

NON-OIL EXPORTS, FINANCE AND ECONOMIC DEVELOPMENT IN SAUDI ARABIA

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Abstract

Oil is an important part of the Saudi economy. With the volatility of oil prices and the pressing needs of economic growth and development, the Saudi Arabian government has planned to diversify its sources of income. To this end, the majority of effort has focused on developing the non-oil export sectors, particularly in manufacturing. Despite government efforts to enhance the ratio of non-oil export to total exports, it remains weak, amounting to 15 per cent of total exports in 2010 (which compares unfavourably with the average for other Middle East and North Africa countries (MENA) which stood between 30-46 per cent in 2010). This research aims to provide a comprehensive assessment of non-oil exports and their financing in Saudi Arabia. This study uses unique, primary data, collected through a custom designed questionnaire and a unique sample of Saudi exports. There is currently no comparable database for Saudi firms, or for other MENA countries trying to engage in export diversification strategies.

This dissertation comprises three main empirical parts which are; ownership structure and operations, finance, and business climate, respectively (chapters 3, 4 and 5). In the first, the econometric analysis shows multiple factors have a significant positive impact on export intensity, including: whether the firm is shareholding, the age of the firm, internationally and locally recognised quality certificate, length of export experience, supplies of domestic origin, independent retail stores, TV or radio advertising, a foreign language website and finally an export marketing plan. Regarding the impact of financial factors on exports at firm level, the econometric analysis showed that younger firms are more likely to be credit-constrained than older firms. Finally, this dissertation provides evidence of the relationship between the business environment, competition and firm's exports. The main findings show that firm performance, measured as intensity of exports, is boosted by an increase in experience of export and hindered by a high level of labour, competition, custom and trade regulation, and the informal sector.

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Chapter 1: Introduction

1.1 Motivations

The Saudi economy is predominantly oil-based and as such faced with the continuous volatility of oil prices, along with a pressing need for economic growth and development. The risk of dependence on this one source is acute when income is dependent on natural resources. The risk is particularly high when natural resources are depleting and, simultaneously, prices in the world market are based on political and economic variables beyond the control of the producing countries. This is why the Saudi government intends to diversify its sources of income. To that end, extensive effort has focused on the development of the non-oil export sector, especially those supporting the industrial sector.

A vast literature in recent decades illustrates the role of export expansion on the economy. Studies such as those by Cavusgil and Nevin (1981), Todaro (1986), Barker and Kaynak (1992), Gumede (2000), Aynul and Hirohito (2004) and Fatih (2009), among many others, find a positive causal link between the expansion of exports and economic growth. This positive link has encouraged many countries start and export performance programmes. There has been limited discussion in relation to Saudi exports, by Al-Aali (1997) and Al-Qahtany (2001). They have however used limited questions that do not cover many of the key affect exporting behaviour. Other studies such as Al-Twuijri (2001) and Al-Jarrah (2008) use macro data that support the positive link between exports diversification and economic growth.

Saudi Arabia has taken steps designed to support and encourage industry. The state's role can be divided into three areas. The first is to provide support. For example, the Ministry of Commerce and Industry allocated industrial cities to the various regions of the country. To upgrade the quality of services provided by the industrial cities, the state founded the Saudi Industrial Property Authority (Modon) in 2001. The government gives soft, medium and long-term loans to industrial establishments through the Saudi Industrial Development Fund (SIDF). The second

area is to provide support during the manufacturing process. This support comes through the provision of raw materials; in particular, this is done through the Saudi Basic Industries Corporation (SABIC). Also in this phase, through SIDF, the government provides direct loans to manufacturers wishing to expand. The third area involves supporting and facilitating the final product with regard to exporting. This role is played chiefly by the Saudi Export Programme (SEP), which works under the umbrella of the Saudi Fund for Development (SFD). SEP was established in 1999 in order to develop private sector exports, by firstly providing financing incentives and credit to exporters, while also providing competitive credit terms for buyers abroad or funding institutions working in this area. Non-oil exports, however, still remain a small portion of total exports. Official organisation statistics show that the contribution of non-oil exports to total exports remains weak, on average covering 15 per cent of the country's total exports over the past 30 years, which compares unfavourably with the average for other countries in the Middle East and North Africa, which were in the range of 30-46 per cent in 2010.

1.2 Aims and objectives

The aim of this present thesis is to address a fundamental question: What are the main issues that face non-oil exporters in Saudi Arabia to increase their level of exports? To answer these questions, we carried out a unique survey of Saudi firms. It covers all sector and regions of Saudi Arabia. It is based upon a detailed questionnaire (appendix 3) that was applied in face-to-face interviews during 2011 to 175 Saudi firms. The data examine and test the behaviour of firms and their performance towards exporting. This is the first study of this kind for Saudi Arabia. The literature shows that factors such as ownership structure, the impact of innovation, size of labour, age of the firm and the sector are influential characteristics. Similarly, the characterisation of trade operations such as the origin of supplies, ways of importing the firm's raw materials, export experience and total sales, sales channel distributions, importance of marketing activities, and finally export support capabilities should also be considered in analysis.

The survey also covers the role of finance in export diversification. In terms of financial analysis, the target of this thesis is to answer the following questions: 1) Does finance have a significant effect on exporter behaviour in Saudi Arabia? 2) Are there problems regarding access to finance? This work attempts, by relying on recent methodology, to identify credit constraints. In addition, the analysis considers the degree of access to finance, the most important factors affecting it, and how financial factors impact the level of exports in the private sector in Saudi Arabia. The last important goal of this dissertation is to examine the relationship between the competition and business environment, and export performance in Saudi Arabia. It will shed some light on the investment climate and government actions directed to alleviating restrictions on business.

1.3 Contributions of the research

Given the lack of comprehensive studies covering manufacturing behaviour, in both Saudi Arabia and other Gulf Cooperation Council (GCC) countries, this research strives to examine the reasons behind the low non-oil exports contribution to total exports. In this research, a survey was conducted using a specific questionnaire to assist the special government organisation that supports the private sector (the Saudi Fund for Development). Hence, this work relies on new survey data and a representative sample of the Saudi Arabian manufacturing sector conducted at the end of 2011. The survey includes details of specific export obstacles that firms face when selling their products abroad. Furthermore, the cross-sectional structure of the data allows detailed identification of export influential variables.

The current work analyses the environment of non-oil export operations. The work also attempts to provide a complete view of the obstacles and barriers faced by non-oil exporters. Finally, it presents business environment indicators for investors in the industrial sector and micro data concerning Saudi manufacturers' behaviour.

The objective of this study is, for the first time in Saudi Arabia, to test the influence of different determinants on firms' exporting behaviour. The findings are expected to assist the government organisation which aims to support private

sector firms. In addition, we believe these findings will help policy makers to select their tools to increase the level of non-oil exports.

The study develops, analyses and testes a framework of exporting behaviour. The main procedure is to present a systematic assessment of this framework as an empirical model of exporting behaviour. Our study is based on a questionnaire that allows us to expand the model in the commonly literature used. We derived and generated information relying on the foundations of the literature. This derived model gave this study a wider scope and the capability to explain many factors considered to have important effects on export intensity, such as ownership, firm size, innovation, trade operations, sales distribution channels, marketing activities and export capabilities.

The study also discusses the financial constraints of exporter firms. Models were obtained from the literature on the credit effect on export behaviour. The main measurement used in the current study classifies sample firms into categories based on their level of credit constraint. The analysis employed a Two Stage Least Squares (2SLS) to present evidence regarding the impact of credit on Saudi export firms.

Although Saudi Arabia is a country rich in oil, few studies have discussed the competition and business environment. This thesis contributes to the existing literature by highlighting the importance of features in the business environment; reviewing export determinants such as competition and business constraints, in order to establish the framework used in this study. Our survey addresses issues relating to firms exports and their business environment, such as access to finance, access to infrastructure, competition and labour. Other contributions in this regard are to the existing body of literature on the impact of regulations and the business environment on export or trade in general. For instance, by distinguishing between export and specific regulatory measures, the analysis provides estimates of how important business regulations, typically outside the scope of trade and customs authorities, affect exports.

1.4 Thesis structure

This thesis has seven chapters. Chapter One introduces the thesis topic and the rationale behind the research. Chapter Two has two main sections: first, it reviews the development of the Saudi Arabian economy, and an exploration of Saudi economic policy assistance in terms of export diversification. The second section begins with a discussion of the characteristics of firms in terms of their business environment and trade operations. The analysis then moves on to define the main factors encouraging or hindering firms when it comes to increasing their level of export.

Chapter Three analyses the main determinants of export intensity by focusing on the influence of ownership, innovation, trade operations, distribution channels, marketing and export capabilities. Chapter Four investigates the determinants of financial constraints and credit rationing, which have an effect on exporting firms. It examines new methods to measure credit constraints. The current work applied instrumental variable (IV) regressions.

Chapter Five explores which business factors may impact firm performance. The main focus is on business constraints and competition. Firm performance in this chapter is also measured by export intensity. Chapter Six presents the main findings using the ordinary least squares (OLS) method.

Finally, Chapter Six summarises the major conclusions from this research. It also offers some recommendations to policy makers and areas for further study.

The thesis contains three appendices. Appendix One provides more information that support the analysis of Chapter Four, which is the analysis of the impact of firm level on a firm's credit position and access to finance on export intensity. The second explains the sample and the questionnaire. The appendix also presents the sample's basic characteristics. The third appendix contains the questionnaire, designed as part of this study and used to collect the data.

Chapter 2: Data Description

2.1 Saudi Economy Overview

2.1.1 Introduction

The dependence on oil as a single source of income has led to negative consequences which may be devastating for the national economy. It can be seen that in many countries of the world there is a strong positive relationship between growth rates and stability, as well as on the diversity of the basis of the national economy and multiple sectors of production. The risk is particularly acute when national income is mainly dependent on natural resources. The risk is high when the source is depleting and, at the same time, prices in world markets are based on political and economic variables beyond the control of the producing country. This chapter offers a brief overview of the development of the Saudi Arabian economy, in an effort to understand ways in which the Saudi economy may face a sustainable development risk. Moreover, an exploration of the Saudi economic policy would be of assistance in terms of diversification and a consideration of the strategic plans aimed at meeting the economic needs of the Saudi nation.

2.1.2 Development of income sources in terms of the Saudi economy

The character of the Saudi economy in the past three decades has led to the acquisition of many varied features. After the oil boom at the beginning of the Seventies, the Saudi economy began to modernise. Prior to that, it was economically simple, consisting of agriculture, grazing, and some primitive industries. In addition, the fees received from trade and services dependent on pilgrims was the most important source of government revenue¹.

In the mid-Seventies, the rise in oil prices led to the acquisition of enormous financial resources, and this became the most important source of income. With these financial resources, the government has implemented a number of infrastructure projects. The economic and development policies of the state aimed to encourage and support the private sector by providing loans and services, and by

¹ Ministry of Planning, 2011. Achievements of the Development Plans;(28)Issue, 1390-1432h (1970-2011) Facts & Figures.

exempting them from taxes and customs duties. This resulted in generally increased economic growth and, in particular, growth of the industrial sector. The lower oil prices in the mid-Eighties decreased oil revenue. The lower revenues had a negative effect on the government budget and on infrastructure project financing¹.

The major problem that faces many developing countries is that they are reliant on primary exports, where primary goods represent the main source of income and foreign exchange revenue. There is a high degree of dependency on a single commodity. This is supposed to be particularly risky in the case of oil exports compared with any other primary commodities, due to the fact that the oil market has seen a high degree of instability in the past forty decades, as can be seen in Table 2A.1. As illustrated, the government oil revenues of about SR 7.0 billion in 1970, rose to SR 319 billion in 1980. Due to the decline in oil prices in 1986, there was a decline in production as well as lower oil exports. As a result, government revenues fell by 72% to around SR 88 billion in 1986. This result forced the state to think seriously about the situation and try to diversify the economic base.

Table 2A.1: Saudi Arabian Oil Revenues, Price, Production and Exports (*)

	Nominal Oil price (in U.S\$ per Barrel)	Annual Government Oil Revenues (Million SAR)	Crude Oil Production (daily average-Million Barrels)	Crude oil exports (Million Barrels)
1970	1.3	7122	3.8	1174.17
1975	10.72	93481	7.08	2409.39
1980	28.67	319305	9.9	3375.69
1986	13.73(**)	88425	3.17	780.72
1990	20.82	123148	6.41	1642.42
1995	16.73	105728	8.02	2296.13
2000	26.81	214424	8.09	2282.38
2005	50.15	504540	9.35	2631.24
2010	77.75	670265	8.17	2425.09

(*) Source: SAMA (2011)

The risks resulting from the dependency on oil exports as a major income source can be summarized in terms of economic and financial risks such as fluctuating oil prices leading to the instability of total income and reduced revenue due to a lack of liquidity that has a direct effect on government spending. The

¹ Ministry of Planning, 2011. Achievements of the Development Plans;(28)Issue, 1390-1432h (1970-2011) Facts & Figures.

government must pay for their commitments and it may require covering their needs by loans plus interest, which will lead to an increase in government debt. The other risk affects sustainable development. Strategic plans will be difficult to apply, causing the government to put a hold on some infrastructure projects. The other important risk associated with being dependent on oil exports as a major income source is the political risk. When oil prices increase consumers decrease their consumption of oil. In addition, most buyer countries set a high rate of tax on oil sales, so government revenue are directly affected by the consuming countries.

To avoid these risks, the Saudi government has tried to reduce the country's dependence on oil. The process of development planning started in 1969 for the development and mobilization of manpower and material resources, with the aim of investing to achieve many of the government's economic and social objectives. It aimed to improve the standard of living of citizens, complete the infrastructure, diversify the economic base and sources of national income, develop and improve human resources, and encourage the private sector to contribute to an active role in development efforts. During the period of the Seventies to the Nineties, the state focused on manufacturing by supporting and establishing industrial projects¹. Moreover, the government encouraged the development of replacement industries to meet the needs of the local market. It was also during that period that the government encouraged the establishment of industries with a comparative advantage in production, in order to support their ability to export their products to foreign markets. The government encouragement and support expanded to the private sector in various other economic fields.

In general, the development plans have led to progress in bringing about fundamental changes in the main structure of the national economy, and have led to the diversification of the production base, whereby the non-oil sectors have contributed to the Gross Domestic Product (GDP). In addition, the private sector has achieved a key role in terms of production, investment, and employment, all steps which have reduced the reliance on government spending². The development

¹ Ministry of Planning, 2011. Achievements of the Development Plans;(28)Issue, 1390-1432h (1970-2011) Facts & Figures.

² Saudi Arabian Monetary Association (SAMA), 2011. Annual Report. No. 47. Research and Statistics Department, Riyadh.

of the Saudi economy in terms of the development plans can be divided into three phases:

The first phase (1970-1985) which was characterized by an expansion in spending on infrastructure, providing public services and facilities, and offering funding support to the private sector through development funds in the form of soft loans, and by providing direct and indirect subsidies for industrial and agricultural projects. On the other hand, the financing of development depended on the growing oil revenues at this stage that led to an increase in crude oil production and export.¹

The second phase (1985-2005) saw intensive efforts to rationalize public expenditure. This was due to the decline in oil revenues resulting from the instability of global conditions in the oil markets. This stage also saw intensive efforts to improve the performance of public institutions, the diversification of the economic base, and the enhancement of the developmental role of the private sector².

The Eighth Development Plan saw the beginning of the third phase³ (2005-2009), which was characterized by the adoption of an expansionary fiscal policy supported by a flow of oil public revenues caused by high world prices of oil. A feature of this period was the dependence on four five-year of strategic long-range plans extending for twenty years. The Eighth Development Plan was the first of the long-range system of strategic planning which was characterized in this stage by a combination of developmental change and continuity. The continued focus was on accelerating growth and diversifying the economic base with the aim of achieving balanced development between regions. In addition, this stage saw the creation of a shift towards a knowledge-based economy in order to intensify efforts to enhance Saudi Arabia's competitiveness, and to deal flexibly and efficiently with local, regional and international challenges.

¹ Ministry of Planning; The First Development Plan 1970. The Second Development Plan 1974. The Third Development Plan 1981. Riyadh: Ministry of Planning Press.

² Ministry of Planning; The Fourth Development Plan 1985. The Fifth Development Plan 1990. The Sixth Development Plan 1993. Riyadh: Ministry of Planning Press.

³ Ministry of Planning; The Seventh Development Plan 1990. The Eighth Development Plan 2004. The Ninth Development Plan 2009. Riyadh: Ministry of Planning Press.

2.1.3 Diversification of income sources and the strategic plans of the industrial sector

The industrial sector captured the early attention of the government in terms of its five-year development plans. Since the Seventies the government realised the importance of diversifying sources of income, by the encouragement of non-oil sectors. It set a strategic objective by working on five-year development plans¹:

Saudi Arabia's first two development plans², covering the 1970s, emphasized infrastructure. The results were impressive the total length of paved highways tripled, power generation increased by a multiple of 28, and the capacity of the seaports grew tenfold

For the third plan (1980-1985)³, the emphasis changed. Spending on infrastructure dropped, but it rose markedly on education, health, and social services. Diversifying and expanding productive sectors of the economy (primarily industry) were also addressed. The two industrial cities of Jubail and Yanbu were largely completed around the use of the country's oil and gas reserves to produce steel, petrochemicals, fertilizers, and refined oil products.

In the fourth plan (1985-90)⁴, the country's basic infrastructure was viewed as largely complete, but education and training remained areas of concern. Private enterprise was encouraged, and foreign investment in the form of joint ventures with Saudi public and private companies was welcomed. The private sector became more important, rising to 70% of Non-Oil GDP by 1987. While still concentrated in trade and commerce, private investment increased in industry, agriculture, banking, and construction companies. These private investments were supported by generous government financing and incentive programmes. The objective was for the private sector to have 70% to 80% ownership in most joint venture enterprises.

¹ Ministry of Planning, 1970. The First Development Plan. Riyadh: Ministry of Planning Press.

² Ministry of Planning, 1975. The Second Development Plan. Riyadh: Ministry of Planning Press.

³ Ministry of Planning, 1981. The Third Development Plan. Riyadh: Ministry of Planning Press.

⁴ Ministry of Planning, 1985. The Fourth Development Plan. Riyadh: Ministry of Planning Press.

The fifth plan (1990-95)¹ emphasized consolidation of the country's defenses; improved and more efficient government social services; regional development; and most importantly, creating greater private-sector employment opportunities for Saudis by reducing the number of foreign workers.

The sixth plan (1995-2000)² focused on lowering the cost of government services without cutting them and sought to expand educational training programs. The plan called for reducing the Kingdom's dependence on the petroleum sector by diversifying economic activity, particularly in the private sector, with special emphasis on industry and agriculture. It also continued the effort to "Saudize" the labour force.

The seventh plan (2000-2005)³ focuses more on economic diversification and a greater role of the private sector in the Saudi economy. For the period 2000-05, the Saudi Government has aimed at an average GDP growth rate of 3.16% each year, with projected growths of 5.04% for the private sector and 4.01% for the Non-Oil sector. The government also has set a target of creating 817,300 new jobs for Saudi nationals.

The Eighth Development Plan (2005-2009)⁴ featured a new structure. It was different from the previous plans, in a manner that reflects that the country has just gained accession to the WTO. This plan requires the management of the economy, and the development process is different from that of the past, so that the economy is more open.

The objectives of the plan focused on improving the productivity of the national economy and strengthening its competitiveness, paying particular attention to promising activities such as the strategic and manufacturing industries, and attention in particular to energy-intensive industries and their derivatives, the natural gas industry, mining, tourism, and information technology.

¹ Ministry of Planning, 1990. The Fifth Development Plan. Riyadh: Ministry of Planning Press.

² Ministry of Planning, 1993. The Sixth Development Plan. Riyadh: Ministry of Planning Press.

³ Ministry of Planning, 1999. The Seventh Development Plan. Riyadh: Ministry of Planning Press.

⁴ Ministry of Planning, 2004. The Eighth Development Plan. Riyadh: Ministry of Planning Press.

The Plan also paid great attention to the contribution of the private sector to economic and social development. The plan provides the assistance needed to support the competitiveness of national products, to support and encourage the ways and methods of scientific research, and to develop trends towards a knowledge-based economy. This is one of the pillars and the main support of the Plan and emphasises the need to increase production and productivity, expanding the horizons of investment. Finally, the Eighth Plan did not neglect the continued expansion of basic equipment and maintenance, to meet the needs of the growth of demand, and to facilitate the growth of all production and service sectors, due to improvements in terms of efficiency and productivity.

As a result, the contribution of the non-oil sectors has grown in value at an average annual rate of 5.5 per cent, with its share in GDP growing from 51 per cent to 73.5 per cent during the same period.

Table 2A.2: Contribution Development of Production Sectors to GDP during the Economic Development Plans (actual figures)

Plan stage		Industrial sector	Agriculture sector	Mining sector	Services sector
First plan	1970	8.3%	4.2%	35.9%	36.2%
	1974	4.9%	0.8%	73.9%	15.8%
Second plan	1975	5.0%	0.9%	59.3%	26.9%
	1979	5.1%	1.2%	49.9%	33.3%
Third plan	1980	4.1%	1.0%	59.0%	27.1%
	1984	7.8%	2.8%	28.5%	50.2%
Fourth plan	1985	8.0%	3.7%	23.5%	53.9%
	1989	8.8%	6.3%	23.5%	49.4%
Fifth Plan	1990	8.6%	5.9%	31.7%	43.9%
	1994	9.4%	6.2%	29.2%	44.7%
Sixth plan	1995	9.6%	5.9%	30.7%	43.8%
	1999	10.4%	5.7%	28.7%	45.3%
Seventh plan	2000	9.7%	5.9%	36.8%	39.8%
	2004	10.2%	4.0%	40.6%	37.4%
Eighth plan	2005	9.4%	3.2%	46.0%	32.7%
	2009	10.4%	2.9%	42.6%	37.2%

Source: Central Department of Statistics & Information, Ministry of Economy and Planning (2011). (Different chosen years at current prices, Million RIs)

3.1 The National Strategy of Industry (NSI) ¹

During the Eighth Plan (2005-2009), the Saudi government established national strategic plans for the industrial sector. It presents a vision for growth, development, and wealth-creation in the Kingdom, and offers a roadmap for maximising the proceeds of its resources, both natural and human. It includes mechanisms for effective management, updated laws and funding. The Strategy offers a detailed analysis of the current industrial situation in the Kingdom and examines trends in economics and technology from all over the world to help in forming the industrial strategy of the Kingdom. Both public and private-sector industries have participated in extensive discussions on the characteristics of the economy, Saudi society, and experiments conducted worldwide in the field of industrial development (NSI, 2009).

The strategy utilises the achievements of industry as the Kingdom trends towards a knowledge-based economy, including knowledge gained in the fields of energy and petrochemicals, the strengthening of innovative and competitive capacities, and industrial diversification, all leading to a balanced development of the Kingdom at regional level.

The country designed the manufacturing sector development strategic plan based on the following eight main objectives²:

- 1- Increase the economy's capacity to produce a range of commodities at costs that will enable it to compete effectively in domestic and foreign markets.
- 2- Exploit the advantages of low-priced energy inputs, the abundance of derivatives extracted from petroleum and the agricultural, mineral, and fishery resources that are available, to diversify the industrial base.
- 3- Encourage the full utilisation of the capacities of the manufacturing industries in the private sector.
- 4- Expand and deepen links with international technology utilising companies.
- 5- Promote balanced regional industrial development.

¹ NIS (2009), Ministry of Commerce and Industry

² NSI (2009) , Ministry of Commerce and Industry

- 6- Raise industrial productivity by encouraging high-capacity utilisation.
- 7- Lessen the dependence of industry on non-Saudi labour by intensifying the education of Saudi citizens and promoting the on-the-job training of Saudis.
- 8- Intensify cooperation and economic integration within existing industries.

On the other hand, the objectives of the Ninth Development Plan (2009-2014) include improving the standard of living, developing human resources, increasing the recruitment of Saudi nationals, diversification of the economy ensuring balanced regional development and, enhancing the competitiveness of the economy and of Saudi products.

The Government's National Strategy for Industry aims to greatly develop and diversify the economy by 2020. Its objectives are shown in Table 2A.3¹:

Table 2A.3: National Industrial Strategy goals for 2020

Objective	Current indicators	Future indicators
Expand manufacturing per cent of GDP	11%	20%
Double Saudi industrial employment	15%	30%
Increase industrial exports	18%	35%
Increase the proportion of technology-based manufactured products	30%	60%
Increase national employment	15%	30%
Increase economic 'value added'		8% a year

Source NSI (2009), Ministry of commercial and industry.

2.1.4 Direct role of the state in the development of the industrial sector

The country has taken steps to support and encourage industry. The state's role can be divided into three phases. The first is to provide support before industrialisation. For example, the Ministry of Commerce and Industry allocated industrial cities to the various regions of the country. It has constructed and developed these cities throughout the country and has provided them with all required services and utilities. Beginning in 1970, the country has implemented a plan (under the First five-year Development Plan) to develop industrial cities.

¹ NSI (2009) , Ministry of Commerce and Industry.

Industry is seen as and fundamental source of national income, and the basic plan is to resettle or establish factories in these cities, where all the elements such as basic services and equipment are provided, and where the environmental conditions, safety requirements, employment opportunities, and distribution of resources are considered in a way that ensures each of the country's regions has a carefully-considered balance of each sector. The first three cities were established in Riyadh, Jeddah, and Dammam in 1974 on a total area not exceeding 1.4 million square meters. The success of these projects led to the expansion of the programme in the Second five-year Plan in 1975-1980 and in coming development plans.

To upgrade the quality of services provided by the industrial cities, the state founded the Saudi Industrial Property Authority (Modon) in 2001, as an independent public agency to oversee the establishment and management of industrial cities and technology zones, in addition to the operation, maintenance and development of these cities in collaboration with the private sector. By the end of the Seventh Plan (2000-2004) there were 14 industrial cities in regions such as Riyadh 1st. and 2nd., Jeddah 1st. and Dammam 1st. and 2nd., Makkah, Qassim, Al Ahsa, Madinah, Assir, Al-Jouf, Tabuk, Hail, and Najran.

Also in this stage, the government founded the Saudi Industrial Development Fund (SIDF), which aims to give soft, medium, and long-term loans to industrial establishments for up to 50 percent of the total cost of a project. The payback period is up to fifteen years. There is also a two-year grace period from the start of production. SIDF by providing funding also reviews and analyses the feasibility study submitted due to its requirements request by factories. This procedure by the SIDF plays an important role in determining the needs of either the domestic market or the international market. On the other hand, the country, through other funding organizations such as the Saudi Credit and Savings Bank, plays a supporting role in providing funding for the financing of small and medium-sized enterprises, aimed at promoting development and creating employment opportunities for Saudi citizens in less-developed cities. There is also the Public Investment Fund (PIF), which focuses on very large firms. This is because the private sector sometimes

cannot implement development alone because they may have insufficient experience, inadequate capital resources, or both.

The second phase was designed to provide support during the manufacturing process. This support comes through the provision of raw materials, whether through customs exemptions, or the creation of a private entity for the provision of raw materials. In particular, this is done through SABIC, which has specialized and obtained a concession from the state to provide raw materials to companies in the petrochemical, chemicals, and plastics industries. Also in this phase, through SIDF, the government provides direct loans to manufacturers which want to expand.

The third phase involves supporting and facilitating the final product with regard to exporting. This role is played by the Saudi Export Program, which works under the umbrella of the Saudi Fund for Development. This programme provides companies with finance for the purchase of Saudi exports, as well as providing insurance risk services for exports with regard to non-payment by buyers. Additionally, the government also established the General Investment Authority (SAGIA) in 2000, which seeks to attract foreign direct investment in Saudi business in order to take advantage of the technical development of products and to improve production, thereby enhancing the competitiveness of local products in international markets. The government believes that investment is closely related to economic performance, and plays an important role in the form of an impact multiplier on all sectors of the economy. Investment promotes economic growth, the diversification of income sources, provides new employment opportunities, encourages technology transfer and indigenisation, aids export development, strengthens commercial relations, and represents an essential component in achieving the objectives of overall economic development.

4.1 The Saudi Industrial Development Fund (SIDF)

The Saudi Industrial Development Fund plays a pivotal role in the fulfilment of the objectives and policies of programmes devised for the industrialisation of Saudi Arabia. Since its inception, SIDF has assumed a leading role in the achievement of goals, as well as the formulation of policies and programmes geared towards

assisting the private sector in the process of industrial conversion. Financial support in the form of soft loans provided by the SIDF represents one of its major supportive functions in encouraging industrial development within the Kingdom. The favourable response of the private sector has had a significant influence on the establishment and expansion of the industrial base. Besides the provision of loans, the SIDF provides borrowers with a variety of technical, administrative, financial, and marketing consultation services, which in turn, help to raise the level of their performance and overcome obstacles. The role of the SIDF in industrial development requires the verification and confirmation of the feasibility of the macro and micro economic implications of borrowers' projects. It also calls for the increase of projects' potential for success through the optimum allocation of invested capital. Among the SIDF's prime objectives in the context of industrial development in the Kingdom are:

- Achievement of a good return on investment.
- A suitable added value.
- Replacement of imports by local products.
- Promotion of non-oil industry related exports.
- Realisation of industrial integration.
- Creation of employment opportunities for Saudi nationals.
- Exploitation of the Kingdom's natural resources and raw materials.
- Attraction of foreign capital as well as the transfer of technology.
- Protection of the natural environment.

From its foundation up to the end of 2010, there were 3,226 industrial loans given by the SIDF with a total value in SR 87,391 million (around £14,565 million)¹. These were approved for the support of 2,284 new industrial projects Kingdom-wide. The chemical industry still leads all other sectors in terms of the total amount and number of loan commitments since SIDF's inception up to the end of the fiscal year 2010. The cumulative commitments extended to the sector totalled SR 35,147

¹ Calculated rely on the exchange rate of one GBP equal six riyals.

million, representing 40 per cent of the total value of loans approved by the fund during that period (Table 2A.4).

The engineering industries sector came second in terms of the value and number of approved loans since the inception of the fund up to the end of the fiscal year 2010. Cumulative commitments extended to this sector totalled SR 17,802 million, representing 20 per cent of the total loans approved by the SIDF. Third place in terms of the cumulative value of approved loans is held by the consumer industries. By the end of 2010, cumulative commitments extended to this sector totalled SR 14,551 million, representing 17 per cent of the total loans approved by SIDF since its inception up to the end of the period under discussion. Another important sector is the cement industry, the amount of loans committed to this sector since the inception of the fund up to the end of the fiscal year 2010 totalled SR 9,695 million or 11 per cent of total loans approved, thereby ranking the sector fourth in terms of the amount of loan monies committed. Finally, by the end of 2010, the loans SIDF committed to the "Other Building Materials" sector totalled SR 9,319 million, or 10 per cent of the cumulative loans approved to industrial projects since the inception of the fund. Thus, the sector was ranked fifth in terms of the size of the loans approved.

