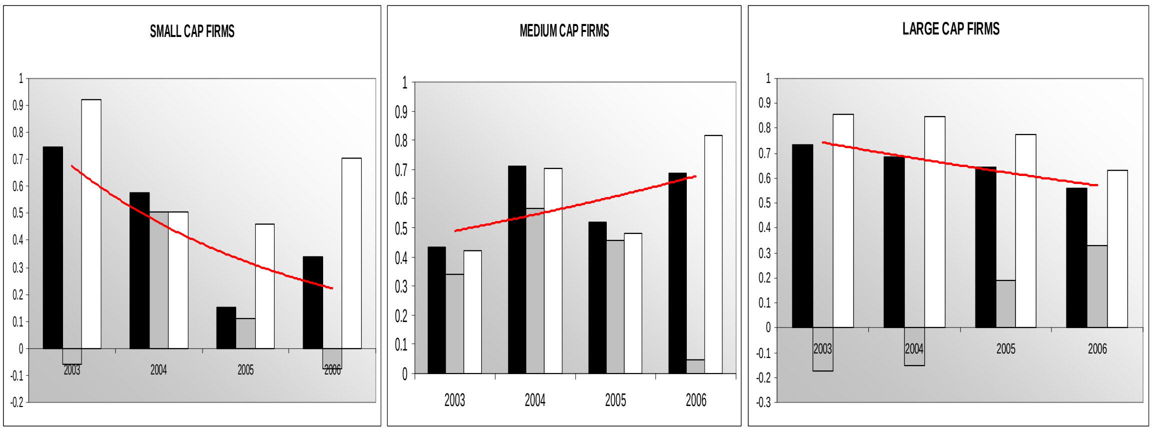
Nevertheless, there is a question as to whether large capitalisation firms will react differently from small or medium capitalisation firms to the adoption of IFRS. The ICAEW (2007) noted that: "it was emphasised by many participants that the experience of smaller quoted companies was often very different from large companies. Resources available to manage the transition and to deal with ongoing changes were far more limited, preparation tended to be undertaken at a later stage, and it was much less likely that the company or the auditors had prior experience of IFRS."

As explained earlier, the methodology of Conenc and Karan (2003) was used in dividing firms into the top 30% representing large capitalisation firms, middle 40% representing medium capitalisation ones, and bottom 30% representing small capitalisation firms. Year end market capitalisation figures were used to make this distinction.

Before starting to comment on the hypotheses, it is vital to present the graphs illustrating the main value relevance drivers for each country. For example, it is assumed that if value relevance increases for a country and only medium cap increases in value relevance while both small and large cap are decreasing, the main driver for that increase are medium cap firms.

$H_{3.1}$: *"The adoption of IFRS in the United Kingdom will have different effects on small, medium, and large capitalisation firms"*

Figure 20 – Market capitalisation in the UK - small cap (left), medium cap (middle), large cap (right)

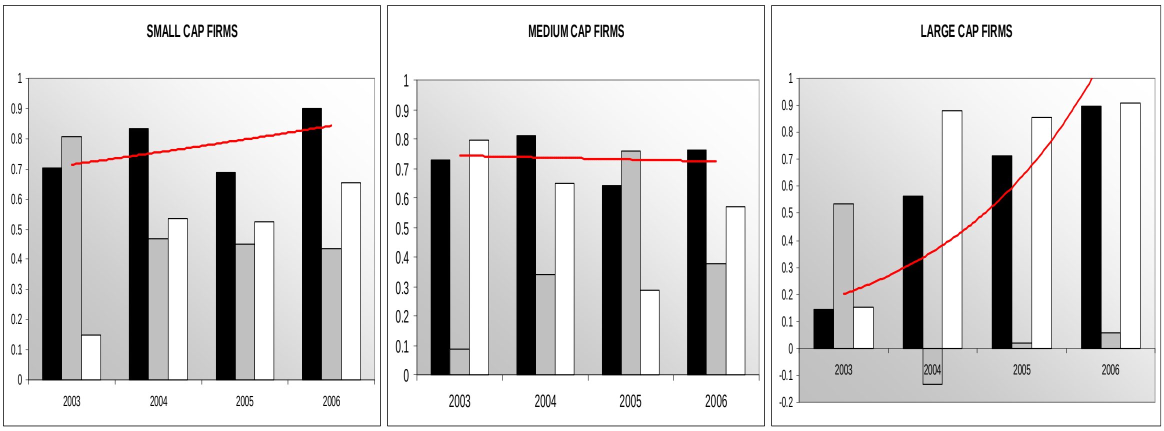


*Black bars represent adjusted r-square (explanatory power of model), grey bars stand for book values' standardised beta coefficients (incremental explanatory power of book value), white bar represent earnings' standardised beta coefficients (incremental explanatory power of earnings), red line is the exponential trend line for r-square (how value relevance is moving across time). For Small cap firms, r-squares of 2005, 2006 are non-significant. The regression models used were (1), (2), and (3).

As we can see from the graph on the previous page, in the UK the increase in value relevance is driven by medium capitalisation rise in value relevance. Small as well as large capitalisation firms show a decrease in value relevance (a fact that will also be observed in France). $H_{3.1}$ that the adoption of IFRS will have a different effect for different groups of firms is therefore accepted, as small and large groups illustrate decreasing value relevance while medium cap firms indicate increasing relevance.

$H_{3.2}$: *"The adoption of IFRS in the Netherlands will have different effects on small, medium, and large capitalisation firms"*

Figure 21 – Market capitalisation in the Netherlands - small cap (left), medium cap (middle), large cap (right)

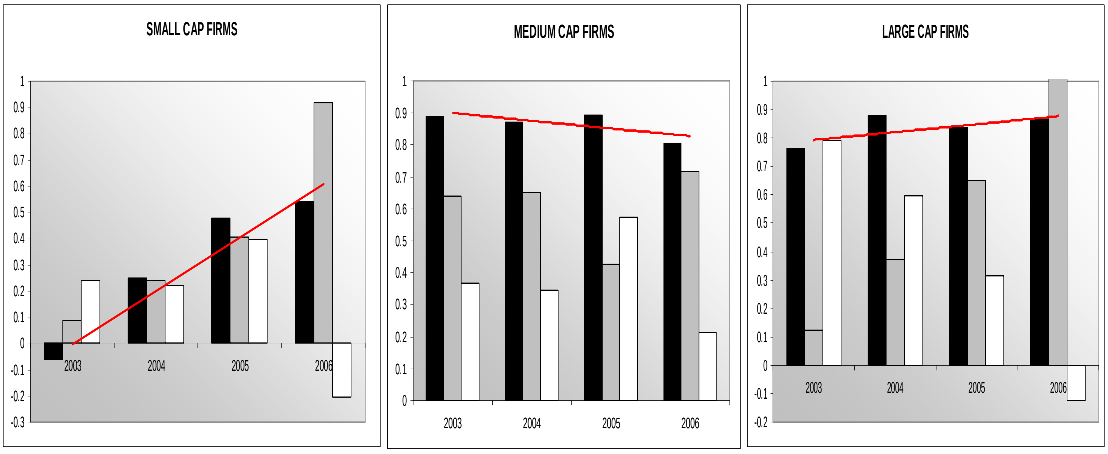


*Black bars represent adjusted r-square (explanatory power of model), grey bars stand for book values' standardised beta coefficients (incremental explanatory power of book value), white bar represent earnings' standardised beta coefficients (incremental explanatory power of earnings), red line is the exponential trend line for r-square (how value relevance is moving across time). For Large Cap firms, 2004 r-square was found non-significant. The regression models used were (1), (2), and (3).

In the Netherlands, the increase in value relevance of accounting information is driven by both small and large capitalisation firms, with the main effect deriving from large cap. Therefore $H_{3.2}$, which suggests that the effect of IFRS adoption would be different for different groups of capitalisation firms is accepted.

$H_{3.3}$: *"The adoption of IFRS in Germany will have different effects on small, medium, and large capitalisation firms"*

Figure 22 – Market capitalisation in Germany - small cap (left), medium cap (middle), large cap (right)



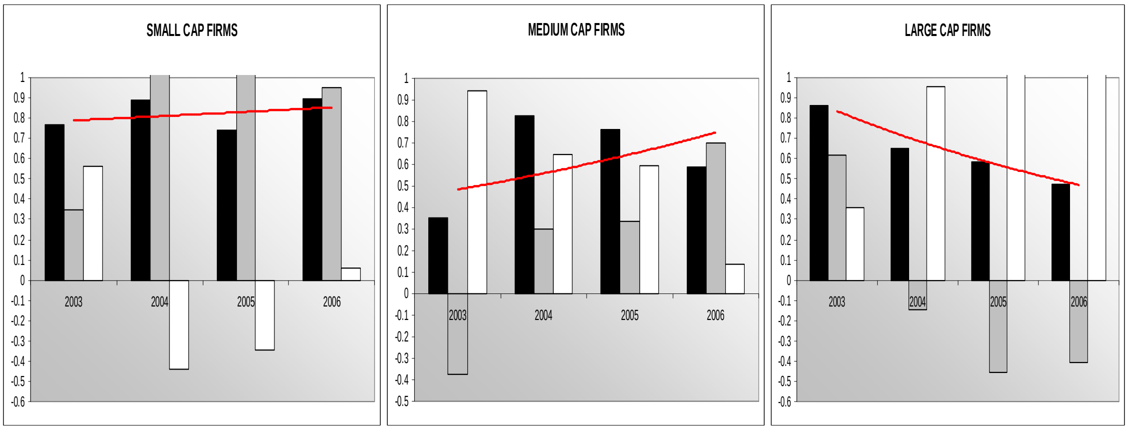
*Black bars represent adjusted r-square (explanatory power of model), grey bars stand for book values' standardised beta coefficients (incremental explanatory power of book value), white bar represent earnings' standardised beta coefficients (incremental explanatory power of earnings), red line is the exponential trend line for r-square (how value relevance is moving across time). For Small cap graph, r-squares for 2003 & 2004 were found not significant. The regression models used were (1), (2), and (3).

$H_{3.3}$ is accepted. Value relevance increases for both small and large capitalisation firms. On the other hand, decreases for medium capitalisation firms and this causes the overall value relevance in Germany to be at the same level before and after IFRS implementation.

As discussed earlier, Jermakowicz et al. (2007) identified that the benefits of IFRS may vary for German firms with different capitalisation sizes. Therefore, it is certain that although the benefits of complying with IFRS exceed the costs for all countries, problems during an identified "adjusting period" still exist especially in countries like Germany and France where the accounting culture was different from IFRS's.

$H_{3.4}$: *"The adoption of IFRS in France will have different effects on small, medium, and large capitalisation firms"*

Figure 23 – Market capitalisation in France - small cap (left), medium cap (middle), large cap (right)

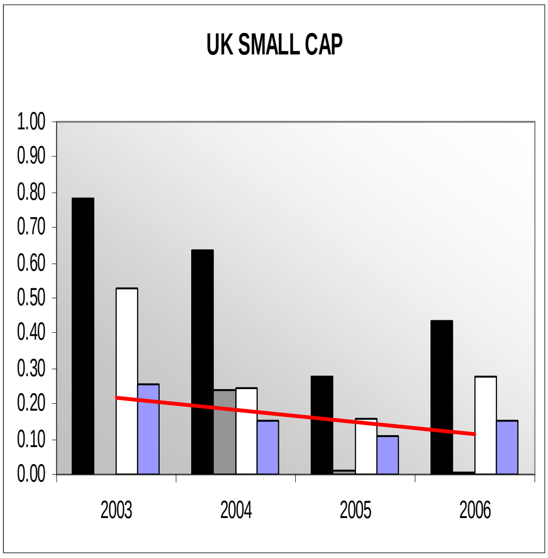


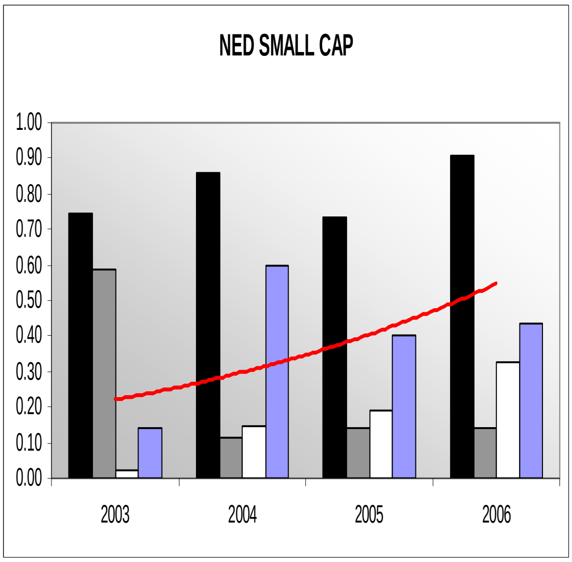
*Black bars represent adjusted r-square (explanatory power of model), grey bars stand for book values' standardised beta coefficients (incremental explanatory power of book value), white bar represent earnings' standardised beta coefficients (incremental explanatory power of earnings), red line is the exponential trend line for r-square (how value relevance is moving across time). For large cap graph, r-square for 2005 is non-significant. The regression models used were (1), (2), and (3).

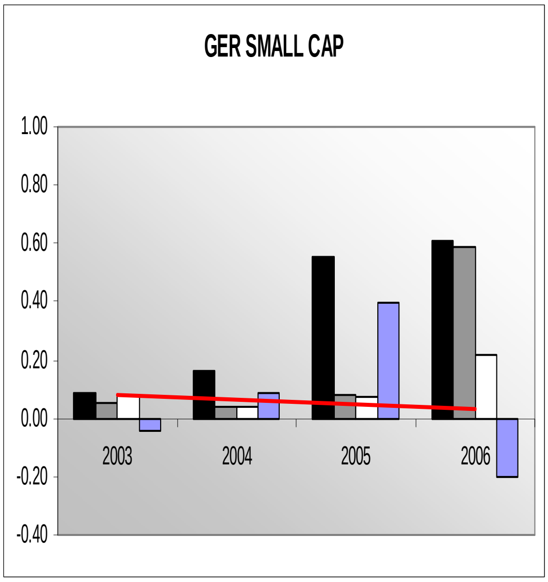
Although value relevance in France remains higher than in the UK, the introduction of IFRS cannot increase the value relevance of accounting information in that country. Furthermore, large capitalisation firms in France indicate declining value relevance. This decline is probably driving the change in r-square (figure 19).

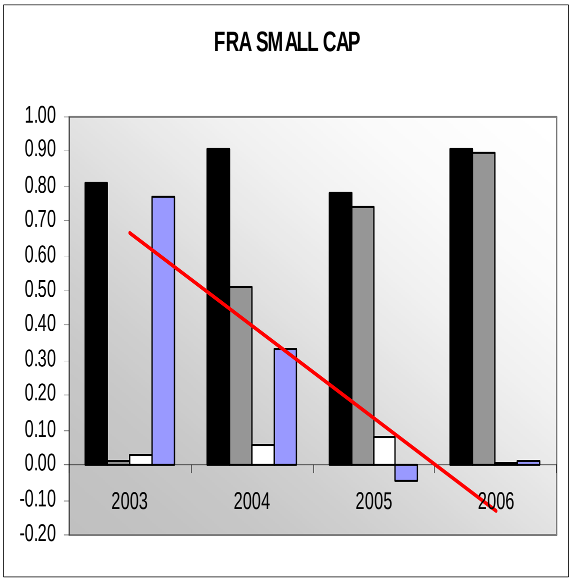
As far as $H_{3.4}$ is concerned, we accept the null hypothesis that in France the IFRS adoption made small cap firms react differently from medium as well as large capitalisation firms. There is a clear indication that medium capitalisation firm accounting numbers are increasing during the observed 2003-06 period, while large cap firm accounting numbers are losing some of their value relevance.

Figure 24 – Disclosure effect for small capitalisation firms (explanatory power common to book values and earnings)









Source: Developed by the author

*Black = total r-squares, Grey = incremental explanatory power of book value, White = incremental explanatory power of earnings, Blue = explanatory power common to both earnings & book values, Red = Trend line – Exponential of explanatory power common to both earnings & book values. The regression models used were (1), (2), and (3).

Interestingly enough though, when Collins et al. (2007) methodology was used to take into account the explanatory power common to both earnings and book values (as in 6.2.3.) this had a meaning only for the small capitalisation firms. Therefore, the disclosure effect played a more critical role for the small cap firms in these countries. In the Netherlands the disclosure effect seems in fact to become bigger through time. The reason behind that may be similar to the argument presented above. It is possible that large and medium capitalisation firms had already more disclosure and had coordinated their practices and valuation methods according to IFRS guidelines. Cristensen et al. (2007) argue that larger firms had more benefits in voluntarily adopting IFRS. In small capitalisation firms, disclosure requirements took a harder hit on their financial statements and overall value relevance figures. Explanatory power common to both earnings and book values had negative values either for medium or large capitalisation firms across all four countries. In medium and large capitalisation firms, earnings and book values captured most of the total r-square without leaving any gap for other factors to play a role in value relevance.

In order to combine these results with the overall value relevance figures, the situation in Germany changed completely. Germany was shown as the country with the highest explanatory power common to both book values and earnings' figure (highest disclosure effect). Although when the data was taken as a whole, the disclosure effect seemed to be very value relevant compared with the incremental explanatory power of book values and earnings, when the data was studied according to market capitalisation, this was not the case. Small capitalisation firms in Germany indicated positive disclosure values only during the transition period of 2004-2005.

6.3. Summary and conclusion

Previous analysis indicated that the introduction of IFRS created various results in the observed European countries. Although total figures point towards increasing value relevance, this increase is quite modest for some countries. The following table explains which hypotheses were accepted:

Synopsis of the hypotheses tested:
$H_{1.5}$: *"The adoption of IFRS in the EU will have a different effect on the value relevance of accounting information in creditor oriented countries (compared with that observed in investor oriented countries)"(accepted)*
H_2: *"The adoption of IFRS in the EU will increase the incremental explanatory power of book value, decreasing that of earnings"(accepted)*
H_3: *"The adoption of IFRS in the EU will have different effects on small, medium, and large capitalisation firms"(accepted)*

The highest increase in value relevance is measured in the Netherlands, followed by the UK, with creditor oriented accounting systems like Germany and France increasing the least. However, the value relevance in absolute r-square values was higher in these last two countries compared with the first two, which may be a reason why the increase was not so high.

This research indicates that there is certainly a positive change in the value relevance of accounting information. Although the significance of this change varies between countries, it definitely exists (figures 12-15). Hopefully, as preparers and users of accounts become more confident with IFRS, the comparability among financial statements will rise and the cost of capital for companies using international standards will also fall.

Further implications do exist as far as the trade off between the importance of the balance sheet and the income statement is concerned. IASB is promoting the importance of the balance sheet over the income statement, using the latter to record differences. This research is illustrates a continuous increase in the importance of the balance sheet for most of the observed countries. The preparer's persistence over fair value accounting becomes justified as the balance sheet is gaining in value relevance over time.

Moreover, there are important implications as the disclosure effect (measured by the explanatory power common to both earnings and book value) fades away too. This variable was very relevant between 2004-2005, where increased disclosure and reconciliation reports changed the value relevance of financial statements significantly. After that, the disclosure effect seems to diminish for most countries. Moreover, if the view that disclosure is a main driver of value relevance is accepted, investor oriented countries were more able to cope with IFRSs increased disclosure requirements than creditor oriented accounting systems. The UK and the Netherlands were able to manage more easily increased disclosure due to conservatism and increased transparency; the characteristics of a investor oriented accounting system. However, these countries had more trouble in changing from a more value relevant income statement to a comparatively more value relevant balance sheet. On the other hand, creditor oriented countries had a lower quality of disclosure before the introduction of IFRS. Thus, disclosure had a huge effect on them and this is indicative of the fact that the common explanatory power for both earnings and book values was higher for Germany and France in 2004.

Table 19 – Market capitalisation and IFRS change in value relevance

	UK	NETHERLANDS	GERMANY	FRANCE
SMALL CAP	–	+	+	S
MEDIUM CAP	+	S	S	+
LARGE CAP	–	+	+	–
OVERALL VALUE RELEVANCE CHANGE	SECOND HIGHEST INCREASE	HIGHEST INCREASE	STABLE/ LEAST INCREASE	STABLE/ SLIGHT DECREASE
Z LEVEL COMPARIS ONS	LOWEST	SECOND HIGHEST	HIGHEST	THIRD HIGHEST

Source: Developed by the author

* "-" = decreasing value relevance across time, "+" = increasing value relevance across time, and "S"= stable value relevance across time

With regard to the distinction between small, medium, and large capitalisation the results were mixed. Interestingly enough, the results here go against the initial pairings. The UK and French results show that medium cap firms are driving the increase in value relevance. Large cap firms for both countries are losing part of their value relevance after the adoption of IFRS. On the other hand, Germany and the Netherlands form another group where small and large cap firms are gaining value relevance while mid cap firms are losing their relevance.

Another interesting point here is that the disclosure effect mostly hit small cap firms, being the group with the highest common explanatory power to both earnings and book values. Clearly large capitalisation firms had financial statements that were much closer to the IFRS guidelines, compared to small cap ones. Alternatively, it can be suggested that the transition to the new standards had less of an impact for the users of the large cap firms' accounts.

Conclusively, IFRS are changing value relevance of accounting information. In most cases this change is not huge. Some accountants believe that there is an "adjusting time" effect, meaning that as IFRS's accurate simultaneous implementation takes time, the positive effects will also take some time to be completely revealed. Other researchers believe that there are specific problems in globalising accounting standards like cultural differences, politics, convergence with US GAAP, and interpretation issues that are an obstacle in this procedure.

CHAPTER 7 – SUMMARY, CONCLUSION, AND AREAS FOR FUTURE RESEARCH

7.1. Summary

The overall purpose of this study was to compare the value relevance of IFRS with that of national GAAPs from major European countries in order to determine whether IASB has added some value to financial accounts or not. This was accomplished by examining changes inside specific countries as well as making cross-country comparisons.

As far as the first part is concerned, this study examined the value relevance for each country across the observed years, the trade-off between the value relevance of the balance sheet and the income statement, as well as how groups with different market capitalisation figures will react during IFRS transition. In the cross-country (group) analysis, the value relevance before and after the IFRS implementation, according to the investor and creditor oriented accounting categorisation was tested. Afterwards, this research compared value relevance figures (r-square, beta coefficients, and incremental value relevance of earnings, book values, and explanatory power common to both earnings and book values) across the four observed years and across the four observed countries.

The first hypothesis was accepted overall. Each country (the UK, the Netherlands, Germany, and France) demonstrated a change in value relevance after the adoption of the new accounting standards. However, as predicted by forming non-directional hypotheses, the change across the countries was not uniform or equal. The Netherlands was the country with the highest positive increase in value relevance after the IFRS implementation, followed by the UK, with Germany and France showing a more moderate increase in value relevance figures. It is noteworthy that during the transition phase 2004-05, all countries scored the highest value relevance figures which were possibly due to dual reporting.

The second hypothesis was developed to compare the value relevance of the balance sheet with that of the income statements under IFRS. IASB's drive in promoting the importance of the balance sheet over the income statement had generated some results. Although, in absolute terms, the value relevance of earnings was higher than that of book values, the results were different when r-squares were measured across the observed years. Book values (balance sheet value relevance) seem to have entered an increasing trend, lowering the value relevance of earnings. Therefore, the second hypothesis was accepted as well. Other factors like disclosure, measured by the explanatory power common to book values and earnings, seemed also important in affecting the value relevance of accounting information. Especially in creditor oriented countries like Germany and France, this measure scored high r-square values pointing out that these countries depend more on disclosure changes than investor oriented accounting systems do.

The third hypothesis dealt with scale effects on the value relevance of accounting information after the transition to IFRS. More specifically, the research focused on analysing different market capitalisation groups in order to make comparisons of the changes in value relevance before and after the implementation of these new standards. The results were mixed. For the UK and France, medium capitalisation firms seemed to drive the increase in value relevance after the introduction of IFRS. In the Netherlands and Germany, it was the other way round. Small and large capitalisation firms indicate an increase in value relevance while mid capitalisation ones are decreasing. Another important point here is that increased disclosure (measured by the explanatory power common to both earnings and book values) mostly affected small capitalisation firms in all four countries. Large capitalisation firms already had more disclosure or were found more ready to apply the new accounting standards.

7.2. Conclusion

The results of this study are really significant. This is the first study that actually tries to measure IFRS effectiveness, comparing the value relevance of national GAAPs with that of IFRS, using newly published annual financial reporting data from 2005 and 2006.

One of the targets of the mandatory IFRS was to provide new information that was not available under national GAAPs. The two signs that can be associated with that is an increase in the overall value relevance of accounting information and an additional increase in the value relevance of disclosure under the new international standards. Some other important conclusions are:

i) IFRS added value to financial reporting. This is a major finding for IASB in order to justify its existence. Value relevance of accounting information increases over time. This increase in not the same for all the observed countries. Possibly, other countries in the EU will also have moderate or higher changes in the value relevance of accounting information. Nevertheless, the fact that value relevance increases cannot mean that IASB's vision of introducing fair value accounting is unjustified. Future research will tell whether this move will finally lead to comparable accounts across the European Union or whether the "country effect" (accounting tradition, culture, and individualism) or will pose a strong resistance to harmonisation.

ii) One interesting fact is that Germany was the country with the most "early IFRS adopters". These firms were identified by many researchers as firms in favour of transiting into the new international standards. The Netherlands had also a number of early adopters but this number of firms was not significant for this research. The UK and France did not have many early IFRS adopters. Nevertheless, Germany still remained one of the countries with the highest overall value relevance figures (r-square) indicating that firms that followed the mandatory new disclosures performed equally well under the new standards.

iii) Another intriguing result is that although some countries like the UK and the Netherlands had national accounting standards closely affiliated with IFRS, they did not manage to indicate a higher level of value relevance from the creditor oriented accounting group i.e. Germany and France. It should be mentioned that the first two countries were fully supportive of the IFRS implementation, while on the other hand France was at first sceptical on the reliability of the new standards. However, it should equally be noted that the investor oriented group illustrated higher change in the value relevance for the pre- and post-IFRS period.

iv) This study also captures the disclosure effect between the periods of 2004-05 which was noted by an increase in the value relevance of accounting information in the four observed countries. The year ending 2004 financial accounts were found to be the most value relevant ones across the observed years. This increase indicated that additional requirements under the forthcoming IFRS (were obligatory from 1st January 2005) made stock prices more sensitive to financial reporting data.

v) Furthermore, this study made clear that the balance sheet is gaining in value relevance through time while the income statement is losing some of its relevance. However, as in many countries the value relevance of the income statements still outperforms that of the balance sheet, IASB should give an equal attention to both statements. For example, although the IASB has concentrated a lot on recognition and measurement issues, the presentation of profit is not yet thoroughly explained. Therefore, firms in many countries feel tempted to use national rules in the absence of detailed IAS/IFRS rules.

vi) Another conclusion of this research is the urge for supporting SME's in the implementation of these standards. In the previous chapter, the "disclosure effect" had a meaning only for small capitalisation firms. Maybe this particular group of firms will need special attention from the IASB in the direction of simplifying some rules like recognition and measurement simplifications or introducing a stand-alone IFRS for SMEs. The fact that the transition to the new standards had an immediate effect to this particular group in most countries is characteristic.

7.3. Areas for future research

The author believes that this research study provides ample scope for other researchers' projects to explore value relevance further. The following are a few suggestions for future research:

i) This research could be extended to cover more years (backwards and forwards). Only then would it be possible for a researcher to identify a clear trend on how value relevance of accounting information changes over time.

ii) Moreover, more countries or group of countries (like Eastern Europe) could be included in order to identify key differences or similarities of pre- and post-IFRS financial reporting across countries within the European Union.

iii) In addition, researchers could look more closely on how scale effects (market capitalisation) affect the value relevance of accounting information and make more comparisons across small, medium, and large capitalisation groups.

iv) It would be equally important for researchers to observe whether IFRS affected sectors within each country or across countries differently. This research shows that manufacturing firms were identified as outliers/extremes in Germany. These firms were the reason that Germany initially showed a decline in the value relevance of accounting information.

v) Another interesting project would be to analyse further the issue of the large number of German firms that adopted IFRS before 2005. This could be done by examining the value relevance of early adopters' for pre- and post-IFRS period financial reports and comparing them with enforced adopters' accounts for the same periods of time.

vi) Another important future research would be to apply Hellstrom's (2006) log model into this study. Preliminary results indicate that this model adds value to the value relevance literature although the theoretical framework of it still remains to be validated. This study could also be extended by analysing whether the research of Dontoh et al. (2004) for non-information based trading could explain year-to-year declines in the value relevance of accounting data.

vii) Last, but not least, this research could further include qualitative research in order to juxtapose these findings to preparers' and users' views on the effects of IFRS in the value relevance of accounting information.

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9. APPENDIX – FIGURES & TABLES

9.1. Table 3 – Process of selecting the final sample of firms

UK

	2003	2004	2005	2006 Final Sample
1	Acal PLC	Acal PLC	Acal PLC	Acal PLC
2	Alexon Group PLC	Alexon Group PLC	Alexon Group PLC	Alexon Group PLC
3	Baggeridge Brick PLC	Baggeridge Brick PLC	Baggeridge Brick PLC	Baggeridge Brick PLC
4	BHP Billiton PLC	BHP Billiton PLC	BHP Billiton PLC	BHP Billiton PLC
5	Boot (Henry) & Sons PLC	Boot (Henry) & Sons PLC	Boot (Henry) & Sons PLC	Boot (Henry) & Sons PLC
6	Burren Energy PLC	Burren Energy PLC	Burren Energy PLC	Burren Energy PLC
7	Chemring Group PLC	Chemring Group PLC	Chemring Group PLC	Chemring Group PLC
8	Chorion PLC	Chorion PLC	Chloride Group PLC	Chloride Group PLC
9	Clarkson PLC	Clarkson PLC	Clarkson PLC	Clarkson PLC
10	Comino Group PLC	Comino Group PLC	Communisis PLC	Communisis PLC
11	Corin Group PLC	Corin Group PLC	Corin Group PLC	Corin Group PLC
12	Cranwick PLC	Cranswick PLC	Cranswick PLC	Cranswick PLC
13	Datamonitor PLC	Datamonitor PLC	Datamonitor PLC	Daily Crest PLC
14	Domnick Hunter Group PLC	Domnick Hunter Group PLC	Domino Pizza UK & IRL PLC	Domino Pizza UK & IRL PLC
15	Edinburgh Oil And Gas PLC	Edinburgh Oil And Gas PLC	Eleco PLC	Eleco PLC
16	Electrocomponents PLC	Electrocomponents PLC	Electrocomponents PLC	Electrocomponents PLC
17	Falkland Islands Holdings PLC	Falkland Islands Holdings PLC	Falkland Islands Holdings PLC	Falkland Islands Holdings PLC
18	Game Group PLC	Game Group PLC	Game Group PLC	Game Group PLC
19	Gibbs & Dandy PLC	Gibbs & Dandy PLC	Gibbs & Dandy PLC	Gibbs & Dandy PLC
20	Heavitree Brewery PLC	Heavitree Brewery PLC	Heavitree Brewery PLC	Heavitree Brewery PLC
21	ICM Computer Group PLC	ICM Computer Group PLC	ICM Computer Group PLC	ICM Computer Group PLC
22	JJB Sports PLC	JJB Sports PLC	JJB Sports PLC	JJB Sports PLC
23	Johnston Group PLC	Johnston Group PLC	Johnston Group PLC	Johnston Group PLC
24	Lookers PLC	Lookers PLC	Lookers PLC	Lookers PLC
25	Luminar PLC	Luminar PLC	Luminar PLC	Luminar PLC
26	Marks & Spencer PLC	Marks & Spencer PLC	Marks & Spencer PLC	Marks & Spencer PLC
27	Melrose Resources PLC	Melrose Resources PLC	Melrose Resources PLC	Melrose PLC
28	Mitchells And Butlers PLC	Mitchells And Butlers PLC	Mitchells And Butlers PLC	Mitchells And Butlers PLC
29	Molins PLC	Molins PLC	Molins PLC	Molins PLC
30	Morrison (WM) Supermarkets PLC	Morrison (WM) Supermarkets PLC	Morrison (WM) Supermarkets PLC	Morrison (WM) Supermarkets PLC
31	Mowlem PLC	Mowlem PLC	Moutchel Parkman PLC	Moutchel Parkman PLC
32	MTL Instruments Group PLC	MTL Instruments Group PLC	MTL Instruments Group PLC	MTL Instruments Group PLC
33	National Express Group PLC	National Express Group PLC	National Express Group PLC	National Express Group PLC
34	Next Fifteen Communication PLC	Next Fifteen Communication PLC	Next Fifteen Communication PLC	Next Fifteen Communication PLC
35	Next PLC	Next PLC	Next PLC	Next PLC
36	Northgate PLC	Northgate PLC	Northgate PLC	Northgate PLC
37	Partridge Fine Arts PLC	Partridge Fine Arts PLC	Pedragon PLC	Pedragon PLC
38	Portmeirion Group PLC	Portmeirion Group PLC	Portmeirion Group PLC	Portmeirion Group PLC
39	Rank (The) Group PLC	Rank (The) Group PLC	Rank (The) Group PLC	Rank (The) Group PLC
40	Redrow PLC	Redrow PLC	Redrow PLC	Redrow PLC
41	Ricardo PLC	Ricardo PLC	Ricardo PLC	Ricardo PLC
42	Smith And Nephew PLC	Smith And Nephew PLC	Smith And Nephew PLC	Smith And Nephew PLC
43	Smiths Group PLC	Smiths Group PLC	Smiths Group PLC	Smiths Group PLC
44	Stanley Leisure PLC	Stanley Leisure PLC	Stanley Leisure PLC	Spetrics PLC
45	Thorpe (FW) PLC	Thorpe (FW) PLC	Thorpe (FW) PLC	Thorpe (FW) PLC
46	Topps Tiles PLC	Topps Tiles PLC	Topps Tiles PLC	Topps Tiles PLC
47	Ultraframe PLC	Ultraframe PLC	Ultraframe PLC	Umeco PLC
48	Umeco PLC	Umeco PLC	Umeco PLC	Unilever PLC
49	Wembley PLC	Wembley PLC	Weir Group PLC	Weir Group PLC
50	Wyevale Garden Centres PLC	Wyevale Garden Centres PLC	WSP Group PLC	WSP Group PLC
Number of non-surviving firms	**0**	**7**	**3**	**SUM = 10**

grey fill colour	companies replaced due to discontinued operations / unavailability of data
red colour	new companies selected following the same steps

NETHERLANDS

	2003	2004	2005	2006 Final Sample
1	Aalberts Industries NV	Aalberts Industries NV	Aalberts Industries NV	Aalberts Industries NV
2	Airspray NM	Airspray NM	AFC Ajax	AFC Ajax
3	Akzo Nobel	Akzo Nobel	Akzo Nobel	Akzo Nobel
4	Alanheri NV	AM NV	Alanheri NV	Alanheri NV
5	Amsterdam Commodities NV	Amsterdam Commodities NV	AM NV	Amsterdam Commodities NV
6	Arcadis	Arcadis NV	Amsterdam Commodities NV	Arcadis NV
7	Athlon Holding NV	Athlon Holding NV	Arcadis NV	Ballast Nedam NV
8	Batenburg Beheer	Ballast Nedam NV	Ballast Nedam NV	BAM Groep NV
9	Beter Bed Holding	Beter Bed Holding	Beter Bed Holding	Beter Bed Holding
10	Boskalis Westminster NV	Boskalis Westminster NV	Blydenstein-Willink NV	Boskalis Westminster NV
11	Brill (Koninklijke)	Buhrmann NV	Boskalis Westminster NV	Cate (Koninklijke Ten)
12	Buhrmann NV	Cate (Koninklijke Ten)	Buhrmann NV	Crown Van Gelder Gemeenten BEZ
13	Cate (Koninklijke Ten)	Crown Van Gelder Gemeenten BEZ	Cate (Koninklijke Ten)	Crucell NV
14	Crown Van Gelder Gemeenten BEZ	CSM NV	Crown Van Gelder Gemeenten BEZ	CSM NV
15	Docdata	DSM NV	CSM NV	Draka Holding NV
16	Econosto Koninklijke	Eriks Group	Econosto Koninkcilke	Econosto Koninkcilke
17	Eriks Group	Exact Holding	Eriks Group	Eriks Group
18	Fornix Biosciences	Fornix Biosciences	Exact Holding	Exact Holding
19	Frans Maas Groep Koninklijke	Fugro NV	Fornix Biosciences	Fornix Biosciences
20	Fugro NV	Gamma Holding NV	Fugro NV	Fugro NV
21	Grolsch NV	Grolsch NV	Gamma Holding NV	Gamma Holding NV
22	Grontmij NV	Grontmij NV	Grolsch NV	Grolsch NV
23	Heineken NV	Heijmans NV	Grontmij NV	Grontmij NV
24	Holland Colours NV	Heineken Holding	Heijmans NV	Heijmans NV
25	ICT Automatisering	Heineken NV	Heineken Holding	Heineken Holding
26	IHC Caland NV	Holland Colours NV	Heineken NV	Heineken NV
27	Imtech NV	ICT Automatisering	Holland Colours NV	Holland Colours NV
28	Laurus	Imtech NV	ICT Automatisering	ICT Automatisering
29	Macintosh Confectie NV	Innoconcepts NV	Imtech NV	Imtech NV
30	Nederlands Apparanfabriek NV	Laurus	Innoconcepts NV	Innoconcepts NV
31	Nedschroef Holdings Koninklijke	Nederlands Apparanfabriek NV	Laurus	Laurus
32	NV Twentsche Kabel Holding	NV Twentsche Kabel Holding	Nederlands Apparanfabriek NV	Nederlands Apparanfabriek NV
33	Nyloplast	Oce NV	Nyloplast	Nutreco NV
34	Oce NV	OPG Groep NV	Oce NV	Nyloplast
35	Ordina	Ordina	OPG Groep NV	Oce NV
36	Pink Roccade	Randstad Holding NV	Ordina	OPG Groep NV
37	Randstad Holding NV	Roto Smeets De Boer NV	Randstad Holding NV	Ordina
38	Reesink NV	Royal P & O NV	Roto Smeets De Boer NV	Randstad Holding NV
39	Roto Smeets De Boer NV	Schuitema NV	Samas NV	Reed Elsevier NV
40	Royal KPN	Seagul Holding NV	Schuitema NV	Roto Smeets De Boer NV
41	Schuitema NV	Sligro Food Group	Seagull Holding	Samas NV
42	Simac Techniek NV	Smit International	Sligro Food Group	Schuitema NV
43	Sligro Food Group	Stern Groep	Smit International	Sligro Food Group
44	Smit International	Stork NV	Stern Groep	Stern Groep
45	Stern Groep	Unit 4 Agresso	Stork NV	Stork NV
46	Stork NV	United Services Group	Unilever NV	Unilever NV
47	TPG NV	Vedior NV	Unit 4 Agresso	Unit 4 Angresso
48	Unit 4 Agresso	VNU NV	Vedior	Vedior
49	United Services Group	Vopak Koninklijke	Vopak Koninklijke	Vopak Koninklijke
50	VNU NV	Wolters Kluwer NV	Wolters Kluwer NV	Wolters Kluwer NV
Number of non-surviving firms	**14**	**7**	**5**	**SUM = 26**

grey fill colour	companies replaced due to discontinued operations / unavailability of data
red colour	new companies selected following the same steps

GERMANY

	2003	2004	2005	2006 Final Sample
1	Ahlers AG	Ahlers AG	Ahlers AG	Ahlers AG
2	BASF	BASF	Axel Springer Verlag AG	Axel Springer Verlag AG
3	Behrens JOH Freidrich	Beate Uhse AG	BASF Aktiengesellschaft	BASF Aktiengesellschaft
4	Berentzen-Gruppe Preference	Berentzen-Gruppe Preference	Beate Uhse AG	Beate Uhse AG
5	Beru	Beru	Berentzen-Gruppe AG	Berentzen-Gruppe AG
6	BHS Tabletop AG	BHS Tabletop AG	Beru AG	Beru AG
7	Brau Und Brunnen	Brau Und Brunnen	BHS Tabletop AG	BHS Tabletop AG
8	Celesio Agency	Celesio Agency	Borussia Dortmund GMBH & CO.	Borussia Dortmund GMBH & CO.
9	Custodia Holdings	Custodia Holdings	Celesio AG	Celesio AG
10	Deutsche Steinzeug	Deutsche Steinzeug	Custodia Holding AG	Creaton AG
11	Douglas Holding	Douglas Holding	Deutsche Steilzeug Cremer & Breuer AG	Deutsche Steilzeug Cremer & Breuer
12	Draegerwerk AG	Draegerwerk AG	Douglas Holding Aktiengesellschaft	Douglas Holding Aktiengesellschaft
13	Edding AG	Edding AG	DR. ING. H.C.F. Porsche AG	DR. ING. H.C.F. Porsche AG
14	Eisen & Huettenwerke	Eisen & Huettenwerke	Draegerwerk AG	Draegerwerk AG
15	Friatec	Friatec	Edding AG	Edding AG
16	Fuchs Petrolub AG	Fuchs Petrolub AG	Eisen und Huttenwerke	Eisen und Huttenwerke
17	Graphitwerk Kropfmuehl	Graphitwerk Kropfmuehl	Fielmann AG	Fielmann AG
18	Hermle Berthold AG	Herlitz AG	Fuchs Petrolub AG	Fuchs Petrolub AG
19	Hoeft & Wessel AG	Hoeft & Wessel AG	Gerry Weber International AG	Gerry Weber International AG
20	Hornbach-Baumarkt	Hornbach-Baumarkt	Graphit Kropfmuehl AG	Graphit Kropfmuehl AG
21	Hymer	Hymer	Herlitz Aktiengesellschaft	Herlitz Aktiengesellschaft
22	IWKA	IWKA	Hoeft & Wessel AG	Hoeft & Wessel AG
23	J Deere-Lanz Verwaltung	J Deere-Lanz Verwaltung	Hornbach-Baumarkt-Aktiengesellschaft	Hornbach-Baumarkt-Aktiengesellsch.
24	K+S Aktiengesellschaft	K+S Aktiengesellschaft	Hymer AG	Hymer AG
25	KWS Saat AG	KWS Saat AG	IWKA AG	IWKA AG
26	Markt & Kuehlhallen	Krones Aktiengesellschft Hermann Kronse	J Deere-Lanz Verwaltung	J Deere-Lanz Verwaltung
27	Marseille-Kliniken	Marseille-Kliniken	K+S Aktiengesellschaft	K+S Aktiengesellschaft
28	Max Holding	Max Holding	Krones Aktiengesellschft Hermann	Krones Aktiengesellschft Hermann
29	Moebel Walther	Moebel Walther	KWS Saat AG	KWS Saat AG
30	Moksel A AG	Moksel A AG	Markt-und Kuehlhallen AG	Markt-und Kuehlhallen AG
31	M-Tech Technologie AG	M-Tech Technologie AG	Marseille-Kliniken	Marseille-Kliniken
32	Norddeutsche Affinerie	Norddeutsche Affinerie	Moebel Walther	Moebel Walther
33	Phoenix AG	Phoenix AG	M-Tech Technologie AG	M-Tech Technologie AG
34	Porsche	Porsche	Norddeutsche Affinerie	Norddeutsche Affinerie
35	Prosieben SAT 1 AG	Prosieben SAT 1 AG	Oelmuhle Hamburg AG	Piper AG
36	Saint-Gobain Oberland Glas	Saint-Gobain Oberland Glas	Phoenix AG	Prosieben SAT 1 AG
37	SCA Hygiene Products	SCA Hygiene Products	Prosieben SAT 1 AG	SCA Hygiene Products
38	Schuler Preference	Schuler Preference	Saint-Gobail Oberland AG	Schuler Preference
39	Sedlmayr	Simona AG	SCA Hygiene Products	Sektkellerei Schloss
40	Sektkellerei Schloss	Sektkellerei Schloss	Schuler Preference	Simona AG
41	Sixt	Sixt	Sektkellerei Schloss	Sixt AG
42	Springer Axel AG	Springer Axel AG	Simona AG	Stoehr & Co AG
43	Stoehr & Company AG	Sued Chemie	Sixt AG	Sued Chemie
44	Sudwestdeutsche Salzwerke	Sudwestdeutsche Salzwerke	Sued Chemie	Sudwestdeutsche Salzwerke
45	Turbon AG	VK Muehlen AG	Sudwestdeutsche Salzwerke	Triumph International
46	Walter Bau	Walter AG	VK Muehlen AG	Tirbon AG
47	Wasgau Productions & Handel AG	Wasgau Productions & Handel AG	Wasgau Productions & Handel AG	VK Muehlen AG
48	Weru	Weru	Weru AG	Wasgau Productions & Handel AG
49	Westag & Getalit	Westag & Getalit	Westag & Getalit	Westag & Getalit
50	WMF	WMF	WMF	WMF
Number of non-surviving firms	**7**	**5**	**5**	**SUM = 17**

grey fill colour	companies replaced due to discontinued operations / unavailability of data
red colour	new companies selected following the same steps

FRANCE

	2003	2004	2005	2006 Final Sample
1	Actielec Technologie	Accor	Accor	Accor
2	Afone	Afone	Autoroutes Du Sud de la France SA - ASF	Air France-KLM
3	Augros CP	Augros CP	Bastide Confort Medical	Bastide Confort Medical
4	Barbara BUI	Bastide Confort Medical	Boiron	Boiron
5	BIC	BIC	Bollore Investissement SA	Bollore Investissement SA
6	Billon	Boiron	Bouygues SA	Bouygues SA
7	Boizel Chanoine	Boizel Chanoine	Casino Guichard-P	Camaieu SA
8	Bricodeal	Bouygues SA	CDA-Compagnie Des Alpes	Cegid
9	Casino Guichard-P	Casino Guichard-P	Cegid	CFF Recycling
10	CDA-Compagnie Des Alpes	CDA-Compagnie Des Alpes	CFF Recycling	Dassault Aviation
11	Cegid	Cegid	Compagnie GL Geophysique	Deveaux SA
12	CFF Recycling	CFF Recycling	Deveaux SA	Docks des Petroles D'Ambes SA
13	Compagnie GL Geophysique	Compagnie GL Geophysique	Docks des Petroles D'Ambes SA	Eiffage
14	Dane-Elec Memory	Dane-Elec Memory	Financiere de L'Odet SA	Financiere de L'Odet SA
15	Dynaction	Dynaction	Fininfo	Fininfo
16	Exacompta	Exacompta	GL Trade	GL Trade
17	Finuchem	Fininfo	Guyenne & Gascogne	Groupe Go Sport
18	GL Trade	GL Trade	Hermes International SCA	Guyenne & Gascogne
19	Guyenne & Gascogne	Guyenne & Gascogne	Hyparlo SA	Hermes International SCA
20	HF Company	HF Company	Imerys SA	Hyparlo SA
21	Hologram Industries	Hyparlo SA	Ipsos SA	Imerys SA
22	Innelec Multimedia	Innelec Multimedia	L.D.C. SA	Ipsos SA
23	Installux	Installux	Lagardere Groupe	L.D.C. SA
24	Lagardere Groupe	Lagardere Groupe	Linedata Services	Lagardere Groupe
25	LDC SA	LDC SA	Maurel et Prom	Linedata Services
26	LE Belier	Linedata Services	Medasys Digital System	Maurel et Prom
27	Mecatherm	Maurel et Prom	Medidep	Medasys Digital System
28	Medasys Digital System	Medasys Digital System	Neopost	Neopost
29	Media 6	Medidep	Oberthur Card Systems SA	Oberthur Card Systems SA
30	Naturex	Neopost	Oeneo	Oeneo
31	Oberthur Card Systems SA	Oberthur Card Systems SA	Orpea SA	Orpea SA
32	Onet	Onet	Pernod-Ricard	Pernod-Ricard
33	Opera Construction	Oeneo	Peugeot SA.	Peugeot SA.
34	Orpea	Odet SA	Plastic Omnium	Plastic Omnium
35	PCAS	PCAS	Produits Chimiques Auxiliares et de Synt	Produits Chimiques Auxiliares et de Synt
36	Pernod-Ricard	Pernod-Ricard	Rocamat	Quantel
37	Piscines Desjoyaux	Piscines Desjoyaux	S.A. Exacompta Clairefontaine	S.A. Exacompta Clairefontaine
38	Plastic Omnium	Plastic Omnium	SA Rodriguez Group	SA Rodriguez Group
39	Robertet	Robertet	Saint Gobain	Saint Gobain
40	Rodriguez Group	Rodriguez Group	Sairp Composites	Sairp Composites
41	Rougier	Sabeton SA	Siraga	Siraga
42	Sagem	Saga	Smoby	Smoby
43	Signaux Girod	Signaux Girod	Societe BIC	Societe BIC
44	Skis Rossignol	Skis Rossignol	Sodexho Alliance SA	Sodexho Alliance SA
45	Smoby	Smoby	Sopra Group	Sopra Group
46	Sopra Group	Sopra Group	Tonnellerie Francois Freres SA	Tonnellerie Francois Freres SA
47	Tonnel Francois Freres SA	Tonnel Francois Freres SA	Trigano	Trigano
48	Trigano	Trigano	Trigano	Trigano
49	Vicat	Vicat	Vicat	Vicat
50	Worms & CIE	Wendel Intestissement Inc	Wendel Intestissement Inc	Wendel Intestissement Inc
Number of non-surviving firms	**13**	**16**	**6**	**SUM = 35**

grey fill colour	companies replaced due to discontinued operations / unavailability of data
red colour	new companies selected following the same steps

9.2. SPSS – full table & statistics analysis

9.2.1. Individual country analysis

UK – 2003/2006 INCLUDING OUTLIERS/EXTREMES

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_03	324.8864	221.71882	50
ubv_03	1.4666	1.18859	50
uea_03	.2248	.18778	50
dlbv_03	.0000	.00000	50
dlea_03	.0000	.00000	50