The SFDI also established a programme known as Kafalah (Guarantee), in 2006. It aims to overcome the obstacles of financing that face small and medium sized enterprises (SMEs). Because there are firms which do not have the ability to provide the guarantees required by financing organisations, it has been established to cover a percentage of the risk associated with financing an organisation, in the event that the organisation fails to repay its funding or part thereof, it encourages banks to finance SMEs, but could not provide the guarantees or accounts receivable which prove their eligibility for funding. This programme has been established between the Ministry of Finance represented by the Saudi Industrial Development Fund, and ten local Saudi banks.

Since its initiation at the beginning of 2006 up to the end of 2011 the Small and Medium Enterprises Loan Guarantee Program has issued a total of 2,109

guarantees amounting to SR 804.4 million against a total of commercial-bank financing to the tune of SR 2,016 million extended to 1,390 SMEs.

Table 2A.4: Number and value of approved SIDF industrial projects and loans by minor sector

Sector	1970		2010		(SR millions) Cumulative Total	
	Number	Value	Number	%	Value	%
Consumer Products	22	830	624	27.3%	14551	16.7%
Food	10	555	290	12.7%	7356	8.4%
Beverages	6	163	55	2.4%	1581	1.8%
Textiles	1	1	64	2.8%	2037	2.3%
Leather & substitutes	0	-	24	1.1%	133	0.2%
Carpentry products	0	-	14	0.6%	205	0.2%
Wooden furniture	2	12	53	2.3%	368	0.4%
Paper products	3	99	88	3.9%	2620	3.0%
Printing	0	-	36	1.6%	215	0.2%
Chemical Products	15	3726	562	24.6%	35147	40.2%
Chemicals	11	1833	267	11.7%	27566	31.5%
Oil & gas products	3	1800	32	1.4%	3114	3.6%
Rubber Products	0	-	17	0.7%	477	0.5%
Plastic Products	1	93	246	10.8%	3990	4.6%
Building Material	14	674	366	16.0%	9319	10.7%
Ceramic Products	0	189	13	0.6%	1332	1.5%
Glass Products	2	98	59	2.6%	2563	2.9%
Other Building Material	12	387	294	12.9%	5424	6.2%
Cement	0	0	30	1.3%	9695	11.1%
Engineered Products	17	1358	659	28.9%	17802	20.4%
Metal Products	13	1225	391	17.1%	12988	14.9%
Machinery	1	11	88	3.9%	872	1.0%
Electrical Equipment	3	122	126	5.5%	3010	3.4%
Transport Equipment	0	-	54	2.4%	932	1.1%
Other Manufacturing	0	0	43	1.9%	877	1.0%
Total	68	6588	2284^(a)	100%	87391^(b)	100%

(a) Of which 454 loans were terminated. (b) Of which SR 12.197 million were terminated or reduced

* source : SIDF Annual report 2010

4.2 Saudi Basic Industries Corporation (SABIC)

SABIC's creation by royal decree in September 1976 was a bold step for a developing country. The headquarters are in Riyadh, the capital of Saudi Arabia. It marked a new move into the use of the by-products of oil extraction to produce value-added commodities such as chemicals, polymers, and fertilizers, for export. These commodities were also intended to create new industries, helping Saudi Arabia to diversify and to develop.

SABIC products and services are extensive. They are organized into four categories; Chemicals (Chemicals and Performance Chemicals), Plastics (Polymers and Innovative Plastics), Fertilizers, and Metals

SABIC began production in 1981. The total production in 1985 was 6.3 million metric tons (MMT), but by the end of 2010 it had reached 66 MMT (Table 2A.5). It is a market leader in key products such as ethylene, ethylene glycol, methanol, MTBE, and polyethylene. Chemicals, SABIC's largest strategic business unit, account for around 60 per cent of the firm's total production. It is also the world's fourth-largest producer of polyolefins. In addition to this it is the world's third-largest producer of polyethylene and the fourth-largest producer of polypropylene. It also achieved 11th position among the top 500 companies in the world in 2005 as ranked by the Financial Times.

It is also the world's largest producer of mono-ethylene glycol, MTBE, granular urea, polyphenylene, and polyetherimide. The Saudi Iron and Steel Company (HADEED), owned by SABIC, is one of the world's largest fully-integrated steel producers. SABIC's European subsidiary produces over 2 MMT of polymers and over 5 MMT of basic chemicals. The forecast shows that the annual production capacity of SABIC will reach over 130 MMT by 2020. At the end of 2010, SABIC operated in more than 40 countries across the world and has 60 world-class manufacturing and compounding plants in locations across the Middle East, Asia, Europe, and the Americas.

Table 2A.5: Total production by business unit

	2009	2010	Growth per cent
Chemicals	37,479	42268	13%
Performance Chemicals **	-	458	-
Innovative Plastics	1,033	1231	19%
Polymers	8,666	10667	23%
Fertilizers	6,542	7043	8%
Metals	4,776	5191	9%
Total	58496	66858	14%

** Performance Chemicals to start production in 2010

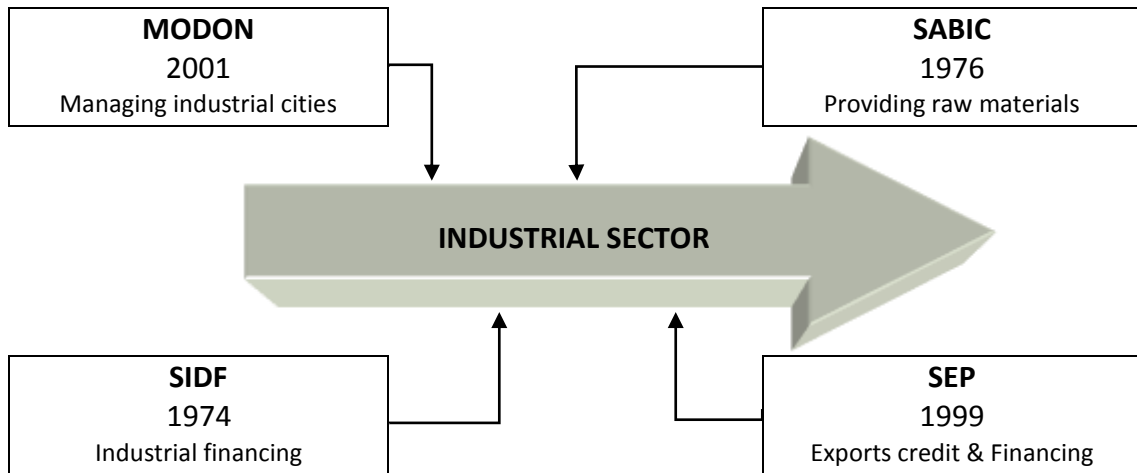
'000 metric tons

*Source : SABIC annual reports 2009 and 2010

SABIC's overall total assets stood at SR 317 billion at the end of 2010, compared with SR 297 billion in 2009. The value of its sales revenue was about SR

103.1 billion at the end of 2009 and rose to about SR 151.9 billion in 2010. Net profits in 2009 touched SR 9 billion, rising to SR 21.5 billion in 2010.

Figure 2.1: Main Organisations supporting the Industrial Sector in Saudi Arabia



2.1.5 Development and growth of the industrial sector

Although industry in Saudi Arabia is considered as beginning in the Seventies, it has witnessed a steady development and has achieved a number of impressive accomplishments. Due to the importance and support that has been provided by the state, it has played a solid role in achieving the strategic objectives and economic goals of the country.

The state's efforts have included the support of industrial development in several basic fields, including the implementation of the necessary infrastructure. During the late 1970s and the early 1980s, the fishing villages of Al-Jubail and Yanbu were transformed into modern industrial cities, with the Royal Commission for Jubail and Yanbu overseeing the infrastructure development. It also constructed industrial cities in various regions of the country, as well as establishing the Saudi Industrial Development Fund (SIDF) in addition to providing a number of other industrial supports and incentives. The response and co-operation of the private sector with the government's plans and efforts have had an effective impact on the actualisation of industrial development's objectives.

As can be seen from Table 2A.6, the industrial base in the Kingdom has expanded considerably over the last four decades. The total number of operating industrial units has jumped from 198 in 1974 to 4,744 in 2010. In parallel, invested capital has increased by SR 12 billion in 1974 to SR 439.7 billion in 2010. The employment figures have also seen a huge growth in numbers from 34,000 workers in 1974 to 577,499 workers in 2010.

Table 2A.6: Growth of Operating Industrial Units, Finance of Operating Industrial and Workers during 1974-2010

Industrial activities	Operating Industrial Units		Finance of Operating		Workers	
	1974*	2010**	1974*	2010**	1974*	2010**
Products of Animals, Food & beverages:	39	754	2028	40948	7199	112187
Products of Wood, Paper, Leather and Textiles:	52	882	1116	28578	5930	101177
Textiles products	1	87	20	4987	60	15137
Cloth products	1	82	38	976	249	9505
Leather products	2	46	7	636	50	3967
Wood industry and products	4	61	65	2884	839	7164
Paper industry and its products	9	157	177	7865	843	22290
Printing press and copying of recorded multi-media	18	119	809	3913	2594	10741
Furniture and products unclassified elsewhere	17	330	0	7317	1295	32373
Products of Chemical, petrochemical, plastic, Rubber and Medical care :	24	1119	3840	237976	7811	119629
Refined petroleum and nuclear fuel products	4	90	364	164513	3487	25970
Chemical materials and products	9	506	2954	60835	2429	48335
Rubber and plastic products	11	507	522	12076	1895	44314
Recycling	0	16	0	552	0	1010
Products of Building Material and Glassware:	58	1437	4165	109281	7512	172111
Other non-metal products	25	771	3771	56567	3780	88481
Basic metal products	24	311	234	42398	2801	46627
Construction metal products	9	355	160	10316	931	37003
Products of Electrical, Machinery, Transport and Medical equipment:	24	552	1183	22929	5476	72395
Machines and Equipment industry	12	223	808	6037	4357	27285
Office and accounting terminals as well as computers	0	5	0	660	0	2704
Electric machines and terminals (unclassified elsewhere)	2	132	127	10887	464	23779
Radio, TV and telecommunication equipment and terminals	0	19	0	1041	0	2931
Medical terminals, optic tools and all types of watches	2	14	78	212	33	859
Engine and trailer motors	8	138	0	3216	622	12230
Other transportation equipment	0	21	170	876	0	2607
Total	197	4744	12332	439712	33928	577499

* source: (SDIF,2010)

** source: (SAMA,2011)

By looking into the composition of the industry sector in Saudi Arabia, we can see that the 'other non-metallic minerals' sector heads all other sectors in terms of operating industrial units (771), representing 16.3 per cent of the total number of factories operating at the end of 2010. The other four sectors in the top five in terms of operating industrial units are the food and beverages products sector (15.9 per cent), rubber and plastic products (10.6 per cent), chemical materials and products (10.6 per cent), and the construction of metal products (7.4 per cent).

The refined petroleum products sector is in the top five in terms of the volume of investment (SR 164 billion), representing 37.4 per cent of the total investment in operating factories, followed by the chemical materials and products with SR 60 billion, representing 13.8 per cent of total investment in operating factories. Then comes with other non-metal products (12.8 per cent), basic metal products, and the food and beverages products sectors with 9.6 per cent and 9.3 per cent respectively.

The top sectors in terms of number of employees is the food and beverages products sector (112,187 workers) representing 19.4 per cent of the total employment in operating factories. The second in terms of numbers of employees is the other non-metallic minerals sector (15.3 per cent), then the chemical materials and products, and basic metal products with 8.3 per cent and 8.0 per cent respectively, and lastly rubber and plastic products (7.6 per cent).

The added value of the manufacturing industrial sector in Saudi Arabia was estimated at SR 109.7 billion in 2010 as shown in Table 2A.7, which is about 12.6 per cent of the GDP (at constant 1999 prices). We can understand the significance of this development when compared with the added value of the sector, which amounted to SR 10.3 billion in 1970 and made up only 5.9 per cent of the GDP.

The added value of the manufacturing sector has risen from SR 10.3 billion in 1970, to SR 15.2 billion at the end of the First Development Plan, and then to SR 20.8 billion at the end of the Second Development Plan.

The industrial sector has continued to perform outstandingly in successive development plans. The added value contribution has risen since the end of the Third Development Plan up until the current Ninth Development Plan. In general, the annual real growth in terms of added value amounted to 6.5 per cent during the period 1970-2010, a rate of growth which is more than the rate of real average growth for the national economy as a whole.

The oil refining industry plays an important role in the manufacturing industry, and offers an added value of about SR 21.9 billion in 2010, up from SR 6.98 billion in

1970 (Table 2A.8). In addition, the added value of the oil refining industry rose from about SR 6.98 billion in the first year of the First Development Plan to SR 7.4 billion in the last year of the plan. After that the contribution of the added value of oil refining continued to increase with regard to real GDP during the subsequent development plans, in that the added value rose to SR 9.44 and SR 10.83 billion respectively in the last years of the Second and Third Development Plans. The added value continued to increase through the Fourth to Seventh Development Plans (except for the occasional bad year) in that it rose from SR 15.1 billion in 1989 to SR 17.1 billion in 1994, and to SR 18.02 billion at the end of the Sixth Development Plan. In the Seventh Development Plan, the added value of the oil refining industry rose by 3.58 billion in 2000 to SR 21.6 billion in 2004 and to about SR 21.9 billion in 2010.

Table 2A.7: Added value of the total manufacturing industry sector, 1970-2010

By SAR billion

years	Value ^(a)	Total manufacturing output			
		Annual Growth	Added value ^(b)		
First plan	1970	1.99	28.3%	10.32	24.2
	1974		7.86	170.3%	15.21
Second plan	1975	8.30	5.5%	15.18	-0.2
	1979		19.06	53.3%	20.77
Third plan	1980	22.41	17.5%	22.08	6.3
	1984		32.67	16.1%	32.35
Fourth plan	1985	30.02	-8.1%	35.56	9.9
	1989		31.34	3.9%	38.65
Fifth Plan	1990	37.63	20.1%	40.56	4.9
	1994		48.34	7.3%	46.11
Sixth plan	1995	51.35	6.2%	49.31	6.9
	1999		62.80	8.1%	62.80
Seventh plan	2000	57.96	8.7%	65.79	4.8
	2004		95.82	11.1%	81.31
Eighth plan	2005	110.70	15.5%	86.94	6.9
	2009		146.67	-0.8%	105.10
Ninth plan	2010	167.83	14.4%	109.75	4.4

(a) At producers' values at current prices.

(b) At producers' values at constant price for 1999

*** Source: Ministry of Economy and Planning. Achievements of the Plan (2011).

For the petrochemical industry, the added value achieved rose from SR 0.71 billion in 1984 to SR 4.95 billion in 1989, the last year of the Fourth Development Plan. At the end of the Fifth Development Plan, the added value amounted to SR

3.45 billion. Contributions from the industry to GDP rose during the Sixth Development Plan to SR 6.0 billion in 1999. In the Seventh Development Plan, the added value in 2000 amounted to SR 6.0 billion, rose to SR 8.95 billion in 2004, and amounted SR 14.6 billion in 2010.

Table 2A.8: Added value of industries by sector during 1970-2010

(By SAR billion)

Plans Years	Other Manufacturing				Petrochemical				Oil refining				
	Value*	Annual Growth	% of GDP	Added value	Value*	Annual Growth	% of GDP	Added value	Value*	Annual Growth	% of GDP	Added value	
1 th plan	1970	0.64	12.7%	2.60	3.34	-	-	-	-	1.35	37.40%	5.60	6.98
	1974	1.6	68.4%	1.00	7.86	-	-	-	-	6.26	219.4%	3.90	7.35
2 th plan	1975	2.7	68.6%	1.60	8.65	-	-	-	-	5.6	-10.6%	3.40	6.53
	1979	8.49	26.5%	2.30	11.34	-	-	-	-	10.56	84.3%	2.80	9.44
3 th plan	1980	10.38	22.2%	1.90	12.7	-	-	-	-	12.02	13.80%	2.20	9.37
	1984	18.23	13.1%	4.30	20.8	0.62	185.7%	0.10	0.71	13.82	17.0%	3.30	10.82
4 th plan	1985	18.82	3.2%	5.00	21.56	1.00	61.60%	0.30	1.13	10.2	-26.2%	2.70	12.86
	1989	17.54	15.4%	4.90	18.59	4.39	-17.0%	1.20	4.95	9.4	-2.8%	2.60	15.11
5 th plan	1990	19.4	10.6%	4.40	19.13	3.75	-14.6%	0.90	4.03	14.47	53.80%	3.30	17.39
	1994	27.86	8.2%	5.50	25.57	3.78	6.8%	0.80	3.45	15.68	-0.5%	3.10	17.09
6 th plan	1995	30.27	8.7%	5.70	29.03	4.06	7.40%	0.80	3.87	17.01	1.90%	3.20	16.4
	1999	38.77	4.1%	6.40	38.77	6.00	13.6%	1.00	6.00	18.02	15.9%	3.00	18.02
7 th plan	2000	40.18	3.6%	5.70	41.03	7.02	17.00%	1.00	6.1	21.08	17.00%	3.00	18.66
	2004	52.61	9.2%	5.60	50.72	10.77	28.8%	1.10	8.95	32.43	9.1%	3.40	21.63
8 th plan	2005	58.15	10.5%	4.90	52.89	13.1	21.60%	1.10	11.71	39.45	21.60%	3.30	22.33
	2009	83.64	-1.1%	5.90	69.48	16.15	-6.8%	1.10	14	46.87	2.0%	3.30	21.61
9 th plan	2010	92.04	10.0%	5.50	73.26	17.97	11.30%	1.10	14.6	57.82	23.40%	3.40	21.88

(a) At producers' values at current prices.

(b) At producers' values at constant price for 1999

*** Source: Ministry of Economy and Planning. Achievements of the Plan (2011).

For other manufacturing industries, which include various metal industries, food, construction, clothing production, and others, the added value has increased in constant 1999 prices from SR 3.3 billion in the first year of the First Development Plan to SR 7.9 billion in the last year of the plan. In the Second Development Plan, this added value increased from SR 8.6 billion in 1975 to SR 11.3 billion in 1979. In the Third Development Plan, it rose to SR 20.8 billion in 1984. But it dropped in the Fourth Development Plan to about SR 18.6 billion in 1989, then it reversed and continued to increase in these industries through successive development plans, reaching about SR 25.6 billion in 1994, and SR 38.8 billion at the end of the Sixth Development Plan. It has made a contribution of SR 50.7 billion to GDP in 2004 during the Seventh Development Plan, compared with SR 41.03 billion in 2000. The

results for 2010 confirmed the continuation of the rapid growth of these industries, in that the added value rose to SR 73.3 billion.

In general, the total real average annual growth rate in terms of the added value of the other manufacturing sector was 8.1 per cent during the period 1970-2010. Along the same lines, petroleum refining contributed a real average annual growth rate of 3.5 per cent during that period, while the petrochemical industry contributed an average annual growth rate of 16.2 per cent during the period 1983-2010. It is also the case that many of the national industries have shown significant growth in the past few decades. For example, cement production increased from 667 thousand tons in 1970 to 48 million tons in 2010, which indicates an average annual growth rate of 11.3 per cent. The achievements of the industrial sector are reflected in an increase in the volume of exports for products and manufactured goods in terms of different categories and value, which confirms the increase in Saudi good's competitiveness in domestic and foreign markets.

2.1.6 Development of non-oil exports

Saudi Arabia has devoted a great deal of resources and effort to the development of non-oil exports. In parallel with overall economic development strategies, the government aimed to expand the production base and diversify its income sources. Despite the relative recent emergence of industry in Saudi Arabia, particularly the experience of the private sector in terms of exports, Saudi non-oil exports have made great strides in this area. Petrochemical exports have had a head start in terms of penetration of global markets, and this has also contributed to a positive image of Saudi products in terms of quality and price.

Total Saudi exports recorded an average growth rate of about 84.4 per cent during the period 1970-1974 (Table 2A.9). The highest growth rate was in 1974 when it reached 279.4 per cent, while in 1975 it recorded a lower growth rate of -17.6 per cent. During the Eighties, total exports recorded their highest growth rate, with an increase of 70 per cent in 1980. While there were negative growth rates during the period 1982-1986, Saudi Arabia recorded consistently positive growth rates after that period.

The highest growth rate in the Nineties was in 1990, when it reached 56.5 per cent as a result of higher oil prices and volume production during the Gulf War crisis. 1998 recorded the lowest average, reaching a growth rate of 36.1 per cent due to lower oil prices in world markets. Hand in hand with the improvement in oil prices in 2000, the growth rate of exports recorded an increased rate of 52.9 per cent. Total exports have continued to rise since 2000, when they amounted of SR 290.5 billion. They reached 1.1754 trillion in 2008, but in 2009 dropped sharply by -38.7 per cent before increasing by 30.6 per cent in 2010. The following table shows the growth of the values and contributions of oil and non-oil exports during the five-year Development Plans (1970 to 2010).

Table 2A.9: The development of Total Saudi exports^(a) 1985 – 2010

Plan Years	Oil Exports			Non-Oil exports(*)			Total Exports		
	Value	per cent of exports	Annual Growth	Value	per cent of exports	Annual Growth	Value	Growth of plan	
1 th plan	1970	10,879	99.74%	-	28	0.26%	-	10,907	84.4%
	1974		125,939	99.78%	279.4%	284	0.22%	153.6%	126,223
2 th plan	1975	103,674	99.29%	-17.7%	738	0.71%	159.9%	104,412	11.1%
	1979		211,244	99.09%	54.1%	1,939	0.91%	71.6%	213,183
3 th plan	1980	359,865	99.17%	70.4%	3,021	0.83%	55.8%	362,886	-9.1%
	1984		127,860	96.64%	-17.4%	4,439	3.36%	24.5%	132,299
4 th plan	1985	93,953	94.40%	-26.5%	5,583	5.60%	26.0%	99,536	-4.3%
	1989		90,224	85.38%	19.5%	15,454	14.62%	2.8%	105,678
5 th plan	1990	150,868	90.70%	67.2%	15,471	9.30%	0.1%	166,339	8.5%
	1994		142,829	89.50%	-1.2%	16,761	10.50%	18.6%	159,590
6 th plan	1995	163,083	87.00%	14.2%	24,320	13.00%	45.1%	187,403	3.6%
	1999		168,045	88.41%	37.8%	22,039	11.59%	-5.9%	190,084
7 th plan	2000	265,747	91.50%	58.1%	24,806	8.50%	12.6%	290,553	20.0%
	2004		414,254	87.67%	34.5%	58,237	12.33%	38.3%	472,491
8 th plan	2005	606,371	89.50%	46.4%	72,482	10.50%	24.5%	677,144	8.8%
	2009		611,490	84.80%	-42.1%	109,619	15.20%	-9.9%	721,109
9 th plan	2010	808,220	85.80%	32.2%	133,565	14.20%	21.8%	941,785	30.6%

(*)including Re-exports

(a) At producers' values at current prices, SAR Million actual figures.

** Source: Ministry of Economy and Planning, Achievements of the plan (2011).

The composition of exports indicates the dominance of oil exports (mainly unrefined oil), with an average (2005-09) of 88 per cent of total exports. Oil exports posted a rising trend, with an average growth of 20.8 per cent (2005-08), until it dropped sharply in 2009. Other exports such as chemical products, plastic products, and re-exports only constituted an average of 15.2 per cent and 14.3 per cent of the total exports in 2009 and 2010 respectively.

In general, Table 2A.9 shows that total exports have achieved a rapid growth over the development plan period. The value of these exports showed an annual growth rate of 11.8 per cent during the period 1970-2010, increasing from about SR 10,907 million in 1970 to about SR 941,785 million in 2010. The significant increase in the total value of exports could result from increasing oil prices and oil production. It shows an annual growth rate with regard to oil exports of 20.3 per cent during 1970-2010. The table also illustrates the annual growth rate of non-oil exports at 23.6 per cent during 1970-2010, as a result it is a sector which has clearly achieved rapid growth over the past few years.

It can be seen from the data in Table 2A.9 that the non-oil exports of Saudi Arabia have been growing rapidly and significantly over the period under discussion. The Saudi industrial average growth was 19 per cent annually during the period 1985-2010, and a rise in value from SR 5.58 Billion in 1985 to SR 133.56 Billion in 2010. It is interesting to consider the significant rise in the value of industrial exports in 2003 with the implementation of the Gulf Cooperation Council (GCC) customs union, as well as Saudi Arabia's accession to the WTO in 2005. In terms of the industrial export ratio to Saudi Arabia's non-oil GDP, it grew from 1.5 per cent in 1985 to 14 per cent in 2010, indicating the importance of exports as a factor in terms of industrial development. Table 2A.10 clarifies the value of the most important exported goods.

Table 2A.10 illustrates some of the main characteristics of the Saudi non-oil exports composition at the end of 2010. Chemical and plastic products had reached the highest non-oil exports value during 2010 at SR 82.33 Billion which made up 61 per cent of total non-oil exports with an increase of SR 29.1 billion, 54.8 per cent higher than in 2009. Some of this was plastic products with a total value of SR 42.1 billion. This shows an increase of SR 18.6 billion, making it 79 per cent higher than in the previous year. Although re-export products had a value of SR 19.6 billion making up 14.7 per cent of the total non-oil export value, it decreased by SR 4.1 billion, making it 17.4 per cent lower than in the previous year. On the other hand, food substances had achieved a value of SR 11.07 billion in 2010 making up 8.3 per cent of the total non-oil export value with an increase of SR 915 million which was 9

per cent higher than in the previous year. after that, textiles, clothes, carpets, paper and its products, with a value of SR 9.5 billion made up 7.2 per cent of the total non-oil export value with a decrease of SR 277 million, 2.8 per cent lower than in the previous year.

Table 2A.10: The development of Saudi industrial exports by major sectors: 1985 – 2010

Year	Foodstuffs	Wood, Paper, Leather and Textiles & Other	Chemical and Plastic Products	Base Metals and Articles of Base Metals	Electrical Machines, & Tools	Re-exports	Total
1985	257 (4.6%)	119 (2.1%)	2,737 (49.0%)	392 (7.0%)	6 (0.11%)	2,072 (37.1%)	5,583 (100%)
1990	1,182 (7.6%)	924 (6.0%)	9,419 (60.9%)	1,231 (8.0%)	301 (1.9%)	2,414 (15.6%)	15,471 (100%)
1995	1,589 (6.5%)	1,866 (7.7%)	15,621 (64.2%)	2,631 (10.8%)	851 (3.5%)	1,762 (7.2%)	24,320 (100%)
2000	1,700 (6.9%)	2,357 (9.5%)	15,930 (64.2%)	1,982 (8.0%)	951 (3.8%)	1,886 (7.6%)	24,806 (100%)
2005	4,361 (6.2%)	5,809 (8.2%)	42,055 (59.4%)	4,991 (7.1%)	2,784 (3.9%)	10,773 (15.2%)	70,773 (100%)
2009	10,159 (9.3%)	9,840 (9.0%)	53,182 (48.9%)	6,998 (6.4%)	4,818 (4.4%)	23,768 (21.9%)	108,765 (100%)
2010	11,074 (8.3%)	9,563 (7.2%)	82,338 (61.6%)	7,205 (5.4%)	3,744 (2.8%)	19,641 (14.7%)	133,565 (100%)
average annually Growth	20.3%	26.4%	19.4%	20.9%	37.6%	11.5%	15.4%

** Source: SAMA (2011).

However, the value of the base metals and articles, and its related products during this period had a total value of SR 7.2 billion. This was 5.4 per cent of the total non-oil export value, with an increase of SR 207 million, which was 3 per cent higher than in the previous year. Finally, the export of machinery, equipment, and electrical appliances during this period totalled SR 3.7 billion which made up 2.8 per cent of the total non-oil export value, with a decrease of SR 1.0 billion which was 22 per cent lower than in the previous year. Table 2A.11 shows the details of the export trend during the period 2008 - 2010:

Table 2A.11: Exports by Country Grouping For the Years of 2008 - 2010

Region	2008		2009		2010	
	Value	% of Total	Value	%of Total	Value	%of Total
Gulf Cooperation Council	82,744	7.0%	71,543	9.9%	76,953	8.2%
Other Arab League Countries	63,880	5.4%	41,590	5.8%	49,753	5.3%
Asian not Arabic	647,259	55.1%	419,716	58.2%	554,981	58.9%
African not Arabic	25,104	2.1%	14,615	2.0%	16,521	1.8%
Australia and Oceania	3,235	0.3%	1,989	0.3%	1,890	0.2%
North America	203,207	17.3%	91,014	12.6%	131,997	14.0%
South America	12,973	1.1%	7,476	1.0%	10,221	1.1%
European Union	123,840	10.5%	66,421	9.2%	89,473	9.5%
Europe not European Union	13,167	1.1%	6,735	0.9%	9,992	1.1%
Total	1,175,409	100%	721,099	100%	941,781	100%

* Source: Export Statistics (2010)

(SAR Millions)

Table 2A.11 and figure 2.3 show the most important groups of countries which were exported to. Asian countries (non-Arabic) took the first position in terms of the total export value during this period by SR 518.5 billion. This made up 58.9 per cent of total exports with an increase of SR 135.2 billion which was 32 per cent higher than in the previous year. Official statistics show that the most important country of this group was Japan with SR 135.6 billion, which accounted for 26 per cent of the total of this group, followed by the Chinese Mainland with SR 112.2 billion, making up 22 per cent of the total of this group.

In second position was North American countries with a total value of SR 131.9 billion making up 14 per cent of total exports, with an increase of SR 40.9 billion which was 45 per cent higher than in the previous year. The most important country of this group was the U.S.A with SR 124.6 billion, 95 per cent of the total of this group, followed by Canada with SR 7.3 billion, 6 per cent of the total of this group.

However, the European Union Countries took third position with a total value of SR 89.4 billion making up 10 per cent of total exports with an increase of SR 23.0 billion which was 35 per cent higher than in the previous year. The most exported to country within this group was Spain with SR 17.7 billion (20 per cent), followed by France with SR 15.7 billion making up 18 per cent of the total of this group.

In fourth position was the Gulf Cooperation Council countries with a total of SR 76.9 billion making up 8.2 per cent of total exports with an increase of SR 5.410 billion which was 8 per cent higher than in the previous year. The most important country of this group was the United Arab Emirates with SR 32.923 billion making up 43 per cent of the total of this group, followed by Bahrain with SR 29.8 billion, 39 per cent of the total of this group.

The total export value to Other Arab Countries was SR 49.7 Billion making up 5 per cent of total exports with an increase of 8.1 billion, 20 per cent higher than in the previous year. The most exported to country within this group was Jordan with a value of SR 12.8 billion making up 26 per cent, followed by Egypt with a value of SR 9.7 billion, 20 per cent of the total of this group.

However, the export value to the African Countries was totalled at SR 16.5 billion accounting for 1.8 per cent of exports with an increase of SR 1.9 billion which was 13 per cent higher than the previous year. The most exported to country was South Africa with a value of SR 11.2 billion (68 per cent) followed by Kenya with SR 1.9 billion which accounted for 12 per cent of the total of this group. The export value of the countries of the Rest of the World was SR 13.0 billion making up 1 per cent of total exports.

2.1.6.1 The Saudi Export Program (SEP)

The governments of developed countries have, for several decades, attempted to establish national agencies for the provision of export credit, to enhance the competitiveness of their own exports, and to enable exporters to access global markets. Intense competition between these countries has recently led governments to seek to adopt systems and regulation controls working through these agencies. The arrangement referred to as the "Consensus Agreement" was agreed under the auspices of the Organisation for Economic Co-operation and Development (OECD)¹.

¹OECD website,(http://www.oecd.org/about/0,3347,en_2649_34171_1_1_1_1_1,00.html)

The globalisation of trade has imposed the need for developing countries to support exporters in their attempts to enter new international markets. On this basis, governments have provided insurance and guarantees directly to exporters or importers, and it is often supported by reinsurance arrangements and risk distribution with regional or international agencies. It is also noted that the national agencies dealing with export credits sought to create relationships with major international insurers and reinsurer companies under the strategic alliance agreements, in order to take advantage of their expertise in terms of risk assessment and the development of an information base.

The government of Saudi Arabia established the Saudi Export Program (SEP) in 1999 within the Saudi Fund for Development, to promote the export sector in Saudi Arabia, and assist in diversifying the national economic base, leading to a greater contribution to the GDP and minimising the dependence of the economy on a single commodity in the form of "crude oil". The main objectives of SEP are the development and diversification of Saudi non-oil exports, to maximize the competitiveness of Saudi exports by providing credit to foreign buyers and/or institutions, to motivate Saudi exporters to discover and enter new markets by mitigating the risks associated with non-payment, and to enhance the facilities offered by the programme and mitigate the associated risks through technical cooperation, joint financing, and reinsurance arrangements with the international and regional institutions involved in this area.

The SEP, as well as other government initiatives, will encourage the Saudi business community to develop the export sector which will result in greater production of better quality products, thus enabling Saudi Arabian exporters to increase the volume of Saudi exports and obtain many benefits, notably: an increase in sales volume and revenue, improved inventory management, improved capital turnover, a more competitive industry locally and abroad, to utilise the full capacity of their factories, increase their market share in various geographical locations, and to develop national products and industries.

SEP aims to assist national industry and Saudi exporters to achieve their goals of export development, and an increase in export volume, by providing them with funding and the guarantee/insurance facilities needed to increase competitiveness and mitigate the risks associated with international trade transactions which exporters may face, in particular, when entering new markets. The SEP offers such financial facilities based on pre-determined eligibility criteria and rules. In general, based on the risks involved and the specific nature of each export transaction, the SEP could support up to 100 per cent of the value of an eligible export transaction. In addition, the Saudi domestic value added for any product to be eligible for SEP support should be 25 per cent or more. The minimum value for any transaction should not be less than SR 100,000. The Program offers funding and guarantees facilities in Saudi Riyals or U.S. dollars. Besides that, the SEP contributes greatly to promotional activities by organising or participating in seminars, exhibitions, and by publishing brochures and newsletters introducing most of the national exports. Table 2A.12 clarifies the total numbers of exporters who have participated in the SEP financing programs until the end of 2011:

Table 2A.12: The SEP participating firms, ratio to total operating industrial units at end 2011.

Sector	Total firms participating of SEP ^(*)		Ratio of SEP participating firms to Total operating industrial units
	No.	per cent Share	
Products of Animals, Food & Beverages	59	11.8%	8%
Products of Wood, Paper, Leather and Textiles	30	6.0%	3%
Products of Chemical, Petrochemical, Plastic, Rubber and Medical care	102	20.4%	9%
Products of Building Material and Glassware	103	20.6%	7%
Products of Electrical, Machinery, Transport and Medical equipment	96	19.2%	17%
Services firms	110	22.0%	
Total	500	100%	11%

(**)Source: Saudi Export Program (SEP)

From the time the SEP was established until 2011, the total number of exporters registered on the SEP database amounted to 500 firms. Table 2A.12 shows that service firms represent 22 per cent of the total of firms registered with the SEP. These firms work as brokers in the local market by buying national products to sell in the foreign market. Firms that produce building material,

glassware, and chemical, petrochemical, plastic, rubber, and medical care products represent 20.6 per cent and 20.4 per cent respectively of the total number of firms registered with the SEP. In addition, they respectively make up 9 per cent and 7 per cent of total operating industrial units in Saudi Arabia. On the other hand, firms that produce electrical, machinery, transport, and medical equipment make up only 17 per cent of the total number of operating industrial units, and 19.2 per cent of the total number of firms registered with the SEP. In total, such firms registered with the SEP make up 11 per cent of the total number of operating industrial units in Saudi Arabia.

Table 2A.13 indicates that the SEP has attempted to spread internally through the different areas of the country, but that there is a concentration (55.4 per cent) in Riyadh province, where the capital is. This concentration may be attributed to the presence of two industrial cities in Riyadh. In second place the western region has the most registration and benefits of services provided by the SEP. 27.4 per cent of the total SEP registered firms hail from this region. After that the eastern region has only 13.6 per cent registered.

Although the cities of Jubail and Yanbu have been customised as industrial cities, it is noticeable that the firms located there have a low participation rate in the SEP. The participation rates of Jubail and Yanbu are 2.4 per cent and 0.4 per cent respectively. Table 2A.13 also shows that Riyadh and the western region have the same ratio in terms of the number of factories operating in the wood, paper, leather, and textile products sector, which are registered with SEP. It is half that in the Eastern Region. There are 25 food industry factories which are registered with the SEP, while in the central region there are only 20 factories in Riyadh. 22 factories are registered in the western region. These two regions account for 79 per cent of the total number of firms registered with the SEP with regard to Food & Beverages.

The number of factories in the building material and glassware sector which are registered with the SEP in Riyadh represents 52 per cent, whilst factories in the Western and Eastern regions are both around 43 per cent. In the chemical,

petrochemical, plastic, rubber, and medical care industries, the number of factories in Riyadh (54) accounted for 52 per cent, while the proportion in Jeddah city is about 27 per cent, and in the eastern region there are 17 per cent registered with 18 factories, including 7 factories in Jubail.

Table 2A.13: the total number of SEP registrations by regions and sectors until the end of 2011.

Products of	Food and Beverages	Wood, Paper, Leather and Textiles	Building Material and Glassware	Chemical, Petrochemical, Plastic, Rubber and Medical care	Electrical, Machinery, Transport, Tools and Medical equipment	Services	Total	per cent
Central Area	25	12	56	55	62	77	287	57.4%
Riyadh Capital	20	12	54	54	62	75	277	55.4%
others area	2	-	1	1	-	-	4	0.8%
Qassim	3	-	1	-	-	2	6	1.2%
EASTERN	9	6	22	18	8	5	68	13.6%
Dammam + others	9	6	18	11	8	4	56	11.2%
Jubayl	0	-	4	7	-	1	12	2.4%
WESTERN	22	12	23	28	26	26	137	27.4%
JEDDADH	16	11	22	27	26	25	127	25.4%
Maddinah	5	1	-	1	-	1	8	1.6%
Yanbu	1	-	1	-	-	-	2	0.4%
NORTHERN	2	-	-	-	-	2	4	0.8%
SOUTHERN	1	-	2	1	-	-	4	0.8%
Total	59	30	103	102	96	110	500	100.0%

Similarly, the factories operating in the electronics and equipment sector, totalled 96 firms which have registered with the SEP, of which 62 factories are in Riyadh representing 64 per cent of the total, followed by 26 factories in Jeddah, then Dammam with 8 factories. The service companies, both those working in the field of buying local products and selling them to overseas buyers, or companies working in contracting, or operating in consultancy and engineering services, have a very high proportion of firms registered with the SEP. Around 68 per cent of them registered are from Riyadh and 26 per cent from Jeddah. In terms of the factories in the Northern and Southern regions, the proportion of firms registered with the SEP is very small - four firms from each region at the end of 2011. Three of these factories are in the food and beverages industry, two are in the building material and glassware sector, and one firm is in the plastic sector.

Although the SEP was established in 1999, it only actually started its operation of providing finance, in 2001. Moreover, the credit guarantee service was launched as one of the services provided by the SEP at the end of 2003. Since the SEP's inception, and until 2011, it has achieved a great deal. The total financing and guarantee facilities support SR 22.7 billion worth of exports (shown in Table 2A.14), reaching to about 48 countries¹.

Table 2A.14: Finance and Guarantees of Saudi Exports (*)

Operations	Manufactured metal, Machines and equipment	Chemical and Plastic Products	Capital projects	Other**	Sub-Total	Credit line	total
2001 Finance	69	37	-	-	106	235	341
Guarantee	-	-	-	-	-	-	-
2002 Finance	9.67	72.75	-	-	82.42	18.19	100.61
Guarantee	-	-	-	-	-	-	-
2003 Finance	12.46	117	217.94	-	347.4	19.88	367.28
Guarantee	-	0.71	-	1.27	1.98	-	1.98
2004 Finance	110	199.5	-	-	309.5	40.5	350
Guarantee	1.46	2.5	-	38.37	42.33	-	42.33
2005 Finance	-	604.66	169.52	135.3	909.48	173.96	1083.44
Guarantee	24.01	67.43	80.88	22.49	194.81	-	194.81
2006 Finance	-	140.35	167	202.5	509.85	1215.25	1725.1
Guarantee	5.08	602.606	6.13	101.44	715.256	-	715.256
2007 Finance	3.15	110.47	40.88	-	154.5	277.5	432
Guarantee	8.76	1450.99	24.73	275.85	1760.33	-	1760.33
2008 Finance	231.25	483.75	-	-	715	123.75	838.75
Guarantee	1.9	3222.12	23.19	278.24	3525.45	-	3525.45
2009 Finance	311.38	451	37.5	20	819.88	145	964.88
Guarantee	22.8	2102.4	-	136.78	2261.98	-	2261.98
2010 Finance	313.25	506.25	-	-	819.5	396.25	1215.75
Guarantee	7.66	2285.32	-	205.4	2498.38	-	2498.38
2011 Finance	-	1266	1005	188	2459	240	2699
Guarantee	14	2857	-	30	2901	-	2901
Total Finance	1060.16	3988.73	1637.84	545.8	7232.53	2774.28	10006.81
Total Guarantee	85.67	12591.076	134.93	1089.84	13901.516	-	13901.516

(*) source: Saudi Fund for Development, SEP

(Million Riyals)

**Others: animal products, foodstuffs and beverages, wood, paper, leather and textile products.

Table 2A.14 illustrates that the volume of financing and credit insurance provided by the SEP to cover non-oil exports has risen noticeably. In 2003 there was

¹SFD (2010), Annual Report.

SR 367.28 and SR 1.98 million available for finance and insurance respectively which rose to SR 2,699 million and SR 2,901 respectively in 2011. The products which were funded by the SEP with regard to manufactured metal, machines, and equipment amounted to a financing volume of SR 1,145.83 million, including SR 1060.16 million for financing operations and SR 85.67 million for credit insurance operations. Chemical and plastic products were funded to the tune of SR 16,582.8 million including SR 3,988 million for financing operations and SR 12,591 million for credit insurance operations. The funding of capital projects amounted to SR 1,772 million, including SR 1,637 million for financing operations and SR 134.9 million for credit insurance operations. Other products consisting of animal products, food-stuffs and beverages, wood, paper, leather, and textile products received funding of SR 1635.64, including SR 545 million for financing operations and SR 1,089 million for credit insurance operations. There are different mechanisms of direct funding which work in three ways:

(1) Supplier credit assists Saudi exporters to provide the required credit to foreign importers.

(2) Local Buyer Credit that is offered by the SEP. Such credit facilities are available to Saudi businessmen (local buyers) and to investors who execute projects outside the KSA and need financing from the SEP to help export Saudi goods and services which they then use for project implementation.

(3) Foreign Buyer (Importer) Credits. These credit facilities assist importers from outside the KSA to obtain the required financing directly from the SEP.

However, indirect funding uses lines of credit from banks, financial institutions, and large firms. Usually it is provided to commercial banks and financial institutions which will be acting as agents for the SEP in the importer's country. It focuses on SME's as the main beneficiaries. The repayment period depends on the type of exports; short term is up to 2 years for consumable goods and raw materials. Medium term is up to 7 years for consumable durable goods and semi-capital

goods. Long term is up to 15 years for capital and durable goods, turnkey contracts, and projects.

The total financing applications approved by the end of 2011 reached a value of SR 10 billion compared to SR 7.3 billion in 2010. The SEP provides facilities including direct funding operations amounting to SR 7,232.53 million. In addition to this, the program has opened lines of credit with several foreign banks amounting to SR 2,774.28 million. These lines of credit are mainly used by small to medium sized enterprises. The SEP operations have tended to focus on Asia and Africa with 55.1 per cent and 43.8 per cent respectively, and there were three direct export finances available to firms dealing with Europe, and North and South America. Table 2A.15 shows the geographical distribution of financing activities by the SEP until the end of 2011:

Table 2A.15: Geographical Distribution of Financing Activities by SEP until the end of 2011

(Million Riyals)			
Region	Number	Amount**	per cent
Africa	76	4382.98	43.8%
Asia	48	5513.73	55.1%
Others (Europe, America North and South)	3	110.1	1.1%
Total	127	10006.81	100.0%

(*) source: Saudi Fund for Development, SEP

On the other hand, The Guarantee Service's gross coverage under the program amounts to SR 13.9 Billion compared to more than SR 11.0 billion in 2011.

Export credit insurance and guarantee facilities aim to offer guarantees for exporters against non-payment risk. It also offer guarantees for commercial banks which are prepared to finance local exporters. In addition the SEP covers non-payment risks such as commercial risks, it covers up to 90 per cent for commercial activity and covers political risks up to 90 per cent.

There are several types of export credit insurance policies:

(1) Whole turn-over policy; this policy covers all of an exporters' risks involved in dealing with registered importers in different countries. The SEP studies and

evaluates each importer and assigns an adequate credit limit for that importer. Subject to the approval of the SEP, Saudi Exporters (Policy Holders) can add other importers to the policy during the term of its validity. Whole turn-over policy is usually short term (about one year).

(2) Specific transaction policy; this policy covers all export risks involved in a single transaction. Under this policy, the SEP could cover an open account of a customer, or confirm documentary credits.

(3) Fields of co-operation with local banks; bank's acceptance to finance SEP insurance policyholders (post shipment), and guarantees to financing working capital (Pre-shipment) for exporters (Policy Holders). It also covers documentary credit insurance policy (DCIP) as well as confirming incoming L/C's (Specific Operations). Finally, it offers an exchange of credit information and reports.

2.1.7 Conclusion

The government of Saudi Arabia has paid special attention to the subject of the diversification of the economic base. This was due to its dependence on oil as a main source of income through exporting it as a raw material. This interest manifested itself when the state followed an economic strategy which sought to exploit the income generated by oil exports as a means of diversifying the structure and the number of commodity exports, thus contributing to a reduction in the political and economic risks associated with a heavy reliance on oil. Like other countries in the world, the government has pursued an industrial development strategy by working on import substitution and export development. It has found the facilities to ensure the development and promotion of the role of the private sector, primarily focusing on industrial exports, trying to reduce the impact of the risks which businesses face, and encouraging the creation and activation of appropriate institutional frameworks to support these exports. In this regard, the government has established the Saudi Industrial Development Fund which plays an important role in lending to enterprises and new small sized companies, in order for them to expand in terms of size and quality, and therefore enabling them to target both close foreign markets and those further away. The government also

established the General Investment Authority (SAGIA) which seeks to attract foreign direct investment in order to take advantage of the technical development of products and improve production, thereby enhancing the competitiveness of local products in international markets.

Another important government institutional framework which was established was the "Saudi Export Program" under the umbrella of the Saudi Fund for Development, in order to develop national non-oil exports and encourage diversification, this program provides financial incentives and credit to exporters on the one hand, and on the other provides competitive credit terms for buyers abroad or for funding institutions working in this area.

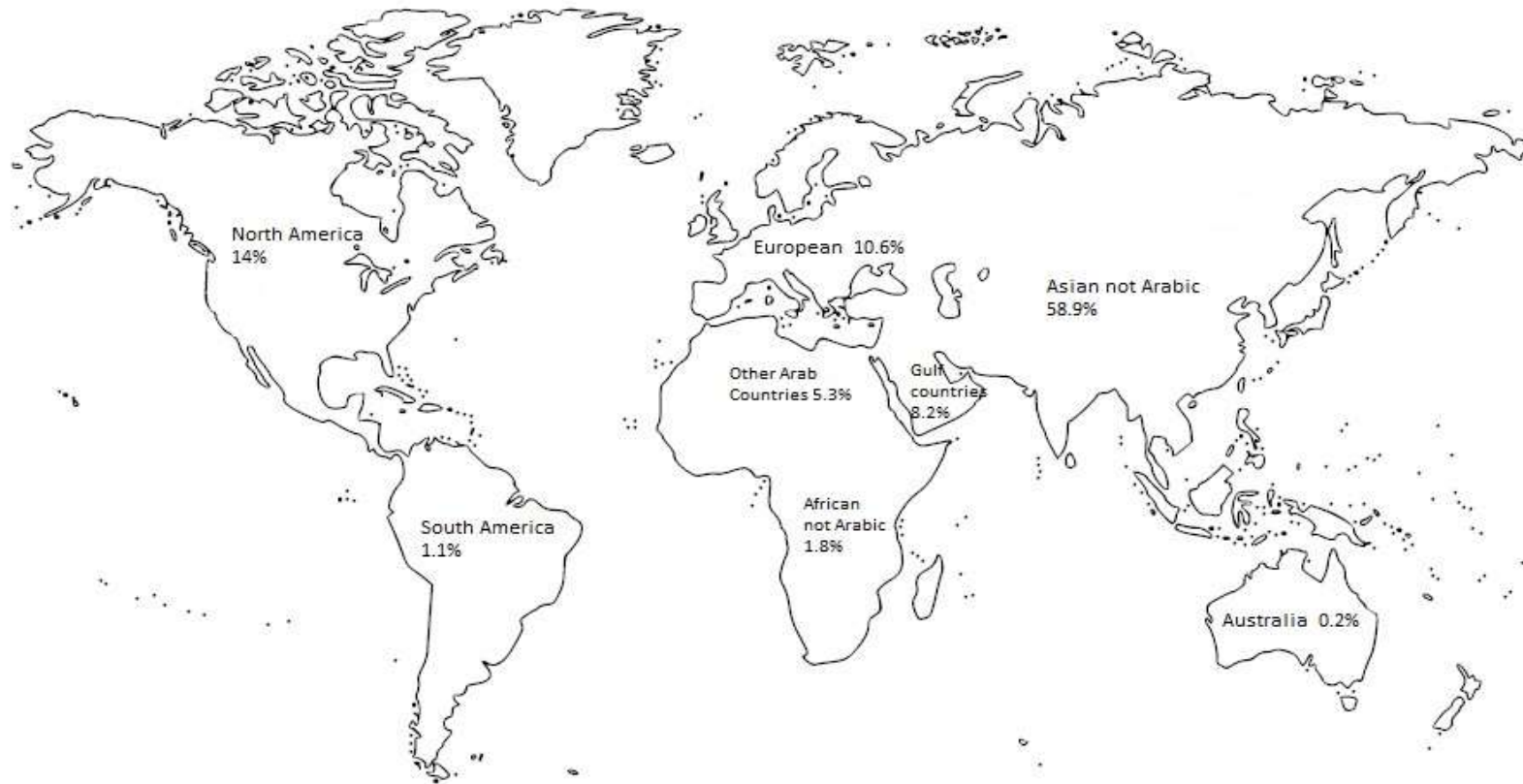
This program indirectly assisted the improvement of Saudi products and an increase in their quality. It also overcame the financial obstacles that prevented exports gaining access to foreign markets. On the other hand, the SEP identified these products in other importing countries, thus creating a demand from consumers and manufacturers in those countries for these products, and the continuation of this demand and growth over time.

It is clear from the above that the institutional frameworks have contributed effectively to supporting export industries, which has led to an increase in the percentage of their contribution to GDP, and has improved the national balance of payments, supported the economy, diversified its resources, as well as created more job opportunities for national workers. However, it remains the case that firms which aim to export should seek to improve their export ability and competitiveness. They also need access to specialised information in terms of the global markets and with regard to benchmarking competitiveness, creating effective systems for export, exploiting opportunities associated with e-commerce, implementing international quality, and applying standards of environmental conservation.

Figure 2.2 : Map outlining the regions of Saudi Arabia



Figure 2.3 : Map of % of Saudi exports by country grouping at end 2010



2.2 The structural characteristics of sample firms

2.2.1 Introduction

Exports are an important component of the Saudi national income and they play a key role in the economy. The main Saudi export is oil, which has been led by the Saudi Arabian Oil Company (ARAMCO). ARAMCO produces, manufactures, markets and ships crude oil, natural gas and petroleum products. The petroleum sector accounts for roughly 75% of budget revenues, 45% of GDP, and 90% of export earnings. About 40% of GDP comes from the private sector (SAMA, 2011). With the continuous volatility of oil prices along with the pressing need for economic growth and development, Saudi Arabia had planned to diversify its sources of income by making changes in the infrastructure of the national economy to expand the country's productivity base. To that end, most efforts are currently focused on the development of the non-oil export sector.

In an attempt to encourage the private sector to play its intended role in the economy, Saudi Arabia has created different organisations and financial institutions to assist this sector. The private sector's contribution to the export sector, however, remains weak, amounting to 15 per cent of the country's total exports.

The concept of expanding current exports in developing countries has received considerable attention in recent decades in development literature. Studies such as those by Cavusgil and Nevin (1981), Todaro (1986), Barker and Kaynak (1992), Gumede (2000), Aynul and (2004) and Fatih (2009), among many others, find a positive causal link between the expansion of exports and economic growth. This positive link has resulted in many countries expanding their export performance programs.

Some firms choosing not to export, it have been analysed reasons (i.e. Bilkey and Tesar, 1977; Bilkey, 1978; Bijmolt and Zwart, 1994; Sharkey et al., 1989; Westhead et al., 1995) and how to convert these non-exporters to exporters. The aforementioned literature discussed reasons for firm that not have been encouraged to export in developed countries, on the other hand, there is literature that also studies the issues firms face when exporting in developing countries.

However, Al-Twuijri (2001), Al-Jarrah (2008) Shirazi and Abdulmanap (2005), and Dastjerdi, et al. (2012) Alimi and Muse (2012) amongst few studies discuss the importance of exporting for income diversification, especially for countries such as Saudi Arabia, Nigeria and Iran, all of which depend on exporting single goods, such as oil. A number of studies such as Al-Aali (1995), Crick et al. (1998), Al-Qahtany (2001) have identified some major factors that contribute towards export barriers. Macro variables include those related to government policy which supports manufacturing and exports. External variables include the sector characteristics and business environment of the firm. Micro level factors or internal variables include the size of the firm.

The impact of exports on economic development has been published on a considerable amount of literature, along with the challenges and obstacles of exporting i.e Balassa, B. (1978), Feder, G. (1983), Al-Yousif,(1997), Al-Yousif,(1997), Al-Yousif,(1997), Al-Yousif,(1997), Alimi and Muse(2012), Mehraraet al. (2012), Ben Jebli and Ben Youssef (2013), Elbeydi et al. (2010 and Lee and Huang (2002). These studies cover three distinct areas: The effects of export expansion on economic growth, firms' export behaviour and why some firms export more than others (export barriers), and empirical studies of obstacles faced by Saudi exporters'. The effects of export expansion on economic development in developing countries have received considerable attention in development literature during recent decades. Exports play an important role in accelerating economic growth and they increase the use of human resources and capital (Todaro, 1977). The expansion of exports has positive effects on both the growth of the economy and individual firms (Cavusgil and Nevin, 1981).

Positive outcomes of exporting include: increased profitability, improved capacity utilization, avoidance of risky reliance on one market, increases in employment, improved trade balance, and improved quality of life (Barker and Kaynak, 1992). In addition, studies such as those by Gumede (2000), Aynul and Hirohito (2004) and Fatih (2009) find a positive causal link between the expansion of exports and economic growth. This positive link has resulted in many countries developing export performance programs. Bilkey's (1978) research analyses motivation for exporting. Some firms are pushed into exporting by external variables (e.g., a foreign customer or agent); some with no evident objectives take advantage of export opportunities if they come their way, whilst others are

motivated to begin exporting deliberately. Although marginal exporters involve low level exporting, they have learnt the export basics which could also lead to them perceiving more barriers in exporting than actually exist. Sharkey et al. (1989) explain that marginal exporters are those exploring exporting opportunities and may have filled some unsolicited orders. Active exporters have mastered the technicalities of exporting, have learnt that exporting is an important means for achieving organisational goals and have learnt to cope with various export barriers (Sharkey et al., 1989).

Dejo-Oricain and Ramírez (2009) divide the determinants of firms' export behaviour into three groups: firm sector to which the exporting firm belongs, firm-specific characteristics (export level, firm size, organisational experience, product diversification, international experience, export regularity, geographical diversification, and level of ICT implementation) and the export destination market. After a cluster analysis, Dejo-Oricain and Ramirez (2009) identified five exporting firm profiles that show different grades of commitment in the international expansion of the firms. These range from those with the least commitment (firms in group one) to the greatest international commitment (group five). These five different export profiles reflect varying degrees of commitment and different strategies in their international expansion. The main results, however, show that Spanish SME's show large differences among them. Group five on average is present in 32 countries from almost all international regions, whilst the number of markets in group one is the lowest and in widely dispersed geographical areas. In terms of sector effect, the results reported that firms' export behaviour was influenced by their sector, as there are specific characteristics for each sector that affect export opportunities.

Although exporters perceive more barriers to exporting than non-exporters (Bilkey and Tesar, 1970), several researchers claim that non-exporters do perceive considerable barriers to exporting (Ahmed et al., 2004; Bilkey and Tesar, 1977; Kedia and Chhokar, 1986). Bilkey (1978) outlines the most common obstacles to exporting: foreign formal constraints; lack of finances; inadequate connections to the foreign market; lack of knowledge about potential export markets; and deficiency of sufficient channels of distribution abroad. Cavusgil and Nevin (1981) list two factors that explain why firms in general are reluctant to export. The first is the lack of macro-level incentives and a stimulating national export policy. The second factor contends that the real problems are

internal to the firm. The real barriers to a firm's involvement in export marketing are internal rather than external.

In a comprehensive study of the barriers to exporting, Bauerschmidt et al. (1985) analyse the U.S. paper industry. The study principally covers experienced exporters who were asked to rank the importance of seventeen potential export barriers. The findings suggest that the high value of the U.S. dollar relative to foreign currencies was perceived to be an extremely important barrier, whilst high transportation costs were also considered to be extremely important. Medium importance was attached to the risks involved in selling abroad, high foreign tariffs on imported products and management emphasis on developing domestic markets.

Barker and Kaynak (1992) showed that the most important obstacles encountered by exporters were too much red tape, trade barriers, transportation difficulties, lack of export incentives and lack of trained personnel for export operations and co-ordinated export assistance. On the other hand, the most important obstacles that confronted non-exporters were a lack of foreign market contacts, high initial investment, trade barriers, a lack of information about exporting and a lack of personnel. Alexandrides (1971) published one of the first papers to investigate the barriers to exporting. Alexandrides' research proposed that the major problems preventing firms from initiating exporting operations were the existence of intense competition in foreign markets, a lack of knowledge of exporting, inadequate understanding of export payment procedures and difficulties in locating foreign markets.

Dejo-Oricain and Ramírez (2009) discussed the impact of firm size on exporting, they found four reasons why large firms enjoy advantages related to their size that make them more active in terms of exporting. Firstly, large firms have more financial, material and human resources available, which are pivotal for developing and maintaining an export programme. Secondly, managers in large firms have higher levels of expertise and are more dynamic. They are capable of appreciating the advantages of exporting and, as a result, they develop strategies to export effectively. Size not only supports entry into foreign markets it also provides a greater ability to respond effectively to the demands of customers abroad. Thirdly, larger firms are more competitive as they are able to produce

more economies of scale and have greater potential in the market. Fourthly, they are potentially better able to bear export risks because they have easy access to information sources and they have the ability to withstand the impact of international errors. The size of large firms is also associated with lower average or marginal costs that positively reflect as advantages in terms of exports. However, Dejo-Oricain and Ramírez (2009) point out that a firm's smaller size is not a hindrance for exporting, as exporting is the form of internationalisation that requires fewer resources compared with other forms of entry into foreign markets.

The aim of this chapter is to identify for further analysis the following topics of increased the level of exports. To answer this question a number of sub-questions also need to be addressed: What are the characteristics of trade operations? Where are the sales moving to? Are there problems in obtaining raw materials? Are there problems in product marketing? Does theft or damage occur during the exporting process? However, a major problem that this application is faced with is lack of data to answer the research questions.

Moreover, there is lack of comprehensive research, failing to cover manufacturing behaviour in Saudi Arabia and other Gulf countries. In particular, no studies have examined the potential reasons for the low contribution from non-oil exports to the total exports in the previous decades. This chapter will analyse the environment of non-oil export operations. The work also attempts to provide a complete view of the obstacles and barriers faced by non-oil exporters when selling their products abroad by using new survey data

This section has been divided into five parts. The following part briefly reviews the literature that focuses empirical studies of obstacles to Saudi Arabian exporters. Part three presents the methodology involved in the different stages of the analysis, whilst part four describes and showcases the data. The final part of this chapter summarises the main results and the conclusion.

2.2.2 Empirical studies of obstacles to Saudi Arabian exporters

There is a lack of empirical studies that examine Saudi Arabian export barriers. Al-Aali (1995) illustrates some obstacles facing Saudi exporters. This study focuses on two types of industry: chemicals and food. It examined responses from 58 food and chemical exporters in Saudi Arabia. Out of 447 exporters, a random sample of 148 firms was selected to participate in the study. One hundred-forty usable responses were obtained, which included responses from 58 firms pertaining to this study: 30 in the food and beverage industry and 28 in the chemical and petrochemical industry. Managerial perceptions on 24 export obstacles that were derived from the literature were analysed and reported. The single most important obstacle perceived by the Al-Aali sample is severe competition in foreign markets. Competition is followed by the high cost of imported raw materials, absence of information about foreign markets, wide fluctuations in the foreign exchange rate, and high overseas transportation costs. The eight categories of the obstacles are: market information, competition, shipping, government policy, foreign market risks, export procedures, production/marketing cost, and internal/technical problems. The Al-Aali study relies on MANOVA analysis, which showed that chemical and food exporters are statistically different in their mean response to these obstacles. ANOVA determined the variables that are different at the .05 level. They are: risks involved in selling abroad; language and cultural differences; complex export procedures; lack of an adequate export revenue insurance programme; and absence of an export management and consulting company. Managerial and policy implications are discussed. Furthermore, recommendations for tackling the top export obstacles are presented.