Correlations

		usto_03	ubv_03	uea_03	dlbv_03	dlea_03
Pearson Correlation	usto_03	1.000	.232	.688	.	.
	ubv_03	.232	1.000	.542	.	.
	uea_03	.688	.542	1.000	.	.
	dlbv_03	.	.	.	1.000	.
	dlea_03	.	.	.	.	1.000
Sig. (1-tailed)	usto_03	.	.053	.000	.000	.000
	ubv_03	.053	.	.000	.000	.000
	uea_03	.000	.000	.	.000	.000
	dlbv_03	.000	.000	.000	.	.000
	dlea_03	.000	.000	.000	.000	.
N	usto_03	50	50	50	50	50
	ubv_03	50	50	50	50	50
	uea_03	50	50	50	50	50
	dlbv_03	50	50	50	50	50
	dlea_03	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	uea_03, ubv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.708[a]	.501	.480	159.93474	.501	23.585	2	47	.000

a. Predictors: (Constant), uea_03, ubv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1206584	2	603291.890	23.585	.000[a]
	Residual	1202219	47	25579.123		
	Total	2408803	49			

a. Predictors: (Constant), uea_03, ubv_03

b. Dependent Variable: usto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	168.260	38.894		4.326	.000	90.015	246.505					
	ubv_03	-37.213	22.872	-.199	-1.627	.110	-83.226	8.801	.232	-.231	-.168	.706	1.416
	uea_03	939.514	144.774	.796	6.490	.000	648.267	1230.761	.688	.687	.669	.706	1.416

a. Dependent Variable: usto_03

Coefficient Correlations[a]

Model			uea_03	ubv_03
1	Correlations	uea_03	1.000	-.542
		ubv_03	-.542	1.000
	Covariances	uea_03	20959.424	-1794.484
		ubv_03	-1794.484	523.147

a. Dependent Variable: usto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	ubv_03	uea_03
1	1	2.579	1.000	.04	.04	.04
	2	.239	3.285	.95	.13	.26
	3	.182	3.762	.01	.83	.70

a. Dependent Variable: usto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_04	383.8410	267.85752	50
ubv_04	1.5274	1.15458	50
uea_04	.1890	.24929	50
dlbv_04	.2766	1.01181	50
dlea_04	-.0280	.10388	50

Correlations

		usto_04	ubv_04	uea_04	dlbv_04	dlea_04
Pearson Correlation	usto_04	1.000	.194	.689	-.092	.140
	ubv_04	.194	1.000	.000	.574	-.365
	uea_04	.689	.000	1.000	-.558	.656
	dlbv_04	-.092	.574	-.558	1.000	-.756
	dlea_04	.140	-.365	.656	-.756	1.000
Sig. (1-tailed)	usto_04	.	.089	.000	.263	.167
	ubv_04	.089	.	.499	.000	.005
	uea_04	.000	.499	.	.000	.000
	dlbv_04	.263	.000	.000	.	.000
	dlea_04	.167	.005	.000	.000	.
N	usto_04	50	50	50	50	50
	ubv_04	50	50	50	50	50
	uea_04	50	50	50	50	50
	dlbv_04	50	50	50	50	50
	dlea_04	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_04, ubv_04, uea_04, dlbv_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.819[a]	.670	.641	160.56306	.670	22.842	4	45	.000

a. Predictors: (Constant), dlea_04, ubv_04, uea_04, dlbv_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2355513	4	588878.127	22.842	.000[a]
	Residual	1160122	45	25780.495		
	Total	3515635	49			

a. Predictors: (Constant), dlea_04, ubv_04, uea_04, dlbv_04

b. Dependent Variable: usto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	146.871	43.552		3.372	.002	59.154	234.589					
	ubv_04	-30.108	27.639	-.130	-1.089	.282	-85.775	25.559	.194	-.160	-.093	.517	1.935
	uea_04	1219.645	138.803	1.135	8.787	.000	940.081	1499.209	.689	.795	.752	.439	2.276
	dlbv_04	75.732	42.515	.286	1.781	.082	-9.898	161.362	-.092	.257	.153	.284	3.517
	dlea_04	-1124.865	375.541	-.436	-2.995	.004	-1881.243	-368.487	.140	-.408	-.256	.346	2.893

a. Dependent Variable: usto_04

Coefficient Correlations[a]

Model			dlea_04	ubv_04	uea_04	dlbv_04
1	Correlations	dlea_04	1.000	.093	-.424	.456
		ubv_04	.093	1.000	-.465	-.571
		uea_04	-.424	-.465	1.000	.356
		dlbv_04	.456	-.571	.356	1.000
	Covariances	dlea_04	141030.8	963.985	-22076.9	7280.851
		ubv_04	963.985	763.902	-1783.300	-670.762
		uea_04	-22076.9	-1783.300	19266.301	2102.808
		dlbv_04	7280.851	-670.762	2102.808	1807.537

a. Dependent Variable: usto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	ubv_04	uea_04	dlbv_04	dlea_04
1	1	2.597	1.000	.03	.02	.00	.02	.02
	2	1.853	1.184	.02	.00	.06	.03	.04
	3	.271	3.097	.25	.06	.03	.33	.34
	4	.167	3.939	.47	.01	.66	.01	.58
	5	.111	4.830	.24	.90	.24	.60	.01

a. Dependent Variable: usto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_05	475.2502	327.97128	50
ubv_05	1.6242	1.11155	50
uea_05	.2598	.29183	50
dlbv_05	.1962	.91263	50
dlea_05	-.0116	.04586	50

Correlations

		usto_05	ubv_05	uea_05	dlbv_05	dlea_05
Pearson Correlation	usto_05	1.000	.393	.724	.044	.122
	ubv_05	.393	1.000	.285	.539	-.289
	uea_05	.724	.285	1.000	-.323	.397
	dlbv_05	.044	.539	-.323	1.000	-.756
	dlea_05	.122	-.289	.397	-.756	1.000
Sig. (1-tailed)	usto_05	.	.002	.000	.381	.200
	ubv_05	.002	.	.023	.000	.021
	uea_05	.000	.023	.	.011	.002
	dlbv_05	.381	.000	.011	.	.000
	dlea_05	.200	.021	.002	.000	.
N	usto_05	50	50	50	50	50
	ubv_05	50	50	50	50	50
	uea_05	50	50	50	50	50
	dlbv_05	50	50	50	50	50
	dlea_05	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_05, ubv_05, uea_05, dlbv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.783[a]	.613	.578	212.94367	.613	17.809	4	45	.000

a. Predictors: (Constant), dlea_05, ubv_05, uea_05, dlbv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3230168	4	807541.893	17.809	.000[a]
	Residual	2040525	45	45345.007		
	Total	5270693	49			

a. Predictors: (Constant), dlea_05, ubv_05, uea_05, dlbv_05

b. Dependent Variable: usto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	226.066	59.758		3.783	.000	105.708	346.424					
	ubv_05	-7.525	39.909	-.026	-.189	.851	-87.906	72.855	.393	-.028	-.017	.470	2.126
	uea_05	926.719	136.323	.825	6.798	.000	652.149	1201.288	.724	.712	.631	.585	1.710
	dlbv_05	136.523	63.319	.380	2.156	.036	8.991	264.055	.044	.306	.200	.277	3.609
	dlea_05	529.346	1049.433	.074	.504	.616	-1584.321	2643.013	.122	.075	.047	.399	2.503

a. Dependent Variable: usto_05

Coefficient Correlations[a]

Model			dlea_05	ubv_05	uea_05	dlbv_05
1	Correlations	dlea_05	1.000	-.092	-.155	.633
		ubv_05	-.092	1.000	-.552	-.594
		uea_05	-.155	-.552	1.000	.353
		dlbv_05	.633	-.594	.353	1.000
	Covariances	dlea_05	1101310	-3842.393	-22123.8	42058.667
		ubv_05	-3842.393	1592.717	-3003.672	-1501.925
		uea_05	-22123.8	-3003.672	18584.074	3050.616
		dlbv_05	42058.667	-1501.925	3050.616	4009.342

a. Dependent Variable: usto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	ubv_05	uea_05	dlbv_05	dlea_05
1	1	2.705	1.000	.03	.02	.02	.01	.02
	2	1.690	1.265	.01	.00	.05	.05	.07
	3	.288	3.066	.31	.02	.14	.27	.24
	4	.231	3.424	.15	.05	.54	.07	.56
	5	.087	5.568	.50	.91	.25	.60	.11

a. Dependent Variable: usto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_06	517.6450	412.85574	50
ubv_06	1.6756	1.14514	50
uea_06	.3070	.29043	50
dlbv_06	.0450	.22770	50
dlea_06	-.0046	.02332	50

Correlations

		usto_06	ubv_06	uea_06	dlbv_06	dlea_06
Pearson Correlation	usto_06	1.000	.521	.788	-.185	.198
	ubv_06	.521	1.000	.496	-.088	.106
	uea_06	.788	.496	1.000	-.289	.296
	dlbv_06	-.185	-.088	-.289	1.000	-.910
	dlea_06	.198	.106	.296	-.910	1.000
Sig. (1-tailed)	usto_06	.	.000	.000	.099	.084
	ubv_06	.000	.	.000	.271	.232
	uea_06	.000	.000	.	.021	.018
	dlbv_06	.099	.271	.021	.	.000
	dlea_06	.084	.232	.018	.000	.
N	usto_06	50	50	50	50	50
	ubv_06	50	50	50	50	50
	uea_06	50	50	50	50	50
	dlbv_06	50	50	50	50	50
	dlea_06	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_06, ubv_06, uea_06, dlbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.803[a]	.645	.613	256.69657	.645	20.438	4	45	.000

a. Predictors: (Constant), dlea_06, ubv_06, uea_06, dlbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5386852	4	1346713.071	20.438	.000[a]
	Residual	2965191	45	65893.130		
	Total	8352043	49			

a. Predictors: (Constant), dlea_06, ubv_06, uea_06, dlbv_06

b. Dependent Variable: usto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	100.300	68.616		1.462	.151	-37.899	238.499					
	ubv_06	61.391	36.965	.170	1.661	.104	-13.061	135.842	.521	.240	.148	.750	1.332
	uea_06	1014.917	151.906	.714	6.681	.000	708.963	1320.872	.788	.706	.593	.691	1.447
	dlbv_06	77.322	388.674	.043	.199	.843	-705.507	860.151	-.185	.030	.018	.172	5.824
	dlea_06	126.186	3800.040	.007	.033	.974	-7527.486	7779.859	.198	.005	.003	.171	5.839

a. Dependent Variable: usto_06

Coefficient Correlations[a]

Model			dlea_06	ubv_06	uea_06	dlbv_06
1	Correlations	dlea_06	1.000	-.024	-.061	.901
		ubv_06	-.024	1.000	-.491	-.050
		uea_06	-.061	-.491	1.000	.068
		dlbv_06	.901	-.050	.068	1.000
	Covariances	dlea_06	1E+007	-3323.892	-35049.9	1330740
		ubv_06	-3323.892	1366.412	-2755.145	-719.706
		uea_06	-35049.9	-2755.145	23075.444	4029.023
		dlbv_06	1330740	-719.706	4029.023	151067.3

a. Dependent Variable: usto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	ubv_06	uea_06	dlbv_06	dlea_06
1	1	2.631	1.000	.03	.03	.03	.00	.00
	2	1.889	1.180	.00	.00	.01	.04	.04
	3	.235	3.343	.46	.02	.78	.01	.01
	4	.158	4.083	.50	.94	.17	.00	.00
	5	.087	5.512	.00	.01	.00	.95	.95

a. Dependent Variable: usto_06

UK – EXCLUDING OUTLIERS 2003-2006

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_03	293.8367	161.10354	48
ubv_03	1.4885	1.20820	48
uea_03	.2065	.16782	48
dlbv_03	.0000	.00000	48
dlea_03	.0000	.00000	48

Correlations

		usto_03	ubv_03	uea_03	dlbv_03	dlea_03
Pearson Correlation	usto_03	1.000	.413	.569	.	.
	ubv_03	.413	1.000	.673	.	.
	uea_03	.569	.673	1.000	.	.
	dlbv_03	.	.	.	1.000	.
	dlea_03	.	.	.	.	1.000
Sig. (1-tailed)	usto_03	.	.002	.000	.000	.000
	ubv_03	.002	.	.000	.000	.000
	uea_03	.000	.000	.	.000	.000
	dlbv_03	.000	.000	.000	.	.000
	dlea_03	.000	.000	.000	.000	.
N	usto_03	48	48	48	48	48
	ubv_03	48	48	48	48	48
	uea_03	48	48	48	48	48
	dlbv_03	48	48	48	48	48
	dlea_03	48	48	48	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	uea_03, ubv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.571[a]	.325	.296	135.22122	.325	10.857	2	45	.000

a. Predictors: (Constant), uea_03, ubv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	397039.5	2	198519.728	10.857	.000[a]
	Residual	822815.0	45	18284.777		
	Total	1219854	47			

a. Predictors: (Constant), uea_03, ubv_03

b. Dependent Variable: usto_03

Coefficients[a]

Mode		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	% Confidence Interval fo		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	177.527	32.952		5.387	.000	111.158	243.896					
	ubv_03	7.201	22.073	.054	.326	.746	-37.256	51.658	.413	.049	.040	.547	1.828
	uea_03	511.439	158.911	.533	3.218	.002	191.377	831.502	.569	.433	.394	.547	1.828

a. Dependent Variable: usto_03

Coefficient Correlations[a]

Model			uea_03	ubv_03
1	Correlations	uea_03	1.000	-.673
		ubv_03	-.673	1.000
	Covariances	uea_03	25252.587	-2360.794
		ubv_03	-2360.794	487.216

a. Dependent Variable: usto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	ubv_03	uea_03
1	1	2.621	1.000	.04	.03	.03
	2	.251	3.235	.96	.13	.14
	3	.128	4.520	.00	.84	.84

a. Dependent Variable: usto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_04	346.5590	196.81511	48
ubv_04	1.5581	1.16789	48
uea_04	.1690	.22821	48
dlbv_04	.2881	1.03147	48
dlea_04	-.0292	.10591	48

Correlations

		usto_04	ubv_04	uea_04	dlbv_04	dlea_04
Pearson Correlation	usto_04	1.000	.403	.617	-.074	.141
	ubv_04	.403	1.000	.067	.573	-.361
	uea_04	.617	.067	1.000	-.598	.708
	dlbv_04	-.074	.573	-.598	1.000	-.755
	dlea_04	.141	-.361	.708	-.755	1.000
Sig. (1-tailed)	usto_04	.	.002	.000	.309	.170
	ubv_04	.002	.	.326	.000	.006
	uea_04	.000	.326	.	.000	.000
	dlbv_04	.309	.000	.000	.	.000
	dlea_04	.170	.006	.000	.000	.
N	usto_04	48	48	48	48	48
	ubv_04	48	48	48	48	48
	uea_04	48	48	48	48	48
	dlbv_04	48	48	48	48	48
	dlea_04	48	48	48	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_04, ubv_04, uea_04, dlbv_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.764[a]	.584	.545	132.77834	.584	15.067	4	43	.000

a. Predictors: (Constant), dlea_04, ubv_04, uea_04, dlbv_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1062507	4	265626.754	15.067	.000[a]
	Residual	758093.7	43	17630.087		
	Total	1820601	47			

a. Predictors: (Constant), dlea_04, ubv_04, uea_04, dlbv_04

b. Dependent Variable: usto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	144.739	36.148		4.004	.000	71.840	217.638					
	ubv_04	17.474	26.745	.104	.653	.517	-36.462	71.410	.403	.099	.064	.384	2.601
	uea_04	853.360	158.969	.990	5.368	.000	532.769	1173.951	.617	.633	.528	.285	3.509
	dlbv_04	28.472	37.905	.149	.751	.457	-47.971	104.915	-.074	.114	.074	.245	4.075
	dlea_04	-761.411	330.313	-.410	-2.305	.026	-1427.550	-95.271	.141	-.332	-.227	.307	3.262

a. Dependent Variable: usto_04

Coefficient Correlations[a]

Model			dlea_04	ubv_04	uea_04	dlbv_04
1	Correlations	dlea_04	1.000	.251	-.523	.270
		ubv_04	.251	1.000	-.646	-.646
		uea_04	-.523	-.646	1.000	.497
		dlbv_04	.270	-.646	.497	1.000
	Covariances	dlea_04	109106.6	2219.513	-27467.9	3385.593
		ubv_04	2219.513	715.294	-2746.397	-655.398
		uea_04	-27467.9	-2746.397	25271.104	2996.133
		dlbv_04	3385.593	-655.398	2996.133	1436.801

a. Dependent Variable: usto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	ubv_04	uea_04	dlbv_04	dlea_04
1	1	2.597	1.000	.03	.02	.00	.02	.02
	2	1.898	1.170	.02	.00	.04	.02	.04
	3	.275	3.071	.28	.05	.02	.28	.27
	4	.154	4.104	.64	.04	.23	.13	.58
	5	.075	5.865	.03	.89	.70	.55	.10

a. Dependent Variable: usto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_05	436.9921	272.88738	48
ubv_05	1.6288	1.13048	48
uea_05	.2302	.25442	48
dlbv_05	.2044	.93093	48
dlea_05	-.0121	.04677	48

Correlations

		usto_05	ubv_05	uea_05	dlbv_05	dlea_05
Pearson Correlation	usto_05	1.000	.504	.614	.086	.113
	ubv_05	.504	1.000	.361	.541	-.289
	uea_05	.614	.361	1.000	-.352	.435
	dlbv_05	.086	.541	-.352	1.000	-.755
	dlea_05	.113	-.289	.435	-.755	1.000
Sig. (1-tailed)	usto_05	.	.000	.000	.282	.223
	ubv_05	.000	.	.006	.000	.023
	uea_05	.000	.006	.	.007	.001
	dlbv_05	.282	.000	.007	.	.000
	dlea_05	.223	.023	.001	.000	.
N	usto_05	48	48	48	48	48
	ubv_05	48	48	48	48	48
	uea_05	48	48	48	48	48
	dlbv_05	48	48	48	48	48
	dlea_05	48	48	48	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_05, ubv_05, uea_05, dlbv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.704[a]	.495	.448	202.70122	.495	10.546	4	43	.000

a. Predictors: (Constant), dlea_05, ubv_05, uea_05, dlbv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1733199	4	433299.712	10.546	.000[a]
	Residual	1766775	43	41087.785		
	Total	3499974	47			

a. Predictors: (Constant), dlea_05, ubv_05, uea_05, dlbv_05

b. Dependent Variable: usto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	217.814	57.188		3.809	.000	102.484	333.145					
	ubv_05	33.760	43.606	.140	.774	.443	-54.180	121.700	.504	.117	.084	.360	2.780
	uea_05	667.725	176.852	.623	3.776	.000	311.070	1024.380	.614	.499	.409	.432	2.316
	dlbv_05	95.719	63.853	.327	1.499	.141	-33.052	224.490	.086	.223	.162	.247	4.042
	dlea_05	752.044	1003.654	.129	.749	.458	-1272.017	2776.104	.113	.114	.081	.397	2.520

a. Dependent Variable: usto_05

Coefficient Correlations[a]

Model			dlea_05	ubv_05	uea_05	dlbv_05
1	Correlations	dlea_05	1.000	-.034	-.178	.564
		ubv_05	-.034	1.000	-.683	-.651
		uea_05	-.178	-.683	1.000	.467
		dlbv_05	.564	-.651	.467	1.000
	Covariances	dlea_05	1007321	-1471.167	-31632.7	36128.396
		ubv_05	-1471.167	1901.479	-5267.112	-1812.117
		uea_05	-31632.7	-5267.112	31276.520	5271.835
		dlbv_05	36128.396	-1812.117	5271.835	4077.148

a. Dependent Variable: usto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	ubv_05	uea_05	dlbv_05	dlea_05
1	1	2.719	1.000	.03	.01	.01	.01	.01
	2	1.712	1.260	.01	.00	.04	.04	.07
	3	.293	3.049	.31	.03	.07	.23	.25
	4	.207	3.621	.28	.01	.38	.09	.62
	5	.069	6.276	.37	.95	.50	.62	.04

a. Dependent Variable: usto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_06	473.7344	358.33513	48
ubv_06	1.6692	1.15738	48
uea_06	.2765	.24875	48
dlbv_06	.0469	.23230	48
dlea_06	-.0048	.02379	48

Correlations

		usto_06	ubv_06	uea_06	dlbv_06	dlea_06
Pearson Correlation	usto_06	1.000	.605	.717	-.193	.208
	ubv_06	.605	1.000	.607	-.088	.106
	uea_06	.717	.607	1.000	-.320	.328
	dlbv_06	-.193	-.088	-.320	1.000	-.909
	dlea_06	.208	.106	.328	-.909	1.000
Sig. (1-tailed)	usto_06	.	.000	.000	.094	.078
	ubv_06	.000	.	.000	.276	.237
	uea_06	.000	.000	.	.013	.011
	dlbv_06	.094	.276	.013	.	.000
	dlea_06	.078	.237	.011	.000	.
N	usto_06	48	48	48	48	48
	ubv_06	48	48	48	48	48
	uea_06	48	48	48	48	48
	dlbv_06	48	48	48	48	48
	dlea_06	48	48	48	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_06, ubv_06, uea_06, dlbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.748[a]	.560	.519	248.49976	.560	13.682	4	43	.000

a. Predictors: (Constant), dlea_06, ubv_06, uea_06, dlbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3379649	4	844912.362	13.682	.000[a]
	Residual	2655342	43	61752.130		
	Total	6034991	47			

a. Predictors: (Constant), dlea_06, ubv_06, uea_06, dlbv_06

b. Dependent Variable: usto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	113.301	66.679		1.699	.097	-21.172	247.773					
	ubv_06	83.087	39.787	.268	2.088	.043	2.850	163.325	.605	.303	.211	.620	1.614
	uea_06	800.532	195.135	.556	4.102	.000	407.005	1194.060	.717	.530	.415	.558	1.793
	dlbv_06	49.732	376.733	.032	.132	.896	-710.021	809.486	-.193	.020	.013	.172	5.829
	dlea_06	395.966	3681.610	.026	.108	.915	-7028.709	7820.641	.208	.016	.011	.171	5.838

a. Dependent Variable: usto_06

Coefficient Correlations[a]

Model			dlea_06	ubv_06	uea_06	dlbv_06
1	Correlations	dlea_06	1.000	-.005	-.072	.897
		ubv_06	-.005	1.000	-.611	-.067
		uea_06	-.072	-.611	1.000	.084
		dlbv_06	.897	-.067	.084	1.000
	Covariances	dlea_06	1E+007	-745.413	-51486.7	1244443
		ubv_06	-745.413	1582.982	-4742.472	-999.165
		uea_06	-51486.7	-4742.472	38077.784	6168.955
		dlbv_06	1244443	-999.165	6168.955	141927.5

a. Dependent Variable: usto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	ubv_06	uea_06	dlbv_06	dlea_06
1	1	2.668	1.000	.03	.02	.03	.00	.00
	2	1.898	1.185	.00	.00	.01	.04	.04
	3	.216	3.512	.82	.02	.39	.01	.01
	4	.131	4.510	.14	.94	.57	.00	.01
	5	.087	5.552	.00	.01	.00	.95	.94

a. Dependent Variable: usto_06

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Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_03	14.7198	8.72358	50
nbv_03	8.6418	7.94925	50
nea_03	.9196	1.41273	50
dlbv_03	.8068	2.72349	50
dlea_03	-.1792	.69025	50

Correlations

		nsto_03	nbv_03	nea_03	dlbv_03	dlea_03
Pearson Correlation	nsto_03	1.000	.571	.423	-.043	-.042
	nbv_03	.571	1.000	.357	.045	-.067
	nea_03	.423	.357	1.000	-.703	.695
	dlbv_03	-.043	.045	-.703	1.000	-.958
	dlea_03	-.042	-.067	.695	-.958	1.000
Sig. (1-tailed)	nsto_03	.	.000	.001	.384	.385
	nbv_03	.000	.	.005	.379	.322
	nea_03	.001	.005	.	.000	.000
	dlbv_03	.384	.379	.000	.	.000
	dlea_03	.385	.322	.000	.000	.
N	nsto_03	50	50	50	50	50
	nbv_03	50	50	50	50	50
	nea_03	50	50	50	50	50
	dlbv_03	50	50	50	50	50
	dlea_03	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_03, nbv_03, nea_03, dlbv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.708[a]	.501	.457	6.42843	.501	11.309	4	45	.000

a. Predictors: (Constant), dlea_03, nbv_03, nea_03, dlbv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1869.328	4	467.332	11.309	.000[a]
	Residual	1859.610	45	41.325		
	Total	3728.938	49			

a. Predictors: (Constant), dlea_03, nbv_03, nea_03, dlbv_03

b. Dependent Variable: nsto_03

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95% Confidence Interval for B Lower Bound	95% Confidence Interval for B Upper Bound	Correlations Zero-order	Correlations Partial	Correlations Part	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	7.725	1.530		5.049	.000	4.643	10.806					
	nbv_03	.359	.140	.327	2.559	.014	.076	.641	.571	.356	.269	.680	1.471
	nea_03	3.517	1.110	.570	3.169	.003	1.282	5.752	.423	.427	.334	.343	2.914
	dlbv_03	-2.164	1.197	-.676	-1.808	.077	-4.574	.247	-.043	-.260	-.190	.079	12.596
	dlea_03	-13.438	4.732	-1.063	-2.840	.007	-22.968	-3.908	-.042	-.390	-.299	.079	12.647

a. Dependent Variable: nsto_03

Coefficient Correlations[a]

Model			dlea_03	nbv_03	nea_03	dlbv_03
1	Correlations	dlea_03	1.000	.169	-.179	.897
		nbv_03	.169	1.000	-.560	-.042
		nea_03	-.179	-.560	1.000	.175
		dlbv_03	.897	-.042	.175	1.000
	Covariances	dlea_03	22.387	.112	-.940	5.078
		nbv_03	.112	.020	-.087	-.007
		nea_03	-.940	-.087	1.231	.232
		dlbv_03	5.078	-.007	.232	1.432

a. Dependent Variable: nsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	nbv_03	nea_03	dlbv_03	dlea_03
1	1	2.376	1.000	.04	.03	.00	.01	.01
	2	2.178	1.045	.02	.02	.04	.01	.01
	3	.263	3.007	.77	.48	.01	.00	.00
	4	.145	4.050	.15	.47	.94	.04	.04
	5	.039	7.846	.02	.01	.00	.95	.95

a. Dependent Variable: nsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_04	17.9540	9.84679	50
nbv_04	9.0224	8.23854	50
nea_04	.9702	1.13099	50
dlbv_04	.6072	2.38292	50
dlea_04	-.1268	.43894	50

Correlations

		nsto_04	nbv_04	nea_04	dlbv_04	dlea_04
Pearson Correlation	nsto_04	1.000	.644	.835	-.234	.326
	nbv_04	.644	1.000	.634	.024	.094
	nea_04	.835	.634	1.000	-.530	.674
	dlbv_04	-.234	.024	-.530	1.000	-.716
	dlea_04	.326	.094	.674	-.716	1.000
Sig. (1-tailed)	nsto_04	.	.000	.000	.051	.010
	nbv_04	.000	.	.000	.435	.258
	nea_04	.000	.000	.	.000	.000
	dlbv_04	.051	.435	.000	.	.000
	dlea_04	.010	.258	.000	.000	.
N	nsto_04	50	50	50	50	50
	nbv_04	50	50	50	50	50
	nea_04	50	50	50	50	50
	dlbv_04	50	50	50	50	50
	dlea_04	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_04, nbv_04, dlbv_04, nea_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.900[a]	.811	.794	4.46921	.811	48.215	4	45	.000

a. Predictors: (Constant), dlea_04, nbv_04, dlbv_04, nea_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3852.180	4	963.045	48.215	.000[a]
	Residual	898.822	45	19.974		
	Total	4751.003	49			

a. Predictors: (Constant), dlea_04, nbv_04, dlbv_04, nea_04

b. Dependent Variable: nsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	7.027	1.130		6.216	.000	4.750	9.303					
	nbv_04	-.152	.130	-.128	-1.170	.248	-.415	.110	.644	-.172	-.076	.354	2.829
	nea_04	11.084	1.274	1.273	8.701	.000	8.518	13.650	.835	.792	.564	.196	5.093
	dlbv_04	.602	.407	.146	1.478	.146	-.218	1.422	-.234	.215	.096	.433	2.310
	dlea_04	-9.332	2.612	-.416	-3.573	.001	-14.594	-4.071	.326	-.470	-.232	.310	3.225

a. Dependent Variable: nsto_04

Coefficient Correlations[a]

Model			dlea_04	nbv_04	dlbv_04	nea_04
1	Correlations	dlea_04	1.000	.393	.372	-.589
		nbv_04	.393	1.000	-.322	-.798
		dlbv_04	.372	-.322	1.000	.310
		nea_04	-.589	-.798	.310	1.000
	Covariances	dlea_04	6.824	.134	.396	-1.961
		nbv_04	.134	.017	-.017	-.133
		dlbv_04	.396	-.017	.166	.161
		nea_04	-1.961	-.133	.161	1.623

a. Dependent Variable: nsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	nbv_04	nea_04	dlbv_04	dlea_04
1	1	2.503	1.000	.04	.02	.01	.00	.00
	2	1.903	1.147	.00	.00	.01	.09	.07
	3	.313	2.828	.33	.06	.01	.47	.15
	4	.217	3.396	.43	.16	.00	.36	.38
	5	.064	6.257	.20	.76	.97	.08	.40

a. Dependent Variable: nsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_05	24.7642	12.48141	50
nbv_05	9.4500	7.64998	50
nea_05	1.1330	1.41621	50
dlbv_05	.8890	3.64662	50
dlea_05	-.1856	.67643	50

Correlations

		nsto_05	nbv_05	nea_05	dlbv_05	dlea_05
Pearson Correlation	nsto_05	1.000	.638	.672	.014	.216
	nbv_05	.638	1.000	.406	.198	-.068
	nea_05	.672	.406	1.000	-.613	.738
	dlbv_05	.014	.198	-.613	1.000	-.799
	dlea_05	.216	-.068	.738	-.799	1.000
Sig. (1-tailed)	nsto_05	.	.000	.000	.461	.066
	nbv_05	.000	.	.002	.084	.320
	nea_05	.000	.002	.	.000	.000
	dlbv_05	.461	.084	.000	.	.000
	dlea_05	.066	.320	.000	.000	.
N	nsto_05	50	50	50	50	50
	nbv_05	50	50	50	50	50
	nea_05	50	50	50	50	50
	dlbv_05	50	50	50	50	50
	dlea_05	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_05, nbv_05, dlbv_05, nea_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.868[a]	.753	.731	6.47494	.753	34.269	4	45	.000

a. Predictors: (Constant), dlea_05, nbv_05, dlbv_05, nea_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5746.874	4	1436.719	34.269	.000[a]
	Residual	1886.617	45	41.925		
	Total	7633.492	49			

a. Predictors: (Constant), dlea_05, nbv_05, dlbv_05, nea_05

b. Dependent Variable: nsto_05

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95% Confidence Interval for B Lower Bound	95% Confidence Interval for B Upper Bound	Correlations Zero-order	Correlations Partial	Correlations Part	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	10.671	1.693		6.304	.000	7.262	14.081					
	nbv_05	.143	.178	.088	.805	.425	-.215	.502	.638	.119	.060	.461	2.170
	nea_05	9.389	1.384	1.065	6.786	.000	6.602	12.175	.672	.711	.503	.223	4.488
	dlbv_05	1.891	.457	.552	4.134	.000	.969	2.812	.014	.525	.306	.308	3.250
	dlea_05	-2.262	2.821	-.123	-.802	.427	-7.945	3.421	.216	-.119	-.059	.235	4.257

a. Dependent Variable: nsto_05

Coefficient Correlations[a]

Model			dlea_05	nbv_05	dlbv_05	nea_05
1	Correlations	dlea_05	1.000	.323	.446	-.577
		nbv_05	.323	1.000	-.380	-.713
		dlbv_05	.446	-.380	1.000	.308
		nea_05	-.577	-.713	.308	1.000
	Covariances	dlea_05	7.961	.162	.576	-2.253
		nbv_05	.162	.032	-.031	-.176
		dlbv_05	.576	-.031	.209	.195
		nea_05	-2.253	-.176	.195	1.914

a. Dependent Variable: nsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	nbv_05	nea_05	dlbv_05	dlea_05
1	1	2.469	1.000	.04	.03	.01	.01	.01
	2	2.035	1.101	.00	.00	.02	.05	.04
	3	.264	3.059	.50	.13	.02	.24	.08
	4	.158	3.954	.29	.20	.00	.64	.44
	5	.075	5.750	.16	.64	.95	.07	.43

a. Dependent Variable: nsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_06	28.3308	15.08275	50
nbv_06	10.4632	7.92054	50
nea_06	1.5630	1.19214	50
dlbv_06	.2350	1.19553	50
dlea_06	-.0456	.22672	50

Correlations

		nsto_06	nbv_06	nea_06	dlbv_06	dlea_06
Pearson Correlation	nsto_06	1.000	.588	.860	-.175	.188
	nbv_06	.588	1.000	.535	-.108	.121
	nea_06	.860	.535	1.000	-.452	.467
	dlbv_06	-.175	-.108	-.452	1.000	-.955
	dlea_06	.188	.121	.467	-.955	1.000
Sig. (1-tailed)	nsto_06	.	.000	.000	.112	.096
	nbv_06	.000	.	.000	.228	.201
	nea_06	.000	.000	.	.000	.000
	dlbv_06	.112	.228	.000	.	.000
	dlea_06	.096	.201	.000	.000	.
N	nsto_06	50	50	50	50	50
	nbv_06	50	50	50	50	50
	nea_06	50	50	50	50	50
	dlbv_06	50	50	50	50	50
	dlea_06	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_06, nbv_06, nea_06, dlbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.901[a]	.811	.794	6.84208	.811	48.278	4	45	.000

a. Predictors: (Constant), dlea_06, nbv_06, nea_06, dlbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9040.348	4	2260.087	48.278	.000[a]
	Residual	2106.631	45	46.814		
	Total	11146.979	49			

a. Predictors: (Constant), dlea_06, nbv_06, nea_06, dlbv_06

b. Dependent Variable: nsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	6.979	1.927		3.622	.001	3.099	10.860					
	nbv_06	.252	.148	.132	1.697	.097	-.047	.551	.588	.245	.110	.691	1.448
	nea_06	11.480	1.108	.907	10.365	.000	9.249	13.711	.860	.840	.672	.548	1.825
	dlbv_06	1.271	2.749	.101	.462	.646	-4.267	6.808	-.175	.069	.030	.088	11.308
	dlea_06	-10.385	14.611	-.156	-.711	.481	-39.813	19.044	.188	-.105	-.046	.087	11.486

a. Dependent Variable: nsto_06

Coefficient Correlations[a]

Model			dlea_06	nbv_06	nea_06	dlbv_06
1	Correlations	dlea_06	1.000	.016	-.120	.941
		nbv_06	.016	1.000	-.546	-.045
		nea_06	-.120	-.546	1.000	.045
		dlbv_06	.941	-.045	.045	1.000
	Covariances	dlea_06	213.490	.034	-1.948	37.795
		nbv_06	.034	.022	-.090	-.018
		nea_06	-1.948	-.090	1.227	.136
		dlbv_06	37.795	-.018	.136	7.559

a. Dependent Variable: nsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	nbv_06	nea_06	dlbv_06	dlea_06
1	1	2.650	1.000	.03	.03	.02	.00	.00
	2	1.982	1.156	.00	.00	.01	.02	.02
	3	.193	3.703	.68	.61	.00	.00	.00
	4	.131	4.497	.29	.35	.97	.01	.01
	5	.043	7.815	.01	.00	.00	.97	.97

a. Dependent Variable: nsto_06

GERMANY 2003/2006 INCLUDING OUTLIERS/EXTREMES

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_03	52.7004	110.48893	50
gbv_03	22.0412	36.29014	50
gea_03	4.0908	12.88508	50
dlbv_03	.6370	2.39468	50
dlea_03	-.0300	.10906	50

Correlations

		gsto_03	gbv_03	gea_03	dlbv_03	dlea_03
Pearson Correlation	gsto_03	1.000	.755	.937	-.101	.109
	gbv_03	.755	1.000	.534	-.094	.118
	gea_03	.937	.534	1.000	-.093	.098
	dlbv_03	-.101	-.094	-.093	1.000	-.726
	dlea_03	.109	.118	.098	-.726	1.000
Sig. (1-tailed)	gsto_03	.	.000	.000	.243	.225
	gbv_03	.000	.	.000	.258	.208
	gea_03	.000	.000	.	.260	.249
	dlbv_03	.243	.258	.260	.	.000
	dlea_03	.225	.208	.249	.000	.
N	gsto_03	50	50	50	50	50
	gbv_03	50	50	50	50	50
	gea_03	50	50	50	50	50
	dlbv_03	50	50	50	50	50
	dlea_03	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_03, gea_03, gbv_03, dlbv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.984[a]	.968	.966	20.48884	.968	344.987	4	45	.000

a. Predictors: (Constant), dlea_03, gea_03, gbv_03, dlbv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	579291.8	4	144822.941	344.987	.000[a]
	Residual	18890.661	45	419.792		
	Total	598182.4	49			

a. Predictors: (Constant), dlea_03, gea_03, gbv_03, dlbv_03

b. Dependent Variable: gsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.365	3.563		.664	.510	-4.811	9.541					
	gbv_03	1.090	.096	.358	11.389	.000	.897	1.282	.755	.862	.302	.711	1.407
	gea_03	6.397	.269	.746	23.778	.000	5.855	6.938	.937	.962	.630	.713	1.402
	dlbv_03	-.243	1.778	-.005	-.137	.892	-3.823	3.337	-.101	-.020	-.004	.473	2.115
	dlea_03	-10.226	39.117	-.010	-.261	.795	-89.012	68.559	.109	-.039	-.007	.471	2.124

a. Dependent Variable: gsto_03

Coefficient Correlations[a]

Model			dlea_03	gea_03	gbv_03	dlbv_03
1	Correlations	dlea_03	1.000	-.008	-.057	.722
		gea_03	-.008	1.000	-.528	.029
		gbv_03	-.057	-.528	1.000	-.005
		dlbv_03	.722	.029	-.005	1.000
	Covariances	dlea_03	1530.127	-.084	-.213	50.231
		gea_03	-.084	.072	-.014	.014
		gbv_03	-.213	-.014	.009	-.001
		dlbv_03	50.231	.014	-.001	3.160

a. Dependent Variable: gsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	gbv_03	gea_03	dlbv_03	dlea_03
1	1	2.130	1.000	.08	.06	.05	.04	.03
	2	1.652	1.135	.01	.06	.08	.08	.08
	3	.623	1.849	.57	.00	.41	.02	.02
	4	.341	2.500	.33	.87	.46	.02	.00
	5	.254	2.896	.01	.02	.01	.84	.87

a. Dependent Variable: gsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_04	59.3006	123.48312	50
gbv_04	23.6836	37.78323	50
gea_04	3.1374	6.94366	50
dlbv_04	.5204	1.77496	50
dlea_04	-.1256	.51957	50

Correlations

		gsto_04	gbv_04	gea_04	dlbv_04	dlea_04
Pearson Correlation	gsto_04	1.000	.743	.945	-.134	.111
	gbv_04	.743	1.000	.703	-.136	.126
	gea_04	.945	.703	1.000	-.181	.191
	dlbv_04	-.134	-.136	-.181	1.000	-.534
	dlea_04	.111	.126	.191	-.534	1.000
Sig. (1-tailed)	gsto_04	.	.000	.000	.176	.221
	gbv_04	.000	.	.000	.172	.191
	gea_04	.000	.000	.	.105	.092
	dlbv_04	.176	.172	.105	.	.000
	dlea_04	.221	.191	.092	.000	.
N	gsto_04	50	50	50	50	50
	gbv_04	50	50	50	50	50
	gea_04	50	50	50	50	50
	dlbv_04	50	50	50	50	50
	dlea_04	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_04, gbv_04, dlbv_04, gea_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.954[a]	.911	.903	38.49944	.911	114.771	4	45	.000

a. Predictors: (Constant), dlea_04, gbv_04, dlbv_04, gea_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	680456.7	4	170114.177	114.771	.000[a]
	Residual	66699.303	45	1482.207		
	Total	747156.0	49			

a. Predictors: (Constant), dlea_04, gbv_04, dlbv_04, gea_04

b. Dependent Variable: gsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-2.260	6.837		-.331	.742	-16.032	11.511					
	gbv_04	.502	.205	.154	2.449	.018	.089	.914	.743	.343	.109	.505	1.981
	gea_04	15.138	1.128	.851	13.423	.000	12.867	17.409	.945	.895	.598	.493	2.027
	dlbv_04	.275	3.683	.004	.075	.941	-7.143	7.693	-.134	.011	.003	.708	1.413
	dlea_04	-16.258	12.606	-.068	-1.290	.204	-41.648	9.132	.111	-.189	-.057	.705	1.418

a. Dependent Variable: gsto_04

Coefficient Correlations[a]

Model			dlea_04	gbv_04	dlbv_04	gea_04
1	Correlations	dlea_04	1.000	.022	.518	-.097
		gbv_04	.022	1.000	.023	-.695
		dlbv_04	.518	.023	1.000	.052
		gea_04	-.097	-.695	.052	1.000
	Covariances	dlea_04	158.917	.056	24.043	-1.372
		gbv_04	.056	.042	.017	-.161
		dlbv_04	24.043	.017	13.564	.217
		gea_04	-1.372	-.161	.217	1.272

a. Dependent Variable: gsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	gbv_04	gea_04	dlbv_04	dlea_04
1	1	2.206	1.000	.08	.06	.05	.01	.01
	2	1.626	1.165	.00	.01	.03	.16	.17
	3	.515	2.070	.80	.03	.14	.01	.16
	4	.432	2.260	.04	.00	.01	.81	.66
	5	.222	3.155	.07	.90	.77	.00	.01

a. Dependent Variable: gsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_05	70.1900	145.71484	50
gbv_05	26.9884	47.58470	50
gea_05	3.4358	7.63328	50
dlbv_05	.4240	1.60013	50
dlea_05	-.1422	.47868	50

Correlations

		gsto_05	gbv_05	gea_05	dlbv_05	dlea_05
Pearson Correlation	gsto_05	1.000	.626	.909	-.111	.130
	gbv_05	.626	1.000	.639	-.117	.149
	gea_05	.909	.639	1.000	-.165	.205
	dlbv_05	-.111	-.117	-.165	1.000	-.609
	dlea_05	.130	.149	.205	-.609	1.000
Sig. (1-tailed)	gsto_05	.	.000	.000	.222	.185
	gbv_05	.000	.	.000	.209	.151
	gea_05	.000	.000	.	.126	.077
	dlbv_05	.222	.209	.126	.	.000
	dlea_05	.185	.151	.077	.000	.
N	gsto_05	50	50	50	50	50
	gbv_05	50	50	50	50	50
	gea_05	50	50	50	50	50
	dlbv_05	50	50	50	50	50
	dlea_05	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_05, gbv_05, dlbv_05, gea_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.913[a]	.833	.818	62.16711	.833	56.051	4	45	.000

a. Predictors: (Constant), dlea_05, gbv_05, dlbv_05, gea_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	866494.2	4	216623.544	56.051	.000[a]
	Residual	173913.7	45	3864.750		
	Total	1040408	49			

a. Predictors: (Constant), dlea_05, gbv_05, dlbv_05, gea_05

b. Dependent Variable: gsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3.845	10.869		.354	.725	-18.047	25.737					
	gbv_05	.239	.243	.078	.987	.329	-.249	.728	.626	.146	.060	.592	1.690
	gea_05	16.638	1.529	.872	10.880	.000	13.558	19.718	.909	.851	.663	.579	1.727
	dlbv_05	.794	7.004	.009	.113	.910	-13.313	14.901	-.111	.017	.007	.628	1.592
	dlea_05	-16.769	23.596	-.055	-.711	.481	-64.294	30.755	.130	-.105	-.043	.618	1.617

a. Dependent Variable: gsto_05

Coefficient Correlations[a]

Model			dlea_05	gbv_05	dlbv_05	gea_05
1	Correlations	dlea_05	1.000	-.018	.595	-.093
		gbv_05	-.018	1.000	.002	-.628
		dlbv_05	.595	.002	1.000	.039
		gea_05	-.093	-.628	.039	1.000
	Covariances	dlea_05	556.773	-.103	98.374	-3.340
		gbv_05	-.103	.059	.003	-.233
		dlbv_05	98.374	.003	49.055	.419
		gea_05	-3.340	-.233	.419	2.338

a. Dependent Variable: gsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	gbv_05	gea_05	dlbv_05	dlea_05
1	1	2.162	1.000	.09	.06	.06	.02	.02
	2	1.679	1.135	.00	.02	.04	.13	.13
	3	.519	2.040	.85	.05	.15	.12	.01
	4	.359	2.455	.03	.00	.00	.73	.84
	5	.281	2.772	.03	.86	.75	.00	.00

a. Dependent Variable: gsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_06	90.1688	220.25735	50
gbv_06	32.0518	54.98381	50
gea_06	4.9770	11.22886	50
dlbv_06	.5076	1.75665	50
dlea_06	-.0414	.14224	50

Correlations

		gsto_06	gbv_06	gea_06	dlbv_06	dlea_06
Pearson Correlation	gsto_06	1.000	.654	.776	-.114	.116
	gbv_06	.654	1.000	.840	-.137	.151
	gea_06	.776	.840	1.000	-.140	.145
	dlbv_06	-.114	-.137	-.140	1.000	-.618
	dlea_06	.116	.151	.145	-.618	1.000
Sig. (1-tailed)	gsto_06	.	.000	.000	.216	.212
	gbv_06	.000	.	.000	.171	.148
	gea_06	.000	.000	.	.167	.157
	dlbv_06	.216	.171	.167	.	.000
	dlea_06	.212	.148	.157	.000	.
N	gsto_06	50	50	50	50	50
	gbv_06	50	50	50	50	50
	gea_06	50	50	50	50	50
	dlbv_06	50	50	50	50	50
	dlea_06	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_06, gea_06, dlbv_06, gbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.776[a]	.603	.567	144.86430	.603	17.069	4	45	.000

a. Predictors: (Constant), dlea_06, gea_06, dlbv_06, gbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1432797	4	358199.166	17.069	.000[a]
	Residual	944355.0	45	20985.666		
	Total	2377152	49			

a. Predictors: (Constant), dlea_06, gea_06, dlbv_06, gbv_06

b. Dependent Variable: gsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	14.380	25.360		.567	.574	-36.698	65.459					
	gbv_06	.032	.694	.008	.046	.964	-1.365	1.429	.654	.007	.004	.294	3.397
	gea_06	15.084	3.396	.769	4.442	.000	8.245	21.924	.776	.552	.417	.295	3.395
	dlbv_06	-.693	15.015	-.006	-.046	.963	-30.934	29.548	-.114	-.007	-.004	.616	1.624
	dlea_06	-1.143	185.719	-.001	-.006	.995	-375.199	372.914	.116	-.001	-.001	.614	1.629

a. Dependent Variable: gsto_06

Coefficient Correlations[a]

Model			dlea_06	gea_06	dlbv_06	gbv_06
1	Correlations	dlea_06	1.000	-.010	.609	-.038
		gea_06	-.010	1.000	.030	-.835
		dlbv_06	.609	.030	1.000	.006
		gbv_06	-.038	-.835	.006	1.000
	Covariances	dlea_06	34491.434	-6.037	1699.069	-4.958
		gea_06	-6.037	11.531	1.536	-1.968
		dlbv_06	1699.069	1.536	225.441	.063
		gbv_06	-4.958	-1.968	.063	.481

a. Dependent Variable: gsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	gbv_06	gea_06	dlbv_06	dlea_06
1	1	2.285	1.000	.07	.03	.03	.01	.01
	2	1.688	1.163	.00	.01	.02	.13	.13
	3	.550	2.038	.85	.02	.06	.05	.04
	4	.352	2.548	.00	.00	.00	.80	.81
	5	.125	4.283	.07	.94	.89	.00	.00

a. Dependent Variable: gsto_06

GERMANY 2003/2006 EXCLUDING OUTLIERS/EXTREMES

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_03	25.7885	25.58458	41
gbv_03	13.2461	11.77731	41
gea_03	1.4832	1.71807	41
lnbv_03	2.2427	.84165	41
lnea_03	-.2804	1.32479	41

Correlations

		gsto_03	gbv_03	gea_03	lnbv_03	lnea_03
Pearson Correlation	gsto_03	1.000	.838	.857	.731	.679
	gbv_03	.838	1.000	.795	.910	.665
	gea_03	.857	.795	1.000	.725	.800
	lnbv_03	.731	.910	.725	1.000	.702
	lnea_03	.679	.665	.800	.702	1.000
Sig. (1-tailed)	gsto_03	.	.000	.000	.000	.000
	gbv_03	.000	.	.000	.000	.000
	gea_03	.000	.000	.	.000	.000
	lnbv_03	.000	.000	.000	.	.000
	lnea_03	.000	.000	.000	.000	.
N	gsto_03	41	41	41	41	41
	gbv_03	41	41	41	41	41
	gea_03	41	41	41	41	41
	lnbv_03	41	41	41	41	41
	lnea_03	41	41	41	41	41

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	lnea_03, gbv_03, gea_03, lnbv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.898[a]	.807	.786	11.84197	.807	37.678	4	36	.000

a. Predictors: (Constant), lnea_03, gbv_03, gea_03, lnbv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21134.462	4	5283.616	37.678	.000[a]
	Residual	5048.361	36	140.232		
	Total	26182.823	40			

a. Predictors: (Constant), lnea_03, gbv_03, gea_03, lnbv_03

b. Dependent Variable: gsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	9.959	10.109		.985	.331	-10.542	30.461					
	gbv_03	1.296	.452	.596	2.864	.007	.378	2.213	.838	.431	.210	.124	8.095
	gea_03	7.765	2.312	.521	3.359	.002	3.077	12.453	.857	.488	.246	.222	4.500
	lnbv_03	-5.736	5.815	-.189	-.986	.331	-17.529	6.058	.731	-.162	-.072	.146	6.832
	lnea_03	-.045	2.562	-.002	-.018	.986	-5.241	5.151	.679	-.003	-.001	.304	3.285

a. Dependent Variable: gsto_03

Coefficient Correlations[a]