Crick et al. (1998) is considered to be important to differentiate between firms in relation to their export involvement (non-exporters are not considered in the Crick et al. study) to establish whether differences exist between low and high involvement exporting firms concerning perceptions towards the variation in importance of obstacles to exporting.

The firms in the Crick et al. study did not have an export ratio at approximately the 50 per cent level; Crick et al. believed this allowed firms to be clearly defined as having

either a low or high export involvement. In practice therefore, low involvement exporters had an export ratio of below 35 per cent, whereas those with a high export involvement had an export ratio of above 60 per cent. Furthermore, Crick et al. argued that since there is no single agreed method by which to categorise particular sizes of firms, different statistical results are likely to result from particular subjective classifications. The effect of firm size was considered to be a co-variate in the study investigation. As Crick et al. illustrated this leads to the following hypothesis (placed in the conventional null hypothesis format): there are no significant differences between the perceived obstacles to the exporting of particularly sized low and high involvement Saudi Arabian exporters of non-oil products. In total, the questionnaire was mailed to 411 firms, which was all the Saudi Arabian exporters of non-oil products with at least two years of export experience, as identified by the Saudi Export Development Centre from the Saudi Export Directory. In calculating the overall response rate, 108 questionnaires were returned although nine were considered to be unusable. In total, 99 responses were obtained, representing an overall response rate of 24 per cent.

- Analysing the results relied on the factor analysis: the existence of an underlying structure in the data was first explored and that was subsequently followed by analysis using MANCOVA to establish whether statistical differences existed between low and high involvement Saudi Arabian exporters of non-oil products in relation to the derived factor scores; firm size was used as a co-variate. The findings list the most important common obstacles encountered by firms: competition in export markets; lack of market information; fear of imposed dumping policies; increasing tariffs; a lack of clarity concerning trade agreements; import restrictions; the cost of importing raw material; and a lack of suitable personnel. Al-Qahtany (2001) explores the obstacles facing Saudi exporters of non-oil products. The sampling frame was comprised of 411 firms that have been involved in exporting for at least two years as identified by the Saudi Export Development Center (under the umbrella of the Council for Saudi Chambers of Commerce and Industry). Al-Qahtany reported the difficulties faced with the responses. Owing to the poor quality of the postal service, some firms did not receive the questionnaire, and in some cases the researcher had to deliver it by hand. Some respondents thought the questionnaire was a waste of time because they did not

recognise the importance of such research to their export development. By the middle of November 1998, which was the cut-off date, 108 questionnaires had been returned, of which nine were unusable, leaving 99 usable responses. The response rate was, therefore, 24 per cent, which was considered to be an acceptable response rate. The study investigated twenty five obstacles that have some relation to non-oil export products. Competition with foreign firms was found to be the most substantial obstacle, followed by a lack of information about potential export markets. These are categorised as external barriers, and are, to some extent, uncontrollable. Additionally, some firms complained about the high electricity connection fees and therefore the investigation suggests that special electricity connection fees for export firms could be adopted.

On the other hand, relying on time series analysis for period from 1969 to 1996, Al-Twuijri (2001) investigates the causal relationship between economic growth and exports in Saudi Arabia. The results show a strong bi-directional causal pathway. Also, the study by Al-Jarrah (2008) examines the relationship between economic development and the performance of non-oil exports in Saudi Arabia, the study period of 1970-2003. The results support previous evidence of the positive effect of non-oil exports on the economic development of Saudi Arabia. The study also finds that the growth of non-oil exports has a positive impact on investment and production in the country.

2.2.3 Data Methodology

This study is based on an empirical investigation of the barriers Saudi Arabian firms face when engaging in exportation. The study depends upon primary data obtained by a specific questionnaire designed to generate data from Saudi exporters. The data was collected between September and December 2011. This chapter focuses on the different parts of the questionnaire such as the general information given about firms, their infrastructure, labour, production capacity and trade analysis. The analysis presented in this chapter relies upon statistical analysis such as mean, standard error, variance, F-test, factors impact ranking and a one-way ANOVA test.

The sample consisted of different sized firms from a variety of industries with different levels of operation and export experience and other measurable characteristics. These firms were trying either to expand the level of exports or the level of sales in the

domestic market. Table B2.1 shows the sector distribution of the sample by main region. It consists only of firms that export manufacturing products in Saudi Arabia within the following sectors: food and beverages, wood, paper, leather and textiles, chemical, petrochemical, plastic, rubber and medical care, building materials and glassware, and electronics, machinery, transport, tools and medical equipment. Table B2.2 also includes information about time periods in relation to formal registration, type of current legal status, females amongst the owners of the firm, and the possession of a locally or internationally recognised quality certification.

The largest group of firms was based in Riyadh or the Central Region (97 firms). 47.4 per cent of the total sample in the Central Region was working in chemical, petrochemical, plastic, rubber and medical care products. Firms reporting operations in both the East and West consisted of 77 respondents, but only one firm was based exclusively in the Northern region. The chemical, petrochemical, plastic, rubber and medical care products represented 49.3 per cent of the total sample in both Eastern and Western regions.

A major factor that describes the data sample is experience; 77.14 per cent of the total sample was established more than sixteen years prior to participating in this study. 17.71 per cent of the sample companies had been running between 6 – 15 years - this period is from the WTO being established in 1995 and Saudi Arabia's accession to the WTO in 2005-. Firm had been in manufacturing for less than five years around 5 per cent, reflecting the period after Saudi Arabia joined the WTO in 2005.

The classified of size of firm is relying on total sales and employee volume categories. Firms were grouped into the following five size categories dependent on total sales figures: (1) micro firms with annual sales of up to 10 million SAR, (2) small-sized firms with sales between 11 million and 25 million SAR, (3) medium-sized firms with sales between 26 million and 50 million SAR, (4) more-than-medium, less-than-large firms with sales between 51 million and 100 million SAR, and finally (5) large firms with sales in excess of 100 million SAR. Using the number of employees, firms were grouped into four size categories: (1) micro firms with less than five employees; (2) small-sized firms with

six to 20 employees; (3) medium-sized firms with 21 to 99 employees, and (4) large firms with more than 100 employees.

The majority of firms had total sales in excess of 100 million SAR as describe a large firm represent 39 per cent; sales of 10 million SAR and less had 11 per cent. The remaining firms' sales ranged from 11 million to 25 million SAR, between 26 million and 50 million SAR and between 51 million and 100 million SAR representatives 50 per cent.

The sample showcases that the largest proportion of firms, around 75 per cent of the total sample, had more than 100 employees. Around 48 per cent of companies considered in the large group in terms of employees were in the chemical, petrochemical, plastic, rubber and medical care raw materials sector, which represent 37 per cent of total employees.

The majority of respondents' firms, 48 per cent of the total sample, were working in chemical, petrochemical, plastic, rubber and medical care production. As can be seen in Table B2.5, two of the groups were representative of 16 per cent of the sample, namely the firms categorised as electrical, machinery, transport and medical equipment and firms producing wood, paper, leather and textiles. The firms involving electronics, machinery, transport and medical equipment represent 93 per cent in the same group of the SEP participants, compared with the firms producing wood, paper, leather and textile products with a percentage 29 per cent in the same sector in the SEP.

Table B2.5 shows figures concerning ownership from the study sample. Approximately one-third of the sample consisted of limited partnerships, 26 per cent were partnerships and 21 per cent were sole proprietorships²². The rest (less than 20 per cent) of the firms had a shareholding firm and three per cent of them just had trade shares in the stock market.

²²This indicates that one person owns and manages the business and is personally responsible for its debts.

2.2.4 Descriptive Sample Information

2.2.4.1 Export intensity: Rate of firms' exports

Local sales in the domestic or national market and exports to foreign markets are the two principal networks through which a firm's total sales are received. In selling products to consumers, certain organisations use direct marketing to move their goods (Table 2B.6b). A proportion of sales are typically sold through indirect marketing which uses third parties, such as agents or distributors, to sell products in order to export them to overseas markets. Table 2B.6a presents the average percentage of export intensity categorised by type of ownership, labour and sales while Table 2B.6b presents the average percentage of export intensity and national sales by sector. In the present study, the questionnaire responses given by 107 of the 175 respondent firms reveal that their proportion of exports of total sales is at 23 per cent. The other sixty-eight firms interviewed reported export value percentages of either above 23 per cent (23-80 per cent) or below 20 per cent.

The ratio export intensity for all manufacturing firms (Table 2.6a) was 20% for small firms (5-19 employees), 24.55% for medium-sized firms (20-99 employees) and 22.73% for firms with more than 100 employees in 2011 according to our survey data. This ratio showed a greater increase for medium-sized firms than for large firms. On the other hand the proportion of export intensity for all exporting firms was 13.93% for small firms (sales of 10 million SAR and less), 26.73% for firms with total sales of 11-25 million, 13.38% for firms with total sales of 26-51 million, 26.76% for firms with total sales of 51-100 million, and 22.8% for firms with sales of more than 100 million. On the total sales measurement, this ratio showed fluctuated, export intensity rise from firms their sales (10 million SAR and less) to firms had total sales (11-25 million) then fall for firms had total sales (26-51 million) then grow for firms had total sales (51-100 million) and decrease for firms with sales is more than 100 million. Table 2.6b reveal that the average value of all of the firms' exports for the food and beverage industry this percentage drops to only 16 per cent. For the electrical, transport, tools, medical equipment and machinery sector the average value of exports rises to 30 per cent.

2.2.4.2 Export experience analysis

It can be seen from the data in Table 2B.7 panel (a) that around 5 per cent of exporters have been exporting for less than two years, 30 per cent between three to twelve years, 50 per cent between thirteen to twenty-two years and 23 per cent for more than twenty-three years. Additionally, the statistics show that 32 per cent of exporters sold over 20 per cent of their sales through exports and, for 67 per cent of the firms, exports represented less than 20 per cent of their annual gross sales. This can lead to the conclusion that many firms are attempting to export but are not capable of doing so successfully.

Approximately 14 per cent of exporting firms started exporting after the government established the Saudi Industrial Development Fund (SIDF) in 1974 and created the first industrial cities in the country. Around 50 per cent of firms began exporting after the government pushed into the local market large raw material provider Saudi Basic Industries Corporation (SABIC) which began production in 1981. In 2000, the Saudi Export Program (SEP) established services to provide exporters with funding and to guarantee the percentage of export sales for firms that began to export was around 30 per cent.

2.2.4.3 Export orientation of firms

It is expected that the majority of exports go to nearby markets. Table 2B.7 panel (b) shows that 86 per cent of the sample firms stated that their principal export destination is the Gulf Cooperation Council (GCC) markets, 83 per cent the Arabian region (not including GCC countries), 29 per cent African countries (not including Arabian countries), 22 per cent Asian countries (not including GCC and Arabian countries), 13 per cent Europe and only 5 per cent of the companies listed the USA as their principal export destination. The fact that the GCC and the Arabian region are major export destinations and geographically proximate makes them attractive markets. Many of these nearby economies are structurally similar to the Saudi economy (Al-Aali, 1995).

2.2.4.4 Analysis of trade operations' characteristics

Table 2B.8 shows the mean values of the trade operations' characteristics indicators of the representative sample of Saudi Arabian exporters. It is important to note that the

sources of supplies for manufacturers are 65 per cent domestic in origin and 35 per cent foreign in origin. It also shows that, on average, the firms imported 90 per cent of their foreign-sourced raw materials directly from foreign nations.

Table 2B.8 also shows that the mean amount of days it takes to clear imported raw material through Saudi customs is around eight days. Chemical, petrochemical, plastic, rubber and medical care raw material takes around eleven days to clear and it takes five days on average for food and beverage raw material to clear Saudi customs. Exported goods take five days on average to clear customs. This decreases to two days for food and beverage products and increases to eight days for building material and glassware products and electrical, machinery, transport, tools and medical equipment products. The proportion of exporters who have been affected by loss of exports through breakage or spoilage during the export process is 10 per cent of the total sample; a loss of around 1.9 per cent of total sales. There was no loss of exports due to theft.

2.2.4.5 Firms' export marketing

Export firms can be involved in different distribution channels, especially when marketing abroad. The most important current distribution channels are the firm's sales force, independent agents, distributors or wholesalers and firm-owned retail stores and independent retail stores. As can be seen from Table 2B.7 panel (a), 86 per cent of firms depend upon their sales force whilst the use of other channels remains low.

Export marketing is also engaged in providing an offer that attracts buyers. The offer is communicated to the buyer using sales promotion activities. The promotional activities listed in the questionnaire include: trade association participation; trade fair exhibitions; print advertising; TV and radio advertising; family and personal links; direct mail advertising; firm and product brochures; and the internet. Table 3.4b shows the mean value of each method, with 86 per cent of firms using trade fair exhibitions and firm and product brochures. Only 30 per cent of firms participated in trade associations, who provide easy access to the market with member benefits such as the Saudi Exports Centre. However, as Table 2B.9 panel (c) shows, export marketing efforts through various activities also focuses on nearby markets. This has resulted in the risk element in export marketing being very low for Saudi exporters.

2.2.4.6 Infrastructure

The data in Table 2B.10 shows the status of electric services by type of ownership, size and sector. Approximately 46 per cent of exporters have been experiencing electric failures over the past year, five times the average number of power outages that typically occur during a year, and with an average power outage duration of 1.17 hours. The resulting losses due to power outages come to around 0.74 per cent of total annual sales. The food and beverage sector recorded the highest loss amongst all sectors with a loss of 2.14 per cent of total annual sales. The Middle East and North Africa (MENA) countries average value of sales losses due to power outages is 5.59 per cent and for all other countries it is 4.90 per cent. It is clear that Saudi Arabian infrastructure is better according to both regional and world averages.

Table 2B.11 presents the status of water services categorised by type of ownership, size and sector. Approximately 17 per cent of firms that faced water insufficiencies and the average number of incidents of water insufficiency per month was around 1.4. However, the average duration of insufficient water supply was 7.63 hours. This period increased to 10.3 hours in the building material and glassware sector. The percentage of the water supply used in the production process from public sources was around 7.9 per cent for firms in this sector but it rose to 27 per cent in the food and beverage sector. Table 2B.12 illustrates the status of communication services according to type of ownership, size and sector. It can be seen from the data in Table 2B.12 that most firms have engaged very well with communication services, for example, firms use e-mail to communicate with clients or suppliers, firms use their own websites, firms have a high-speed internet connection on their premises and firms use the internet to make purchases for the firm, to deliver services to clients or to undertake research and develop for new products and services.

2.2.4.7 Competition

It can be seen in Table 2B.13 that approximately a fifth of firms use the international market to sell their primary product, just over 27 per cent sell through their local market and over half deal with the national market. More than 50 per cent of the national market share and over a quarter of the international market share is held by the

chemical, petrochemical, plastic, rubber and medical care sector. The market leader of the local market is the wood, paper, leather and textiles industry which holds over 44 per cent of the local market share. It can be concluded that Saudi exporters endeavour to sell their new goods in the international market as Table 2B.13 also illustrates that 92 per cent of firms have registered patents overseas.

2.2.4.8 Labour situation

The average proportion of a firm's production workers in terms of total employees for the total sample is around 76 per cent as is presented in Table 2B.14, while non-production workers (e.g. managers, administration and sales) account for approximately 24 per cent of the workforce. The data show that 50 per cent of the production workers are skilled workers. In terms of training, approximately 68 per cent of firms that offer formal training programmes for their permanent or full-time employees and the percentage of production employees that received training is approximately 79 per cent. The chemical, petrochemical, plastic, rubber and medical care sector is highly dependent on skilled workers in comparison with other sectors, while the food and beverages sector is highly reliant on unskilled workers. Hence, the percentage of production employees that received training in the food and beverages sector is the highest.

In regards to full-time temporary employees that a firm employs throughout the fiscal year, Table 2B.15 presents full-time temporary employees by type of ownership, size and sector. 26 per cent of firms employed temporary employees which accounted for between 1 per cent and 10 per cent of their permanent full-time employees, while 39 per cent of firms did not engage temporary employees. Table 2B.16 shows the duration of employment of temporary employees by type of ownership, size and sector. It can be seen in the table that 30 per cent of firms engage temporary employees for a period of one month to three months, and approximately 14 per cent of the sample retained temporary employees for a period of three to six months.

2.2.4.9 Production capacity

Firms may not use their total production capacity for a variety of reasons. Table 2B.17 displays unused production capacity by type of ownership, size and sector. Around 40 per cent of the total sample leaves less than 25 per cent of their production capacity

unused, 35 per cent of firms leave 25 per cent to 50 per cent of their production capacity unused, while around 14 per cent have no unused production capacity. The food and beverages sector, the chemical, petrochemical, plastic, rubber and medical care sector and the electrical, machinery, transport, tools and medical equipment sector recorded a high average of unused production capacity of less than 25 per cent, while the wood, paper, leather and textiles sector and the building material and glassware sector recorded a high average of between 25-50 per cent of unused production capacity.

As for why firms did not run the total production capacity available, Table 2B.18 lists seven reasons that answer this question, which are: limited local market, lack of funding to increase production, difficulty in expanding exports, cost of production inputs, difficulty of marketing the product, difficulty in obtaining skilled workers and other reasons not listed in the questionnaire. The figure in Table 2B.18 indicates that 28 per cent left production capacity unused because of difficulty in obtaining skilled workers, 22 per cent due to the limited local market and 22 per cent for other reasons not listed in the study. By looking within each sector, figures illustrate that 35 per cent of food and beverage firms attributed their production capacity use to other reasons not listed, while 46 per cent of wood, paper, leather and textiles firms and 66 per cent of building material and glassware firms blamed difficulties in expanding exports. Of the firms that work in chemical, petrochemical, plastic, rubber and medical care, 46 per cent refer to difficulties in obtaining skilled workers. Finally, of the electrical, machinery, transport, tools and medical equipment firms, 57 per cent responded that the reason why they do not run the total production capacity available was due to a limited local market.

2.2.4.10 Total annual costs

Table 2B.19 compares the total annual sales among the sectors of the sample firms. It is apparent from this table that around 20 per cent of total costs went on paying the costs of labour, including wages, salaries, bonuses and social security payments, while 63 per cent went on covering the cost of raw materials and intermediate goods used in production. The cost of fuel and electricity is very low compared with other costs at approximately 3.7 per cent. The building material and glassware sector pays low costs for labour compared with other sectors by around 17 per cent, while the food and beverages

sector pays low costs to cover raw materials and other types of costs not listed on the questionnaire.

2.2.4.11 Legal and security status

As can be seen from the data in Table 2B.20, 12 per cent of firms have legal cases against their business currently pending. The electrical, machinery, transport, tools and medical equipment sector recorded the highest number of all sectors, with 50 per cent of firms being engaged in legal cases. Also, the table illustrates that 48 per cent of the sample have submitted an application to obtain an import licence, in particular the chemical, petrochemical, plastic, rubber and medical care sector which account for around half of the firms that submitted an application. According to the security status data, approximately 40 per cent of firms pay for security, for example, equipment, personnel or professional security services, and the percentage paid for security out of a firm's total annual sales or as a percentage of the firm's total costs is around 5.71 per cent.

2.2.4.12 Firms' credit position

Table 2B.21 shows the credit position of firms by sector and main region of the sample. It can be seen from Table 2B.21 that about 44 per cent of the total sample used a line of credit or loan during the observed year. In addition, approximately 46 per cent of the sample purchased fixed assets, such as machinery, vehicles, equipment, land or buildings. The figures in Table 2B.22 show that the level of operating a checking or savings account in firms is low; furthermore, they take advantage of the overdraft facility. Firms that applied for any loans or lines of credit consisted of about half of the sample, and 46 per cent of firms that had a line of credit or a loan from a financial institution and a very large proportion of firms had their financial statements checked and certified by an external auditor. The average percentages that used borrowed funds from private and state-owned banks and non-bank financial institutions to fund working capital are shown in Table 2B.23 at around 28.4 per cent and 17.5 per cent respectively, while 62 per cent and 13 per cent on average funded the purchase of fixed assets, such as machinery, vehicles, equipment, land or buildings by using funds borrowed from banks (whether private or state-owned) and non-bank financial institutions respectively.

Table 2B.24 presents the distributions of the Guarantor Financial Institutions by ownership and type of sector. This table shows that commercial banks represent the largest proportion among the Guarantor Financial Institutions that provide loans or lines of credit to firms. Also, the figures demonstrate that the role of government financial institutions marginally did not exceed 10 per cent and this percentage increased to 20 per cent when providing finance sharing with commercial banks. The value of loans or lines of credit provided for exporting firms was distributed around the mean values of the loans. Table 2B.25 shows that loans ranging between one to 10 million riyals accounted for 48 per cent of the total loans provided for exporting firms. In addition, 28 per cent of exporting firms obtained loans of over 10 million and less than 100 million riyals. The guarantees required to secure these loans and lines of credit from financial organisations to exporters are somewhat acceptable. Table 2B.26 shows that more than half of the firms claimed to have provided a rate of 100 per cent equivalent value of the loan or line of credit. Meanwhile, figures show that a quarter of firms have been asked to provide collateral exceeding the value of funding, including from 150-200 per cent.

Most required guarantees from exporting firms to obtain a loan or line of credit of a type that are not classified in the study questionnaire, by around 43 per cent. The guarantees which were listed in the questionnaire responses are presented in Table 2B.27 (i.e. land, buildings under ownership of the firm, machinery and equipment including movables, accounts receivable and inventories, personal assets of owner and other forms of collateral). Land and buildings under the ownership of the firm were the most common guarantees submitted to a financial institution for a loan or line of credit at 23 per cent. Table 2B.28 illustrates the firms that had no loans or line of credit in our sample. The figure shows that 54 per cent of firms did not need a loan because the firm had sufficient capital. Some 21 per cent of firms attributed the lack of funding to the difficulty of providing guarantees.

Table 2B.29 shows that payment in advance was the most widely used form of payment received by exporting firms when exporting their goods. Payment in advance is used in limited partnerships and sole proprietor firms. The wood and leather sector and the building materials and contracting sector were the sectors in which this manner of payment was used the most often. The table also illustrates that the selling via credit or

selling debt was the second most widely used method employed by exporters. This could be seen as proof that Saudi exporters rely on traditional methods to sell their products abroad, and after a period of time and an increase in the amount of trust with business associates, are will to sell them goods on credit.

In addition, Table 2B.30 highlights the currency that firms used in their export operations. The table reveals that the U.S. dollar was the most important currency and was used by 90 per cent of firms, while the use of the euro averaged 26 per cent. These figures present evidence that Saudi exporting firms receive a low level of different foreign currency. Moreover, the figures in Table 2B.30 show that the food and beverage products sector is more reliant on the euro than other sectors.

Table 2B.31 provides more of an explanation about the payment methods used for purchases and sales according to type of ownership. Approximately 54 per cent of payment for purchases of material inputs or services is paid after delivery, approximately 74 per cent of shareholding firms with shares trading on the stock market have paid for purchases of material inputs or services after delivery, while around 55 per cent of sole proprietorship and partnerships have paid before delivery. Regarding the payment method for a firm's total annual sales of its goods or services, payment after delivery of the firms' output was approximately 74 per cent and, at around 83 per cent, shareholding firms recorded the highest incidence of receiving their dues after the delivery the output to buyers.

2.2.4.13 Access to finance

Access to finance is described in Table 2B.32 which shows the distribution of firms by legal status, sector and firm size according to annual sales with respect to finance availability, cost of finance, interest rates, fees and collateral requirements. The statistics are based on the extent of the obstacle in gaining access to finance that is present in regards to the current operations of a firm using a five-point scale: no obstacle, minor obstacle, moderate obstacle, severe obstacle and very severe obstacle. This type of variable has often been used in some of the literature as a proxy for being credit constrained (Kuntchev et al, 2012). Furthermore, Table 2B.32 displays the frequencies and means of the extent of an obstacle to finance that are faced by an exporter. It is apparent that the availability of finance is not an obstacle compared with collateral

requirements. Taking into consideration the costs, interest rates and fees represent a minor obstacle.

2.2.4.14 Supporting capabilities that encourage exports

The most important supporting capabilities that have an impact on the decision to export are presented in Table 2B.33. A one-way ANOVA test was conducted. The test concluded that those capabilities that significantly supported an increase of exports were: multi-lingual sales staff, a fax machine, a foreign-language website and product information on the website. Table 2B.33 shows the capabilities that had little impact in terms of supporting an increase in exports included: foreign language ability, email, an export marketing plan and export document preparation.

2.2.4.15 The impact of the main variables on the expansion of national sales

To test decision-makers' positions in regards to the different barriers to increasing national sales, a one-way ANOVA test was conducted, as presented in Table 2B.34. The responses were given according to four categories: (1) not at all important; (2) somewhat important; (3) important; and (4) very important. It was concluded that the behaviour of firms' decision-makers had little impact on the following barriers to increasing national sales: low demand; taxes on labour; supply of skilled labour; taxes on capital; access to credit; distribution problems; competitiveness; limited export diversification; and informal restrictions. However, from Table 2B.34 it was concluded that the behaviour of firms' decision-makers had a significant impact in terms of the following barriers to increasing national sales: inadequate transport links; standards compliance; and customs and border procedures for raw materials.

2.2.4.16 The impact of the main variables on expanding exports

To examine the position of decision-makers in relation to the different barriers to exporting, a further one-way ANOVA test was conducted, as presented in Table 2B.35. It concluded that the behaviour of firms' decision-makers had little impact on the following barriers to exporting: access to credit; taxes on capital; the cost of exporting; inadequate transport links; foreign marketing costs; and competitiveness. As Table 2B.35 shows, it was also concluded that the behaviour of firms' decision-makers did have a significant

impact on the following barriers to exporting: low regional demand; import tariffs and charges; port charges or delays; tariffs or quotas in export markets; freight charges; standards compliance; customs and border procedures; informal restrictions; taxes on labour; supply of skilled labour; product quality; and limited export.

2.2.4.17 Analysis of the trade barriers reducing export level

What are the most common issues that confront Saudi exporters? To examine this issue, one-way ANOVA tests were conducted to analyse the effect of the ratio of exports of total sales on the seventeen obstacles to exporting. The purpose of this test was to see whether the positions of firms towards these seventeen variables differed according to the level of export intensity. The results are presented in Table 2B.36. The p-values shown in Table 2B.36 are greater than .05 in six of the seventeen obstacles to exporting. The price-competitiveness of a firm's products, demands offshore, hidden costs, export market risk or taking on more export market risk, non-tariff barriers and a lack of knowledge about potential export markets do not represent barriers to exporting. Therefore, the obstacles confronting exporters are: freight costs; the cost of raw materials or components; the cost of finance; a lack of skilled staff; exchange rate volatility; economic conditions overseas; tariff barriers overseas; a lack of export skills or knowledge; a lack of skills in logistics and knowledge of trade regulations; and language or cultural barriers.

2.2.4.18 The most and least important challenges reducing export level

These challenges were measured by policy-makers in Saudi firms. The list ranges from (1) for the most important challenges to (12) for the least important challenges. Table 2B.37 shows that increasing the current level of sales in domestic markets is the most important challenge to policy-makers in Saudi firms, followed by increasing the current level of exports and maintaining the current level of sales in domestic markets. On the other hand, training workers in the skills required, developing a business plan and identifying and engaging trained workers are recorded as being the least important challenges.

2.2.5 Discussion and Conclusion

This study has highlighted the role of the Saudi Arabian government in motivating manufacturers to export. It has illustrated the facilities needed to ensure the

development and promotion of the role of the private sector, primarily focusing on industrial exports, as well highlighting how to reduce the impact of the risks that businesses face and how to encourage the creation and activation of appropriate institutional frameworks to support exports. It is clear from the data presented that the institutional frameworks have contributed effectively to supporting export industries, which has led to an increase in the percentage of their contribution to GDP and has improved the national balance of payments, supported the economy and diversified its resources, as well as created more job opportunities for national workers. However, it remains the case that firms that aim to export should seek to improve their export ability and competitiveness. They also require access to specialised information in terms of global markets and with regard to benchmarking competitiveness and creating effective systems for export, exploiting opportunities associated with e-commerce and implementing international quality and environmental conservation standards.

It can be concluded from the firms surveyed that the policy- or decision-makers in exporting firms face ten key problems. The most common barriers and obstacles faced by decision-makers were: freight costs; the cost of raw materials or components; the cost of finance; a lack of skilled staff; exchange rate volatility; economic conditions overseas; tariff barriers overseas; a lack of export skills or knowledge; a lack of skills in logistics and knowledge of trade regulations; and language or cultural barriers.

Another conclusion that can be drawn in this chapter is that policy-makers' positions towards expanding national sales or expanding exporting are affected by the same variables. Level of export or national sales had insignificant with taxes on capital, access to credit and competitiveness and significant with standards compliance and customs and border procedures. However, taxes on labour, supply of skilled labour, limited export diversification and informal restrictions are significant variables in terms of decision-makers' positions towards expanding exporting whilst inadequate transport links is a significant variable in terms of decision-makers' positions towards expanding national sales.

Table 2B.1: Profile of the sample, Sector distributions by region

Sector	Main Region				Total
	Central	Western	Eastern	Northern	
Food and Beverages	9	3	1	1	14
	64.29	21.43	7.14	7.14	100
	9.18	7.5	2.78	100	8
Wood, Paper, Leather and Textiles	17	7	4	-	28
	60.71	25	14.29	-	100
	17.35	17.5	11.11	-	16
Chemical, Petrochemical, Plastic, Rubber and Medical care	46	18	20	-	84
	54.76	21.43	23.81	-	100
	46.94	45	55.56	-	48
Building Materials and Glassware	11	4	6	-	21
	52.38	19.05	28.57	-	100
	11.22	10	16.67	-	12
Electronics, Machinery, Transport, Tools and Medical equipment	15	8	5	-	28
	53.57	28.57	17.86	-	100
	15.31	20	13.89	-	16
Total	98	40	36	1	175
	56	22.86	20.57	0.57	100
	100	100	100	100	100

Table 2B.2: Characteristics of the sample

Years indicating formal registration:	No.	%	Total Obs.
1 Less than 5 years	9	5.14	175
2 Six to 15 years	31	17.71	
3 More than sixteen years	135	77.14	
Females amongst the owners of the firm:			166
1 Yes	45	27.10	
2 No	121	72.90	
Having a locally recognised quality certification:			170
1 Yes	127	74.71	
2 No	43	25.29	
Having an internationally recognised quality certification:			171
1 Yes	127	74.27	
2 No	44	25.73	

Table 2B.3: Firm size determined by sales figures

sector	10 million and less	11-25 million	26-51 million	51-100 million	More than 100 million	Total
Food and Beverages	2	4	3	-	5	14
	14.29	28.57	21.43	-	35.71	100
	10	10.53	23.08	-	7.35	8
Wood, Paper, Leather and Textiles	9	6	4	4	5	28
	32.14	21.43	14.29	14.29	17.86	100
	45	15.79	30.77	11.11	7.35	16
Chemical, Petrochemical, Plastic, Rubber and Medical care	1	27	3	26	27	84
	1.19	32.14	3.57	30.95	32.14	100
	5	71.05	23.08	72.22	39.71	48
Building Materials and Glassware	5	1	1	1	13	21
	23.81	4.76	4.76	4.76	61.9	100
	25	2.63	7.69	2.78	19.12	12
Electronics, Machinery, Transport, Tools and Medical equipment	3	-	2	5	18	28
	10.71	-	7.14	17.86	64.29	100
	15	-	15.38	13.89	26.47	16
Total	20	38	13	36	68	175
	11.43	21.71	7.43	20.57	38.86	100

Table 2B.4: Firm size deduced by labour volume

Sector	Less than 99	More than 100	Total
Food and Beverages	3 21.43 6.98	11 78.57 8.33	14 100 8
Wood, Paper, Leather and Textiles	7 33.33 16.28	21 75.00 15.91	28 108 16
Chemical, Petrochemical, Plastic, Rubber and Medical care	21 25.00 48.84	63 75.00 47.73	84 100 48
Building Materials and Glassware	6 28.57 13.95	15 71.43 11.36	21 100 12
Electrical, Machinery, Transport, Tools and Medical equipment	6 21.43 13.95	22 78.57 16.67	28 100 16
Total	43 24.57 100	132 75.43 100	175 100 100

Table 2B.5: Sample size by type of ownership and sector

Type of current legal of firm	Food produce	Wood, Paper, Leather, Textiles and Other	Chemical and Plastic Products	Base Metals and Articles of Base Metals	Electrical Machines and Tools	Total
Shareholding firm with shares trade in the stock market	3 60 21.43	- - -	1 20 1.19	- - -	1 20 3.57	5 100 2.86
Shareholding firm with non- traded shares or shares traded privately	- - -	6 20.69 21.43	15 51.72 17.86	2 6.9 9.52	6 20.69 21.43	29 100 16.57
-Sole proprietorship	2 5.41 14.29	9 24.32 32.14	22 59.46 26.19	4 10.81 19.05	- - -	37 100 21.14
-Partnership	4 8.89 28.57	6 13.33 21.43	26 57.78 30.95	4 8.89 19.05	5 11.11 17.86	45 100 25.71
Limited partnership	5 8.62 35.71	7 12.07 25	20 34.48 23.81	10 17.24 47.62	16 27.59 57.14	58 100 33.14
Total	14	28	84	21	28	175

Table 2B.6a Exports intensity by type of ownership, size and sector.

Status	Freq.	Mean
Exports intensity by type of ownership		
Shareholding firm with shares trade in the stock market.	5	38.00
Shareholding firm with non-traded shares or shares traded privately.	29	26.57
Sole proprietorship	37	20.00
Partnership	45	28.95
Limited partnership	58	16.86
Exports intensity by type of labour:		
Micro (< 5 employees)	1	10.00
Small (>5 employees <20)	2	20.00
Medium (20-99 employees)	40	24.55
Large (100+ employees)	132	22.73
Exports intensity by type of Total Sales:		
10 million and less	19	13.93
11-25 million	38	26.73
26-51 million	13	13.38
51-100 million	36	26.76
More than 100 million	68	22.80
Total		23.01

Table 2B.6b The Proportion of Exports intensity and national sales by sectors.

Sector	National sales	Direct exports
Food and Beverages.	83.9	16.1
	2.97	2.97
Wood, Paper, Leather and Textiles.	82.59	14.44
	3.61	1.74
Chemical, Petrochemical, Plastic, Rubber and Medical care.	73.95	25.1
	2.51	2.52
Building Material and Glassware.	78.06	20.83
	1.94	1.82
Electrical, Machinery, Transport, Tools and Medical equipment.	70	30
	2.38	2.38
Total sample	75.89	23.01
	1.50	1.42

Note: Top number is the mean; the lower is the standard error.

Table 2B.7 The sample's export experience

a) Category of first Export	Between 1980-1989	Between 1990-1999	Between 2000-2009	After 2010	Total
Food and Beverages.	2 20 8.7	7 70 8.64	1 10 2.04	0 - -	10 100 6.21
Wood, Paper, Leather and Textiles.	3 11.11 13.04	15 55.56 18.52	8 29.63 16.33	1 3.7 12.5	27 100 16.77
Chemical, Petrochemical, Plastic, Rubber and Medical care.	10 12.35 43.48	42 51.85 51.85	23 28.4 46.94	6 7.41 75	81 100 50.31
Building Material and Glassware.	2 11.11 8.7	6 33.33 7.41	9 50 18.37	1 5.56 12.5	18 100 11.18
Electrical, Machinery, Transport, Tools and Medical equipment.	6 24 26.09	11 44 13.58	8 32 16.33	0 - -	25 100 15.53
Total	23 14.29 100	81 50.31 100	49 30.43 100	8 4.97 100	161 100 100

b)Exports' Destination	GCC	Arabian	Asian	African	European	American	Australian
Food and Beverages.	0.7143 10	0.2857 4
Wood, Paper, Leather and Textiles.	0.8929 75	0.9643 81	0.3929 33	0.3095 26	0.1667 14	0.0595 5	0.0119 1
Chemical, Petrochemical Plastic, Rubber and Medical care.	0.9643 27	0.8214 23	0.0357 1	0.1786 5	0.1429 4	.	.
Building Material and Glassware.	0.8571 18	0.8571 18	0.1429 3	0.3810 8	.	.	.
Electrical, Machinery, Transport, Tools and Medical equipment.	0.7857 22	0.7143 20	0.1071 3	0.4286 12	0.2143 6	0.1786 5	.
Total	0.8686 152	0.8343 146	0.2286 40	0.2914 51	0.1371 24	0.0571 10	0.0057 1

Table 2B.8 Trade operations' characteristics indicators

Variable	Mean	SE(mean)	SD	Variance	N
Supplies of domestic origin	65.83	1.89	25.01	625.52	175
Supplies of foreign origin	34.17	1.89	25.01	625.52	175
Raw materials imported directly	90.32	1.51	19.74	389.80	171
Raw materials imported indirectly	9.72	1.46	17.30	299.26	141
Days to clear Imports customs	8.29	0.81	4.78	22.86	35
Days to clear Exports customs	5.44	0.32	4.04	16.30	158
Exported loss by breakage or spoilage	1.96	0.42	1.78	3.16	18
Domestic products loss by breakage or spoilage	2.30	0.39	1.73	2.98	20
Domestic products lost by theft	0.50	0.17	0.30	0.09	3
Exported lost by theft (no observation)	∅	∅	∅	∅	∅

Table 2B.9 Export marketing characteristics

a) Sales distribution channel		B) Sales Promotion Activities		Attitudes towards promotional activities'	
List	Mean	List	Mean	List	Mean
Firm Sales Force	0.863	Trade Association participation	0.309	National	0.897
Independent Agents	0.217	Trade Fair Exhibition	0.863	GCC	0.749
Distributors/Wholesalers	0.377	Print Advertising	0.554	Arab countries	0.469
Firm -Owned Retail Stores	0.154	TV/Radio Advertising	0.131	Asia countries	0.143
Independent Retail Stores	0.086	Family/Personal Links	0.183	African countries	0.120
		Direct Mail Advertising	0.183	European countries	0.126
		Firm & Product Brochures	0.863	American countries	0.046
		Internet	0.749		

Figure 2.4

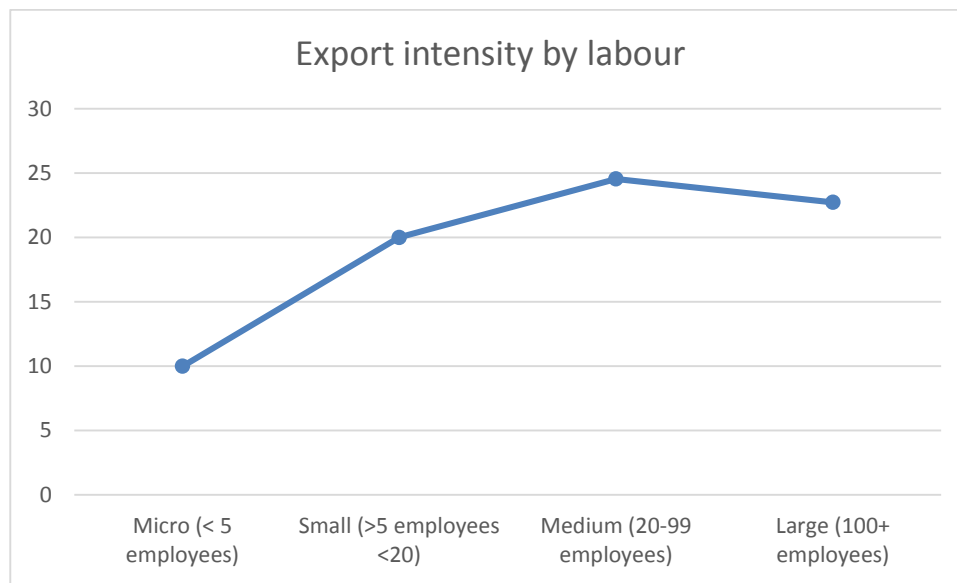


Figure 2.5

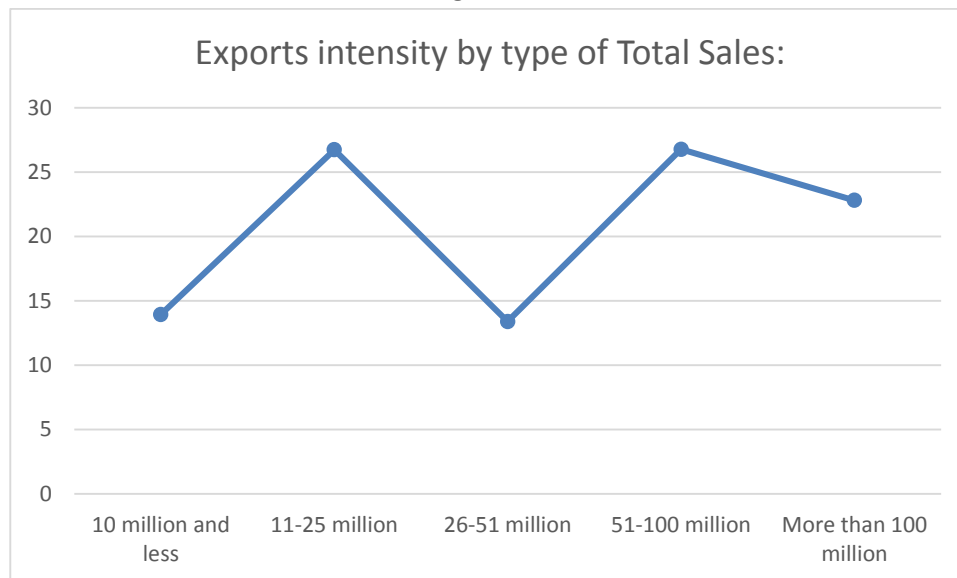


Table 2B.10 Electric services status by type of ownership, size and sector.

Status	Experience electric failures	Average number of power outages during a year	Average duration of power outages	Loss as per cent of total annual sales due to power outages
Electric services status by type of ownership:				
Shareholding firm with shares trade in the stock market.	3	3.67	1.00	7.50
	60	0.67	0.00	2.50
	3.7			
Shareholding firm with non-traded shares or shares traded privately.	8	4.57	1.00	-
	27.59	0.57	0.00	-
	9.88			
Sole proprietorship	19	8.11	1.00	0.06
	51.35	2.04	0.00	0.06
	23.46			
Partnership	14	5.90	1.53	0.64
	31.11	1.45	0.24	0.31
	17.28			
Limited partnership	36	4.77	1.17	1.17
	62.07	0.61	0.08	0.85
	44.44			
Electric services status by type of labour:				
Micro (< 5 employees)	1	.	.	-
	100	.	.	.
	1.23			
Small (>5 employees <20)	2	10.00	1.00	-
	100	.	0.00	-
	2.47			
Medium (20-99 employees)	22	5.71	1.63	1.35
	55	1.12	0.19	0.55
	27.16			
Large (100+ employees)	56	5.27	1.03	0.53
	42.42	0.62	0.03	0.42
	69.14			
Electric services status by type of sector:				
Food and Beverages	10	3.63	1.00	2.14
	71.43	0.46	0.00	1.49
	12.35			
Wood, Paper, Leather and Textiles	12	6.00	1.00	-
	42.86	1.07	0.00	-
	14.81			
Chemical, Petrochemical, Plastic, Rubber and Medical care	39	6.92	1.21	0.94
	46.43	0.99	0.10	0.63
	48.15			
Building Material and Glassware	11	4.25	1.18	-
	52.38	0.75	0.18	-
	13.58			
Electrical, Machinery, Transport, Tools and Medical equipment	9	3.13	1.31	0.80
	32.14	0.48	0.13	0.51
	11.11			
Total	81	5.48	1.17	0.74
	46.29	0.54	0.06	0.33

The second row of figures represents the totals for each category; the third row represents per cent of total.

Table 2B.11 Water services status by type of ownership, size and sector.

Status	Experience water insufficiency	Average number of incidents of water insufficiency per month	Insufficient water supply per hour	per cent of water supply, used from public source
Electric services status by type of ownership:				
Shareholding firm with shares trade in the stock market.	.	.	.	20.00
	.	.	.	20.00

Shareholding firm with non-traded shares or shares traded privately.	2	0.00	12.00	2.95
	6.9	0.00	12.00	2.05
	6.67			
Sole proprietorship	12	3.75	12.00	16.88
	32.43	0.70	3.62	6.48
	40			
Partnership	3	2.80	14.40	1.08
	6.67	1.16	5.88	0.65
	10			
Limited partnership	13	0.12	4.39	7.35
	22.41	0.12	2.77	4.29
	43.33			
Electric services status by type of labour:				
Small (>5 employees <20)	1	.	1.00	.
	50	.	.	.
	3.33			
Medium (20-99 employee)	4	.	0.33	13.29
	10	.	0.33	5.55
	13.33			
Large (100+ employees)	25	1.59	8.31	5.82
	18.94	0.38	2.26	2.05
	83.33			
Electric services status by type of sector:				
Food and Beverages	2	.	.	27.27
	14.29	.	.	14.08
	6.67			
Wood, Paper, Leather and Textiles	3	.	.	.
	10.71	.	.	.
	10			
Chemical, Petrochemical, Plastic, Rubber and Medical care	21	2.81	9.86	8.41
	25	0.56	2.54	3.28
	70			
Building Material and Glassware	1	0.43	10.29	6.33
	4.76	0.43	10.29	3.33
	3.33			
Electrical, Machinery, Transport, Tools and Medical equipment.	3	.	7.20	3.54
	10.71	.	3.67	2.49
	10			
Total	30	1.41	7.63	7.90
	17.14	0.34	2.08	2.16

The second row of figures represents the total for each category; the third row represents per cent of total.

Table 2B.12 Communication services status by type of ownership, size and sector.

Status	Uses e-mail	Own website	High-speed Internet	Make purchases	Deliver services	Research and development
Communication services status by type of ownership						
Shareholding firm with shares trade in the stock market.	5	5	5	3	2	3
	100	100	100	60	40	60
	2.87	2.98	3.09	1.91	1.37	1.92
Shareholding firm with non-traded shares or shares traded privately.	29	29	26	25	26	28
	100	100	89.66	86.21	89.66	96.55
	16.67	17.26	16.05	15.92	17.81	17.95
Sole proprietorship	37	34	33	37	32	32
	100	91.89	89.19	100	86.49	86.49
	21.26	20.24	20.37	23.57	21.92	20.51
Partnership	45	45	42	35	42	45
	100	100	93.33	77.78	93.33	100
	25.86	26.79	25.93	22.29	28.77	28.85
Limited partnership	57	54	55	56	44	47
	98.28	93.1	94.83	96.55	75.86	81.03
	32.76	32.14	33.95	35.67	30.14	30.13
Communication services status by type of labour						
Micro (< 5 employees)	1	1	1	1	1	1
	100	100	100	100	100	100
	0.57	0.6	0.62	0.64	0.68	0.64
Small (>5 employees <20)	1	1	1	2	1	1
	50	50	50	100	50	50
	0.57	0.6	0.62	1.27	0.68	0.64
Medium (20-99 employees)	40	37	34	38	27	30
	100	92.5	85	95	67.5	75
	22.99	22.02	20.99	24.2	18.49	19.23
Large (100+ employees)	132	129	126	116	117	124
	100	97.73	95.45	87.88	88.64	93.94
	75.86	76.79	77.78	73.89	80.14	79.49
Communication services status by type of sector						
Food and Beverages	14	11	14	12	9	9
	100	78.57	100	85.71	64.29	64.29
	8.05	6.55	8.64	7.64	6.16	5.77
Wood, Paper, Leather and Textiles	28	28	23	25	26	25
	100	100	82.14	89.29	92.86	89.29
	16.09	16.67	14.2	15.92	17.81	16.03
Chemical, Petrochemical, Plastic, Rubber and Medical care	83	80	80	71	73	77
	98.81	95.24	95.24	84.52	86.9	91.67
	47.7	47.62	49.38	45.22	50	49.36
Building Material and Glassware	21	21	17	21	10	17
	100	100	80.95	100	47.62	80.95
	12.07	12.5	10.49	13.38	6.85	10.9
Electrical, Machinery, Transport, Tools and Medical equipment	28	28	28	28	28	28
	100	100	100	100	100	100
	16.09	16.67	17.28	17.83	19.18	17.95
Total	174	168	162	157	146	156
	99.43	96	92.57	89.71	83.43	89.14

The second row of figures represents the total for each category; the third row represents per cent of total.

Table 2B.13 Competition status by type of ownership, size and sector.

	Main market			Number of competitors			Patents registered abroad
	Local	National	International	One	2-5	> 5	
Status by type of ownership							
Shareholding firm with shares trade in the stock market.	20.63	41.23	38.13	-	1	4	5
	20.63	9.44	18.96		2.00	3.45	3.14
Shareholding firm with non-traded shares or shares traded privately.	20.56	53.33	25.56	1	11	17	25
	5.61	5.47	5.01	11.11	22.00	14.66	15.72
Sole proprietors	34.92	47.79	17.29	1	12	24	36
	5.38	5.32	3.05	11.11	24.00	20.69	22.64
Partnership	28.78	43.11	28.11	4	7	34	42
	4.64	4.84	3.92	44.44	14.00	29.31	26.42
Limited partnership	24.53	61.3	13.98	3	19	36	50
	2.85	3.05	1.33	33.33	38.00	31.03	31.45
Status by type of labour							
Micro (< 5 employees)	40	50	10	-	-	1	1
	.	.	.			0.86	0.63
Small (>5 &<20)	.	90	20	-	1	1	2
	.	10	10		2.00	0.86	1.26
Medium (20-99)	29.72	47.31	22.97	8	9	23	36
	4.2	5.1	5.07	88.89	18.00	19.83	22.64
Large (100+)	26.06	53.89	19.86	1	40	91	120
	2.47	2.46	1.4	11.11	80.00	78.45	75.47
Status by type of sector							
Food and Beverages	43.91	42.64	13.45	-	5	9	14
	5.05	4.9	3.04		10.00	7.76	8.81
Wood, Paper, Leather and Textiles	44.23	42.88	12.12	1	7	20	28
	3.43	3.6	1.12	11.11	14.00	17.24	17.61
Chemical, Petrochemical, Plastic, Rubber and Medical care	19.62	55.12	25.27	8	24	52	71
	3.59	4.61	3.45	88.89	48.00	44.83	44.65
Building Material and Glassware	35.17	50.11	14.72	-	4	17	21
	5.15	5.95	1.92		8.00	14.66	13.21
Electrical, Machinery, Transport, Tools and Medical equipment	35.17	50.11	14.72	-	10	18	25
	5.15	5.95	1.92		20.00	15.52	15.72
Total	27.02	52.31	20.52	9	50	116	159
	2.12	2.22	1.59	5%	28%	67%	90%

The second row of figures represents the total for each category; the third row represents % of total.

Table 2B.14 Labour status by type of ownership, size and sector.

	<u>Total workers</u>		<u>Production Workers</u>		Formal training	<u>Received training</u>	
	% Production	% Non	% Skilled	% Unskilled		% Production	% Non-Production
Labour status by ownership							
Shareholding firm with shares trade in the stock market.	81.66	18.33	51.00	49.00	3	76.67	23.33
Shareholding firm with non-traded shares or shares traded privately.	78.48	27.41	54.55	45.45	20	78.33	21.67
Sole proprietors	77.30	22.70	45.27	54.73	22	50.00	50.00
Partnership	76.84	23.16	54.00	46.00	32	83.33	16.67
Limited partners	73.90	26.10	45.60	54.40	41	78.67	21.33
Labour status by size							
Micro (< 5)	60.00	40.00	80.00	20.00	-	70.00	30.00
Small (>5 &<20)	80.00	10.00	50.00	50.00	-	80.85	19.15
Medium (20-99)	74.62	30.51	41.00	59.00	24	76.67	23.33
Large (100+)	77.02	22.98	51.80	48.20	95	78.33	21.67
Labour status by sector							
Food and Beverages	73.58	26.42	24.29	75.71	5	90.00	10.00
Wood, Paper, Leather and Textiles	78.82	21.18	41.14	58.86	8	40.00	60.00
Chemical, Petrochemical, Plastic, Rubber and Medical care	74.85	25.15	53.45	46.55	70	76.25	23.75
Building Material and Glassware	77.05	32.48	48.81	51.19	11	87.22	12.78
Electrical, Machinery, Transport, Tools and Medical equipment	79.46	20.54	58.93	41.07	25	80.24	19.76
Sample	76.42	24.74	49.47	50.53	119	79.27	20.73
S.E	0.70	1.33	1.96	1.96		1.64	1.64

Table 2B.15 Full-time temporary employees by type of ownership, size and sector.

Status	Temporary employees as per cent of full-time employees					Total
	1 per cent- 10 per cent	11 per cent- 25 per cent	26 per cent-50 per cent	More than 50 per cent	N/A	
By ownership						
Shareholding firm with shares trade in the stock market.	-	2	1	-	2	5
	-	40	20	-	40	100
	-	4.88	9.09	-	2.9	2.86
Shareholding firm with non- traded shares or shares traded privately.	10	8	-	2	9	29
	34.48	27.59	-	6.9	31.03	100
	21.28	19.51	-	28.57	13.04	16.57
Sole proprietorship	9	11	5	-	12	37
	24.32	29.73	13.51	-	32.43	100
	19.15	26.83	45.45	-	17.39	21.14
Partnership	10	4	3	2	26	45
	22.22	8.89	6.67	4.44	57.78	100
	21.28	9.76	27.27	28.57	37.68	25.71
Limited partnership	18	16	2	2	20	58
	31.03	27.59	3.45	3.45	34.48	100
	38.3	39.02	18.18	28.57	28.99	33.14
By size						
Micro (< 5 employees)	-	1	-	-	-	1
	-	100	-	-	-	100
	-	2.44	-	-	-	0.57
Small (>5 employees <20)	1	1	-	-	-	2
	50	50	-	-	-	100
	2.13	2.44	-	-	-	1.14
Medium (20-99)	9	10	-	2	19	40
	22.5	25	-	5	47.5	100
	19.15	24.39	-	28.57	27.54	22.86
Large (100+)	37	29	11	5	50	132
	28.03	21.97	8.33	3.79	37.88	100
	78.72	70.73	100	71.43	72.46	75.43
By sector						
Food and Beverages	-	6	3	-	5	14
	-	42.86	21.43	-	35.71	100
	-	14.63	27.27	-	7.25	8
Wood, Paper, Leather and Textiles	11	5	-	1	11	28
	39.29	17.86	-	3.57	39.29	100
	23.4	12.2	-	14.29	15.94	16
Chemical, Petrochemical, Plastic, Rubber and Medical care	26	25	8	-	25	84
	30.95	29.76	9.52	-	29.76	100
	55.32	60.98	72.73	-	36.23	48
Building Material and Glassware	1	-	-	4	16	21
	4.76	-	-	19.05	76.19	100
	2.13	-	-	57.14	23.19	12
Electrical, Machinery, Transport, Tools and Medical equipment	9	5	-	2	12	28
	32.14	17.86	-	7.14	42.86	100
	19.15	12.2	-	28.57	17.39	16
Total	47	41	11	7	69	175
	26.86	23.43	6.29	4	39.43	100
	100	100	100	100	100	100

The second row of figures represents the total for each category; the third row represents per cent of total.

Table 2B.16 Length of employment of temporary employees by type of ownership, size and sector.

Status	1month	1 to 3 months	3 to 6	More than 6	N/A	Total
By ownership						
Shareholding firm with shares trade in the stock market.	2 40 15.38	- - -	1 20 4	- - -	2 40 2.9	5 100 2.86
Shareholding firm with non-traded shares or shares traded privately.	3 10.34 23.08	8 27.59 15.09	7 24.14 28	2 6.9 13.33	9 31.03 13.04	29 100 16.57
Sole proprietorship	1 2.7 7.69	6 16.22 11.32	12 32.43 48	6 16.22 40	12 32.43 17.39	37 100 21.14
Partnership	- - -	14 31.11 26.42	3 6.67 12	2 4.44 13.33	26 57.78 37.68	45 100 25.71
Limited partnership	7 12.07 53.85	25 43.1 47.17	2 3.45 8	4 6.9 26.67	20 34.48 28.99	58 100 33.14
By size						
Micro (< 5 employees)	1 100 7.69	- - -	- - -	- - -	- - -	1 100 0.57
Small (>5 employees <20)	1 50 7.69	1 50 1.89	- - -	- - -	- - -	2 100 1.14
Medium (20-99)	2 5 15.38	13 32.5 24.53	- - -	6 15 40	19 47.5 27.54	40 100 22.86
Large (100+)	9 6.82 69.23	39 29.55 73.58	25 18.94 100	9 6.82 60	50 37.88 72.46	132 100 75.43
By sector						
Food and Beverages	2 14.29 15.38	4 28.57 7.55	3 21.43 12	- - -	5 35.71 7.25	14 100 8
Wood, Paper, Leather and Textiles	2 7.14 15.38	13 46.43 24.53	- - -	2 7.14 13.33	11 39.29 15.94	28 100 16
Chemical, Petrochemical, Plastic, Rubber and Medical care.	6 7.14 46.15	25 29.76 47.17	22 26.19 88	6 7.14 40	25 29.76 36.23	84 100 48
Building Material and Glassware	- - -	- - -	- - -	5 23.81 33.33	16 76.19 23.19	21 100 12
Electrical, Machinery, Transport, Tools and Medical equipment.	3 10.71 23.08	11 39.29 20.75	- - -	2 7.14 13.33	12 42.86 17.39	28 100 16
Total	13 7.43	53 30.29	25 14.29	15 8.57	69 39.43	175 100

The second row of figures represents the total for each category; the third row represents per cent of total.

Table 2B.17 Unused production capacity by type of ownership, size and sector.

Status	Less than 25%	25-50 %	51-75%	More than 76 %	No unused	Total
By ownership						
Shareholding firm with shares trade in the stock market.	1 20 1.45	3 60 4.84	- - -	- - -	1 20 4.17	5 100 2.86
Shareholding firm with non-traded shares or shares traded privately.	16 55.17 23.19	4 13.79 6.45	1 3.45 9.09	- - -	8 27.59 33.33	29 100 16.57
Sole proprietorship	14 37.84 20.29	17 45.95 27.42	1 2.7 9.09	3 8.11 33.33	2 5.41 8.33	37 100 21.14
Partnership	9 20 13.04	21 46.67 33.87	2 4.44 18.18	4 8.89 44.44	9 20 37.5	45 100 25.71
Limited partnership	29 50 42.03	17 29.31 27.42	6 10.34 54.55	2 3.45 22.22	4 6.9 16.67	58 100 33.14
By size						
Small (>5 employees <20)	1 50 1.45	1 50 1.61	- - -	- - -	- - -	2 100 1.14
Medium (20-99)	5 12.5 7.25	21 52.5 33.87	4 10 36.36	- 7.5 33.33	7 17.5 29.17	40 100 22.86
Large (100+)	63 47.73 91.3	39 29.55 62.9	7 5.3 63.64	6 4.55 66.67	17 12.88 70.83	132 100 75.43
By sector						
Food and Beverages	6 42.86 8.7	4 28.57 6.45	- - -	- - -	4 28.57 16.67	14 100 8
Wood, Paper, Leather and Textiles	5 17.86 7.25	16 57.14 25.81	- - -	- - -	7 25 29.17	28 100 16
Chemical, Petrochemical, Plastic, Rubber and Medical care.	37 44.05 53.62	27 32.14 43.55	4 4.76 36.36	6 7.14 66.67	10 11.9 41.67	84 100 48
Building Material and Glassware	4 19.05 5.8	7 33.33 11.29	4 19.05 36.36	3 14.29 33.33	3 14.29 12.5	21 100 12
Electrical, Machinery, Transport, Tools and Medical equipment.	17 60.71 24.64	8 28.57 12.9	3 10.71 27.27	- - -	- - -	28 100 16
Total	69 39.43	62 35.43	11 6.29	9 5.14	24 13.71	175 100

The second row of figures represents the total for each category; the third row represents per cent of total.

Table 2B.18 The main reasons why firms did not run the total production capacity available.

	Limited local market	Lack of funding to increase production	Difficulty in expanding exports	Cost of production inputs	Difficulty of marketing the product	Difficulty in obtaining skilled workers	Other	No unused
Food and Beverages	3	-	2	-	3	-	5	4
	21.43	-	14.29	-	21.43	-	35.71	28.57
	7.69	-	4.08	-	15.79	-	12.82	28.57
Wood, Paper, Leather and Textiles	8	6	13	2	3	1	9	7
	28.57	21.43	46.43	7.14	10.71	3.57	32.14	25
	20.51	19.35	26.53	15.38	15.79	2	23.08	50
Chemical, Petrochemical, Plastic, Rubber and Medical care.	4	20	10	4	9	39	13	-
	4.76	23.81	11.9	4.76	10.71	46.43	15.48	-
	10.26	64.52	20.41	30.77	47.37	78	33.33	-
Building Material and Glassware	8	5	14	7	4	5	-	3
	38.1	23.81	66.67	33.33	19.05	23.81	-	14.29
	20.51	16.13	28.57	53.85	21.05	10	-	21.43
Electrical, Machinery, Transport, Tools and Medical equipment.	16	-	10	-	-	5	12	-
	57.14	-	35.71	-	-	17.86	42.86	-
	41.03	-	20.41	-	-	10	30.77	-
Total	39	31	49	13	19	50	39	14
	22.29	17.71	28	7.43	10.86	28.57	22.29	8
	100	100	100	100	100	100	100	100

The second row of figures represents the total for each category; the third row represents per cent of total.