Model			lnea_03	gbv_03	gea_03	lnbv_03
1	Correlations	lnea_03	1.000	.272	-.629	-.386
		gbv_03	.272	1.000	-.525	-.814
		gea_03	-.629	-.525	1.000	.238
		lnbv_03	-.386	-.814	.238	1.000
	Covariances	lnea_03	6.563	.315	-3.724	-5.746
		gbv_03	.315	.205	-.549	-2.140
		gea_03	-3.724	-.549	5.344	3.196
		lnbv_03	-5.746	-2.140	3.196	33.813

a. Dependent Variable: gsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	gbv_03	gea_03	lnbv_03	lnea_03
1	1	3.515	1.000	.00	.00	.01	.00	.00
	2	1.254	1.675	.00	.00	.01	.00	.17
	3	.122	5.371	.09	.15	.08	.01	.48
	4	.099	5.955	.00	.14	.77	.02	.11
	5	.010	18.467	.90	.71	.14	.98	.23

a. Dependent Variable: gsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_04	27.4789	27.05094	46
gbv_04	13.7054	12.63793	46
gea_04	1.4700	2.00351	46
dlbv_04	.5657	1.84509	46
dlea_04	-.1365	.54076	46

Correlations

		gsto_04	gbv_04	gea_04	dlbv_04	dlea_04
Pearson Correlation	gsto_04	1.000	.889	.834	-.273	.228
	gbv_04	.889	1.000	.794	-.180	.191
	gea_04	.834	.794	1.000	-.395	.477
	dlbv_04	-.273	-.180	-.395	1.000	-.531
	dlea_04	.228	.191	.477	-.531	1.000
Sig. (1-tailed)	gsto_04	.	.000	.000	.033	.064
	gbv_04	.000	.	.000	.116	.102
	gea_04	.000	.000	.	.003	.000
	dlbv_04	.033	.116	.003	.	.000
	dlea_04	.064	.102	.000	.000	.
N	gsto_04	46	46	46	46	46
	gbv_04	46	46	46	46	46
	gea_04	46	46	46	46	46
	dlbv_04	46	46	46	46	46
	dlea_04	46	46	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_04, gbv_04, dlbv_04, gea_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.918[a]	.842	.827	11.26444	.842	54.628	4	41	.000

a. Predictors: (Constant), dlea_04, gbv_04, dlbv_04, gea_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27726.507	4	6931.627	54.628	.000[a]
	Residual	5202.390	41	126.888		
	Total	32928.897	45			

a. Predictors: (Constant), dlea_04, gbv_04, dlbv_04, gea_04

b. Dependent Variable: gsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.361	2.648		.892	.378	-2.985	7.708					
	gbv_04	1.247	.235	.582	5.312	.000	.773	1.721	.889	.639	.330	.321	3.120
	gea_04	5.349	1.676	.396	3.191	.003	1.963	8.734	.834	.446	.198	.250	4.000
	dlbv_04	-1.026	1.100	-.070	-.932	.357	-3.248	1.197	-.273	-.144	-.058	.684	1.462
	dlea_04	-5.484	4.070	-.110	-1.347	.185	-13.704	2.736	.228	-.206	-.084	.582	1.718

a. Dependent Variable: gsto_04

Coefficient Correlations[a]

Model			dlea_04	gbv_04	dlbv_04	gea_04
1	Correlations	dlea_04	1.000	.284	.375	-.422
		gbv_04	.284	1.000	-.106	-.815
		dlbv_04	.375	-.106	1.000	.196
		gea_04	-.422	-.815	.196	1.000
	Covariances	dlea_04	16.567	.271	1.679	-2.881
		gbv_04	.271	.055	-.027	-.321
		dlbv_04	1.679	-.027	1.211	.361
		gea_04	-2.881	-.321	.361	2.810

a. Dependent Variable: gsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	gbv_04	gea_04	dlbv_04	dlea_04
1	1	2.500	1.000	.05	.02	.02	.00	.00
	2	1.699	1.213	.00	.00	.01	.15	.14
	3	.434	2.399	.00	.00	.00	.76	.58
	4	.285	2.959	.91	.05	.08	.06	.12
	5	.082	5.534	.04	.92	.89	.02	.16

a. Dependent Variable: gsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_05	33.0254	32.04593	46
gbv_05	15.2335	14.25430	46
gea_05	1.7187	2.24925	46
dlbv_05	.4609	1.66452	46
dlea_05	-.1546	.49754	46

Correlations

		gsto_05	gbv_05	gea_05	dlbv_05	dlea_05
Pearson Correlation	gsto_05	1.000	.906	.915	-.198	.250
	gbv_05	.906	1.000	.846	-.177	.258
	gea_05	.915	.846	1.000	-.370	.486
	dlbv_05	-.198	-.177	-.370	1.000	-.606
	dlea_05	.250	.258	.486	-.606	1.000
Sig. (1-tailed)	gsto_05	.	.000	.000	.093	.047
	gbv_05	.000	.	.000	.120	.041
	gea_05	.000	.000	.	.006	.000
	dlbv_05	.093	.120	.006	.	.000
	dlea_05	.047	.041	.000	.000	.
N	gsto_05	46	46	46	46	46
	gbv_05	46	46	46	46	46
	gea_05	46	46	46	46	46
	dlbv_05	46	46	46	46	46
	dlea_05	46	46	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_05, gbv_05, dlbv_05, gea_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.960[a]	.921	.914	9.42132	.921	119.909	4	41	.000

a. Predictors: (Constant), dlea_05, gbv_05, dlbv_05, gea_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42573.163	4	10643.291	119.909	.000[a]
	Residual	3639.211	41	88.761		
	Total	46212.374	45			

a. Predictors: (Constant), dlea_05, gbv_05, dlbv_05, gea_05

b. Dependent Variable: gsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.599	2.228		.718	.477	-2.901	6.099					
	gbv_05	.820	.197	.365	4.159	.000	.422	1.218	.906	.545	.182	.250	4.006
	gea_05	9.924	1.389	.697	7.145	.000	7.119	12.729	.915	.745	.313	.202	4.948
	dlbv_05	.387	1.076	.020	.360	.721	-1.785	2.560	-.198	.056	.016	.615	1.625
	dlea_05	-10.993	3.892	-.171	-2.824	.007	-18.854	-3.133	.250	-.404	-.124	.526	1.901

a. Dependent Variable: gsto_05

Coefficient Correlations[a]

Model			dlea_05	gbv_05	dlbv_05	gea_05
1	Correlations	dlea_05	1.000	.224	.479	-.370
		gbv_05	.224	1.000	-.128	-.856
		dlbv_05	.479	-.128	1.000	.166
		gea_05	-.370	-.856	.166	1.000
	Covariances	dlea_05	15.149	.172	2.004	-1.999
		gbv_05	.172	.039	-.027	-.234
		dlbv_05	2.004	-.027	1.157	.247
		gea_05	-1.999	-.234	.247	1.929

a. Dependent Variable: gsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	gbv_05	gea_05	dlbv_05	dlea_05
1	1	2.534	1.000	.05	.02	.02	.00	.00
	2	1.751	1.203	.00	.00	.01	.14	.12
	3	.382	2.576	.12	.00	.01	.81	.38
	4	.270	3.065	.80	.04	.05	.03	.39
	5	.064	6.308	.03	.94	.91	.02	.11

a. Dependent Variable: gsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_06	36.5013	35.56258	46
gbv_06	17.7885	15.88167	46
gea_06	2.4500	2.56398	46
dlbv_06	.5517	1.82626	46
dlea_06	-.0450	.14787	46

Correlations

		gsto_06	gbv_06	gea_06	dlbv_06	dlea_06
Pearson Correlation	gsto_06	1.000	.896	.765	-.270	.281
	gbv_06	.896	1.000	.786	-.220	.267
	gea_06	.765	.786	1.000	-.336	.360
	dlbv_06	-.270	-.220	-.336	1.000	-.615
	dlea_06	.281	.267	.360	-.615	1.000
Sig. (1-tailed)	gsto_06	.	.000	.000	.035	.029
	gbv_06	.000	.	.000	.071	.036
	gea_06	.000	.000	.	.011	.007
	dlbv_06	.035	.071	.011	.	.000
	dlea_06	.029	.036	.007	.000	.
N	gsto_06	46	46	46	46	46
	gbv_06	46	46	46	46	46
	gea_06	46	46	46	46	46
	dlbv_06	46	46	46	46	46
	dlea_06	46	46	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_06, gbv_06, dlbv_06, gea_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.903[a]	.815	.797	16.00463	.815	45.295	4	41	.000

a. Predictors: (Constant), dlea_06, gbv_06, dlbv_06, gea_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46409.289	4	11602.322	45.295	.000[a]
	Residual	10502.074	41	256.148		
	Total	56911.363	45			

a. Predictors: (Constant), dlea_06, gbv_06, dlbv_06, gea_06

b. Dependent Variable: gsto_06

Coefficients[a]

Mode		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Confidence Interval f		Correlations			ollinearity Statistic	
		B	Std. Error	Beta			ower Boun	pper Boun	ero-orde	Partial	Part	Tolerance	VIF
1	(Consta	1.338	3.985		.336	.739	-6.711	9.386					
	gbv_06	1.745	.244	.779	7.155	.000	1.252	2.237	.896	.745	.480	.379	2.635
	gea_06	1.892	1.576	.136	1.201	.237	-1.290	5.074	.765	.184	.081	.349	2.867
	dlbv_06	-1.197	1.682	-.061	-.712	.480	-4.593	2.199	-.270	-.111	-.048	.604	1.657
	dlea_06	-3.345	20.919	-.014	-.160	.874	-45.591	38.901	.281	-.025	-.011	.595	1.681

a. Dependent Variable: gsto_06

Coefficient Correlations[a]

Model			dlea_06	gbv_06	dlbv_06	gea_06
1	Correlations	dlea_06	1.000	-.017	.562	-.120
		gbv_06	-.017	1.000	-.072	-.768
		dlbv_06	.562	-.072	1.000	.155
		gea_06	-.120	-.768	.155	1.000
	Covariances	dlea_06	437.587	-.086	19.765	-3.945
		gbv_06	-.086	.059	-.030	-.295
		dlbv_06	19.765	-.030	2.828	.410
		gea_06	-3.945	-.295	.410	2.482

a. Dependent Variable: gsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	gbv_06	gea_06	dlbv_06	dlea_06
1	1	2.631	1.000	.04	.02	.02	.01	.01
	2	1.666	1.257	.00	.00	.01	.14	.14
	3	.353	2.729	.01	.00	.00	.82	.71
	4	.252	3.234	.93	.07	.11	.02	.13
	5	.097	5.200	.01	.91	.86	.02	.00

a. Dependent Variable: gsto_06

FRANCE 2003/2006 INCLUDING OUTLIERS/EXTREMES

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_03	44.4960	64.71097	50
fbv_03	28.5592	45.16815	50
fea_03	3.2650	4.80163	50
dlbv_03	.1638	.75805	50
dlea_03	-.0054	.02533	50

Correlations

		fsto_03	fbv_03	fea_03	dlbv_03	dlea_03
Pearson Correlation	fsto_03	1.000	.809	.962	-.134	.136
	fbv_03	.809	1.000	.896	-.122	.122
	fea_03	.962	.896	1.000	-.155	.153
	dlbv_03	-.134	-.122	-.155	1.000	-.875
	dlea_03	.136	.122	.153	-.875	1.000
Sig. (1-tailed)	fsto_03	.	.000	.000	.177	.174
	fbv_03	.000	.	.000	.200	.199
	fea_03	.000	.000	.	.142	.144
	dlbv_03	.177	.200	.142	.	.000
	dlea_03	.174	.199	.144	.000	.
N	fsto_03	50	50	50	50	50
	fbv_03	50	50	50	50	50
	fea_03	50	50	50	50	50
	dlbv_03	50	50	50	50	50
	dlea_03	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_03, fbv_03, dlbv_03, fea_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.969[a]	.940	.934	16.57071	.940	175.564	4	45	.000

a. Predictors: (Constant), dlea_03, fbv_03, dlbv_03, fea_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	192831.5	4	48207.877	175.564	.000[a]
	Residual	12356.486	45	274.589		
	Total	205188.0	49			

a. Predictors: (Constant), dlea_03, fbv_03, dlbv_03, fea_03

b. Dependent Variable: fsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.170	2.953		.735	.466	-3.776	8.117					
	fbv_03	-.387	.118	-.270	-3.280	.002	-.625	-.149	.809	-.439	-.120	.197	5.075
	fea_03	16.267	1.116	1.207	14.576	.000	14.019	18.515	.962	.908	.533	.195	5.124
	dlbv_03	2.089	6.446	.024	.324	.747	-10.894	15.073	-.134	.048	.012	.235	4.261
	dlea_03	12.743	192.844	.005	.066	.948	-375.664	401.150	.136	.010	.002	.235	4.258

a. Dependent Variable: fsto_03

Coefficient Correlations[a]

Model			dlea_03	fbv_03	dlbv_03	fea_03
1	Correlations	dlea_03	1.000	.003	.871	-.020
		fbv_03	.003	1.000	-.016	-.894
		dlbv_03	.871	-.016	1.000	.034
		fea_03	-.020	-.894	.034	1.000
	Covariances	dlea_03	37188.679	.075	1083.169	-4.261
		fbv_03	.075	.014	-.012	-.118
		dlbv_03	1083.169	-.012	41.555	.241
		fea_03	-4.261	-.118	.241	1.246

a. Dependent Variable: fsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	fbv_03	fea_03	dlbv_03	dlea_03
1	1	2.420	1.000	.07	.02	.02	.00	.00
	2	1.880	1.135	.00	.00	.00	.05	.05
	3	.508	2.182	.92	.04	.02	.01	.01
	4	.120	4.494	.00	.00	.00	.93	.94
	5	.072	5.808	.01	.94	.95	.00	.00

a. Dependent Variable: fsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_04	53.3320	74.21944	50
fbv_04	30.1792	47.84843	50
fea_04	3.0666	4.83295	50
dlbv_04	.5634	4.06248	50
dlea_04	-.1252	.62651	50

Correlations

		fsto_04	fbv_04	fea_04	dlbv_04	dlea_04
Pearson Correlation	fsto_04	1.000	.795	.941	.028	.066
	fbv_04	.795	1.000	.829	-.003	.078
	fea_04	.941	.829	1.000	-.167	.264
	dlbv_04	.028	-.003	-.167	1.000	-.571
	dlea_04	.066	.078	.264	-.571	1.000
Sig. (1-tailed)	fsto_04	.	.000	.000	.422	.324
	fbv_04	.000	.	.000	.493	.296
	fea_04	.000	.000	.	.123	.032
	dlbv_04	.422	.493	.123	.	.000
	dlea_04	.324	.296	.032	.000	.
N	fsto_04	50	50	50	50	50
	fbv_04	50	50	50	50	50
	fea_04	50	50	50	50	50
	dlbv_04	50	50	50	50	50
	dlea_04	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_04, fbv_04, dlbv_04, fea_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.966[a]	.933	.927	20.03055	.933	156.934	4	45	.000

a. Predictors: (Constant), dlea_04, fbv_04, dlbv_04, fea_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	251862.7	4	62965.673	156.934	.000[a]
	Residual	18055.026	45	401.223		
	Total	269917.7	49			

a. Predictors: (Constant), dlea_04, fbv_04, dlbv_04, fea_04

b. Dependent Variable: fsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3.564	3.548		1.005	.320	-3.582	10.709					
	fbv_04	-.110	.112	-.071	-.982	.332	-.335	.115	.795	-.145	-.038	.286	3.496
	fea_04	16.229	1.143	1.057	14.197	.000	13.927	18.531	.941	.904	.547	.268	3.727
	dlbv_04	2.353	.865	.129	2.720	.009	.610	4.095	.028	.376	.105	.663	1.508
	dlea_04	-15.872	5.758	-.134	-2.757	.008	-27.468	-4.275	.066	-.380	-.106	.629	1.589

a. Dependent Variable: fsto_04

Coefficient Correlations[a]

Model			dlea_04	fbv_04	dlbv_04	fea_04
1	Correlations	dlea_04	1.000	.156	.523	-.242
		fbv_04	.156	1.000	-.127	-.843
		dlbv_04	.523	-.127	1.000	.118
		fea_04	-.242	-.843	.118	1.000
	Covariances	dlea_04	33.152	.100	2.604	-1.592
		fbv_04	.100	.013	-.012	-.108
		dlbv_04	2.604	-.012	.748	.117
		fea_04	-1.592	-.108	.117	1.307

a. Dependent Variable: fsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	fbv_04	fea_04	dlbv_04	dlea_04
1	1	2.331	1.000	.07	.03	.03	.00	.00
	2	1.629	1.196	.00	.00	.01	.18	.18
	3	.540	2.078	.72	.05	.03	.21	.03
	4	.395	2.429	.19	.02	.00	.59	.73
	5	.105	4.707	.02	.90	.94	.02	.06

a. Dependent Variable: fsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_05	71.2290	104.14441	50
fbv_05	40.6282	70.63590	50
fea_05	4.0380	6.42557	50
dlbv_05	.6316	3.62725	50
dlea_05	-.0566	.32679	50

Correlations

		fsto_05	fbv_05	fea_05	dlbv_05	dlea_05
Pearson Correlation	fsto_05	1.000	.821	.869	-.012	.010
	fbv_05	.821	1.000	.776	-.049	.049
	fea_05	.869	.776	1.000	-.164	.163
	dlbv_05	-.012	-.049	-.164	1.000	-.995
	dlea_05	.010	.049	.163	-.995	1.000
Sig. (1-tailed)	fsto_05	.	.000	.000	.468	.471
	fbv_05	.000	.	.000	.367	.368
	fea_05	.000	.000	.	.128	.128
	dlbv_05	.468	.367	.128	.	.000
	dlea_05	.471	.368	.128	.000	.
N	fsto_05	50	50	50	50	50
	fbv_05	50	50	50	50	50
	fea_05	50	50	50	50	50
	dlbv_05	50	50	50	50	50
	dlea_05	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_05, fbv_05, fea_05, dlbv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.906[a]	.821	.805	46.01466	.821	51.500	4	45	.000

a. Predictors: (Constant), dlea_05, fbv_05, fea_05, dlbv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	436176.1	4	109044.029	51.500	.000[a]
	Residual	95280.719	45	2117.349		
	Total	531456.8	49			

a. Predictors: (Constant), dlea_05, fbv_05, fea_05, dlbv_05

b. Dependent Variable: fsto_05

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95% Confidence Interval for B Lower Bound	95% Confidence Interval for B Upper Bound	Correlations Zero-order	Correlations Partial	Correlations Part	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	8.095	7.956		1.018	.314	-7.928	24.119					
	fbv_05	.514	.149	.348	3.455	.001	.214	.813	.821	.458	.218	.392	2.554
	fea_05	9.987	1.655	.616	6.034	.000	6.653	13.321	.869	.669	.381	.382	2.618
	dlbv_05	-1.072	18.900	-.037	-.057	.955	-39.137	36.994	-.012	-.008	-.004	.009	108.758
	dlea_05	-46.072	209.763	-.145	-.220	.827	-468.556	376.412	.010	-.033	-.014	.009	108.745

a. Dependent Variable: fsto_05

Coefficient Correlations[a]

Model			dlea_05	fbv_05	fea_05	dlbv_05
1	Correlations	dlea_05	1.000	.006	-.007	.995
		fbv_05	.006	1.000	-.779	-.006
		fea_05	-.007	-.779	1.000	.012
		dlbv_05	.995	-.006	.012	1.000
	Covariances	dlea_05	44000.389	.196	-2.588	3945.341
		fbv_05	.196	.022	-.192	-.017
		fea_05	-2.588	-.192	2.740	.379
		dlbv_05	3945.341	-.017	.379	357.192

a. Dependent Variable: fsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	fbv_05	fea_05	dlbv_05	dlea_05
1	1	2.315	1.000	.07	.04	.03	.00	.00
	2	1.978	1.082	.00	.01	.01	.00	.00
	3	.545	2.061	.90	.09	.04	.00	.00
	4	.157	3.834	.02	.86	.91	.00	.00
	5	.004	22.756	.00	.00	.00	1.00	1.00

a. Dependent Variable: fsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_06	78.7562	105.78080	50
fbv_06	45.4568	82.13782	50
fea_06	4.0824	10.28106	50
dlbv_06	2.1086	9.81331	50
dlea_06	-.6612	3.99999	50

Correlations

		fsto_06	fbv_06	fea_06	dlbv_06	dlea_06
Pearson Correlation	fsto_06	1.000	.801	.696	-.072	.054
	fbv_06	.801	1.000	.729	.004	-.025
	fea_06	.696	.729	1.000	-.473	.467
	dlbv_06	-.072	.004	-.473	1.000	-.956
	dlea_06	.054	-.025	.467	-.956	1.000
Sig. (1-tailed)	fsto_06	.	.000	.000	.310	.354
	fbv_06	.000	.	.000	.490	.431
	fea_06	.000	.000	.	.000	.000
	dlbv_06	.310	.490	.000	.	.000
	dlea_06	.354	.431	.000	.000	.
N	fsto_06	50	50	50	50	50
	fbv_06	50	50	50	50	50
	fea_06	50	50	50	50	50
	dlbv_06	50	50	50	50	50
	dlea_06	50	50	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea_06, fbv_06, fea_06, dlbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.820[a]	.672	.642	63.25030	.672	23.013	4	45	.000

a. Predictors: (Constant), dlea_06, fbv_06, fea_06, dlbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	368262.3	4	92065.578	23.013	.000[a]
	Residual	180027.0	45	4000.601		
	Total	548289.3	49			

a. Predictors: (Constant), dlea_06, fbv_06, fea_06, dlbv_06

b. Dependent Variable: fsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	30.736	10.648		2.886	.006	9.289	52.183					
	fbv_06	.723	.202	.561	3.587	.001	.317	1.129	.801	.472	.306	.298	3.357
	fea_06	3.352	1.826	.326	1.836	.073	-.325	7.029	.696	.264	.157	.232	4.315
	dlbv_06	.017	3.167	.002	.005	.996	-6.362	6.396	-.072	.001	.000	.085	11.830
	dlea_06	-2.175	7.922	-.082	-.275	.785	-18.131	13.782	.054	-.041	-.023	.081	12.299

a. Dependent Variable: fsto_06

Coefficient Correlations[a]

Model			dlea_06	fbv_06	fea_06	dlbv_06
1	Correlations	dlea_06	1.000	.215	-.210	.915
		fbv_06	.215	1.000	-.837	-.031
		fea_06	-.210	-.837	1.000	.083
		dlbv_06	.915	-.031	.083	1.000
	Covariances	dlea_06	62.762	.344	-3.038	22.947
		fbv_06	.344	.041	-.308	-.020
		fea_06	-3.038	-.308	3.333	.478
		dlbv_06	22.947	-.020	.478	10.030

a. Dependent Variable: fsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	fbv_06	fea_06	dlbv_06	dlea_06
1	1	2.218	1.000	.00	.01	.03	.01	.01
	2	2.051	1.040	.09	.04	.01	.01	.01
	3	.579	1.957	.87	.06	.03	.00	.00
	4	.110	4.492	.00	.87	.92	.04	.01
	5	.041	7.312	.03	.02	.01	.94	.97

a. Dependent Variable: fsto_06

FRANCE 2003/2006 EXCLUDING OUTLIERS/EXTREMES

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_03	30.8457	23.58114	46
fbv_03	18.4702	17.77167	46
fea_03	2.2576	2.12467	46
dlbv03	.1780	.78938	46
dlea03	-.0059	.02638	46

Correlations

		fsto_03	fbv_03	fea_03	dlbv03	dlea03
Pearson Correlation	fsto_03	1.000	.698	.827	-.250	.258
	fbv_03	.698	1.000	.893	-.193	.195
	fea_03	.827	.893	1.000	-.256	.255
	dlbv03	-.250	-.193	-.256	1.000	-.874
	dlea03	.258	.195	.255	-.874	1.000
Sig. (1-tailed)	fsto_03	.	.000	.000	.047	.042
	fbv_03	.000	.	.000	.100	.097
	fea_03	.000	.000	.	.043	.044
	dlbv03	.047	.100	.043	.	.000
	dlea03	.042	.097	.044	.000	.
N	fsto_03	46	46	46	46	46
	fbv_03	46	46	46	46	46
	fea_03	46	46	46	46	46
	dlbv03	46	46	46	46	46
	dlea03	46	46	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea03, fbv_03, dlbv03, fea_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.833[a]	.695	.665	13.65345	.695	23.308	4	41	.000

a. Predictors: (Constant), dlea03, fbv_03, dlbv03, fea_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17380.070	4	4345.017	23.308	.000[a]
	Residual	7643.080	41	186.417		
	Total	25023.150	45			

a. Predictors: (Constant), dlea03, fbv_03, dlbv03, fea_03

b. Dependent Variable: fsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	11.011	3.163		3.482	.001	4.624	17.398					
	fbv_03	-.258	.255	-.195	-1.013	.317	-.773	.257	.698	-.156	-.087	.202	4.955
	fea_03	10.994	2.166	.991	5.076	.000	6.620	15.368	.827	.621	.438	.196	5.112
	dlbv03	.532	5.324	.018	.100	.921	-10.221	11.285	-.250	.016	.009	.235	4.264
	dlea03	52.918	159.136	.059	.333	.741	-268.464	374.299	.258	.052	.029	.235	4.254

a. Dependent Variable: fsto_03

Coefficient Correlations[a]