Table 2B.19 Total annual costs.

Industry	(per cent)	Labour ¹	Raw materials ²	Fuel	Electricity	Other
Food and Beverages		20.07	58.57	4.79	4.86	11.71
Wood, Paper, Leather and Textiles		19.91	64.44	4.01	3.91	10.3
Chemical, Petrochemical, Plastic, Rubber and Medical care.		20.31	63.85	3.35	3.56	9.49
Building Material and Glassware		17.14	65.48	4.57	4.19	8.62
Electrical, Machinery, Transport, Tools and Medical equipment.		20.32	63.39	3.64	3.29	10.08
Total		19.85	63.64	3.77	3.75	9.77

1 Including wages, salaries, bonuses, social security payments.

2 Including intermediate goods used in production.

Table 2B.20 Indictors of legal import licence and security status of firms.

Status	Have legal cases pending	Submit an application to obtain an import license	Pay for security	Suffer losses as a result of theft, robbery, vandalism or arson
By ownership				
Shareholding firm with shares trade in the stock market.	-	2	5	2
	-	40	100	40
	-	2.38	7.04	20
Shareholding firm with non-traded shares or shares traded privately.	3	18	15	-
	10.34	62.07	51.72	-
	13.64	21.43	21.13	-
Sole proprietorship	4	15	5	-
	10.81	40.54	13.51	-
	18.18	17.86	7.04	-
Partnership	-	22	14	-
	-	48.89	31.11	-
	-	26.19	19.72	-
Limited partnership	15	27	31	8
	25.86	46.55	53.45	13.79
	68.18	32.14	43.66	80
By size				
Small (<20)	1	1	1	1
	50	50	50	50
	4.55	1.19	1.41	10
Medium (20-99)	5	16	12	2
	12.5	40	30	5
	22.73	19.05	16.9	20
Large (100+)	16	66	58	7
	12.12	50	43.94	5.3
	72.73	78.57	81.69	70
By sector				
Food and Beverages	-	6	8	4
	-	42.86	57.14	28.57
	-	7.14	11.27	40
Wood, Paper, Leather and Textiles	5	14	8	-
	17.86	50	28.57	-
	22.73	16.67	11.27	-
Chemical, Petrochemical, Plastic, Rubber and Medical care.	5	40	34	6
	5.95	47.62	40.48	7.14
	22.73	47.62	47.89	60
Building Material and Glassware	1	3	5	-
	4.76	14.29	23.81	-
	4.55	3.57	7.04	-
Electrical, Machinery, Transport, Tools and Medical equipment.	11	21	16	-
	39.29	75	57.14	-
	50	25	22.54	-
Total	22	84	71	10
	12.57	48	40.57	5.71
	100	100	100	100

The second row of figures represents the total for each category; the third row represents per cent of total.

Table 2B.21 Credit position of firms by type of sector and region.

Sector	Central		Western		Eastern		Northern		Total	
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
Food and Beverages	4 9.09	2 3.92	1 5	2 13.50	1 7.69	- -	- -	1 100	6 7.79	5 6.17
Wood, Paper, Leather and Textiles	4 9.09	8 15.69	- -	1 6.67	1 7.69	2 15.3	- -	- -	5 6.49	11 13.58
Chemical, Petrochemical, Plastic, Rubber and Medical care.	19 43.18	26 50.98	16 80	9 56.25	6 46.15	7 53.8	- -	- -	41 53.25	42 51.85
Building Material and Glassware	5 11.36	3 5.88	- -	- -	3 23.08	1 7.69	- -	- -	8 10.39	4 4.94
Electrical, Machinery, Transport, Tools and Medical equipment.	12 27.27	12 23.53	3 15	4 25	2 15.38	3 18.1	- -	- -	17 22.08	19 23.46
Total	44 100	51 100	20 100	16 100	13 100	13 100	- -	1 100	77 100	81 100
% of sample by region	44.90	54.04	50.00	40.00	36.11	36.1	-	100.		
% of total sample	25.14	29.14	11.43	9.14	7.43	7.43	-	0.57	44.00	46.28

(A) Firms purchase of fixed assets, such as machinery, vehicles, equipment, land or buildings.

(B) Firms have a line of credit or a loan from a financial institution.

Table 2B.22 Firms' financial characterisation by type of ownership.

Ownership legal status	Purchase fixed assets	A checking or savings account	An overdraft facility	Apply for any loans or lines of credit	Have a line of credit or a loan from a financial institution	Financial statements checked by an external auditor
Shareholding firm with shares traded in the stock market.	3 3.9	2 4.88	1 1.69	2 2.35	2 2.47	5 3.03
Shareholding firm with non-traded shares or shares traded privately.	13 16.88	5 12.2	8 13.56	13 15.29	15 18.52	29 17.58
Sole proprietorship	21 27.27	5 12.2	15 25.42	11 12.94	16 19.75	34 20.61
Partnership	15 19.48	12 29.27	18 30.51	23 27.06	27 33.33	41 24.85
Limited partnership	24 31.17	17 41.46	17 28.81	35 41.18	21 25.93	55 33.33
Other	1 1.3	- -	- -	1 1.18	- -	1 0.61
Total	77	41	59	85	81	165
per cent of total sample	44	23	34	49	46	94

Table 2B.23 Financial sources of firms by type of ownership.

Source of finance	Freq.	Internal funds	Borrowed from banks (private)	Borrowed from non-bank financial	Purchases on credit and advances	Other
A) The proportion of finance of firm's working capital						
Shareholding firm with shares trade	5	100	-	-	-	-
Shareholding firm with non-traded	29	87.00	24.00	30.00	46.25	20.00
Sole proprietorship	37	79.19	28.33	30.00	28.00	20.00
Partnership	45	88.93	35.45	-	15.00	-
Limited partnership	58	88.52	25.63	8.57	18.75	0.00
Other	1	100	-	-	-	-
	Mean	86.71	28.42	17.50	28.27	10.00
	se(mean)	1.68	2.08	3.92	5.68	3.78
	variance	467.39	225.58	184.09	837.88	114.29
B) The proportion of finance of firm's total purchase of fixed assets						
Shareholding firm with shares trade	5	73.33	80.00	-	-	-
Shareholding firm with non-traded	29	49.38	52.00	9.00	57.43	32.50
Sole proprietorship	37	96.67	68.33	-	50.00	-
Partnership	45	75.00	85.71	-	-	100
Limited partnership	58	53.91	57.20	15.00	23.33	-
Other	1	100	-	-	-	-
	Mean	70.94	62.04	13.80	38.94	46.50
	se(mean)	4.38	4.87	4.63	9.14	15.13
	variance	1323.73	1160.33	214.40	1420.31	2289.17

Table 2B.24 Distribution of Guarantor Financial Institution by type of sector and ownership.

Sector	(1) Commercial banks	(2) Government agency	(3) (1 + 2)	(1) + Non-bank financial institutions	(2) + Non-bank financial institutions	Other	Total
A) Distribution of Guarantor Financial Institution by type of ownership:							
Shares on stock market	1	-	1	-	-	-	2
	50	-	50	-	-	-	100
	1.89	-	10	-	-	-	2.38
Non-traded shares	4	6	4	-	1	-	15
	26.67	40	26.67	-	6.67	-	100
	7.55	60	40	-	100	-	17.86
Sole proprietorship	10	1	3	1	-	1	16
	62.5	6.25	18.75	6.25	-	6.25	100
	18.87	10	30	16.67	-	25	19.05
Partnership	26	-	-	-	-	3	29
	89.66	-	-	-	-	10.34	100
	49.06	-	-	-	-	75	34.52
Limited partnership	12	3	2	5	-	-	22
	54.55	13.64	9.09	22.73	-	-	100
	22.64	30	20	83.33	-	-	26.19
B) Distribution of Guarantor Financial Institution by type of sector:							
Food and Beverages	2	-	2	1	-	-	5
	40	-	40	20	-	-	100
	3.77	-	20	16.67	-	-	5.95
Wood, Paper, Leather and Textiles	6	1	2	-	1	1	11
	54.55	9.09	18.18	-	9.09	9.09	100
	11.32	10	20	-	100	25	13.1
Chemical, Petrochemical, Plastic, Rubber and Medical care.	28	6	6	1	-	3	44
	63.64	13.64	13.64	2.27	-	6.82	100
	52.83	60	60	16.67	-	75	52.38
Building Material and Glassware	1	3	-	-	-	-	4
	25	75	-	-	-	-	100
	1.89	30	-	-	-	-	4.76
Electrical, Machinery, Transport, Tools and Medical equipment.	16	-	-	4	-	-	20
	80	-	-	20	-	-	100
	30.19	-	-	66.67	-	-	23.81
Total	53	10	10	6	1	4	84
	63.1	11.9	11.9	7.14	1.19	4.76	100

Table 2B.25 Value of loan or line of credit by type of sector, annual sales and ownership.

Type	Less than 1 million SAR	Between 1-5 million SAR	Between 6-10 million SAR	Between 10-50 million SAR	Between 50-100 million SAR	Total
A) Value of loan or credit by type of ownership:						
Shareholding firm with shares trade in the stock market.	-	-	1	1	-	2
	-	-	50	50	-	100
	-	-	5	5.26	-	2.47
Shareholding firm with non- traded shares or shares traded privately.	-	3	5	4	3	15
	-	20	33.33	26.67	20	100
	-	10.71	25	21.05	33.33	18.52
Sole proprietorship	2	10	-	-	4	16
	12.5	62.5	-	-	25	100
	40	35.71	-	-	44.44	19.75
Partnership	-	12	10	4	-	26
	-	46.15	38.46	15.38	-	100
	-	42.86	50	21.05	-	32.1
Limited partnership	3	3	4	10	2	22
	13.64	13.64	18.18	45.45	9.09	100
	60	10.71	20	52.63	22.22	27.16
B) Value of loan or credit dependant on annual sales:						
1-10 million	4	2	-	-	-	6
	66.67	33.33	-	-	-	100
	80	7.14	-	-	-	7.41
11-25 million	1	11	-	-	-	12
	8.33	91.67	-	-	-	100
	20	39.29	-	-	-	14.81
26-51 million	-	3	-	-	-	3
	-	100	-	-	-	100
	-	10.71	-	-	-	3.7
51-100 million	-	9	7	1	4	21
	-	42.86	33.33	4.76	19.05	100
	-	32.14	35	5.26	44.44	25.93
More than 100 million	-	3	13	18	5	39
	-	7.69	33.33	46.15	12.82	100
	-	10.71	65	94.74	55.56	48.15
C) Value of loan or credit by sector:						
Food and Beverages	-	2	-	3	-	5
	-	40	-	60	-	100
	-	7.14	-	15.79	-	6.17
Wood, Paper, Leather and Textiles	2	4	5	-	-	11
	18.18	36.36	45.45	-	-	100
	40	14.29	25	-	-	13.58
Chemical, Petrochemical, Plastic, Rubber and Medical care.	-	20	7	7	7	41
	-	48.78	17.07	17.07	17.07	100
	-	71.43	35	36.84	77.78	50.62
Building Material and Glassware	-	-	-	4	-	4
	-	-	-	100	-	100
	-	-	-	21.05	-	4.94
Electrical, Machinery, Transport, Tools and Medical equipment.	3	2	8	5	2	20
	15	10	40	25	10	100
	60	7.14	40	26.32	22.22	24.69
Total	5	28	20	19	9	81
	6.17	34.57	24.69	23.46	11.11	100
	100	100	100	100	100	100

Table 2B.26 Value of collateral required for loan or line of credit by type of sector, annual sales and ownership.

Type	%100 of facility value	%101-%125 of facility value	%126-%150 of facility value	%156-%200of facility value	Total
Value of Collateral required of loan or credit by type of ownership:					
Shareholding firm with shares trade in the stock market.	1 50 3.03	- - -	- - -	1 50 6.25	2 100 3.17
Shareholding firm with non-traded shares or shares traded privately.	4 40 12.12	- - -	- - -	6 60 37.5	10 100 15.87
Sole proprietorship	8 53.33 24.24	1 6.67 20	2 13.33 22.22	4 26.67 25	15 100 23.81
Partnership	9 50 27.27	3 16.67 60	6 33.33 66.67	- - -	18 100 28.57
Limited partnership	11 61.11 33.33	1 5.56 20	1 5.56 11.11	5 27.78 31.25	18 100 28.57
Value of collateral required for loan or credit depending on annual sales:					
1-10 million	3 50 9.09	1 16.67 20	2 33.33 22.22	- - -	6 100 9.52
11-25 million	6 75 18.18	- - -	- - -	2 25 12.5	8 100 12.7
26-51 million	2 66.67 6.06	- - -	1 33.33 11.11	0 0 0	3 100 4.76
51-100 million	2 12.5 6.06	4 25 80	6 37.5 66.67	4 25 25	16 100 25.4
More than 100 million	20 66.67 60.61	- - -	- - -	10 33.33 62.5	30 100 47.62
Value of Collateral required of loan or credit by sector:					
Food and Beverages	2 40 6.06	- - -	- - -	3 60 18.75	5 100 7.94
Wood, Paper, Leather and Textiles	2 28.57 6.06	1 14.29 20	4 57.14 44.44	- - -	7 100 11.11
Chemical, Petrochemical, Plastic, Rubber and Medical care.	17 48.57 51.52	3 8.57 60	5 14.29 55.56	10 28.57 62.5	35 100 55.56
Building Material and Glassware	- - -	1 25 20	- - -	3 75 18.75	4 100 6.35
Electrical, Machinery, Transport, Tools and Medical equipment.	12 100 36.36	- - -	- - -	- - -	12 100 19.05
Total	33 52.38 100	5 7.94 100	9 14.29 100	16 25.4 100	63 100 100

Table 2B.27 Collateral required for loan or line of credit by type of sector, annual sales and ownership.

Type	Land, buildings under ownership of the firm	Machinery and equipment including movables	Accounts receivable and inventories	Personal assets of owner	Other forms of collateral	Total
Collateral required for loan or credit by type of ownership:						
Shareholding firm with shares trade in the stock market.	2 50.00	1 25.00	-	-	1 25.00	4 100
	8	6.25	-	-	2.22	3.81
Shareholding firm with non-traded shares or shares traded privately.	9 34.62	7 26.92	1 3.85	-	9 34.62	26 100
	36	43.75	8.33	-	20	24.76
Sole proprietorship	6 30.00	-	-	6 30.00	8 40.00	20 100
	24	-	-	85.71	17.78	19.05
Partnership	-	1 3.57	6 21.43	1 3.57	20 71.43	28 100
	-	6.25	50	14.29	44.44	26.67
Limited partnership	8 29.63	7 25.93	5 18.52	-	7 25.93	27 100
	32	43.75	41.67	-	15.56	25.71
Collateral required for loan or credit depending on annual sales:						
1-10 million	5 71.43	-	-	2 28.57	-	7 100
	20.00	-	-	28.57	-	6.67
11-25 million	2 13.33	2 13.33	-	-	11 73.33	15 100
	8.00	12.50	-	-	24.44	14.29
26-51 million	2 50.00	1 25.00	1 25.00	-	-	4 100
	8.00	6.25	8.33	-	-	3.81
51-100 million	4 14.81	1 3.70	6 22.22	5 18.52	11 40.74	27 100
	16.00	6.25	50.00	71.43	24.44	25.71
More than 100 million	12 23.08	12 23.08	5 9.62	-	23 44.23	52 100
	48.00	75.00	41.67	-	51.11	49.52
Collateral required for loan or credit by sector:						
Food and Beverages	3 37.50	3 37.50	-	-	2 25.00	8 100
	12.00	18.75	-	-	4.44	7.62
Wood, Paper, Leather and Textiles	4 25.00	4 25.00	4 25.00	3 18.75	1 6.25	16 100
	16.00	25.00	33.33	42.86	2.22	15.24
Chemical, Petrochemical, Plastic, Rubber and Medical care.	13 22.81	6 10.53	-	4 7.02	34 59.65	57 100
	52.00	37.50	-	57.14	75.56	54.29
Building Material and Glassware	-	3 75.00	-	-	1 7.14	4 100
	-	18.75	-	-	2.22	3.81
Electrical, Machinery, Transport, Tools and Medical equipment.	5 25.20	-	8 40.00	-	7 35.00	20 100
	20.00	-	66.67	-	15.56	19.05
Total	25 23.81	16 15.24	12 11.43	7 6.67	45 42.86	105 100
	100	100	100	100	100	100

Table 2B.28 Main reasons for not applying for loan or line of credit by type of ownership, annual sales and sector.

Status	No need for a loan	Complex procedures	Interest rates were not favourable	Highly collateral	Did not think it would be approved	Other	total
Main reasons for not applying for a loan or credit by ownership:							
Shareholding firm with shares trade in the stock market.	3 100 6.12	- - -	- - -	- - -	- - -	- - -	3 100 3.33
Shareholding firm with non-traded shares or shares traded privately.	2 25.00 4.08	- - -	1 12.50 9.09	5 62.50 26.32	- - -	- - -	8 100 8.89
Sole proprietorship	17 65.38 34.69	1 3.85 25.00	2 7.69 18.18	4 15.38 21.05	1 3.85 100	1 3.85 16.67	26 100 28.89
Partnership	9 60.00 18.37	- - -	1 6.67 9.09	2 13.33 10.53	- - -	3 20.00 50.00	15 100 16.67
Limited partnership	18 47.37 36.73	3 7.89 75.00	7 18.42 63.64	8 21.05 42.11	- - -	2 5.26 33.33	38 100 42.22
Main reasons for not applying for a loan or credit depending on annual sales:							
1-10 million	10 58.82 20.41	1 5.88 25.00	1 5.88 9.09	2 11.76 10.53	1 5.88 100	2 11.76 33.33	17 100 18.89
11-25 million	14 51.85 28.57	- - -	5 18.52 45.45	8 29.63 42.11	- - -	- - -	27 100 30.00
26-51 million	7 50.00 14.29	- - -	4 28.57 36.36	2 14.29 10.53	- - -	1 7.14 16.67	14 100 15.56
51-100 million	14 93.33 28.57	- - -	- - -	- - -	- - -	1 6.67 16.67	15 100 16.67
More than 100 million	4 23.53 8.16	3 17.65 75.00	1 5.88 9.09	7 41.18 36.84	- - -	2 11.76 33.33	17 100 18.89
Main reasons for not applying for a loan or credit by type of sector:							
Food and Beverages	9 75.00 18.37	- - -	3 25.00 27.27	- - -	- - -	- - -	12 100 13.33
Wood, Paper, Leather and Textiles	9 39.13 18.37	1 4.35 25.00	1 4.35 9.09	8 34.78 42.11	1 4.35 100	3 13.04 50.00	23 100 25.56
Chemical, Petrochemical, Plastic, Rubber and Medical care.	24 61.54 48.98	- - -	4 10.26 36.36	8 20.51 42.11	- - -	3 7.69 50.00	39 100 43.33
Building Material and Glassware	4 30.77 8.16	3 23.08 75.00	3 23.08 27.27	3 23.08 15.79	- - -	- - -	13 100 14.44
Electrical, Machinery, Transport, Tools and Medical equipment.	3 100 6.12	- - -	- - -	- - -	- - -	- - -	3 100 3.33
Total	49 54.44 100	4 4.44 100	11 12.22 100	19 21.11 100	1 1.11 100	6 6.67 100	90 100 100

Table 2B.29 Export payment terms by type of sector and ownership.

Type	Payment in advance	Bank draft as sight	Bank draft as time	Letter of credit at sight	Letter of credit at time	Credit	Open account
A)Export payment terms by type of ownership:							
Shareholding firm with shares trade in the stock market.	60.00	-	20.00	40.00	40.00	20.00	-
	54.77	-	44.72	54.77	54.77	44.72	-
	30.00	-	20.00	30.00	30.00	20.00	-
	3	-	1	2	2	1	-
Shareholding firm with non-traded shares or shares traded privately.	62.07	31.03	34.48	48.28	58.62	44.83	65.52
	49.38	47.08	48.37	50.85	50.12	50.61	48.37
	24.38	22.17	23.40	25.86	25.12	25.62	23.40
	18	9	10	14	17	13	19
Sole proprietors	72.97	40.54	24.32	35.14	29.73	37.84	16.22
	45.02	49.77	43.50	48.40	46.34	49.17	37.37
	20.27	24.77	18.92	23.42	21.47	24.17	13.96
	27	15	9	13	11	14	6
Partnership	51.11	33.33	33.33	28.89	53.33	73.33	22.22
	50.55	47.67	47.67	45.84	50.45	44.72	42.04
	25.56	22.73	22.73	21.01	25.45	20.00	17.68
	23	15	15	13	24	33	10
Limited partnership	75.86	48.28	25.86	31.03	20.69	25.86	39.66
	43.17	50.41	44.17	46.67	40.86	44.17	49.35
	18.63	25.41	19.51	21.78	16.70	19.51	24.35
	44	28	15	18	12	15	23
Other	-	-	100	100	100	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	1	1	1	-	-
B)Export payment terms by type of sector:							
Food and Beverages	64.29	14.29	42.86	35.71	-	-	35.71
	49.72	36.31	51.36	49.72	-	-	49.72
	24.73	13.19	26.37	24.73	-	-	24.73
	9	2	6	5	-	-	5
Wood, Paper, Leather and Textiles	96.43	32.14	35.71	32.14	42.86	78.57	46.43
	18.90	47.56	48.80	47.56	50.40	41.79	50.79
	3.57	22.62	23.81	22.62	25.40	17.46	25.79
	27	9	10	9	12	22	13
Chemical, Petrochemical, Plastic, Rubber and Medical care.	58.33	42.86	15.48	36.90	28.57	45.24	21.43
	49.60	49.78	36.38	48.54	45.45	50.07	41.28
	24.60	24.78	13.24	23.57	20.65	25.07	17.04
	49	36	13	31	24	38	18
Building Material and Glassware	80.95	47.62	19.05	38.10	71.43	14.29	47.62
	40.24	51.18	40.24	49.76	46.29	35.86	51.18
	16.19	26.19	16.19	24.76	21.43	12.86	26.19
	17	10	4	8	15	3	10
Electrical, Machinery, Transport, Tools and Medical equipment.	46.43	35.71	64.29	28.57	57.14	46.43	42.86
	50.79	48.80	48.80	46.00	50.40	50.79	50.40
	25.79	23.81	23.81	21.16	25.40	25.79	25.40
	13	10	18	8	16	13	12
Total	65.71	38.29	29.14	34.86	38.29	43.43	33.14
sd	47.60	48.75	45.57	47.79	48.75	49.71	47.21
variance	22.66	23.76	20.77	22.84	23.76	24.71	22.29
sum	115	67	51	61	67	76	58

Table 2B.30 Foreign currency used by firms during export by ownership, total sales and sector.

status	Freq.	US dollars	Euro	Pound	Others
Shares on stock market	5	83.33	21.00	3.00	68.33
Non-traded shares	29	90.00	26.50	10.00	10.00
Sole proprietorship	37	91.18	59.20		60.80
Partnership	45	94.27	15.00		68.33
Limited partnership	58	87.50	27.40		57.50
Other	1	95.00			5.00
10 million and less	2	93.44	26.25		100
11-25 million	38	87.03	37.73		100
26-51 million	13	99.17	10.00		
51-100 million	36	90.28	19.71		15.00
More than 100 million	68	89.70	27.00	6.50	4.14
Food and Beverages	14	76.25	62.00		75.50
Wood, Paper, Leather and Textiles	28	90.00	20.42		43.33
Chemical, Plastic, Rubber, Medical	84	91.16	30.74	6.50	68.33
Building Material and Glassware	21	95.95	21.67		5.00
Electrical, Machinery, Tools	28	88.08	19.38		100
Average		90.00	26.00	6.5	55.7

Table 2B.31 Payment method for purchases and sales by type of ownership.

Payment method	Freq.	Paid for before delivery	Paid on delivery	Paid for after delivery
A) Purchases of material inputs or services				
Shareholding firm with shares trade	5	41.00	0.00	73.75
Shareholding firm with non-traded shares	29	31.21	17.89	61.30
Sole proprietorship	37	55.00	14.41	46.09
Partnership	45	54.89	17.86	41.88
Limited partnership	58	35.11	22.41	62.33
Other	1	10	30	60
	mean	44.41	18.33	54.17
	se(mean)	2.42	1.71	2.32
	sd	30.73	15.95	29.53
	variance	944.18	254.46	871.82
B) Firms' total annual sales of goods or services				
Shareholding firm with shares trade	5	25.00	33.33	83.33
Shareholding firm with non-traded shares	29	17.59	15.28	74.83
Sole proprietorship	37	20.33	11.25	79.19
Partnership	45	18.91	21.85	76.33
Limited partnership	58	33.55	28.27	69.31
Other	1	5	-	95
	mean	23.68	20.66	74.75
	se(mean)	1.52	2.34	1.47
	sd	17.68	22.34	18.95
	variance	312.68	499.00	359.08

Table 2B.32 Degree of access to finance.

Type		Availability	Cost	Interest rate	Fees	Collateral requirement
(1) No obstacle		41.38	12.75	3.35	14.09	3.35
(2) Minor obstacle		24.14	28.19	30.2	45.64	4.7
(3) Moderate obstacle	Freq	14.48	22.15	26.85	27.52	32.89
(4) Major obstacle		12.41	22.82	16.11	0.67	20.81
(5) Very Severe Obstacle		7.59	14.09	23.49	12.08	38.25
Status	Freq	Means.....				
Shares on stock market	5	3.50	2.50	3.00	2.00	4.00
Non-traded shares	29	2.14	2.64	2.96	2.18	4.54
Sole proprietorship	37	2.88	3.17	3.45	2.97	4.48
Partnership	45	1.67	2.95	2.90	2.05	3.75
Limited partnership	58	2.28	3.08	3.62	2.82	3.76
10 million and less	20	2.31	2.76	3.24	2.88	4.00
11-25 million	38	2.68	3.29	3.59	2.97	4.15
26-50 million	13	2.15	3.92	4.31	3.00	3.46
51-100 million	36	2.04	3.46	3.08	2.19	4.19
More than 100 million	68	2.00	2.42	2.93	2.17	3.59
Food and Beverages	14	2.17	3.25	3.08	1.83	3.00
Wood, Paper, Leather, Textiles	28	1.57	2.21	2.79	1.68	3.89
Chemical, Plastic, Rubber, Medical	84	2.48	3.21	3.37	2.87	4.22
Building Material and Glassware	21	2.08	2.76	3.18	2.53	3.06
Electrical, Machinery, Tools	28	2.28	3.20	3.64	2.80	3.80
	Mean	Mean	2.2	2.97	3.26	2.51
	S.E	S.E	0.108	0.103	0.099	0.926
	F_stat*	F_stat*	1.28	5.91	4.68	7.08
	Prob> F	Prob> F	0.2807	0.0002	0.0014	0.0000

* Calculation of F_stat relies on ANOVA one-way analysis to test the impact of access to finance on export intensity.

Table 2B.33 The supporting capabilities that encourage exportation

Capabilities	Mean	SE (mean)	Variance	F-Value	p-Value
Foreign Language Ability	3.70	0.04	0.30	1.36	0.26
Multi-Lingual Sales Staff	3.12	0.07	0.70	4.90	0.00
Fax Machine	3.29	0.06	0.65	4.01	0.01
Email	3.95	0.02	0.05	0.38	0.54
Foreign-Language Website	3.74	0.05	0.33	2.81	0.04
Product Information on Web	3.56	0.06	0.62	12.74	0.00
Export Marketing Plan	3.40	0.06	0.50	1.58	0.20
Export Document Preparation	3.19	0.06	0.68	2.29	0.08

Table 2B.34 The main trade barriers for decision-makers in expanding national sales

Variables	Mean	SE (mean)	Variance	F-Value	p-Value
Low foreign demand	2.16	0.08	1.18	2.42	0.069
Taxes on labour	2.55	0.08	1.01	0.25	0.859
Supply of skilled labour	2.88	0.08	1.00	2.06	0.108
Taxes on capital	2.74	0.10	1.15	2.31	0.081
Access to credit	2.87	0.08	1.08	1.70	0.170
Distribution problems	2.68	0.08	0.99	1.92	0.129
Competitiveness	3.40	0.06	0.60	1.90	0.132
Limited export diversification	2.78	0.07	0.74	0.64	0.590
Inadequate transport links	2.77	0.08	1.02	3.85	0.011
Standards compliance	2.93	0.07	0.89	7.16	0.000
Customs and border procedures	3.02	0.07	0.82	3.86	0.011
Informal restrictions	2.61	0.06	0.68	2.02	0.113

Table 2B.35 The main barriers for decision-makers in expanding the level of exports

Variables	Mean	SE (mean)	Variance	F-Value	p-Value
Low regional demand	2.61	0.09	1.41	7.62	0.0001
Import tariffs and charges	2.95	0.08	0.95	2.79	0.0424
Port charges/delays	2.86	0.08	0.90	2.92	0.0360
Tariffs or quotas in export markets	2.73	0.11	1.15	6.66	0.0004
Freight charges	2.84	0.08	1.08	8.94	0.0000
Standards compliance	2.88	0.06	0.65	4.48	0.0048
Customs and border procedures	2.99	0.07	0.87	4.77	0.0033
Informal restrictions	2.76	0.07	0.81	2.69	0.0483
Access to credit	3.37	0.06	0.66	0.90	0.4438
Taxes on labour	2.64	0.06	0.50	14.26	0.0000
Supply of skilled labour	2.85	0.06	0.66	19.84	0.0000
Taxes on capital	2.81	0.07	0.45	0.94	0.4245
Cost of exporting	2.91	0.05	0.48	0.33	0.8017
Inadequate transport links	3.01	0.07	0.71	0.78	0.5052
Product quality	3.42	0.06	0.51	5.74	0.0039
Foreign marketing costs	3.04	0.07	0.70	1.00	0.3935
Competitiveness	3.22	0.05	0.49	0.95	0.4170
Limited export diversification	3.02	0.06	0.54	4.61	0.0041

Table 2B.36 Effect of obstacles and barriers on direct exports

N	Variables	Mean	SE	Variance	F-Value	p-Value
1	The price competitiveness of a firm's products	3.34	0.07	0.73	0.83	0.478
2	Freight costs	3.08	0.07	0.79	2.75	0.045
3	Cost of raw materials/components	3.22	0.06	0.65	4.85	0.003
4	Cost of finance	3.26	0.06	0.67	8.23	0.000
5	Lack of skilled staff	2.91	0.07	0.75	6.28	0.001
6	Exchange rate volatility	2.53	0.08	1.04	9.64	0.000
7	Economic conditions overseas	3.37	0.06	0.53	3.5	0.017
8	Demand offshore	3.42	0.05	0.51	3.04	0.051
9	Hidden costs	2.65	0.07	0.78	2.29	0.081
10	Export market risk or taking on more export market risk	2.69	0.07	0.81	2.12	0.100
11	Tariff barriers overseas	2.57	0.07	0.88	3.04	0.031
12	Non-tariff barriers	2.30	0.08	0.93	2.43	0.068
13	Insufficient funds for developing further export markets	2.47	0.07	0.83	3.31	0.022
14	Lack of knowledge about potential export markets	2.62	0.08	1.02	1.7	0.170
15	Lack of export skills/knowledge	2.55	0.08	0.94	4.1	0.008
16	Lack of skills in logistics and knowledge of trade regulations	2.64	0.08	1.03	6.11	0.001
17	Language or cultural barriers	2.40	0.08	1.01	5.22	0.002

Table 2B.37 Ranking of strategic challenges confronting Saudi exporters

Variables	Mean	SE (mean)	Variance	Rank
Increasing the current level of exports	5.69	0.31	16.30	2
Maintaining the current level of exports	6.35	0.28	14.17	7
Generating new markets	6.22	0.28	14.12	5
Maintaining the current level of sales in domestic markets	5.81	0.24	10.25	3
Increasing the current level of sales in domestic markets	5.28	0.24	10.29	1
Ensuring adequate raw material supply	6.15	0.26	11.78	4
Obtaining new working capital	6.26	0.25	10.55	6
Providing funds for the current operations	6.38	0.21	7.46	8
Obtaining new capital for plants and equipment	7.03	0.20	7.32	9
Identifying and engaging trained workers	7.43	0.26	11.43	10
Training workers in the skills required	7.92	0.25	10.51	12
Developing a business plan	7.47	0.27	12.62	11

Chapter 3: Main Determinants of Export Intensity: (Influence of ownership, innovation, trade operations, distribution channels, marketing and export capabilities.)