Model			dlea03	fbv_03	dlbv03	fea_03
1	Correlations	dlea03	1.000	.004	.864	-.033
		fbv_03	.004	1.000	-.038	-.889
		dlbv03	.864	-.038	1.000	.067
		fea_03	-.033	-.889	.067	1.000
	Covariances	dlea03	25324.250	.165	732.441	-11.531
		fbv_03	.165	.065	-.052	-.491
		dlbv03	732.441	-.052	28.349	.771
		fea_03	-11.531	-.491	.771	4.691

a. Dependent Variable: fsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	fbv_03	fea_03	dlbv03	dlea03
1	1	2.655	1.000	.05	.01	.01	.00	.00
	2	1.875	1.190	.00	.00	.00	.05	.05
	3	.301	2.971	.95	.05	.03	.01	.01
	4	.120	4.707	.00	.00	.00	.93	.93
	5	.049	7.339	.01	.94	.95	.00	.00

a. Dependent Variable: fsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_04	37.2522	25.50839	46
fbv_04	19.5841	18.97240	46
fea_04	2.1528	2.33498	46
dlbv04	.6124	4.23558	46
dlea04	-.1361	.65260	46

Correlations

		fsto_04	fbv_04	fea_04	dlbv04	dlea04
Pearson Correlation	fsto_04	1.000	.794	.762	.180	.067
	fbv_04	.794	1.000	.794	.075	.086
	fea_04	.762	.794	1.000	-.304	.488
	dlbv04	.180	.075	-.304	1.000	-.570
	dlea04	.067	.086	.488	-.570	1.000
Sig. (1-tailed)	fsto_04	.	.000	.000	.116	.328
	fbv_04	.000	.	.000	.309	.285
	fea_04	.000	.000	.	.020	.000
	dlbv04	.116	.309	.020	.	.000
	dlea04	.328	.285	.000	.000	.
N	fsto_04	46	46	46	46	46
	fbv_04	46	46	46	46	46
	fea_04	46	46	46	46	46
	dlbv04	46	46	46	46	46
	dlea04	46	46	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea04, fbv_04, dlbv04, fea_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.890[a]	.791	.771	12.20487	.791	38.892	4	41	.000

a. Predictors: (Constant), dlea04, fbv_04, dlbv04, fea_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23173.189	4	5793.297	38.892	.000[a]
	Residual	6107.315	41	148.959		
	Total	29280.503	45			

a. Predictors: (Constant), dlea04, fbv_04, dlbv04, fea_04

b. Dependent Variable: fsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	11.996	2.823		4.250	.000	6.296	17.697					
	fbv_04	.092	.206	.068	.446	.658	-.324	.507	.794	.070	.032	.217	4.600
	fea_04	9.854	1.887	.902	5.222	.000	6.043	13.666	.762	.632	.372	.170	5.866
	dlbv04	2.077	.562	.345	3.697	.001	.942	3.211	.180	.500	.264	.585	1.710
	dlea04	-7.137	4.050	-.183	-1.762	.086	-15.317	1.043	.067	-.265	-.126	.474	2.111

a. Dependent Variable: fsto_04

Coefficient Correlations[a]

Model			dlea04	fbv_04	dlbv04	fea_04
1	Correlations	dlea04	1.000	.403	.285	-.530
		fbv_04	.403	1.000	-.365	-.881
		dlbv04	.285	-.365	1.000	.337
		fea_04	-.530	-.881	.337	1.000
	Covariances	dlea04	16.405	.336	.648	-4.049
		fbv_04	.336	.042	-.042	-.342
		dlbv04	.648	-.042	.316	.357
		fea_04	-4.049	-.342	.357	3.561

a. Dependent Variable: fsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	fbv_04	fea_04	dlbv04	dlea04
1	1	2.548	1.000	.05	.01	.01	.00	.00
	2	1.666	1.237	.00	.00	.00	.15	.13
	3	.459	2.357	.14	.01	.00	.59	.31
	4	.278	3.025	.77	.07	.02	.12	.29
	5	.049	7.178	.04	.91	.96	.13	.27

a. Dependent Variable: fsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_05	49.4337	36.89064	46
fbv_05	27.8148	46.28572	46
fea_05	2.5374	2.50056	46
dlbv05	.6865	3.77994	46
dlea05	-.0615	.34055	46

Correlations

		fsto_05	fbv_05	fea_05	dlbv05	dlea05
Pearson Correlation	fsto_05	1.000	.650	.710	.076	-.078
	fbv_05	.650	1.000	.278	-.027	.027
	fea_05	.710	.278	1.000	-.329	.328
	dlbv05	.076	-.027	-.329	1.000	-.995
	dlea05	-.078	.027	.328	-.995	1.000
Sig. (1-tailed)	fsto_05	.	.000	.000	.309	.302
	fbv_05	.000	.	.031	.429	.429
	fea_05	.000	.031	.	.013	.013
	dlbv05	.309	.429	.013	.	.000
	dlea05	.302	.429	.013	.000	.
N	fsto_05	46	46	46	46	46
	fbv_05	46	46	46	46	46
	fea_05	46	46	46	46	46
	dlbv05	46	46	46	46	46
	dlea05	46	46	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea05, fbv_05, fea_05, dlbv05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.902[a]	.814	.796	16.66070	.814	44.907	4	41	.000

a. Predictors: (Constant), dlea05, fbv_05, fea_05, dlbv05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49860.617	4	12465.154	44.907	.000[a]
	Residual	11380.739	41	277.579		
	Total	61241.356	45			

a. Predictors: (Constant), dlea05, fbv_05, fea_05, dlbv05

b. Dependent Variable: fsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	11.397	3.841		2.967	.005	3.639	19.154					
	fbv_05	.374	.056	.469	6.674	.000	.261	.487	.650	.722	.449	.918	1.089
	fea_05	10.069	1.097	.683	9.178	.000	7.853	12.285	.710	.820	.618	.820	1.220
	dlbv05	-1.101	6.844	-.113	-.161	.873	-14.923	12.721	.076	-.025	-.011	.009	108.499
	dlea05	-46.291	75.954	-.427	-.609	.546	-199.683	107.101	-.078	-.095	-.041	.009	108.468

a. Dependent Variable: fsto_05

Coefficient Correlations[a]

Model			dlea05	fbv_05	fea_05	dlbv05
1	Correlations	dlea05	1.000	.005	-.013	.995
		fbv_05	.005	1.000	-.285	-.003
		fea_05	-.013	-.285	1.000	.021
		dlbv05	.995	-.003	.021	1.000
	Covariances	dlea05	5769.004	.019	-1.090	517.128
		fbv_05	.019	.003	-.017	-.001
		fea_05	-1.090	-.017	1.204	.158
		dlbv05	517.128	-.001	.158	46.841

a. Dependent Variable: fsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	fbv_05	fea_05	dlbv05	dlea05
1	1	2.256	1.000	.06	.07	.04	.00	.00
	2	1.971	1.070	.01	.02	.03	.00	.00
	3	.529	2.064	.14	.90	.08	.00	.00
	4	.239	3.072	.80	.01	.84	.00	.00
	5	.004	22.461	.00	.00	.00	1.00	1.00

a. Dependent Variable: fsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_06	53.8572	40.53953	46
fbv_06	30.9987	49.56186	46
fea_06	2.1483	5.94616	46
dlbv06	2.2920	10.21918	46
dlea06	-.7187	4.16892	46

Correlations

		fsto_06	fbv_06	fea_06	dlbv06	dlea06
Pearson Correlation	fsto_06	1.000	.671	.484	-.055	.040
	fbv_06	.671	1.000	.258	.073	-.095
	fea_06	.484	.258	1.000	-.781	.786
	dlbv06	-.055	.073	-.781	1.000	-.956
	dlea06	.040	-.095	.786	-.956	1.000
Sig. (1-tailed)	fsto_06	.	.000	.000	.358	.397
	fbv_06	.000	.	.042	.314	.265
	fea_06	.000	.042	.	.000	.000
	dlbv06	.358	.314	.000	.	.000
	dlea06	.397	.265	.000	.000	.
N	fsto_06	46	46	46	46	46
	fbv_06	46	46	46	46	46
	fea_06	46	46	46	46	46
	dlbv06	46	46	46	46	46
	dlea06	46	46	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	dlea06, fbv_06, fea_06, dlbv06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.807[a]	.652	.618	25.05243	.652	19.208	4	41	.000

a. Predictors: (Constant), dlea06, fbv_06, fea_06, dlbv06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48222.813	4	12055.703	19.208	.000[a]
	Residual	25732.595	41	627.624		
	Total	73955.408	45			

a. Predictors: (Constant), dlea06, fbv_06, fea_06, dlbv06

b. Dependent Variable: fsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	26.771	5.021		5.332	.000	16.631	36.912					
	fbv_06	.326	.090	.398	3.616	.001	.144	.508	.671	.492	.333	.700	1.429
	fea_06	5.797	1.223	.850	4.739	.000	3.327	8.266	.484	.595	.437	.264	3.792
	dlbv06	.671	1.267	.169	.530	.599	-1.887	3.229	-.055	.082	.049	.083	12.012
	dlea06	-4.174	3.222	-.429	-1.295	.202	-10.681	2.334	.040	-.198	-.119	.077	12.939

a. Dependent Variable: fsto_06

Coefficient Correlations[a]

Model			dlea06	fbv_06	fea_06	dlbv06
1	Correlations	dlea06	1.000	.231	-.301	.855
		fbv_06	.231	1.000	-.540	-.033
		fea_06	-.301	-.540	1.000	.154
		dlbv06	.855	-.033	.154	1.000
	Covariances	dlea06	10.383	.067	-1.185	3.488
		fbv_06	.067	.008	-.059	-.004
		fea_06	-1.185	-.059	1.496	.239
		dlbv06	3.488	-.004	.239	1.604

a. Dependent Variable: fsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	fbv_06	fea_06	dlbv06	dlea06
1	1	2.523	1.000	.00	.00	.02	.01	.01
	2	1.823	1.177	.12	.11	.02	.00	.00
	3	.467	2.325	.60	.51	.00	.00	.00
	4	.146	4.157	.26	.36	.95	.07	.05
	5	.041	7.809	.02	.02	.01	.91	.94

a. Dependent Variable: fsto_06

9.2.2. Common explanatory power

UK 2003/2006 COMMON EXPLANATORY POWER

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_03	293.8367	161.10354	48
ubv_03	1.4885	1.20820	48
uea_03	.2065	.16782	48

Correlations

		usto_03	ubv_03	uea_03
Pearson Correlation	usto_03	1.000	.413	.569
	ubv_03	.413	1.000	.673
	uea_03	.569	.673	1.000
Sig. (1-tailed)	usto_03	.	.002	.000
	ubv_03	.002	.	.000
	uea_03	.000	.000	.
N	usto_03	48	48	48
	ubv_03	48	48	48
	uea_03	48	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	uea_03, ubv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.571[a]	.325	.296	135.22122	.325	10.857	2	45	.000

a. Predictors: (Constant), uea_03, ubv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	397039.5	2	198519.728	10.857	.000[a]
	Residual	822815.0	45	18284.777		
	Total	1219854	47			

a. Predictors: (Constant), uea_03, ubv_03

b. Dependent Variable: usto_03

Coefficients[a]

Mode		Unstandardized Coefficients		tandardize Coefficients	t	Sig.	Confidence Interval f		Correlations			llinearity Statisti	
		B	td. Erro	Beta			ower Boun	pper Boun	ero-orde	Partial	Part	olerance	VIF
1	(Consta	77.527	32.952		5.387	.000	111.158	243.896					
	ubv_03	7.201	22.073	.054	.326	.746	-37.256	51.658	.413	.049	.040	.547	1.828
	uea_03	11.439	58.911	.533	3.218	.002	191.377	831.502	.569	.433	.394	.547	1.828

a. Dependent Variable: usto_03

Coefficient Correlations[a]

Model			uea_03	ubv_03
1	Correlations	uea_03	1.000	-.673
		ubv_03	-.673	1.000
	Covariances	uea_03	25252.587	-2360.794
		ubv_03	-2360.794	487.216

a. Dependent Variable: usto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	ubv_03	uea_03
1	1	2.621	1.000	.04	.03	.03
	2	.251	3.235	.96	.13	.14
	3	.128	4.520	.00	.84	.84

a. Dependent Variable: usto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_03	293.8367	161.10354	48
ubv_03	1.4885	1.20820	48

Correlations

		usto_03	ubv_03
Pearson Correlation	usto_03	1.000	.413
	ubv_03	.413	1.000
Sig. (1-tailed)	usto_03	.	.002
	ubv_03	.002	.
N	usto_03	48	48
	ubv_03	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	ubv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.413[a]	.170	.152	148.33946	.170	9.436	1	46	.004

a. Predictors: (Constant), ubv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	207643.1	1	207643.078	9.436	.004[a]
	Residual	1012211	46	22004.594		
	Total	1219854	47			

a. Predictors: (Constant), ubv_03

b. Dependent Variable: usto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	211.946	34.192		6.199	.000	143.121	280.771					
	ubv_03	55.014	17.909	.413	3.072	.004	18.965	91.063	.413	.413	.413	1.000	1.000

a. Dependent Variable: usto_03

Coefficient Correlations[a]

Model			ubv_03
1	Correlations	ubv_03	1.000
	Covariances	ubv_03	320.730

a. Dependent Variable: usto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	ubv_03
1	1	1.780	1.000	.11	.11
	2	.220	2.842	.89	.89

a. Dependent Variable: usto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_03	293.8367	161.10354	48
uea_03	.2065	.16782	48

Correlations

		usto_03	uea_03
Pearson Correlation	usto_03	1.000	.569
	uea_03	.569	1.000
Sig. (1-tailed)	usto_03	.	.000
	uea_03	.000	.
N	usto_03	48	48
	uea_03	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	uea_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.569[a]	.324	.309	133.90140	.324	22.036	1	46	.000

a. Predictors: (Constant), uea_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	395093.5	1	395093.500	22.036	.000[a]
	Residual	824760.9	46	17929.585		
	Total	1219854	47			

a. Predictors: (Constant), uea_03

b. Dependent Variable: usto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	181.042	30.837		5.871	.000	118.971	243.113					
	uea_03	546.331	116.383	.569	4.694	.000	312.063	780.598	.569	.569	.569	1.000	1.000

a. Dependent Variable: usto_03

Coefficient Correlations[a]

Model			uea_03
1	Correlations	uea_03	1.000
	Covariances	uea_03	13545.073

a. Dependent Variable: usto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	uea_03
1	1	1.779	1.000	.11	.11
	2	.221	2.839	.89	.89

a. Dependent Variable: usto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_04	346.5590	196.81511	48
ubv_04	1.5581	1.16789	48
uea_04	.1690	.22821	48

Correlations

		usto_04	ubv_04	uea_04
Pearson Correlation	usto_04	1.000	.403	.617
	ubv_04	.403	1.000	.067
	uea_04	.617	.067	1.000
Sig. (1-tailed)	usto_04	.	.002	.000
	ubv_04	.002	.	.326
	uea_04	.000	.326	.
N	usto_04	48	48	48
	ubv_04	48	48	48
	uea_04	48	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	uea_04, ubv_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.716[a]	.512	.491	140.45206	.512	23.645	2	45	.000

a. Predictors: (Constant), uea_04, ubv_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	932895.6	2	466447.806	23.645	.000[a]
	Residual	887705.1	45	19726.781		
	Total	1820601	47			

a. Predictors: (Constant), uea_04, ubv_04

b. Dependent Variable: usto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	164.693	36.561		4.505	.000	91.055	238.331					
	ubv_04	61.297	17.581	.364	3.486	.001	25.886	96.708	.403	.461	.363	.996	1.005
	uea_04	511.118	89.973	.593	5.681	.000	329.903	692.332	.617	.646	.591	.996	1.005

a. Dependent Variable: usto_04

Coefficient Correlations[a]

Model			uea_04	ubv_04
1	Correlations	uea_04	1.000	-.067
		ubv_04	-.067	1.000
	Covariances	uea_04	8095.105	-105.895
		ubv_04	-105.895	309.103

a. Dependent Variable: usto_04

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	ubv_04	uea_04
1	1	2.285	1.000	.05	.05	.08
	2	.527	2.083	.04	.15	.86
	3	.188	3.485	.91	.79	.07

a. Dependent Variable: usto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_04	346.5590	196.81511	48
ubv_04	1.5581	1.16789	48

Correlations

		usto_04	ubv_04
Pearson Correlation	usto_04	1.000	.403
	ubv_04	.403	1.000
Sig. (1-tailed)	usto_04	.	.002
	ubv_04	.002	.
N	usto_04	48	48
	ubv_04	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	ubv_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.403[a]	.163	.145	182.03668	.163	8.941	1	46	.004

a. Predictors: (Constant), ubv_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	296282.6	1	296282.593	8.941	.004[a]
	Residual	1524318	46	33137.351		
	Total	1820601	47			

a. Predictors: (Constant), ubv_04

b. Dependent Variable: usto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	240.633	44.105		5.456	.000	151.853	329.412					
	ubv_04	67.983	22.736	.403	2.990	.004	22.219	113.748	.403	.403	.403	1.000	1.000

a. Dependent Variable: usto_04

Coefficient Correlations[a]

Model			ubv_04
1	Correlations	ubv_04	1.000
	Covariances	ubv_04	516.909

a. Dependent Variable: usto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	ubv_04
1	1	1.803	1.000	.10	.10
	2	.197	3.027	.90	.90

a. Dependent Variable: usto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_04	346.5590	196.81511	48
uea_04	.1690	.22821	48

Correlations

		usto_04	uea_04
Pearson Correlation	usto_04	1.000	.617
	uea_04	.617	1.000
Sig. (1-tailed)	usto_04	.	.000
	uea_04	.000	.
N	usto_04	48	48
	uea_04	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	uea_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.617[a]	.381	.367	156.55915	.381	28.278	1	46	.000

a. Predictors: (Constant), uea_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	693105.4	1	693105.383	28.278	.000[a]
	Residual	1127495	46	24510.769		
	Total	1820601	47			

a. Predictors: (Constant), uea_04

b. Dependent Variable: usto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	256.653	28.222		9.094	.000	199.845	313.461					
	uea_04	532.117	100.066	.617	5.318	.000	330.695	733.540	.617	.617	.617	1.000	1.000

a. Dependent Variable: usto_04

Coefficient Correlations[a]

Model			uea_04
1	Correlations	uea_04	1.000
	Covariances	uea_04	10013.191

a. Dependent Variable: usto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	uea_04
1	1	1.599	1.000	.20	.20
	2	.401	1.997	.80	.80

a. Dependent Variable: usto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_05	436.9921	272.88738	48
ubv_05	1.6288	1.13048	48
uea_05	.2302	.25442	48

Correlations

		usto_05	ubv_05	uea_05
Pearson Correlation	usto_05	1.000	.504	.614
	ubv_05	.504	1.000	.361
	uea_05	.614	.361	1.000
Sig. (1-tailed)	usto_05	.	.000	.000
	ubv_05	.000	.	.006
	uea_05	.000	.006	.
N	usto_05	48	48	48
	ubv_05	48	48	48
	uea_05	48	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	uea_05, ubv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.685[a]	.469	.445	203.28740	.469	19.846	2	45	.000

a. Predictors: (Constant), uea_05, ubv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1640314	2	820157.089	19.846	.000[a]
	Residual	1859659	45	41325.765		
	Total	3499974	47			

a. Predictors: (Constant), uea_05, ubv_05

b. Dependent Variable: usto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	186.689	53.253		3.506	.001	79.431	293.947					
	ubv_05	78.344	28.125	.325	2.786	.008	21.697	134.990	.504	.383	.303	.870	1.150
	uea_05	532.997	124.969	.497	4.265	.000	281.297	784.698	.614	.537	.463	.870	1.150

a. Dependent Variable: usto_05

Coefficient Correlations[a]

Model			uea_05	ubv_05
1	Correlations	uea_05	1.000	-.361
		ubv_05	-.361	1.000
	Covariances	uea_05	15617.247	-1268.279
		ubv_05	-1268.279	791.011

a. Dependent Variable: usto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	ubv_05	uea_05
1	1	2.473	1.000	.04	.04	.06
	2	.354	2.644	.18	.08	.92
	3	.174	3.774	.77	.88	.02

a. Dependent Variable: usto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_05	436.9921	272.88738	48
ubv_05	1.6288	1.13048	48

Correlations

		usto_05	ubv_05
Pearson Correlation	usto_05	1.000	.504
	ubv_05	.504	1.000
Sig. (1-tailed)	usto_05	.	.000
	ubv_05	.000	.
N	usto_05	48	48
	ubv_05	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	ubv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.504[a]	.254	.238	238.26351	.254	15.652	1	46	.000

a. Predictors: (Constant), ubv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	888576.7	1	888576.670	15.652	.000[a]
	Residual	2611397	46	56769.499		
	Total	3499974	47			

a. Predictors: (Constant), ubv_05

b. Dependent Variable: usto_05

Coefficients[a]

Model		Unstandardized Coefficients: B	Std. Error	Standardized Coefficients: Beta	t	Sig.	95% Confidence Interval for B: Lower Bound	Upper Bound	Correlations: Zero-order	Partial	Part	Collinearity Statistics: Tolerance	VIF
1	(Constant)	238.890	60.745		3.933	.000	116.616	361.163					
	ubv_05	121.629	30.743	.504	3.956	.000	59.746	183.511	.504	.504	.504	1.000	1.000

a. Dependent Variable: usto_05

Coefficient Correlations[a]

Model			ubv_05
1	Correlations	ubv_05	1.000
	Covariances	ubv_05	945.129

a. Dependent Variable: usto_05

Collinearity Diagnostics[a]

				Variance Proportions	
Model	Dimension	Eigenvalue	Condition Index	(Constant)	ubv_05
1	1	1.824	1.000	.09	.09
	2	.176	3.222	.91	.91

a. Dependent Variable: usto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_05	436.9921	272.88738	48
uea_05	.2302	.25442	48

Correlations

		usto_05	uea_05
Pearson Correlation	usto_05	1.000	.614
	uea_05	.614	1.000
Sig. (1-tailed)	usto_05	.	.000
	uea_05	.000	.
N	usto_05	48	48
	uea_05	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	uea_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.614[a]	.377	.364	217.71149	.377	27.842	1	46	.000

a. Predictors: (Constant), uea_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1319652	1	1319652.067	27.842	.000[a]
	Residual	2180322	46	47398.294		
	Total	3499974	47			

a. Predictors: (Constant), uea_05

b. Dependent Variable: usto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	285.374	42.581		6.702	.000	199.664	371.085					
	uea_05	658.611	124.819	.614	5.277	.000	407.363	909.858	.614	.614	.614	1.000	1.000

a. Dependent Variable: usto_05

Coefficient Correlations[a]

Model			uea_05
1	Correlations	uea_05	1.000
	Covariances	uea_05	15579.768

a. Dependent Variable: usto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	uea_05
1	1	1.675	1.000	.16	.16
	2	.325	2.269	.84	.84

a. Dependent Variable: usto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_06	473.7344	358.33513	48
ubv_06	1.6692	1.15738	48
uea_06	.2765	.24875	48

Correlations

		usto_06	ubv_06	uea_06
Pearson Correlation	usto_06	1.000	.605	.717
	ubv_06	.605	1.000	.607
	uea_06	.717	.607	1.000
Sig. (1-tailed)	usto_06	.	.000	.000
	ubv_06	.000	.	.000
	uea_06	.000	.000	.
N	usto_06	48	48	48
	ubv_06	48	48	48
	uea_06	48	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	uea_06, ubv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.748[a]	.560	.540	242.96572	.560	28.616	2	45	.000

a. Predictors: (Constant), uea_06, ubv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3378536	2	1689267.879	28.616	.000[a]
	Residual	2656455	45	59032.340		
	Total	6034991	47			

a. Predictors: (Constant), uea_06, ubv_06

b. Dependent Variable: usto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	113.987	62.877		1.813	.077	-12.654	240.628					
	ubv_06	83.559	38.514	.270	2.170	.035	5.988	161.129	.605	.308	.215	.632	1.582
	uea_06	796.769	179.199	.553	4.446	.000	435.843	1157.695	.717	.552	.440	.632	1.582

a. Dependent Variable: usto_06

Coefficient Correlations[a]

Model			uea_06	ubv_06
1	Correlations	uea_06	1.000	-.607
		ubv_06	-.607	1.000
	Covariances	uea_06	32112.405	-4185.972
		ubv_06	-4185.972	1483.298

a. Dependent Variable: usto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	ubv_06	uea_06
1	1	2.611	1.000	.04	.03	.04
	2	.254	3.205	.68	.00	.48
	3	.135	4.401	.28	.97	.48

a. Dependent Variable: usto_06

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_06	473.7344	358.33513	48
ubv_06	1.6692	1.15738	48

Correlations

		usto_06	ubv_06
Pearson Correlation	usto_06	1.000	.605
	ubv_06	.605	1.000
Sig. (1-tailed)	usto_06	.	.000
	ubv_06	.000	.
N	usto_06	48	48
	ubv_06	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	ubv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.605[a]	.366	.353	288.30409	.366	26.606	1	46	.000

a. Predictors: (Constant), ubv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2211506	1	2211505.709	26.606	.000[a]
	Residual	3823485	46	83119.247		
	Total	6034991	47			

a. Predictors: (Constant), ubv_06

b. Dependent Variable: usto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	160.898	73.552		2.188	.034	12.845	308.951					
	ubv_06	187.421	36.335	.605	5.158	.000	114.282	260.559	.605	.605	.605	1.000	1.000

a. Dependent Variable: usto_06

Coefficient Correlations[a]