3.1 Introduction

Economic policies and plans in the Kingdom of Saudi Arabia are seeking to diversify the country's sources of income. The country has sought to find an industrial base to allow it to benefit from the comparative advantages featured by its economy. Hence, the country encourages current manufacturing firms to export or find new industries that have the benefit of the availability of raw materials, that are capital-intensive, enjoy low cost infrastructure (electricity, telecoms, water, and transportation), have a developed industrial base, offer quality products and internationally competitive prices. These elements assist the government in pursuing a policy of export-oriented industrialisation. Therefore, national planning pays great attention to exporting, which has become a central target. With this aim in mind, the government has established several institutions and organisations in order to encourage and assist firms to export. However, non-oil exports are still at a low level as part of total exports, and this does not correspond to the minimum of the incentives provided. Official statistics, as presented in chapter 2, report that the contribution of non-oil exports in the export sector remains weak, as it amounts to only 15 per cent of the country's total exports.

There is a lack of literature covering manufacturing behaviour in Saudi Arabia; in addition, there is a need to examine the reasons for this low non-oil contribution to total exports in the –case of Saudi Arabia. However, a significant problem with this kind of analysis is that there is little data available on Saudi Arabia. To this end, this chapter will analyse some of the factors impacting on non-oil export intensity.

The study methodology framework adopted in this chapter was initially developed by Fernandez and Nieto (2006)¹. The main procedure is to present a systematic assessment of the Fernandez and Nieto framework as an empirical

¹ Fernandez and Nieto (2006), examined a sample of Spanish SMEs obtained from the Survey of Business Strategies (SBS). This is a firm-level panel of data compiled by the Spanish Ministry of Science and Technology from 1991 to 1999. The SBS covers a wide range of Spanish manufacturing firms operating in all industry sectors.

model of the behaviour underlying exports by firms. Our study is based on a specific questionnaire designed to gather data from Saudi export manufacturing firms, with the data set containing a number of variables allowing us to expand the Fernandez and Nieto model. The model generated relies on the Empirical Primary framework namely the Empirical Export intensity framework. This derived framework gave this study a wide scope and the capability to explain many of the factors considered to have important effects on exports intensity, such as ownership, firm size, innovation, trade operations, sales distribution channels, marketing activities and export capabilities.

Ownership structure can influence a firm's export behaviour because it is related to different grades of risk aversion. Studies such as Fernandez and Nieto, (2006) and Filatotchev et al., (2008) have discussed and illustrated the main types of ownership. These studies refer to the roots of ownership of two types: family and partner (Fernandez and Nieto, 2006). In their analysis some studies expanded upon this by adding the participation of foreign investment in the firm's ownership in order to investigate the influence of whether this participation represents an active element in driving firms to export (Filatotchev et al., 2008)¹.

Much of the literature has discussed the impact of innovation on export behaviour. There are different ways to measure innovation (Beveren and Vandebussche, 2010)² and some studies touch on the influence of innovation on firms' behaviour (Wagner, 2004)³. In our study, innovation is assessed using variables to measure the effect of locally or internationally recognised quality certificates and patents registered in Saudi Arabia or abroad on export intensity. At

¹ Filatotchev et al. (2008) examined a hand-collected data set of 434 foreign-invested firms in Poland, Hungary, Slovenia, Slovakia and Estonia between 2002 and 2003..

² Beveren and Vandebussche (2010) examined data from an innovation survey for Belgium, obtained from BELSPO (2006). The survey is conducted every four years; the data we used are for the years 2000 and 2004. The population for each survey is selected on the basis of the full population of Belgian firms registered at the National Office for Social Security at the end of the period considered (2000 and 2004). Of these, all firms with at least 10 employees are selected. The full sample of firms in 2000 amounts to 2100 firms, while for 2004 data is available for 3322 firms.

³ The data used by Wagner (2004) was collected in interviews conducted as part of a panel study. The population covered encompasses all manufacturing establishments with at least 5 employees that were active in 1994 in the state of Lower Saxony, one of the 'old' German federal states. The data was collected in personal interviews with the owner or top manager of the firm.

the same time, there are some conceptual grounds for a relationship between a firm's size and its export intensity. As the literature review explains, there are firm characterisations such as region, labour volume and age of the firm to take into account.

The sectors that are included in our study are the food and beverages sector, the wood, paper, leather and textiles sector, the chemical, petrochemical, plastic, rubber and medical care sector, the building material and glassware sector and the electrical, machinery, transport, tools and medical equipment sector. The characterisation of trade operations, such as origin of supplies, ways of importing the firm's raw materials, export experience and total sales, are considered to be elements that identify the position of the firm, which gives the relationship significant control (Enterprise Surveys, 2012).

Another important factor to be considered by a manufacturer who has decided to enter their firm's product on the international market is whether the product should be distributed indirectly or directly. Most sales channel distributions depend on a firm's sales force, independent agents, distributors or wholesalers, firm-owned retail stores and independent retail stores (Leonidou, 1995)¹.

Some studies focus on the importance of marketing activities which encourage firms to contact a foreign buyer or to seek new markets (Vinh and Julian, 2008)². There are different types of marketing methods that attract importers. This study examines trade association participation, trade fair exhibitions, print advertising, TV or radio advertising, family or personal links, direct mail advertising, firm and product brochures and using the internet as the most common marketing activities. Many studies that focus on a firm's export intensity do not consider its export support capabilities. Our empirical analysis builds on export capabilities. It can be

¹ In the study by Leonidou (1995), primary research provided the main input of the study and consisted of 165 in-depth interviews with different components of the distribution chain, namely manufacturers (17 per cent), distributors/agents (19 per cent), wholesalers (11 per cent) and retailers (53 per cent). It included various types of outlets, such as department stores, supermarkets, boutiques and pharmacies.

² In the study by Vinh and Julian (2008), data was gathered using a self-administered mail survey of 315 Australian firms involved in exporting. The sample included 315 firms who were a priori identified as being involved in direct exporting, a sample of 133 Australian export ventures.

seen from the literature review that the empirical models provide evidence of the importance of capabilities such as foreign language capability, multilingual sales staff, fax machines, e-mail, a foreign-language website, product information on the web, export marketing plans and export document preparation (Ahmed and Rock, 2012)¹. There are good reasons to examine export support capabilities to explain how a firm's management behaves as regards exports.

To achieve the objective of this thesis, this study examines a cross-sectional data representative sample of the Saudi Arabian manufacturing sector collected at the end of 2011. This data provides a very comprehensive and detailed view of export activity within the country. Moreover, the cross-sectional structure of the data allows us to better isolate how the variables the study considers important influenced exports. This work will make five contributions to the current literature. Firstly, in general, to provide micro-data covering Saudi Arabian manufacturing behaviour; this data examines the reasons for the low non-oil contribution to total exports. Secondly, this study aims to test the influence of different determinants on firms' behaviour towards exporting. Thirdly, the findings are expected to generate strong policy implementation. Finally, the study will showcase some indicators for investors in the industrial sector in Saudi Arabia.

The remainder of the chapter is structured as follows. The next section reviews existing literature in the area of characterising firms' exporting behaviours. Section 3 outlines the specifications of the models employed in the analysis. Section 4 will discuss the results.

3.2 Literature Review

Export behaviour is built principally on two variables: export intensity and export propensity. Export propensity is measured by a dummy variable (0 or 1) so that when the firm is an exporter (there are export sales) it takes a value of one and it takes a value of zero if it does not export (export sales equal zero). The second variable, export intensity, which the current study relies on as a main dependent

¹ In the study by Ahmed and Rock (2012), data for this study was collected through an Internet survey of Chilean manufacturers that export. Of the 480 companies in the sample, 133 responded to the questionnaire.

variable for whole thesis, is a percentage and indicates the proportion of total sales represented by exports.

However, the question of how firms decide whether or not to export is discussed based on empirical research that used micro data to focus on the manufacturing sectors of industrial and developing countries. Studies such as Baldwin (1988), Bernard and Jensen (1999), Roberts and Tybout (1997) and DAS et al. (2007) used data from several different countries. These studies investigate the factors influencing the export decision of the firm. It has been reported that exporting firms are more efficient than non-exporting firms.

Moreover, in this investigation there are studies that analysed the role of the sunk costs on exporting. Baldwin (1988) argues that it is natural to consider the costs associated with entering international markets and that they may have the character of being sunk in nature. These might include the cost of information about demand situations abroad or costs of founding a distribution system. It shows that temporary exchange rate fluctuations can have constant (i.e. hysteresis) effects on trade quantities and prices. Baldwin (1988) revealed that if market-entry costs are sunk, sufficiently large real exchange rate shocks can change the domestic market structure and thereby induce hysteresis.

Roberts and Tybout (1997) empirically addressed the question of entry and exit costs in the decision to export by the profit maximising firm. It introduced the idea that large exchange rate swings can cause slowdown effects when market entry costs are sunk. The results also reveal that exporting experience depreciates once firms cease servicing foreign markets. After a two-year absence the re-entry costs are not significantly different from those faced by a new exporter. Roberts and Tybout (1997) were consistent with the view that an important source of sunk entry costs for Colombian exporters is the need to accumulate information about the demand side, information that is likely to depreciate upon exit from the market. The sunk costs are a significant source of export-market persistence, and both observed and unobserved firm characteristics also contribute to an individual firm's export behaviour. Firms that are owned by corporations, or are old or large are all more likely to export. For firms with "average" observable characteristics and no past exporting experience, variation in unobserved sources of variance in

profitability can lead to as much as a 36 percentage point difference in the probability of exporting.

Bernard and Jensen (1999) have documented the superior performance characteristics of exporting firms compared to non-exporters. It discussed whether good firms become exporters or whether exporting improves firm performance. They consider the sources of the substantial performance advantages in exporting and non-exporting firms. The advantages that they found are substantial: at any point in time exporters produce more than twice as much output and are 12%–19% more productive. Their analysis shows that exporters pay higher wages to all types of workers. The study looks at both the characteristics of firms before they export and the performance of firms once they enter the international market. The main finding result is that good firms become exporters. Several years before they actually ship any goods abroad, future exporters have many of the same, desirable performance characteristics. The analysis showed that in the years just prior to the start of exporting, these firms are growing faster than their non-exporting counterparts. The study presents evidence that exporters have significantly lower failure rates than non-exporters with comparable characteristics. The results show that among surviving firms, employment growth is higher in exporters across all areas. Bernard and Jensen (1999) provide substantial evidence that the export market is one of substantial dynamism: more than 10% of manufacturing firms enter or exit every year. Entry and exit are associated with large changes for the firm. Entry is a time of growth and improved performance, while the firm that stops exporting is performing poorly. Knowing the export status of a firm today is not sufficient to identify faster growth in the future. On the other hand, there is substantial evidence provided by Bernard and Jensen (1999) that success and new products lead to exporting, and that exporting is associated with growth in firm size. However, the lack of productivity gains suggest that firms entering the export market are unlikely to substantially raise their productivity, even if they export continuously. According to Bernard and Jensen (1999), exporting shows little evidence of boosting firm productivity. However, exporting does provide expanded market opportunities for the most productive firms in a sector. As these firms expand, the overall economy may grow as resources are reallocated from less

productive to more productive activities. Other major potential benefits may be due to the number of jobs and, through higher firm survival rates, the stability of those jobs.

DAS et al. (2007) offers an explanation for exchange rate, foreign demand, and production costs evolve, domestic producers are continually faced with two choices : whether to be an exporter, and if so, how much to export. It develops a dynamic structural model of export supply that characterises these two decisions. The model embodies firm-level heterogeneity in export profits, uncertainty about the determinants of future profits, and market entry costs for new exporters. Using a Bayesian Monte Carlo Markov chain estimator, it fits this model to firm-level panel data on three Colombian manufacturing industries. They obtain profit function and sunk entry cost coefficients and use them to simulate export responses to shifts in the exchange-rate process and several types of export subsidies. In each case, the aggregate export response depends on entry costs, expectations about the exchange rate process, past exporting experience, and producer heterogeneity. Export revenue subsidies are far more effective at stimulating exports than policies that subsidise entry costs.

Özler et al. (2007) investigate the factors influencing the export decision of the Turkish manufacturing firms over the 1990-2001 period. Their results support the presence of high sunk costs of entry to export markets, as well as the hypothesis that the full history of export participation matters for the current export decision. Moreover, it shows that the effect of past export experience on the current export decision rapidly depreciates over time: recent export market participation matters more than participation further in the past. Another important finding shows that while persistence in exporting helps lower the costs of re-entry today, there are diminishing returns to export experience.

Van Beveren et al. (2010) found analysed the relationship between firm-level innovation activities and firms' propensity to start exporting for firms in a small open economy. They measured innovation through innovative effort (R&D) as well as innovative output (product and process innovation). The evidence points to firms self-selecting into innovation in anticipation of their entry into export markets, rather than product and process innovation triggering entry into the export market.

These results suggest that governments can foster firm-level innovation through trade liberalisation.

Although there are many studies in the literature regarding the determinants of export behaviours of firms, most of them are focused on export propensity while other studies analyses of export intensity receives very little examination. The Helpman et al. (2008) study was designed to determine the effect of trade frictions on trade flows into the intensive and extensive margins. Helpman et al. (2008) developed a simple model of international trade with heterogeneous firms that are consistent with a number of formalised features of the data. The analysis model predicts positive as well as zero trade flows across two combinations of countries, allowing the number of exporting firms to vary across destination countries. The results of this study show that the impact of trade frictions on trade flows can be decomposed into the intensive and extensive margins, as Helpman et al. (2008) argue, where the former refers to the trade volume per exporter and the latter refers to the number of exporters. They mentioned that their model earnings a generalised gravity equation that accounts for the self-selection of firms into export markets and their impact on trade volumes. The main results show that traditional estimates are biased and that most of the bias is due not to selection but rather due to the omission of the extensive margin. Moreover, the effect of the number of exporting firms varies across country pairs according to their characteristics. This variation is large and particularly so for trade between developed and less developed countries and between pairs of less developed countries.

Although economic literature covers a number of issues and relationships between the determinants that may influence export behaviour, the relationship between different ownership types and their strategic behaviour towards exports has been paid scant attention so far. In addition, firm owners' behaviour is an important factor that must be taken into consideration when analysing export intensity. Firms' resources are one of the important central determinants that can be influenced by the type of ownership. Their founders or other financial and non-financial firms usually manage firms. Some literature has specifically covered the impact of managers on export behaviour in most continental European

countries such as Germany, Spain and Italy, and the rest of the non-Anglo-Saxon world (Fernandez and Nieto, 2006).

It is interesting to examine different ownership types more accurately. The differences in firm ownership types have an effect on their strategic behaviour. Fernandez and Nieto (2006) reported that managers' levels of equity participation are an important element in launching an acceptable incentive scheme. In addition, a firm's operations will also be affected as a consequence of concentrating ownership, which relies on ownership behaviour towards availability of resources, particularly if the firm is managed by non-managerial shareholders such as banks or institutional shareholders with adequate motivation and information (Filatotchev et al., 2008). Based on work by Fernandez and Nieto (2006), there are three types of ownership which identify firms: firms owned by a family, a corporation and a family with another corporation as a shareholder. One question to be discussed is whether all types of owners behave in a similar way or whether there are variations that result in different kinds of management.

Although family ownership has its advantages including long-term orientation, flexibility, speedy decision-making and family culture and commitment (Poza, 2004), family firms also face disadvantages which are: limited access to the resources and capabilities needed, especially for the international market and the ability to sustain a competitive advantage (Kets de Vries, 1996). In addition, in family firms the division between business and personal objectives often becomes indistinct (Davis and Tagiuri, 1991). Moreover, family firms can be expected to be risk-averse as regards the family's investments because a high proportion of the owners' family wealth is invested in the business (Demsetz and Lehn, 1985; Fama and Jensen, 1985; Donckels and Fröhlich, 1991).

Fernandez and Nieto (2006) explain the advantage of the second type of ownership, which is the corporate blockholder (i.e. the owner of a large amount of a company's shares and/or bonds, or block. In terms of shares, these owners are often able to influence the company due to the voting rights awarded with their holding). The corporation can fund the firms or provide guarantees. Moreover,

corporation ownership can be described as a manner to alleviate the problems of information asymmetry and opportunism in financial markets that makes it difficult to obtain the finances required to grow (Allen and Phillips, 2000). In addition, the investments of corporate shareholders are usually diversified making them more risk-neutral (Nieto, 2001). Furthermore, important advantages can be provided by corporation ownership including: technological, commercial and organisational knowledge (Allen and Phillips, 2000). These facilities and funding are essential for firms to bring their competitive advantage to international markets.

The third type of ownership is a family and corporation. In some family firms, the family shares the firm's capital with another company (new shareholder). Fernandez and Nieto (2006) mentioned two consequences of this. Firstly, this type of ownership can assist the firm to build up the strategic resources needed to compete in international markets. These firms can acquire the resources they lack, including technology resources, labour skills, customer networks etc., and thus locate themselves in a better position to market. Secondly, this new type of ownership (original ownership and new shareholder) of these firms will support the introduction of mechanisms aimed at mitigating and resolving the conflicts of interest traditionally present in family firms. In addition, this type of ownership requires formal control schemes to separate family and business systems. Hence, when a family firm has a corporate shareholder, this is likely to encourage international expansion (Cooper et al., 1994).

Another aspect within ownership analysis is the phenomenon of female owners. Robson et al. (2012) argues that female management commonly have fewer opportunities to develop the relevant experience, they have fewer contacts and they have greater difficulty in accumulating resources (Cooper et al., 1994). Saffu and Manu (2004) assert that female-owned firms were more likely to encounter financial constraints. Brush (1992) suggests that female owners are less likely than male owners to pursue uniquely economic aims. Owing to the disadvantages they face, as well as the industrial sectors they select, some female entrepreneurs are unable to capitalise on identified foreign market opportunities (Robson et al., 2012).

The foreign ownership of firms has been discussed as an important factor that plays a role in the international market. Hiep and Nishijima (2009) report that foreign ownership or firms that have direct imports of inputs are found to have higher export intensity. Even though studies of the effects of ownership on access to international market strategy are comparatively infrequent, some recent papers (Rodriguez et al., 2005; Filatotchev et al., 2008) suggest that shareholders generally, and foreign investors in particular, encourage international expansion of their firms' portfolios. Moreover, foreign investors have a positive influence on managerial risk-taking and the extent to which local firms join the international market. Filatotchev et al. (2008) produced empirical evidence that a large amount of foreign investment could possibly provide access to the resources needed for restructuring and improving international activities.

The encouragement of turning family businesses in Saudi Arabia into shared (public) companies is another step the government has taken in an attempt to build a strong industry base which supports the contribution of non-oil products to total exports. The expectation of the contribution of family businesses to the economy is around 350 billion Saudi Riyals for 2011, which represents more than 25 per cent total GDP and over 90 per cent of the total non-oil GDP (Sama, 2011). These firms number more than five thousand and are from all regions and cities in the country. There are only 156 family firms listed on the Saudi Stock Exchange (CMA, 2011). The country believes there is an economic benefit to restructuring family business sets (CMA, 2011). The observed results of the transformation of family businesses into public stock companies reveal more commitment from family and administration in order to increase returns to shareholders and continued growth in terms of sales and profits. The transformation of family businesses into public companies also leads to on-going work to develop and attract the best talent from outside the family. Finally, this procedure also facilitates access to sources of funding and strengthens the company's competitive position (CMA, 2011).

Various studies have evaluated the relationship between export intensity and innovation. Innovation is an important factor researched by several empirical studies in an attempt to explain export performance (see Ito and Pucik, 1993;

Molero, 1998; Wakelin, 1998; Basile, 2001; Wagner, 2004; Rodriguez et al., 2005; Beveren and Vandebussche, 2010). Some of the previous studies use R&D expenditures to control the prospect action of innovation efforts on exporting behaviour. Beveren and Vandebussche (2010) points out two types of innovation measures have been used in the literature: the first measure is the ratio of R&D over sales, second; a dummy variable have been used indicating of innovation output measures. Rodriguez et al. (2005) emphasises that the use of this type of dummy variables is complemented by other variables measuring whether the firm undertakes product innovation or not. There are different determinants suggested to measure the innovation by dummy variable such as; whether firm rely on export marketing research, if firm registered local patents or International patents. Wagner (2004) uses dummy variables to measure research and development R&D intensity, three dummies for a range of groups, and patents (whether or not a firm registered as a minimum one patent). In addition, Wagner (2004) explains that R&D, and patents in the export behaviour model, because firms from a highly industrialized country should have a comparative advantage in new and advanced goods produced by highly qualified labour. However, some literatures offer evidence that R&D positively influences export intensity (Gruber et al., 1967; Cavusgil, 1984; Benvignati, 1990; Braunerhjelm, 1996; Ito and Pucik, 1993; Salomon and Shaver, 2005). Others find no significant relationship between R&D and export intensity (Cooper and Kleinschmidt, 1985; Kravis and Lipsey, 1992; Ito and Pucik, 1993).

The influence of firm size on export behaviour has been widely discussed in previous and contemporary literature. For example, Bilkey (1978), Verwaal and Donkers (2002), Gourlay and Jonathan (2004), Kundu and Katz (2003), Majocchi et al. (2005), Lages et al. (2008) and Beveren and Vandebussche, (2010) report that firm size is the most important determining impact on different levels of export intensity. Some studies (e.g. Moini, 1995; Wagner, 1995; Verwaal and Donkers, 2002; Majocchi et al., 2005; Jauhari, 2007; Bezic et al., 2010) have found that the relationship between firm size and export intensity is a positive, while other studies state that firm size has little or no influence on export intensity (e.g. Wolf and Pett, 2000; Bonaccorsi, 1992). Conversely, some literature states that there is a negative

relationship between firm size and export intensity (e.g., Gripsaud, 1990; Patibandla, 1995; Moen, 1999; Basile, 2001).

Bernard and Jensen (2004) found that large firms have advantages in terms of exporting as long as their size is associated with lower average or marginal costs. Dejo-Oricain and Ramírez-Alesón (2009) report that large firm have advantages related to their size that makes them more effective in terms of export for four reasons. Firstly, because they have more funds, labour and material resources available which are essential for developing and maintaining export schemes (Cavusgil and Naor, 1987). Secondly, size not only facilitates entry into an international market but also provides a better ability to respond efficiently to the demands of international customers (Katsikeas et al., 1995). Their leaders are more competent and active, capable of appreciating the worth of exporting and of developing a strategy to export effectively (Tookey, 1964). Thirdly, Samiee and Walters (1990) state that large firms are more competitive as they are able to create more economies of scale and hold greater power in the market. Fourthly, they bear risk because they have easier access to information sources and they have the ability to resist the impact of international risk (Bonaccorsi, 1992; Balabanis and Katsikea, 2003). However, the small size of firms is not a barrier to exporting (Sterlacchini, 2001). Gripsaud (1990) also found that small-sized firms had a more positive attitude toward exporting than those that were larger in size. Cooper and Kleinshmidt (1985) found that the export performance of a firm was related to its size. Smaller firms performed better than larger firms.

The industry affiliation of the firm is another important factor in controlling for industry effects. The type of sector is essential to an analysis of the export environment, whereas reflect the other factors in the model on each sector. Also, analysis determines the impact of reflect each sector on the model. The specific characterisations for each sector will affect export opportunities (Dejo-Oricain and Ramírez-Alesón, 2009). In addition, the sector of the firm provides information about its features level. Nachum and Zaheer (2005) found that the presence of strong competitiveness in the sector forces pressure on firms to search for new markets for their output. Another important determinant is location. A firm's

decision regarding location depends on the interaction between production costs and ease of access to markets (Venables, 1996; Bezie et al., 2010). According to Koeing (2009), export behaviour is likely affected by agglomeration both positively and negatively. Location impact analysis indicates rises in congestion in export infrastructure and greater competition related to exported goods (Bezie et al., 2010).

Research studies that discuss the relationship between firm age and export behaviour show different empirical results. According to some studies (e.g. Balabanis and Katsikea, 2003; Majocchi et al., 2005; Bezie et al., 2010), there is no evidence that age influences export performance. Some empirical studies (Leonidou, 2000; Welch and Wiedersheim-Paul, 1980) have observed that newly established firms have more difficulty in overcoming export barriers due to a lack of organisational resources, managerial experience and market and business knowledge. Majocchi et al. (2005) and Fryges (2006) found that a firm's age has different effects on its export intensity. They found that it has positive effects in Italy but the opposite was found when examining German and British technology-oriented firms. Hiep and Nishijima (2009) reported that long-established firms may have some experience or advantages in terms of export. On the other hand, Hiep and Nishijima (2009) stated that newly born firms may have higher export intensity than older ones due to their target of doing business abroad from birth. This concept suggests that new small- or medium-sized firms would plan from inception to export products or services as an integral part of their strategy (Kundu and Katz, 2003).

In addition to different types of firm ownership, innovation, size, age, sector and location, another important factor is a firm's exports experience. Many studies (e.g. Bilkey, 1978; Davidson, 1980; Archarungroj and Hoshino, 1998; Erramilli, 1991; Majocchi et al., 2005; Lages et al., 2008; Bezie et al., 2010) have mentioned the importance of experience in a firm's ability to export. Majocchi et al. (2005) stated that the better the knowledge of international business opportunities, both locally and internationally, generated by the accumulation of experience, the more the international involvement of firms increases as time passes. Firms must learn how to behave in a different market context and, therefore, international experience is

very important (Majocchi et al., 2005). In addition, Robson et al. (2012) found that firms with longer business ownership experience are more likely to export and to report higher export intensity. In contrast, Bertrand and Mol (2008) argued that past studies suggest that firms with less export experience are likely to be more eager to execute international internet marketing activities.

One of the most important issues confronting firms in relation to increasing exports is suppliers (Enterprise Surveys, 2012). The International Finance Corporation of the World Bank takes into account the role of raw material sources. The Enterprise Survey questionnaire, in the manufacturing module of the questionnaire, divides supply sources into two origins: domestic and foreign. Domestic supplies are often purchased directly, for example, most firms, in our case in Saudi Arabia; obtain their raw materials from SABIC. Foreign production imports are either imported directly or through a local intermediary. The sample shows an average ratio of 65.8 per cent for domestic supply and 34.2 per cent for foreign supply. However, firms import 90 per cent of raw materials directly from foreign supplies, and 10 per cent are purchased from local markets by intermediaries. In general, the total number of imports to Saudi Arabia represents a high value versus total Saudi exports. Official statistics indicate that imports represent 43 per cent of the total volume of exports, noting that oil constituted 85 per cent of total exports in 2010 (SAMA, 2011).

The distribution channel is another important factor that has an impact on export behaviour. Distribution is perhaps the most critical way of gaining a competitive edge in the Saudi market (Leonidou, 1995) because of the valuable contacts, experiences, specialisations and services that channel intermediaries can offer in making goods available to end-users (Kaynak, 1984; Leonidou, 1991). Leonidou (1995) analysed the distribution system in Saudi Arabia, which consists of local manufacturers, distributors or agents and wholesalers and retailers, each playing a distinct role. Leonidou (1995) argued that in the absence of a strong indigenous manufacturing base, distributors or agents play a crucial role.

Analysis and discussion of the impact of distribution channels indicates the importance of taking into consideration the issue of marketing (e.g. Leonidou, 1995; Johansson, 2000; Salomon and Shaver, 2005; Lages et al., 2008; Ural and Acaravci, 2006). Channels of distribution are marketing intermediaries through which the product reaches the consumer. The most important tool in export marketing is trade association participation. Chambers of commerce are particularly useful associations. The scope of activities of chambers of commerce covers export promotion by special participation managed by the chambers. The other aims of export participation are to issue certificates of origin, provide information on foreign buyers, analyse and supply information about markets abroad, obtain advantages offered by the government, and organise meetings, seminars and workshops related to export opportunities. A further aim is to send delegations of members to potential export countries for survey purposes, to supply information regarding their products and to discuss common problems in relation to the accessibility of exports. Other tools used in export marketing target communication with overseas importers and how to present the products to the final consumer. Participation in foreign trade fairs and exhibitions is a method of reaching large numbers of buyers directly, quickly and economically (Leonidou, 1995). The internet can be used to provide information about the product via webpages, which allows importers to get product information from the internet and to contact the exporter (Vinh and Julian, 2008). Bertrand and Mol (2008) mentioned that firms with little export experience gain more from the use of internet export channels than do firms with high levels of export experience. Another tool is family and personal links; this tool allows communication with one or more potential overseas buyers (Johansson, 2000). A further tool is direct mailing; by this method the exporter sends sales literature by mail to select or potential buyers. The main exporters in Saudi Arabia are industrial firms; hence, advertising in newspapers, on TV and on radio is not an efficient method to reach buyers. One of the most cost-effective methods is providing foreign markets with company product brochures. In contrast, print advertising is costly in markets abroad compared to domestic markets (Leonidou, 1995); firms that use this method of print advertising focus on individual consumers instead of wholesale buyers.