Model			ubv_06
1	Correlations	ubv_06	1.000
	Covariances	ubv_06	1320.226

a. Dependent Variable: usto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	ubv_06
1	1	1.825	1.000	.09	.09
	2	.175	3.225	.91	.91

a. Dependent Variable: usto_06

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
usto_06	473.7344	358.33513	48
uea_06	.2765	.24875	48

Correlations

		usto_06	uea_06
Pearson Correlation	usto_06	1.000	.717
	uea_06	.717	1.000
Sig. (1-tailed)	usto_06	.	.000
	uea_06	.000	.
N	usto_06	48	48
	uea_06	48	48

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	uea_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: usto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.717[a]	.514	.503	252.56630	.514	48.608	1	46	.000

a. Predictors: (Constant), uea_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3100663	1	3100663.173	48.608	.000[a]
	Residual	2934328	46	63789.736		
	Total	6034991	47			

a. Predictors: (Constant), uea_06

b. Dependent Variable: usto_06

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95% Confidence Interval for B Lower Bound	Upper Bound	Correlations Zero-order	Partial	Part	Collinearity Statistics Tolerance	VIF
1	(Constant)	188.270	54.822		3.434	.001	77.919	298.620					
	uea_06	1032.578	148.105	.717	6.972	.000	734.457	1330.699	.717	.717	.717	1.000	1.000

a. Dependent Variable: usto_06

Coefficient Correlations[a]

Model			uea_06
1	Correlations	uea_06	1.000
	Covariances	uea_06	21935.209

a. Dependent Variable: usto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	uea_06
1	1	1.747	1.000	.13	.13
	2	.253	2.627	.87	.87

a. Dependent Variable: usto_06

NETHERLANDS 2003/2006 COMMON EXPLANATORY POWER

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_03	14.7198	8.72358	50
nbv_03	8.6418	7.94925	50
nea_03	.9196	1.41273	50

Correlations

		nsto_03	nbv_03	nea_03
Pearson Correlation	nsto_03	1.000	.571	.423
	nbv_03	.571	1.000	.357
	nea_03	.423	.357	1.000
Sig. (1-tailed)	nsto_03	.	.000	.001
	nbv_03	.000	.	.005
	nea_03	.001	.005	.
N	nsto_03	50	50	50
	nbv_03	50	50	50
	nea_03	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nea_03, nbv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.617[a]	.381	.355	7.00785	.381	14.465	2	47	.000

a. Predictors: (Constant), nea_03, nbv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1420.768	2	710.384	14.465	.000[a]
	Residual	2308.171	47	49.110		
	Total	3728.938	49			

a. Predictors: (Constant), nea_03, nbv_03

b. Dependent Variable: nsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	8.728	1.499		5.824	.000	5.713	11.743					
	nbv_03	.529	.135	.482	3.921	.000	.257	.800	.571	.496	.450	.873	1.146
	nea_03	1.548	.759	.251	2.040	.047	.022	3.074	.423	.285	.234	.873	1.146

a. Dependent Variable: nsto_03

Coefficient Correlations[a]

Model			nea_03	nbv_03
1	Correlations	nea_03	1.000	-.357
		nbv_03	-.357	1.000
	Covariances	nea_03	.575	-.036
		nbv_03	-.036	.018

a. Dependent Variable: nsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	nbv_03	nea_03
1	1	2.267	1.000	.07	.06	.08
	2	.478	2.179	.22	.06	.88
	3	.255	2.982	.71	.88	.04

a. Dependent Variable: nsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_03	14.7198	8.72358	50
nbv_03	8.6418	7.94925	50

Correlations

		nsto_03	nbv_03
Pearson Correlation	nsto_03	1.000	.571
	nbv_03	.571	1.000
Sig. (1-tailed)	nsto_03	.	.000
	nbv_03	.000	.
N	nsto_03	50	50
	nbv_03	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nbv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.571[a]	.326	.312	7.23506	.326	23.236	1	48	.000

a. Predictors: (Constant), nbv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1216.329	1	1216.329	23.236	.000[a]
	Residual	2512.610	48	52.346		
	Total	3728.938	49			

a. Predictors: (Constant), nbv_03

b. Dependent Variable: nsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	9.303	1.520		6.122	.000	6.248	12.359					
	nbv_03	.627	.130	.571	4.820	.000	.365	.888	.571	.571	.571	1.000	1.000

a. Dependent Variable: nsto_03

Coefficient Correlations[a]

Model			nbv_03
1	Correlations	nbv_03	1.000
	Covariances	nbv_03	.017

a. Dependent Variable: nsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	nbv_03
1	1	1.739	1.000	.13	.13
	2	.261	2.583	.87	.87

a. Dependent Variable: nsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_03	14.7198	8.72358	50
nea_03	.9196	1.41273	50

Correlations

		nsto_03	nea_03
Pearson Correlation	nsto_03	1.000	.423
	nea_03	.423	1.000
Sig. (1-tailed)	nsto_03	.	.001
	nea_03	.001	.
N	nsto_03	50	50
	nea_03	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nea_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_03

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.423[a]	.179	.161	7.98862	.179	10.431	1	48	.002

a. Predictors: (Constant), nea_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	665.674	1	665.674	10.431	.002[a]
	Residual	3063.264	48	63.818		
	Total	3728.938	49			

a. Predictors: (Constant), nea_03

b. Dependent Variable: nsto_03

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	12.321	1.352		9.112	.000	9.602	15.039					
	nea_03	2.609	.808	.423	3.230	.002	.985	4.233	.423	.423	.423	1.000	1.000

a. Dependent Variable: nsto_03

Coefficient Correlations[a]

Model			nea_03
1	Correlations	nea_03	1.000
	Covariances	nea_03	.653

a. Dependent Variable: nsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	nea_03
1	1	1.549	1.000	.23	.23
	2	.451	1.854	.77	.77

a. Dependent Variable: nsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_04	17.9540	9.84679	50
nbv_04	9.0224	8.23854	50
nea_04	.9702	1.13099	50

Correlations

		nsto_04	nbv_04	nea_04
Pearson Correlation	nsto_04	1.000	.644	.835
	nbv_04	.644	1.000	.634
	nea_04	.835	.634	1.000
Sig. (1-tailed)	nsto_04	.	.000	.000
	nbv_04	.000	.	.000
	nea_04	.000	.000	.
N	nsto_04	50	50	50
	nbv_04	50	50	50
	nea_04	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nea_04, nbv_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.848[a]	.719	.707	5.33271	.719	60.033	2	47	.000

a. Predictors: (Constant), nea_04, nbv_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3414.428	2	1707.214	60.033	.000[a]
	Residual	1336.575	47	28.438		
	Total	4751.003	49			

a. Predictors: (Constant), nea_04, nbv_04

b. Dependent Variable: nsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	9.862	1.136		8.680	.000	7.576	12.147					
	nbv_04	.229	.120	.192	1.919	.061	-.011	.470	.644	.270	.148	.598	1.672
	nea_04	6.207	.871	.713	7.126	.000	4.455	7.959	.835	.721	.551	.598	1.672

a. Dependent Variable: nsto_04

Coefficient Correlations[a]

Model			nea_04	nbv_04
1	Correlations	nea_04	1.000	-.634
		nbv_04	-.634	1.000
	Covariances	nea_04	.759	-.066
		nbv_04	-.066	.014

a. Dependent Variable: nsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	nbv_04	nea_04
1	1	2.471	1.000	.06	.04	.05
	2	.353	2.646	.78	.02	.34
	3	.176	3.745	.17	.94	.61

a. Dependent Variable: nsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_04	17.9540	9.84679	50
nbv_04	9.0224	8.23854	50

Correlations

		nsto_04	nbv_04
Pearson Correlation	nsto_04	1.000	.644
	nbv_04	.644	1.000
Sig. (1-tailed)	nsto_04	.	.000
	nbv_04	.000	.
N	nsto_04	50	50
	nbv_04	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nbv_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_04

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.644[a]	.415	.402	7.61144	.415	34.007	1	48	.000

a. Predictors: (Constant), nbv_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1970.168	1	1970.168	34.007	.000[a]
	Residual	2780.835	48	57.934		
	Total	4751.003	49			

a. Predictors: (Constant), nbv_04

b. Dependent Variable: nsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	11.010	1.605		6.859	.000	7.782	14.237					
	nbv_04	.770	.132	.644	5.832	.000	.504	1.035	.644	.644	.644	1.000	1.000

a. Dependent Variable: nsto_04

Coefficient Correlations[a]

Model			nbv_04
1	Correlations	nbv_04	1.000
	Covariances	nbv_04	.017

a. Dependent Variable: nsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	nbv_04
1	1	1.742	1.000	.13	.13
	2	.258	2.598	.87	.87

a. Dependent Variable: nsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_04	17.9540	9.84679	50
nea_04	.9702	1.13099	50

Correlations

		nsto_04	nea_04
Pearson Correlation	nsto_04	1.000	.835
	nea_04	.835	1.000
Sig. (1-tailed)	nsto_04	.	.000
	nea_04	.000	.
N	nsto_04	50	50
	nea_04	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nea_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.835[a]	.697	.690	5.47965	.697	110.226	1	48	.000

a. Predictors: (Constant), nea_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3309.726	1	3309.726	110.226	.000[a]
	Residual	1441.277	48	30.027		
	Total	4751.003	49			

a. Predictors: (Constant), nea_04

b. Dependent Variable: nsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	10.904	1.025		10.634	.000	8.842	12.966					
	nea_04	7.267	.692	.835	10.499	.000	5.875	8.658	.835	.835	.835	1.000	1.000

a. Dependent Variable: nsto_04

Coefficient Correlations[a]

Model			nea_04
1	Correlations	nea_04	1.000
	Covariances	nea_04	.479

a. Dependent Variable: nsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	nea_04
1	1	1.655	1.000	.17	.17
	2	.345	2.190	.83	.83

a. Dependent Variable: nsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_05	24.7642	12.48141	50
nbv_05	9.4500	7.64998	50
nea_05	1.1330	1.41621	50

Correlations

		nsto_05	nbv_05	nea_05
Pearson Correlation	nsto_05	1.000	.638	.672
	nbv_05	.638	1.000	.406
	nea_05	.672	.406	1.000
Sig. (1-tailed)	nsto_05	.	.000	.000
	nbv_05	.000	.	.002
	nea_05	.000	.002	.
N	nsto_05	50	50	50
	nbv_05	50	50	50
	nea_05	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nea_05, nbv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.782[a]	.611	.594	7.94958	.611	36.896	2	47	.000

a. Predictors: (Constant), nea_05, nbv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4663.289	2	2331.644	36.896	.000[a]
	Residual	2970.203	47	63.196		
	Total	7633.492	49			

a. Predictors: (Constant), nea_05, nbv_05

b. Dependent Variable: nsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	13.086	1.836		7.128	.000	9.393	16.778					
	nbv_05	.714	.162	.437	4.394	.000	.387	1.040	.638	.540	.400	.835	1.197
	nea_05	4.355	.877	.494	4.963	.000	2.590	6.120	.672	.586	.452	.835	1.197

a. Dependent Variable: nsto_05

Coefficient Correlations[a]

Model			nea_05	nbv_05
1	Correlations	nea_05	1.000	-.406
		nbv_05	-.406	1.000
	Covariances	nea_05	.770	-.058
		nbv_05	-.058	.026

a. Dependent Variable: nsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	nbv_05	nea_05
1	1	2.400	1.000	.05	.05	.06
	2	.388	2.487	.27	.05	.86
	3	.212	3.363	.68	.90	.07

a. Dependent Variable: nsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_05	24.7642	12.48141	50
nbv_05	9.4500	7.64998	50

Correlations

		nsto_05	nbv_05
Pearson Correlation	nsto_05	1.000	.638
	nbv_05	.638	1.000
Sig. (1-tailed)	nsto_05	.	.000
	nbv_05	.000	.
N	nsto_05	50	50
	nbv_05	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nbv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.638[a]	.407	.395	9.71156	.407	32.937	1	48	.000

a. Predictors: (Constant), nbv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3106.402	1	3106.402	32.937	.000[a]
	Residual	4527.090	48	94.314		
	Total	7633.492	49			

a. Predictors: (Constant), nbv_05

b. Dependent Variable: nsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	14.929	2.196		6.797	.000	10.513	19.344					
	nbv_05	1.041	.181	.638	5.739	.000	.676	1.405	.638	.638	.638	1.000	1.000

a. Dependent Variable: nsto_05

Coefficient Correlations[a]

Model			nbv_05
1	Correlations	nbv_05	1.000
	Covariances	nbv_05	.033

a. Dependent Variable: nsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	nbv_05
1	1	1.780	1.000	.11	.11
	2	.220	2.847	.89	.89

a. Dependent Variable: nsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_05	24.7642	12.48141	50
nea_05	1.1330	1.41621	50

Correlations

		nsto_05	nea_05
Pearson Correlation	nsto_05	1.000	.672
	nea_05	.672	1.000
Sig. (1-tailed)	nsto_05	.	.000
	nea_05	.000	.
N	nsto_05	50	50
	nea_05	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nea_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_05

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.672[a]	.451	.440	9.34365	.451	39.436	1	48	.000

a. Predictors: (Constant), nea_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3442.910	1	3442.910	39.436	.000[a]
	Residual	4190.581	48	87.304		
	Total	7633.492	49			

a. Predictors: (Constant), nea_05

b. Dependent Variable: nsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	18.058	1.699		10.629	.000	14.642	21.474					
	nea_05	5.919	.943	.672	6.280	.000	4.024	7.814	.672	.672	.672	1.000	1.000

a. Dependent Variable: nsto_05

Coefficient Correlations[a]

Model			nea_05
1	Correlations	nea_05	1.000
	Covariances	nea_05	.888

a. Dependent Variable: nsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	nea_05
1	1	1.629	1.000	.19	.19
	2	.371	2.094	.81	.81

a. Dependent Variable: nsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_06	28.3308	15.08275	50
nbv_06	10.4632	7.92054	50
nea_06	1.5630	1.19214	50

Correlations

		nsto_06	nbv_06	nea_06
Pearson Correlation	nsto_06	1.000	.588	.860
	nbv_06	.588	1.000	.535
	nea_06	.860	.535	1.000
Sig. (1-tailed)	nsto_06	.	.000	.000
	nbv_06	.000	.	.000
	nea_06	.000	.000	.
N	nsto_06	50	50	50
	nbv_06	50	50	50
	nea_06	50	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nea_06, nbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.873[a]	.762	.752	7.51152	.762	75.281	2	47	.000

a. Predictors: (Constant), nea_06, nbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8495.102	2	4247.551	75.281	.000[a]
	Residual	2651.877	47	56.423		
	Total	11146.979	49			

a. Predictors: (Constant), nea_06, nbv_06

b. Dependent Variable: nsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	9.654	1.930		5.001	.000	5.770	13.537					
	nbv_06	.342	.160	.179	2.131	.038	.019	.664	.588	.297	.152	.713	1.402
	nea_06	9.662	1.066	.764	9.066	.000	7.518	11.805	.860	.798	.645	.713	1.402

a. Dependent Variable: nsto_06

Coefficient Correlations[a]

Model			nea_06	nbv_06
1	Correlations	nea_06	1.000	-.535
		nbv_06	-.535	1.000
	Covariances	nea_06	1.136	-.091
		nbv_06	-.091	.026

a. Dependent Variable: nsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	nbv_06	nea_06
1	1	2.620	1.000	.04	.03	.03
	2	.212	3.518	.96	.18	.22
	3	.168	3.951	.00	.79	.75

a. Dependent Variable: nsto_06

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_06	28.3308	15.08275	50
nbv_06	10.4632	7.92054	50

Correlations

		nsto_06	nbv_06
Pearson Correlation	nsto_06	1.000	.588
	nbv_06	.588	1.000
Sig. (1-tailed)	nsto_06	.	.000
	nbv_06	.000	.
N	nsto_06	50	50
	nbv_06	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.588[a]	.346	.332	12.32352	.346	25.399	1	48	.000

a. Predictors: (Constant), nbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3857.255	1	3857.255	25.399	.000[a]
	Residual	7289.724	48	151.869		
	Total	11146.979	49			

a. Predictors: (Constant), nbv_06

b. Dependent Variable: nsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	16.610	2.906		5.715	.000	10.767	22.454					
	nbv_06	1.120	.222	.588	5.040	.000	.673	1.567	.588	.588	.588	1.000	1.000

a. Dependent Variable: nsto_06

Coefficient Correlations[a]

Model			nbv_06
1	Correlations	nbv_06	1.000
	Covariances	nbv_06	.049

a. Dependent Variable: nsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	nbv_06
1	1	1.800	1.000	.10	.10
	2	.200	3.002	.90	.90

a. Dependent Variable: nsto_06

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
nsto_06	28.3308	15.08275	50
nea_06	1.5630	1.19214	50

Correlations

		nsto_06	nea_06
Pearson Correlation	nsto_06	1.000	.860
	nea_06	.860	1.000
Sig. (1-tailed)	nsto_06	.	.000
	nea_06	.000	.
N	nsto_06	50	50
	nea_06	50	50

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	nea_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: nsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.860[a]	.739	.734	7.78358	.739	135.992	1	48	.000

a. Predictors: (Constant), nea_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8238.944	1	8238.944	135.992	.000[a]
	Residual	2908.035	48	60.584		
	Total	11146.979	49			

a. Predictors: (Constant), nea_06

b. Dependent Variable: nsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	11.330	1.827		6.202	.000	7.657	15.003					
	nea_06	10.877	.933	.860	11.662	.000	9.002	12.752	.860	.860	.860	1.000	1.000

a. Dependent Variable: nsto_06

Coefficient Correlations[a]

Model			nea_06
1	Correlations	nea_06	1.000
	Covariances	nea_06	.870

a. Dependent Variable: nsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions nea_06
1	1	1.798	1.000	.10	.10
	2	.202	2.984	.90	.90

a. Dependent Variable: nsto_06

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Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_03	23.8265	24.90055	46
gbv_03	12.4987	11.40887	46
gea_03	1.2893	1.71542	46

Correlations

		gsto_03	gbv_03	gea_03
Pearson Correlation	gsto_03	1.000	.843	.857
	gbv_03	.843	1.000	.792
	gea_03	.857	.792	1.000
Sig. (1-tailed)	gsto_03	.	.000	.000
	gbv_03	.000	.	.000
	gea_03	.000	.000	.
N	gsto_03	46	46	46
	gbv_03	46	46	46
	gea_03	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gea_03, gbv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.898[a]	.807	.798	11.20086	.807	89.698	2	43	.000

a. Predictors: (Constant), gea_03, gbv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22506.938	2	11253.469	89.698	.000[a]
	Residual	5394.751	43	125.459		
	Total	27901.689	45			

a. Predictors: (Constant), gea_03, gbv_03

b. Dependent Variable: gsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.304	2.485		.927	.359	-2.707	7.316					
	gbv_03	.961	.240	.440	4.007	.000	.477	1.444	.843	.521	.269	.373	2.684
	gea_03	7.379	1.595	.508	4.627	.000	4.163	10.594	.857	.577	.310	.373	2.684

a. Dependent Variable: gsto_03

Coefficient Correlations[a]

Model			gea_03	gbv_03
1	Correlations	gea_03	1.000	-.792
		gbv_03	-.792	1.000
	Covariances	gea_03	2.543	-.303
		gbv_03	-.303	.057

a. Dependent Variable: gsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	gbv_03	gea_03
1	1	2.485	1.000	.05	.03	.03
	2	.412	2.457	.70	.01	.18
	3	.104	4.895	.25	.96	.78

a. Dependent Variable: gsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_03	23.8265	24.90055	46
gbv_03	12.4987	11.40887	46

Correlations

		gsto_03	gbv_03
Pearson Correlation	gsto_03	1.000	.843
	gbv_03	.843	1.000
Sig. (1-tailed)	gsto_03	.	.000
	gbv_03	.000	.
N	gsto_03	46	46
	gbv_03	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gbv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.843[a]	.710	.704	13.55212	.710	107.920	1	44	.000

a. Predictors: (Constant), gbv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19820.650	1	19820.650	107.920	.000[a]
	Residual	8081.039	44	183.660		
	Total	27901.689	45			

a. Predictors: (Constant), gbv_03

b. Dependent Variable: gsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.835	2.982		.280	.781	-5.175	6.844					
	gbv_03	1.840	.177	.843	10.388	.000	1.483	2.196	.843	.843	.843	1.000	1.000

a. Dependent Variable: gsto_03

Coefficient Correlations[a]

Model			gbv_03
1	Correlations	gbv_03	1.000
	Covariances	gbv_03	.031

a. Dependent Variable: gsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	gbv_03
1	1	1.742	1.000	.13	.13
	2	.258	2.600	.87	.87

a. Dependent Variable: gsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_03	23.8265	24.90055	46
gea_03	1.2893	1.71542	46

Correlations

		gsto_03	gea_03
Pearson Correlation	gsto_03	1.000	.857
	gea_03	.857	1.000
Sig. (1-tailed)	gsto_03	.	.000
	gea_03	.000	.
N	gsto_03	46	46
	gea_03	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gea_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.857[a]	.734	.728	12.97672	.734	121.692	1	44	.000

a. Predictors: (Constant), gea_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20492.302	1	20492.302	121.692	.000[a]
	Residual	7409.387	44	168.395		
	Total	27901.689	45			

a. Predictors: (Constant), gea_03

b. Dependent Variable: gsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	7.787	2.403		3.240	.002	2.944	12.630					
	gea_03	12.440	1.128	.857	11.031	.000	10.167	14.713	.857	.857	.857	1.000	1.000

a. Dependent Variable: gsto_03

Coefficient Correlations[a]

Model			gea_03
1	Correlations	gea_03	1.000
	Covariances	gea_03	1.272

a. Dependent Variable: gsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	gea_03
1	1	1.605	1.000	.20	.20
	2	.395	2.016	.80	.80

a. Dependent Variable: gsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_04	27.4789	27.05094	46
gbv_04	13.7054	12.63793	46
gea_04	1.4700	2.00351	46

Correlations

		gsto_04	gbv_04	gea_04
Pearson Correlation	gsto_04	1.000	.889	.834
	gbv_04	.889	1.000	.794
	gea_04	.834	.794	1.000
Sig. (1-tailed)	gsto_04	.	.000	.000
	gbv_04	.000	.	.000
	gea_04	.000	.000	.
N	gsto_04	46	46	46
	gbv_04	46	46	46
	gea_04	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gea_04, gbv_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.913[a]	.834	.826	11.26802	.834	108.174	2	43	.000

a. Predictors: (Constant), gea_04, gbv_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27469.260	2	13734.630	108.174	.000[a]
	Residual	5459.637	43	126.968		
	Total	32928.897	45			

a. Predictors: (Constant), gea_04, gbv_04

b. Dependent Variable: gsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.606	2.490		1.047	.301	-2.416	7.629					
	gbv_04	1.312	.219	.613	6.002	.000	.871	1.753	.889	.675	.373	.370	2.704
	gea_04	4.690	1.379	.347	3.402	.001	1.909	7.470	.834	.460	.211	.370	2.704

a. Dependent Variable: gsto_04

Coefficient Correlations[a]

Model			gea_04	gbv_04
1	Correlations	gea_04	1.000	-.794
		gbv_04	-.794	1.000
	Covariances	gea_04	1.901	-.239
		gbv_04	-.239	.048

a. Dependent Variable: gsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	gbv_04	gea_04
1	1	2.475	1.000	.05	.03	.03
	2	.421	2.426	.68	.01	.18
	3	.104	4.878	.26	.96	.78

a. Dependent Variable: gsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_04	27.4789	27.05094	46
gbv_04	13.7054	12.63793	46

Correlations

		gsto_04	gbv_04
Pearson Correlation	gsto_04	1.000	.889
	gbv_04	.889	1.000
Sig. (1-tailed)	gsto_04	.	.000
	gbv_04	.000	.
N	gsto_04	46	46
	gbv_04	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gbv_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_04

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.889[a]	.790	.785	12.54876	.790	165.110	1	44	.000

a. Predictors: (Constant), gbv_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26000.153	1	26000.153	165.110	.000[a]
	Residual	6928.745	44	157.471		
	Total	32928.897	45			

a. Predictors: (Constant), gbv_04

b. Dependent Variable: gsto_04

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.411	2.746		.514	.610	-4.122	6.945					
	gbv_04	1.902	.148	.889	12.850	.000	1.604	2.200	.889	.889	.889	1.000	1.000

a. Dependent Variable: gsto_04

Coefficient Correlations[a]

Model			gbv_04
1	Correlations	gbv_04	1.000
	Covariances	gbv_04	.022

a. Dependent Variable: gsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	gbv_04
1	1	1.739	1.000	.13	.13
	2	.261	2.580	.87	.87

a. Dependent Variable: gsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_04	27.4789	27.05094	46
gea_04	1.4700	2.00351	46

Correlations

		gsto_04	gea_04
Pearson Correlation	gsto_04	1.000	.834
	gea_04	.834	1.000
Sig. (1-tailed)	gsto_04	.	.000
	gea_04	.000	.
N	gsto_04	46	46
	gea_04	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gea_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.834[a]	.695	.688	15.10086	.695	100.402	1	44	.000

a. Predictors: (Constant), gea_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22895.313	1	22895.313	100.402	.000[a]
	Residual	10033.585	44	228.036		
	Total	32928.897	45			

a. Predictors: (Constant), gea_04

b. Dependent Variable: gsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	10.929	2.772		3.942	.000	5.342	16.516					
	gea_04	11.258	1.124	.834	10.020	.000	8.994	13.523	.834	.834	.834	1.000	1.000

a. Dependent Variable: gsto_04

Coefficient Correlations[a]

Model			gea_04
1	Correlations	gea_04	1.000
	Covariances	gea_04	1.262

a. Dependent Variable: gsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	gea_04
1	1	1.596	1.000	.20	.20
	2	.404	1.987	.80	.80

a. Dependent Variable: gsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_05	33.0254	32.04593	46
gbv_05	15.2335	14.25430	46
gea_05	1.7187	2.24925	46

Correlations

		gsto_05	gbv_05	gea_05
Pearson Correlation	gsto_05	1.000	.906	.915
	gbv_05	.906	1.000	.846
	gea_05	.915	.846	1.000
Sig. (1-tailed)	gsto_05	.	.000	.000
	gbv_05	.000	.	.000
	gea_05	.000	.000	.
N	gsto_05	46	46	46
	gbv_05	46	46	46
	gea_05	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gea_05, gbv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.948[a]	.899	.894	10.43762	.899	190.592	2	43	.000

a. Predictors: (Constant), gea_05, gbv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41527.784	2	20763.892	190.592	.000[a]
	Residual	4684.590	43	108.944		
	Total	46212.374	45			

a. Predictors: (Constant), gea_05, gbv_05

b. Dependent Variable: gsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4.319	2.302		1.876	.067	-.324	8.962					
	gbv_05	1.048	.205	.466	5.117	.000	.635	1.461	.906	.615	.248	.284	3.518
	gea_05	7.417	1.297	.521	5.716	.000	4.800	10.034	.915	.657	.278	.284	3.518

a. Dependent Variable: gsto_05

Coefficient Correlations[a]

Model			gea_05	gbv_05
1	Correlations	gea_05	1.000	-.846
		gbv_05	-.846	1.000
	Covariances	gea_05	1.683	-.225
		gbv_05	-.225	.042

a. Dependent Variable: gsto_05

Collinearity Diagnostics[a]

				Variance Proportions		
Model	Dimension	Eigenvalue	Condition Index	(Constant)	gbv_05	gea_05
1	1	2.506	1.000	.05	.02	.02
	2	.415	2.456	.73	.01	.12
	3	.079	5.635	.22	.97	.86

a. Dependent Variable: gsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_05	33.0254	32.04593	46
gbv_05	15.2335	14.25430	46

Correlations

		gsto_05	gbv_05
Pearson Correlation	gsto_05	1.000	.906
	gbv_05	.906	1.000
Sig. (1-tailed)	gsto_05	.	.000
	gbv_05	.000	.
N	gsto_05	46	46
	gbv_05	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gbv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.906[a]	.822	.818	13.68854	.822	202.629	1	44	.000

a. Predictors: (Constant), gbv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37967.822	1	37967.822	202.629	.000[a]
	Residual	8244.552	44	187.376		
	Total	46212.374	45			

a. Predictors: (Constant), gbv_05

b. Dependent Variable: gsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.983	2.971		.667	.508	-4.005	7.971					
	gbv_05	2.038	.143	.906	14.235	.000	1.749	2.326	.906	.906	.906	1.000	1.000

a. Dependent Variable: gsto_05

Coefficient Correlations[a]

Model			gbv_05
1	Correlations	gbv_05	1.000
	Covariances	gbv_05	.020

a. Dependent Variable: gsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	gbv_05
1	1	1.734	1.000	.13	.13
	2	.266	2.553	.87	.87

a. Dependent Variable: gsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_05	33.0254	32.04593	46
gea_05	1.7187	2.24925	46

Correlations

		gsto_05	gea_05
Pearson Correlation	gsto_05	1.000	.915
	gea_05	.915	1.000
Sig. (1-tailed)	gsto_05	.	.000
	gea_05	.000	.
N	gsto_05	46	46
	gea_05	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gea_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.915[a]	.837	.833	13.08815	.837	225.775	1	44	.000

a. Predictors: (Constant), gea_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38675.183	1	38675.183	225.775	.000[a]
	Residual	7537.190	44	171.300		
	Total	46212.374	45			

a. Predictors: (Constant), gea_05

b. Dependent Variable: gsto_05

Coefficients[a]

Model		Unstandardized Coefficients: B	Std. Error	Standardized Coefficients: Beta	t	Sig.	95% Confidence Interval for B: Lower Bound	Upper Bound	Correlations: Zero-order	Partial	Part	Collinearity Statistics: Tolerance	VIF
1	(Constant)	10.624	2.439		4.357	.000	5.710	15.539					
	gea_05	13.034	.867	.915	15.026	.000	11.286	14.782	.915	.915	.915	1.000	1.000

a. Dependent Variable: gsto_05

Coefficient Correlations[a]

Model			gea_05
1	Correlations	gea_05	1.000
	Covariances	gea_05	.752

a. Dependent Variable: gsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	gea_05
1	1	1.611	1.000	.19	.19
	2	.389	2.036	.81	.81

a. Dependent Variable: gsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_06	36.5013	35.56258	46
gbv_06	17.7885	15.88167	46
gea_06	2.4500	2.56398	46

Correlations

		gsto_06	gbv_06	gea_06
Pearson Correlation	gsto_06	1.000	.896	.765
	gbv_06	.896	1.000	.786
	gea_06	.765	.786	1.000
Sig. (1-tailed)	gsto_06	.	.000	.000
	gbv_06	.000	.	.000
	gea_06	.000	.000	.
N	gsto_06	46	46	46
	gbv_06	46	46	46
	gea_06	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gea_06, gbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.902[a]	.813	.804	15.74031	.813	93.353	2	43	.000

a. Predictors: (Constant), gea_06, gbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46257.792	2	23128.896	93.353	.000[a]
	Residual	10653.572	43	247.757		
	Total	56911.363	45			

a. Predictors: (Constant), gea_06, gbv_06

b. Dependent Variable: gsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.381	3.518		.108	.914	-6.713	7.475					
	gbv_06	1.730	.239	.773	7.236	.000	1.248	2.213	.896	.741	.477	.382	2.620
	gea_06	2.180	1.481	.157	1.472	.148	-.807	5.167	.765	.219	.097	.382	2.620

a. Dependent Variable: gsto_06

Coefficient Correlations[a]

Model			gea_06	gbv_06
1	Correlations	gea_06	1.000	-.786
		gbv_06	-.786	1.000
	Covariances	gea_06	2.194	-.278
		gbv_06	-.278	.057

a. Dependent Variable: gsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	gbv_06	gea_06
1	1	2.563	1.000	.05	.02	.03
	2	.337	2.758	.89	.04	.14
	3	.100	5.058	.06	.94	.84

a. Dependent Variable: gsto_06

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_06	36.5013	35.56258	46
gbv_06	17.7885	15.88167	46

Correlations

		gsto_06	gbv_06
Pearson Correlation	gsto_06	1.000	.896
	gbv_06	.896	1.000
Sig. (1-tailed)	gsto_06	.	.000
	gbv_06	.000	.
N	gsto_06	46	46
	gbv_06	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.896[a]	.803	.799	15.94748	.803	179.777	1	44	.000

a. Predictors: (Constant), gbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45721.193	1	45721.193	179.777	.000[a]
	Residual	11190.171	44	254.322		
	Total	56911.363	45			

a. Predictors: (Constant), gbv_06

b. Dependent Variable: gsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.799	3.552		.225	.823	-6.360	7.958					
	gbv_06	2.007	.150	.896	13.408	.000	1.705	2.309	.896	.896	.896	1.000	1.000

a. Dependent Variable: gsto_06

Coefficient Correlations[a]

Model			gbv_06
1	Correlations	gbv_06	1.000
	Covariances	gbv_06	.022

a. Dependent Variable: gsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	gbv_06
1	1	1.750	1.000	.13	.13
	2	.250	2.643	.87	.87

a. Dependent Variable: gsto_06

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
gsto_06	36.5013	35.56258	46
gea_06	2.4500	2.56398	46

Correlations

		gsto_06	gea_06
Pearson Correlation	gsto_06	1.000	.765
	gea_06	.765	1.000
Sig. (1-tailed)	gsto_06	.	.000
	gea_06	.000	.
N	gsto_06	46	46
	gea_06	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	gea_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: gsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.765[a]	.585	.575	23.17263	.585	61.986	1	44	.000

a. Predictors: (Constant), gea_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33284.644	1	33284.644	61.986	.000[a]
	Residual	23626.719	44	536.971		
	Total	56911.363	45			

a. Predictors: (Constant), gea_06

b. Dependent Variable: gsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	10.514	4.751		2.213	.032	.939	20.088					
	gea_06	10.607	1.347	.765	7.873	.000	7.892	13.322	.765	.765	.765	1.000	1.000

a. Dependent Variable: gsto_06

Coefficient Correlations[a]

Model			gea_06
1	Correlations	gea_06	1.000
	Covariances	gea_06	1.815

a. Dependent Variable: gsto_06

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Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_03	30.8457	23.58114	46
fbv_03	18.4702	17.77167	46
fea_03	2.2576	2.12467	46

Correlations

		fsto_03	fbv_03	fea_03
Pearson Correlation	fsto_03	1.000	.698	.827
	fbv_03	.698	1.000	.893
	fea_03	.827	.893	1.000
Sig. (1-tailed)	fsto_03	.	.000	.000
	fbv_03	.000	.	.000
	fea_03	.000	.000	.
N	fsto_03	46	46	46
	fbv_03	46	46	46
	fea_03	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fea_03, fbv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.832[a]	.693	.678	13.37270	.693	48.464	2	43	.000

a. Predictors: (Constant), fea_03, fbv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17333.500	2	8666.750	48.464	.000[a]
	Residual	7689.650	43	178.829		
	Total	25023.150	45			

a. Predictors: (Constant), fea_03, fbv_03

b. Dependent Variable: fsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	10.545	2.922		3.609	.001	4.653	16.437					
	fbv_03	-.266	.249	-.201	-1.071	.290	-.768	.235	.698	-.161	-.091	.203	4.921
	fea_03	11.172	2.081	1.007	5.368	.000	6.974	15.369	.827	.633	.454	.203	4.921

a. Dependent Variable: fsto_03

Coefficient Correlations[a]

Model			fea_03	fbv_03
1	Correlations	fea_03	1.000	-.893
		fbv_03	-.893	1.000
	Covariances	fea_03	4.332	-.462
		fbv_03	-.462	.062

a. Dependent Variable: fsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	fbv_03	fea_03
1	1	2.609	1.000	.05	.01	.01
	2	.341	2.767	.95	.04	.04
	3	.050	7.193	.00	.94	.95

a. Dependent Variable: fsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_03	30.8457	23.58114	46
fbv_03	18.4702	17.77167	46

Correlations

		fsto_03	fbv_03
Pearson Correlation	fsto_03	1.000	.698
	fbv_03	.698	1.000
Sig. (1-tailed)	fsto_03	.	.000
	fbv_03	.000	.
N	fsto_03	46	46
	fbv_03	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fbv_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.698[a]	.487	.475	17.08400	.487	41.736	1	44	.000

a. Predictors: (Constant), fbv_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12181.175	1	12181.175	41.736	.000[a]
	Residual	12841.975	44	291.863		
	Total	25023.150	45			

a. Predictors: (Constant), fbv_03

b. Dependent Variable: fsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	13.746	3.654		3.762	.000	6.382	21.110					
	fbv_03	.926	.143	.698	6.460	.000	.637	1.215	.698	.698	.698	1.000	1.000

a. Dependent Variable: fsto_03

Coefficient Correlations[a]

Model			fbv_03
1	Correlations	fbv_03	1.000
	Covariances	fbv_03	.021

a. Dependent Variable: fsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	fbv_03
1	1	1.724	1.000	.14	.14
	2	.276	2.501	.86	.86

a. Dependent Variable: fsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_03	30.8457	23.58114	46
fea_03	2.2576	2.12467	46

Correlations

		fsto_03	fea_03
Pearson Correlation	fsto_03	1.000	.827
	fea_03	.827	1.000
Sig. (1-tailed)	fsto_03	.	.000
	fea_03	.000	.
N	fsto_03	46	46
	fea_03	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fea_03[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_03

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.827[a]	.685	.677	13.39494	.685	95.463	1	44	.000

a. Predictors: (Constant), fea_03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17128.474	1	17128.474	95.463	.000[a]
	Residual	7894.676	44	179.424		
	Total	25023.150	45			

a. Predictors: (Constant), fea_03

b. Dependent Variable: fsto_03

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	10.115	2.899		3.490	.001	4.273	15.957					
	fea_03	9.183	.940	.827	9.771	.000	7.288	11.077	.827	.827	.827	1.000	1.000

a. Dependent Variable: fsto_03

Coefficient Correlations[a]

Model			fea_03
1	Correlations	fea_03	1.000
	Covariances	fea_03	.883

a. Dependent Variable: fsto_03

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	fea_03
1	1	1.732	1.000	.13	.13
	2	.268	2.542	.87	.87

a. Dependent Variable: fsto_03

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_04	37.2522	25.50839	46
fbv_04	19.5841	18.97240	46
fea_04	2.1528	2.33498	46

Correlations

		fsto_04	fbv_04	fea_04
Pearson Correlation	fsto_04	1.000	.794	.762
	fbv_04	.794	1.000	.794
	fea_04	.762	.794	1.000
Sig. (1-tailed)	fsto_04	.	.000	.000
	fbv_04	.000	.	.000
	fea_04	.000	.000	.
N	fsto_04	46	46	46
	fbv_04	46	46	46
	fea_04	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fea_04, fbv_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.823[a]	.678	.663	14.80715	.678	45.274	2	43	.000

a. Predictors: (Constant), fea_04, fbv_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19852.680	2	9926.340	45.274	.000[a]
	Residual	9427.824	43	219.252		
	Total	29280.503	45			

a. Predictors: (Constant), fea_04, fbv_04

b. Dependent Variable: fsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	15.400	3.178		4.847	.000	8.992	21.809					
	fbv_04	.689	.191	.512	3.601	.001	.303	1.074	.794	.481	.312	.370	2.701
	fea_04	3.886	1.554	.356	2.501	.016	.753	7.019	.762	.356	.216	.370	2.701

a. Dependent Variable: fsto_04

Coefficient Correlations[a]

Model			fea_04	fbv_04
1	Correlations	fea_04	1.000	-.794
		fbv_04	-.794	1.000
	Covariances	fea_04	2.414	-.236
		fbv_04	-.236	.037

a. Dependent Variable: fsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	fbv_04	fea_04
1	1	2.536	1.000	.05	.03	.03
	2	.361	2.652	.91	.05	.11
	3	.104	4.944	.03	.93	.86

a. Dependent Variable: fsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_04	37.2522	25.50839	46
fbv_04	19.5841	18.97240	46

Correlations

		fsto_04	fbv_04
Pearson Correlation	fsto_04	1.000	.794
	fbv_04	.794	1.000
Sig. (1-tailed)	fsto_04	.	.000
	fbv_04	.000	.
N	fsto_04	46	46
	fbv_04	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fbv_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_04

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.794[a]	.631	.623	15.66672	.631	75.295	1	44	.000

a. Predictors: (Constant), fbv_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18480.876	1	18480.876	75.295	.000[a]
	Residual	10799.627	44	245.446		
	Total	29280.503	45			

a. Predictors: (Constant), fbv_04

b. Dependent Variable: fsto_04

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B		Correlations			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	16.333	3.339		4.892	.000	9.604	23.062					
	fbv_04	1.068	.123	.794	8.677	.000	.820	1.316	.794	.794	.794	1.000	1.000

a. Dependent Variable: fsto_04

Coefficient Correlations[a]

Model			fbv_04
1	Correlations	fbv_04	1.000
	Covariances	fbv_04	.015

a. Dependent Variable: fsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions fbv_04
1	1	1.722	1.000	.14	.14
	2	.278	2.489	.86	.86

a. Dependent Variable: fsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_04	37.2522	25.50839	46
fea_04	2.1528	2.33498	46

Correlations

		fsto_04	fea_04
Pearson Correlation	fsto_04	1.000	.762
	fea_04	.762	1.000
Sig. (1-tailed)	fsto_04	.	.000
	fea_04	.000	.
N	fsto_04	46	46
	fea_04	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fea_04[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_04

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.762[a]	.581	.571	16.70020	.581	60.987	1	44	.000

a. Predictors: (Constant), fea_04

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17009.048	1	17009.048	60.987	.000[a]
	Residual	12271.456	44	278.897		
	Total	29280.503	45			

a. Predictors: (Constant), fea_04

b. Dependent Variable: fsto_04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	19.327	3.366		5.742	.000	12.543	26.111					
	fea_04	8.326	1.066	.762	7.809	.000	6.178	10.475	.762	.762	.762	1.000	1.000

a. Dependent Variable: fsto_04

Coefficient Correlations[a]

Model			fea_04
1	Correlations	fea_04	1.000
	Covariances	fea_04	1.137

a. Dependent Variable: fsto_04

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	fea_04
1	1	1.682	1.000	.16	.16
	2	.318	2.299	.84	.84

a. Dependent Variable: fsto_04

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_05	49.4337	36.89064	46
fbv_05	27.8148	46.28572	46
fea_05	2.5374	2.50056	46

Correlations

		fsto_05	fbv_05	fea_05
Pearson Correlation	fsto_05	1.000	.650	.710
	fbv_05	.650	1.000	.278
	fea_05	.710	.278	1.000
Sig. (1-tailed)	fsto_05	.	.000	.000
	fbv_05	.000	.	.031
	fea_05	.000	.031	.
N	fsto_05	46	46	46
	fbv_05	46	46	46
	fea_05	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fea_05, fbv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.852[a]	.726	.713	19.75898	.726	56.931	2	43	.000

a. Predictors: (Constant), fea_05, fbv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44453.418	2	22226.709	56.931	.000[a]
	Residual	16787.939	43	390.417		
	Total	61241.356	45			

a. Predictors: (Constant), fea_05, fbv_05

b. Dependent Variable: fsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	17.093	4.287		3.987	.000	8.448	25.738					
	fbv_05	.391	.066	.491	5.905	.000	.258	.525	.650	.669	.472	.923	1.084
	fea_05	8.457	1.226	.573	6.897	.000	5.985	10.930	.710	.725	.551	.923	1.084

a. Dependent Variable: fsto_05

Coefficient Correlations[a]

Model			fea_05	fbv_05
1	Correlations	fea_05	1.000	-.278
		fbv_05	-.278	1.000
	Covariances	fea_05	1.504	-.023
		fbv_05	-.023	.004

a. Dependent Variable: fsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	fbv_05	fea_05
1	1	2.187	1.000	.07	.09	.07
	2	.530	2.031	.15	.91	.10
	3	.283	2.778	.78	.00	.82

a. Dependent Variable: fsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_05	49.4337	36.89064	46
fbv_05	27.8148	46.28572	46

Correlations

		fsto_05	fbv_05
Pearson Correlation	fsto_05	1.000	.650
	fbv_05	.650	1.000
Sig. (1-tailed)	fsto_05	.	.000
	fbv_05	.000	.
N	fsto_05	46	46
	fbv_05	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fbv_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.650[a]	.423	.409	28.34885	.423	32.203	1	44	.000

a. Predictors: (Constant), fbv_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25880.431	1	25880.431	32.203	.000[a]
	Residual	35360.925	44	803.657		
	Total	61241.356	45			

a. Predictors: (Constant), fbv_05

b. Dependent Variable: fsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	35.022	4.891		7.161	.000	25.165	44.879					
	fbv_05	.518	.091	.650	5.675	.000	.334	.702	.650	.650	.650	1.000	1.000

a. Dependent Variable: fsto_05

Coefficient Correlations[a]

Model			fbv_05
1	Correlations	fbv_05	1.000
	Covariances	fbv_05	.008

a. Dependent Variable: fsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	fbv_05
1	1	1.519	1.000	.24	.24
	2	.481	1.778	.76	.76

a. Dependent Variable: fsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_05	49.4337	36.89064	46
fea_05	2.5374	2.50056	46

Correlations

		fsto_05	fea_05
Pearson Correlation	fsto_05	1.000	.710
	fea_05	.710	1.000
Sig. (1-tailed)	fsto_05	.	.000
	fea_05	.000	.
N	fsto_05	46	46
	fea_05	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fea_05[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_05

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.710[a]	.504	.492	26.28636	.504	44.631	1	44	.000

a. Predictors: (Constant), fea_05

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30838.551	1	30838.551	44.631	.000[a]
	Residual	30402.805	44	690.973		
	Total	61241.356	45			

a. Predictors: (Constant), fea_05

b. Dependent Variable: fsto_05

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	22.870	5.553		4.119	.000	11.679	34.060					
	fea_05	10.469	1.567	.710	6.681	.000	7.311	13.627	.710	.710	.710	1.000	1.000

a. Dependent Variable: fsto_05

Coefficient Correlations[a]

Model			fea_05
1	Correlations	fea_05	1.000
	Covariances	fea_05	2.456

a. Dependent Variable: fsto_05

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	fea_05
1	1	1.716	1.000	.14	.14
	2	.284	2.459	.86	.86

a. Dependent Variable: fsto_05

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_06	53.8572	40.53953	46
fbv_06	30.9987	49.56186	46
fea_06	2.1483	5.94616	46

Correlations

		fsto_06	fbv_06	fea_06
Pearson Correlation	fsto_06	1.000	.671	.484
	fbv_06	.671	1.000	.258
	fea_06	.484	.258	1.000
Sig. (1-tailed)	fsto_06	.	.000	.000
	fbv_06	.000	.	.042
	fea_06	.000	.042	.
N	fsto_06	46	46	46
	fbv_06	46	46	46
	fea_06	46	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fea_06, fbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.744[a]	.553	.533	27.71314	.553	26.647	2	43	.000

a. Predictors: (Constant), fea_06, fbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40930.620	2	20465.310	26.647	.000[a]
	Residual	33024.788	43	768.018		
	Total	73955.408	45			

a. Predictors: (Constant), fea_06, fbv_06

b. Dependent Variable: fsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	34.151	4.909		6.956	.000	24.250	44.051					
	fbv_06	.479	.086	.585	5.547	.000	.305	.653	.671	.646	.565	.933	1.071
	fea_06	2.267	.719	.332	3.152	.003	.816	3.717	.484	.433	.321	.933	1.071

a. Dependent Variable: fsto_06

Coefficient Correlations[a]

Model			fea_06	fbv_06
1	Correlations	fea_06	1.000	-.258
		fbv_06	-.258	1.000
	Covariances	fea_06	.517	-.016
		fbv_06	-.016	.007

a. Dependent Variable: fsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	fbv_06	fea_06
1	1	1.850	1.000	.13	.14	.12
	2	.688	1.639	.21	.08	.86
	3	.462	2.001	.66	.79	.02

a. Dependent Variable: fsto_06

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_06	53.8572	40.53953	46
fbv_06	30.9987	49.56186	46

Correlations

		fsto_06	fbv_06
Pearson Correlation	fsto_06	1.000	.671
	fbv_06	.671	1.000
Sig. (1-tailed)	fsto_06	.	.000
	fbv_06	.000	.
N	fsto_06	46	46
	fbv_06	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fbv_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.671[a]	.450	.438	30.39670	.450	36.042	1	44	.000

a. Predictors: (Constant), fbv_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33301.207	1	33301.207	36.042	.000[a]
	Residual	40654.201	44	923.959		
	Total	73955.408	45			

a. Predictors: (Constant), fbv_06

b. Dependent Variable: fsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	36.843	5.303		6.948	.000	26.156	47.529					
	fbv_06	.549	.091	.671	6.003	.000	.365	.733	.671	.671	.671	1.000	1.000

a. Dependent Variable: fsto_06

Coefficient Correlations[a]

Model			fbv_06
1	Correlations	fbv_06	1.000
	Covariances	fbv_06	.008

a. Dependent Variable: fsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	fbv_06
1	1	1.534	1.000	.23	.23
	2	.466	1.816	.77	.77

a. Dependent Variable: fsto_06

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
fsto_06	53.8572	40.53953	46
fea_06	2.1483	5.94616	46

Correlations

		fsto_06	fea_06
Pearson Correlation	fsto_06	1.000	.484
	fea_06	.484	1.000
Sig. (1-tailed)	fsto_06	.	.000
	fea_06	.000	.
N	fsto_06	46	46
	fea_06	46	46

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	fea_06[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: fsto_06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.484[a]	.234	.216	35.88419	.234	13.433	1	44	.001

a. Predictors: (Constant), fea_06

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17297.694	1	17297.694	13.433	.001[a]
	Residual	56657.714	44	1287.675		
	Total	73955.408	45			

a. Predictors: (Constant), fea_06

b. Dependent Variable: fsto_06

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	46.774	5.633		8.304	.000	35.422	58.126					
	fea_06	3.297	.900	.484	3.665	.001	1.484	5.110	.484	.484	.484	1.000	1.000

a. Dependent Variable: fsto_06

Coefficient Correlations[a]

Model			fea_06
1	Correlations	fea_06	1.000
	Covariances	fea_06	.809

a. Dependent Variable: fsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	fea_06
1	1	1.343	1.000	.33	.33
	2	.657	1.430	.67	.67

a. Dependent Variable: fsto_06

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	gea_06
1	1	1.695	1.000	.15	.15
	2	.305	2.357	.85	.85

a. Dependent Variable: gsto_06