However, Di Maria et al. (2014) analyze whether the firm's experience, product and process innovation as well as a clear international marketing strategy affect firms' probabilities of entering export markets and their export intensities. In the aforementioned paper empirically investigates how experience, innovation and international marketing strategy influence export behavior at the firm level in order to explore how these determinants act as export drivers for a firm and the consequences measured in terms of export intensity. It carried out a quantitative analysis based on a dataset on 582 Italian manufacturing firms observed over the three-year periods 2001-2003 and 2004-2006. Their results show that the internal capabilities of a firm to efficiently manage internal processes (productivity) together with a proactive marketing strategy toward internationalization influence the decision to enter new foreign markets and to effectively obtain positive performances (export intensity). Moreover, Oyeniya (2009) in his study aims at explaining the effects of firms' strategic factors on export performance of Nigerian companies. It reported that the key strategic factors on export and its marketing plan will cover all aspects of the product, promotion, pricing and distribution. The most important result of the present study was that marketing strategies was strongly related to export performance. As such, product adaptation, promotion adaptation and firm marketing position affected the firm export performance.

Salomon and Shaver (2005) found that investment in advertising does not significantly affect export behaviour, which is in line with the results of Cavusgil and Naor (1987). Furthermore, Benvignati (1990) and Kravis and Lipsey (1992) reported that export sales are negatively related to advertising. Another study by Cavusgil and Zou (1994) found a negative and moderate relationship between promotion and export marketing performance. Salomon and Shaver (2005) argued that in both cases these findings are consistent with Cavusgil and Nevin (1981) view that advertising does not carry well across domestic borders.

There are other factors that should be taken into consideration during analysis of export behaviour. Export support capabilities involve a measure of the level of willingness to export as well as the expenditure on export marketing tools in relation to their effect on export intensity (Zou and Zao, 2003). From the

perspective of resource-based theory (Rodriguez et al., 2005) some studies have found that generating and sustaining competitive advantages resides in the set of strategic resources and capabilities available to the firm. Ahmed and Rock (2012) mentioned that many recent studies have examined the contribution of capabilities and resources to the achievement of competitive advantage in export markets. He reported that competitive advantage rooted in export intensity is derived from a firm's ability to respond successfully to the external environment. For example, multi-language skills can significantly improve export success (EC, 2005; Lawless and Wheloh, 2008). Small- and medium-sized enterprises (SMEs) that have a languages strategy and invest in staff with language skills are shown to be able to achieve more export sales than those that do not. The EC (2005) reports that the analysis of survey responses identified some key elements of language management which were associated with strong export performance, and there could be very significant gains to the EU economy if all exporting SMEs employed these techniques. It would, thus be beneficial to support businesses in becoming more expert at managing language skills and in applying the four elements of language management, which are: having a language strategy, appointing native speakers, recruiting staff with language skills and using translators/interpreters. These elements of language management were found to be associated with successful export performance (EC, 2005).

Some literature, for example the study done by Ural and Acaravci (2006), uses websites to represent the level of firms' commitment to export activities. In our study the analysis we have used the variable of email as a proxy of the website variable. Ural and Acaravci (2006) believes that email use is important in regards to the decision to export or not but not in regards to export intensity, while website use may reflect the orientation of firms in involving more intensive export activities. These capabilities provided to firms increase the level of organisation and thus impact on their export behaviour. Alegre et al. (2012) examined the effect of organisational learning capability on export intensity. He argued that the concept of organisational learning capability could provide a useful insight in determining such management initiatives.

3.3 Empirical Models Analysis

Our study concentrates on the relationship between the proportion of exports in total sales and in firm characteristics. Hence, the dependent variable in the empirical models of the study is the share of exports in total sales. This measurement has been widely used in the literature, such as by Kundu and Katz (2003), Wagner (2004), Majocchi et al. (2005), Fernandez and Nieto (2006), Lages et al. (2008), Lockett et al. (2008) and others. Most of these studies list the dependent variable as export intensity.

In our study, all firms have taken the decision to export, whether they are already exporters or firms intending to export by registering with the Saudi export programme. The study looks at export firms only and does not take into account the decision to export or not. However, the average export intensity in the sample is about 23 per cent. The export intensity shows that more than one fifth of the output of those Saudi firms was sold in foreign markets (more statistical details on table 2B.6 –chapter 2-).

In this study, the ordinary least square (OLS) estimation method is applied. Wagner (2004) argued that if the estimation regresses the export/sales ratio on an independent variable using OLS, there is no room for firm heterogeneity of this kind. In addition, OLS assumes that the conditional distribution of the export/sales ratio, given the set of firm characteristics, is homogeneous. This implies that at no matter what point the conditional distribution is analysed, the estimates of the relationship between the export/sales ratio (the dependent variable) and the firm characteristics (the independent variables) are the same.

3.3.1 Model (A): EMPIRICAL REPLICATION FRAMEWORK

The empirical models in the literature review consisted of different independent variables in a theoretical framework. Fernandez and Nieto (2006) explained the effects of the different types of ownership. The model distinguishes between three basic categories: first, a family to which the firm belongs, with one or more members in managerial positions; second, a corporation in which another company is a shareholder; third, a family and corporation where the firm belongs to

the family, with one or more family members in managerial positions, and with a corporate shareholder. Table 3.1 panel A presents the variables included in the Fernandez and Nieto (2006) model, and counterpart variables of our first study framework that is Model (A) are shown in Table 3.1 panel B.

By relying on the Fernandez and Nieto (2006) model variables, the framework uses sole proprietorship as a proxy for the family firm in the Model (A). For the same reason, a variable of SMEs with a corporate blockholder (with at least 5 per cent of equity holdings) is replaced by a shareholding company, and a family firm with a corporate blockholder is replaced by a limited partnership with trade shares on the stock market. The value of these dummy variables is 0 if not chosen as the type of ownership or 1 if the ownership of the firm is chosen.

The analyses also controlled the model for the following variables: firm age was measured as the number of years in operation. Internationalisation studies by Reuber and Fischer (1997), Preece et al. (1998) and Chen and Martin (2001) have used this variable to control firms' level of experience and accumulated resources (Dierickx and Cool, 1989). The size of the firm is measured as the number of employees in the models to control the possibility that size may influence the resources available to support firm internationalisation.

Fernandez and Nieto (2006) included variables to measure the internationalisation process by agreements, alliances and cooperatives (Welch, 1992; Keeble et al., 1998; Lu and Beamish, 2001). International performance can improve firms by providing resources and mitigating uncertainty. This variable describes whether the firm has agreements with retailers and wholesalers or not; 0, 1 dummy is used in the models. In the Model (A), a dummy variable is used if firms use distributors / wholesalers to sell their products.

The sector variable is used to obtain sector characteristics. In the empirical model this includes the mean export intensity by industry and year; in Model (A) it is replaced by the mean of each sector. The Fernandez and Nieto (2006) model takes into account the origin of the corporate shareholder investing in the firm, as this will influence the behaviour of the firm and its knowledge of international

markets. For this reason, in our estimation, the model includes a variable reflect role of foreign ownership. Foreign investment in firms is represented by whether a firm is managed or owned by private foreign individuals, companies / organisations or not; 0, 1 dummy is used in replicated models. An important factor established by empirical work is that innovation explains export performance. Model (A) suggests that this can be represented by three variables measured in the current study. The study relies on export market research and on registered local and international patents as a proxy for innovation (Rodriguez et al., 2005).

3.3.2 Estimates of the Model (A)

Table 3.2 and Table 3.3 contain the descriptive statistics and correlations between variables. The study relies on selected variables in the Table 3.1B Model (A). The correlation matrix in Table 3.3 presents the independent variables related to export intensity. The correlation between the independent variables and export intensity is very low; the highest correlation is 0.27 between export intensity and local and international patents registered. Also, the correlation matrix shows that the level of correlation is low between the independent variables themselves. However, a high correlation is given between the two innovation measures, local and international patents registered, because they both act as significant drivers of firms' behaviour to intensify export. Beveren and Vandebussche (2010) argued that the insignificance of the process innovation variable does not reflect its true impact. Moreover, while including the innovation measures one by one avoids the multicollinearity issues discussed above, the analysis fails to take into account potential complementarities between firms' product and process innovation in shaping their future export prospects.

The results display four specifications with different sets of independent variables (i.e. ownership, firm size, innovation and sales distribution channel) for export intensity to illustrate the influence of each characteristic. The results for the determinants of export intensity are presented in Table 3.4, which addresses the results of Model (A).

As can be seen from Table 3.4, the F statistics and Chi-square analysis reveals that the null hypothesis that the regression coefficients are together equal to zero can be rejected at the 1 per cent significance level for all models' regressions. As in Fernandez and Nieto (2006), sole proprietorship in models 1 and 2 are statistically significant below the 1 per cent level. Moreover, in line with the Fernandez and Nieto (2006) model, the study also found the coefficient of this variable was negative and significant, showing that this type of ownership negatively affects export intensity. The coefficient of the variable that identifies family and limited ownership variable that proxy by corporate ownership is also negative and significant in the model; the results show that if a firm is owned by limited partnership, export intensity is on average between 9.93 and 10.05 per cent lower across all estimations in Model (A), holding other independents constant. Although shareholding firm status has a positive coefficient, it is insignificant in these models, which do not reflect a definitive relationship between shareholding and export intensity.

Among the independent variables, sector has a positive role in export intensity in models 1, which is consistent with Westhead et al. (2001) who found differences in internationalisation across industry sector types. The significant coefficient of sectors in general leads us to divide the impact of each sector in model 2. Our Model (A) results show that coefficients of two sectors are positive significant: chemicals, petrochemicals, plastics, rubber and medical care; and electrical, machinery, transport, tools and medical equipment.

The results of Table 3.4 reveal that foreign ownership and shareholding firms are not related to export behaviour, so there is no influence on export intensity in this model. Moreover, the results show that all of the other variables included in the model are insignificant; none of the innovation measurements, such as export marketing plan, patents registered locally or abroad, firm size by labour volume and age of firm, are shown to be effective.

3.3.3 Model (B): EMPIRICAL ENHANCED FRAMEWORK

The Empirical Enhanced Model (Model (B)) is an expansion of the Empirical Replication Model (Model (A)) and the model by Fernandez and Nieto (2006). Model (B) relies on multiple regressions, which allow us to add more variables to the model and estimate their influences on the dependent variable. To analyse the effects of ownership structure and firm characteristics on export intensity, five different indicators of firm characteristics (i.e. ownership, firm size, innovation, trade operations and sales distribution channel) are used as independent variables. Model (B) presumes that firms' ownership structure and characteristics could affect their export intensity, together with other firm-specific covariates. Table 3.5 presents the variables included in Model (B).

Ownership variables in Model (A) consist of three independent variables: sole proprietorship, limited partnership and shareholding firm with trade shares on the stock market. In our survey, the analysis benefited from adding more forms of firm ownership which are partnership and 'other' (e.g. philanthropist organisation). Also the analysis divided shareholding companies according to two variables: those with trade shares on the stock market and a shareholding firm with non-traded shares or shares traded privately. The 0, 1 dummy is used for these variables in the empirical models. Moreover, in our survey, there are six further variables that identify firm ownership structures and whether a firm is owned privately or by companies / individuals or domestic of foreign organisations. These variables are used in Model (A), which analyses the behaviour of the firm and its knowledge of international markets. The investing in firms in our analysis is a foreign firm represented by private foreign individuals or companies; 0, 1 dummy is used in the empirical model. Also in our study, the analysis takes into consideration the impact of female ownership on export behaviour.

Firm size was classified using labour volume, sector, firm age and main region. Labour volume refers to the number of employees. Firms were grouped into four size categories: (1) micro-firms with less than 5 employees; (2) small-sized firms with 6 to 20 employees; (3) medium-sized firms with 21 to 99 employees; and (4)

large firms with more than 100 employees. Because there are no firms in the two smaller categories, the analysis use dummy variable that size=1 if firm in the large group otherwise 0. The study identified sector variables to understand the influence of characteristics for each sector on export behaviour. In the empirical models, the sector value variable used in the analysis shows the mean of export intensity by each sector. The sectors contained in the model were: food and beverages; wood, paper, leather and textiles; chemicals, petrochemicals, plastics, rubber and medical care; building material and glassware; and electrical, machinery, transport, tools and medical equipment. The firm age variable looked at the issue of the impact of firm experience on export intensity and whether long experience in manufacturing has more of an impact on the level of export than those younger firms. Main region is included as a variable to show the impact of services and facilities provided in each region and in particular, to examine the indirect effect of infrastructure on manufacturing, such as transportation, electricity, water, services and communications, as well as the flow of this effect on export procedures. The region variable used in the estimation is the mean region, which is the mean of export intensity by each region.

Innovation in the study was measured by alternative variables. The aim was to identify the prospective action of innovation efforts on export behaviour. In our case, the analysis added two more variables to the three variables used in Model (A). Locally and internationally recognised certification variables were added to export marketing plan, patents registered in Saudi Arabia and patents registered abroad.

The export experience variable is an important factor used in this study to examine the effects of international experience on export intensity. The length of export experience was measured by the number of years since the firm started exporting. Moreover, variables were obtained through surveys concerning what the firm depends on to run its operation, such as raw materials, origin of supplies and position of imports. The analysis used two variables: percentage of supplies of domestic origin and percentage of direct imports. Another important variable that affects export intensity is total sales of the firm. The discussion point shows

whether an increase or decrease of total sales influences export intensity. Total sales figures are grouped by firm into five size categories: (1) micro-firms with annual sales of 10 million SAR and less; (2) small-sized firms with sales between 11 million and 25 million SAR; (3) medium-sized firms with sales between 26 million and 50 million SAR; (4) more-than-medium and less-than-large firms with sales between 51 million and 100 million SAR; and (5) large firms with sales in excess of 100 million SAR.

The sales distribution channel in the Fernandez and Nieto (2006) model included one variable to measure the internationalisation process by agreements, alliances and cooperatives. Wholesalers and retailers can be used in Model (B) as well as firms' sales forces, independent agents, firm-owned retail stores and independent retail stores. These sections of Model (B) allow us to analyse the effect of the sales distribution channel on export behaviour in Saudi Arabia. Export firms can be involved in different distribution channels, especially when marketing abroad.

3.3.4 Estimates of Model (B)

Table 3.2 shows the variable definition and descriptive statistics of enhanced study variables. The correlation matrix in Table 3.3 presents insights into which of the independent variables are related to export intensity. The highest correlation with export intensity is for locally-recognised quality certification (0.267) and internationally-recognised quality certification (0.254). Both correlations are low and positive. On the other hand, limited partnership firms (0.230) and patents registered abroad (-0.160) have the highest negative correlations. The correlation matrix, as shown in Table 3.3, shows the correlation between the independent variables as being either low or moderate, which suggests the absence of multicollinearity between independent variables. Only one issue of low correlation is noted between the age of firm and length of export experience. These correlated variables play the same role in the regression, which means that the estimation will use one of them in the model. However, although Model (A) reveals the high correlation given between the two innovation measures between locally- and internationally-recognised quality certification, as well as local and international

patents registered. Beveren and Vandebussche (2010) claim the regression includes all innovation measures because they drive firms into the export market. Precisely, Beveren and Vandebussche include two innovation measures in the regression, which are product and process innovation, although given high correlation between the two innovation variables, they may both act as significant drivers of firms' probability to enter the export market. Moreover, while including the innovation measures one by one avoids the multicollinearity issues, it fails to take into account potential complementarities between firms' product and process innovation in shaping their future export prospects.

The estimation employed OLS regression (Table 3.5). In this model, the estimation isolated the effects of firm age and export experience; the aim of this step is to measure the impact of each variable separately. The following two models were generated: model 1 analyse the relationship between export intensity and different firm characteristics depending on age of firm measured by number of years; model 2 involves export experience instead of firm age, which is measured by length of export experience. Table 3.5 shows the results of all types of Model (B).

Statistical results show that the F statistics and Chi-square analysis in all models are significant. The coefficient estimates of firm ownership as shareholding, internationally-recognised quality certification, age of firm, length of export experience, independent agents and independent retail stores are all positive and significant in all models. In contrast, the coefficient estimates of females amongst owners of the firm, annual sales and supplies of firms dependant on domestic origin are negative and significant in all models.

Thus, the estimation results show that the firm's export intensity is, on average, between 50.46 to 53.3 per cent higher for firms owned by shareholding ownership (at the 5 per cent significance level). Also, having internationally-recognised quality certification increases the export intensity by 15.19 to 16.76 per cent, on average.

The Independent retail stores magnitude between 10.56 and 11.57 points while independent agents around 5.07 points. The results of the impact of

experience show that for each extra year of exports experience, the exports intensity increases by 0.431 per cent, while a one year change in age of firm results in between 0.168 per cent increase in exports intensity, holding other independent variables constant. For firms owned or managed by females, exports intensity is on average between 8.73 and 9.14 per cent lower, and analysis of annual sales show that one unit change in total sales results in between -2.22 and 2.70 per cent decrease in the level of exports intensity. Finally, one per cent increase in supplies of domestic origin results in between 0.09 and 0.10 per cent increase in exports intensity. The study also found that the estimated coefficient of non-trade shareholding firm, partnership amongst types of ownership and main region as well as locally-recognised quality certification, patents registered abroad amongst innovation variables, and distributors or wholesalers amongst sales distribution channels are positive but not statistically significant for export intensity. Additionally, the coefficient of sole proprietorship and limited partnership foreign ownership as types of ownership, firm size (measured by labour volume and mean of sector), market research and patents registered in Saudi Arabia as innovation variables, imported directly as trade operation and firm sales force and firm-owned retail stores as sales distribution channels are negative but insignificant for export intensity.

3.3.5 Model (C): EMPIRICAL EXPORT INTENSITY FRAMEWORK

The Empirical Export Intensity Model (Model (C)) is an extension of Model (B). In this model, the analysis adds two further groups of indicators, marketing activities and export capabilities, to the five different indicators of firm characteristics in Model (B) (i.e. ownership, firm size, innovation, trade operations and sales distribution channel) which are used as independent variables.

The first group of indicators added to Model (C) is export marketing which involves providing an offer that attracts buyers. The offer is communicated to the buyer using sales promotion activities. The activities listed in the questionnaire include: trade association participation; trade fair exhibitions; print advertising; TV and radio advertising; family and personal links; direct mail advertising; firm and

product brochures; and the internet. These tools are assumed to assist exporters in attracting customers to their products as well as acting as valuable marketing communication tools for exporters from developing countries.

The Model (C) framework includes several variables to control the impact of a firm's work environment on export intensity. Hence, the export support capabilities were measured using the responses of managers. The most important support capabilities factors in regards to export found in the framework are: foreign language ability; multi-lingual sales staff; fax machine; foreign language website; product information on the web; export marketing plan; and export document preparation.

3.3.6 Estimates of Model (C)

Table 3.2 presents descriptive statistics for the variables employed in Model (C): Empirical Export Intensity Framework. The correlation matrix in Table 3.3, in addition to the correlation discussed in the aforementioned Model (B), did not show high correlation between explanatory variables and export intensity. Nevertheless, high correlations between firm age and export experience were observed (the correlation between firm age and export experience variables was 77 per cent). In order to avoid multicollinearity the empirical analysis for influence of export intensity (Table 3.6) was carried out using different models. In each case the first two models combined firm age and sector in total form and each sector's separate variables, whereas the third and fourth models combined export experience with sector and each sector's separate variables; a similar approach to dealing with the issue is used by Ma (2002), Qian (2010) and Ganotakis and Love (2012). The R^2 specifications range from 0.59 to 0.67 while adjusted R^2 ranges from 0.42 to 0.54. The study obtained the following findings.

The regression coefficient for shareholding firms with trade shares on the stock market has a positive impact on all Model (C) models among types of ownership. In contrast, foreign and female ownership has no statistically significant impact on the level of export intensity. There was support for these results, with other types of ownership lacking effort and strategy to increase their level of

international marketing compared to that of a large firm managed by shareholding owners.

As regards the role of innovation, the measure of locally-recognised quality certification has a positive impact on export intensity in model 1 in Table 3.6. This model relied on the firm age variable rather than on export experience and were run with the mean of the sector as a whole. Another measure, internationally-recognised quality certification, also had a positive impact on models 2 and 4 in Table 3.6. The effect of this variable on export intensity in the aforementioned models was relied on the firm age variable rather than export experience, as well as being run with the sector level. This suggests that greater research effort is potentially reflected in improved product quality, which is significant for both initial entry and expansion into export markets. However, locally- and internationally-recognised quality certifications are an input measure of research effort and, therefore, may not be an accurate indication of innovative activity. Patents registered abroad or locally amongst innovation measures are insignificant variables. As shown by Roper and Love (2002), the innovation-export relationship is sensitive to the measure of innovation (Gourlay and Seaton, 2004). Gourlay and Seaton (2004) argued that it might be the case that an output measure of innovative activity would have yielded a different result for the export probability equation.

The size of the firm, measured by labour, is found in all models to have a significant and negative impact on export intensity. As explained by Majocchi et al. (2005), this does not mean that larger firms export less in an absolute sense; larger export firms may have a large domestic market as well. Iyer (2010) provided empirical evidence that larger exporting firms may have a large domestic market as well, pulling down the export intensity. Iyer (2010) argued, in line with Majocchi et al. (2005), that the empirical findings do not mean that larger firms export less in an absolute sense. Across all Iyer (2010) models, the estimation appears that firm size should not be a criterion for the intensity level, given that size is negatively associated with export intensity. Iyer (2010) does not suggest discrimination against large firms per se since they might be exporting more in an absolute sense. The

export intensity of a firm is positively influenced by the number of export markets services and, possibly, by product diversification.

In regards to the negative sign of the estimated coefficient of firm size, Majocchi et al. (2005) found it supported the argument that large firms that could undertake advertisement expenditure would be able to derive relative advantages specific to the protected domestic market. Patiblanda (1995) argues that large firms may have an advantage over small firms in selling their products in the domestic market. In addition, small firms might be in better situation to take advantage of information externalities in exports that might take place through inter-firm linkages. To that end, these firms should be given assistance to break into export markets and to export at high intensity. The argument provided by Patiblanda, (1995) is that in the presence of capital market imperfections and sub-optimal contractual arrangements, small firms face higher transaction or selling costs in the domestic market. Consequently, small firms seeking to overcome the mobility barriers imposed by high transaction costs in the domestic market follow one of the strategic responses to break into the competitive world market. Small firms that can recognise a critical level of production efficiency and possible information externalities that arise through inter-firm linkages might be the ones able to succeed in exports.

In the same line of study, Mittelstaedt et al. (2003) found that firms must achieve a minimum size in order to export successfully. However, Verwaal and Donkers (2002) found that, in comparison to manufacturing firms with large export relationships, small firms have even higher export intensities than large firms, as increases in firm size result in shifts to curves with lower export intensities. With sizeable export relationships, small firms seem to have a competitive advantage in exports compared to large firms. Small firms with large export relationships seem to benefit from their flexibility. For example, Mittelstaedt et al. (2003) states that the firm size and export intensity relationship is positive if export relationship size is smaller than approximately 10,000 euros and is approximately flat, and beyond about 25,000 euros it even becomes negative.

All models show sector to be positive and significant in terms of export intensity. Moreover, the models that run regression by relying on each sector separately (Models 2 and 4 in table 3.6) show that firms working in the wood, paper, textiles and leather sector have no impact on export intensity as shown in the regression coefficients. However, firms working in the other sectors (i.e. the chemicals, petrochemicals, plastics, rubber and medical care sector, the building material and glassware sector and the electrical, machinery, transport, tools and medical equipment sector) have a positive impact on export intensity. Across all models, the results found that the age of a firm explains export intensity; the impact of firm age is positive and significant in export intensity for all models. Similarly, the impact of export experience on export intensity is significant for all models. This result is supported by Kundu and Katz's (2003) argument that firms that have had international experience display stronger export performance.

The results also show the influence of other firm trade operation characteristics on export intensity, such as annual sales and suppliers. Models 4 show negative signals for annual sales. This result illustrates that a low level of annual sales by firms increases intensity of export. The influences of other firm trade operation characteristics on export intensity, such as supplies of domestic origin, have a significantly positive impact. In contrast, the direct importation of a firm's material supplies of foreign origin is statistically insignificant.

In terms of a firm's distribution of its sales, although 86 per cent of the firms distribute their products through the firms' sales forces (Table 2B.9 in panel a), the regression results in terms of the sector as a whole show a negative significant relationship due to the fact that pursuing this means of distribution decreases the level of exports. Moreover, there is a negative impact on the level of export that results from firm-owned retail stores; firms using this method represent 15 per cent of the total sample size (Table 2B.9 in panel a). In addition, there is no significant effect when firms use either independent agents or distributors and wholesalers. However, the results from firms relying on independent retailers found a positive influence on export intensity, as shown by models 2 and 4 in table 3.6.

Among the marketing promotion activities used by the firms, the study found a negative impact for trade fair exhibitions in all models. Moreover, the results for firms that used brochures to promote the firm and its products, showed that, in the case of models run by sector variable as a whole and in relation to firm age or export experience in all cases of the regression method (models 1 and 3 in table 3.6), they have a negative impact on export intensity. In contrast, the positive effect of an increased level of exports was observed when the firm relied on TV and radio advertising and used the internet. Models that support firms dependant on TV and radio advertising are significant in export intensity that relies on firm age, export experience and sector level variables (models 1 and 3 in table 3.6).

The results also show that a foreign language website and export marketing plan amongst export support capabilities have significant effects on increasing the level of exports. Models 1 and 3 in Table 3.6, which relied on sector variables whether in the case of firm age or export experience, show the positive effects of foreign language websites. Further estimates show that firms with export marketing plans had a positive impact on export intensity as shown by models 1 and 3 using sector variables in total form,.

In contrast, the results in all models show that firms that paid more attention to involving staff who had foreign language ability had a negative impact on export. Based on the interview stage of this study, the negative impact can be attributed to the fact that the majority of the sample of firms is owned by sole proprietorship or family or partners and in these firms the authority for all firm activities is typically the owner. The owner does not empower staffs that have foreign language ability to market and offer quotes on firm's products. When firms involve these staff it adds costs to the firm's budget and entails more bureaucracy which negatively affects the firm's behaviour in relation to export. Another reason may be that staffs holding qualifications in foreign languages do not have marketing skills.

In addition, multi-lingual sales staff in models 1 and 3 in Table 3.6 also had a negative influence on export intensity. Furthermore, model 2 reported that firms using email as a support capability to export had a negative impact on export

intensity. An argument to explain this negative impact can be provided by relying on observation during the collection of data. For instance, a firm may depend only on email as the sole method of marketing without integration with other marketing methods, or a firm may misuse this method and be unfamiliar with how to market using it.

3.4 Discussion and conclusion

The objective of this work has been to analyse the effect of different types of determinants and factors on export behaviour. To achieve this target the study has adopted two methods and three frameworks to analyse the effects on export behaviour, which allows us to determine if there is some sensitivity in the variables measuring export intensity.

This project uses a new survey and unique data generated by a specific questionnaire. The survey includes details of specific export obstacles that firms face when selling their products abroad. In addition, the study contains data that describes the situation and position of 175 firms as a representative sample of export-manufacturing firms in Saudi Arabia.

Table 3.7 shows the steps taken to derive and build upon the Model (C) Empirical Export Intensity framework. As a first step, the analysis looks at the Fernandez and Nieto (2006) model, including the three dummies representing whether the firm is owned by sole proprietorship, shareholding (i.e. is a shareholding firm with shares in the stock market), or limited partnership. The empirical framework covers the following factors: ownership, foreign investment in firms, innovation represented by patents registered locally or abroad, alliance measured by whether the firm had agreements with retailers and wholesalers or not, and controlled the Model (A) by firm age, size measured by number of employees and mean of sector. In the second step, the study embarked on Model (B). Once the estimation added the additional variables into the Model (A) the study expected the model to be more robust. In ownership, the estimation added three more variables, which were Shareholding Firm with non-traded shares or shares traded privately, partnership, and females amongst the owners of the firm.

The study also controlled the model by use of variables that reflects the impact of region or location characterization. Regarding innovation, the study found that locally and internationally recognised certification were important variables which gave researchers insight allowing an explanation of the influence of innovation on export intensity. Moreover, the model extended alliances by adding more variables under the sales distribution channels chain, which were; firm sales force, independent agents, firm-owned retail stores, and independent retail stores, in addition to distributors or wholesalers. However, the Model (B) was supported by four added variables to control the estimate; length of export experience, supplies of domestic origin, direct imports, and annual sales. In step three, the derivative model is a component of vital factors in addition to the Model (B). The marketing activities and export support capabilities appeared as pivotal factors Model (C). The activities most used to market exports Model (C) are trade association participation, trade fair exhibitions, print advertising, TV or radio advertising, family and personal links, direct mail advertising, firm and product brochures, and the internet. However, the variables of foreign language ability, multi-lingual sales staff, fax machine, email, foreign language website, product information on the web, export marketing plan, and export document preparation represented the export support capabilities.

In our empirical results, the estimation found sole proprietorship and limited partnership amongst owners are statistically significant and have a negative effect on export intensity only in the Model (A) estimation, while these kinds of ownership are insignificant in all the other models, whether Model (B) or Model (C). The analysis found that this result is reflected in export performance in family-owned firms; in the literature context, family firms have limited access to the resources and capabilities needed (e.g. Kets de Vries, 1996; Poza, 2004). One type of owner is the shareholding firm with shares in the stock market; this type of owner had no effect in Model (A), but had a positive impact on export intensity in Model (B) and Model (C). The shareholding firm's results are a repercussion of a larger firm size that has easier access to information sources, the ability to resist the impact of international risk, more funds, labour and material resources available, which are

essential for developing and maintaining an export scheme. The results show that females amongst owners of the firm have a negative impact on export intensity in Model (B), whilst it is insignificant in all Model (C) model estimations. This result is supported by a female owner as one part of a family firm's ownership. Moreover, the results reveal that foreign ownership is not related to export behaviour, which implies that it does not influence export intensity in our study models.

Firm size, as measured by number of employees, type of sector, and location, has various impacts on export intensity. Coefficient signal of type of sector has a significant positive impact in Model (A) and Model (C), the magnitude found in the Model (A) is less than in Model (C), it is 1.25 point, while in model (C) it is found between 34.0 and 39.24 point. In contrast, Model (B) where coefficient of type of sector is not significant. The analysis divided the impact of sector by each sector separately. The estimation found that the chemicals, petrochemicals, plastics, rubber, and medical care sector had a positive impact by a magnitude between 24.99 and 25.31 in model (C) depending on firm age and export experience respectively, the electrical, machinery, transport, tools, and medical equipment sector also had a positive impact on export intensity by a magnitude 18.92 point in model (A), and between 33.16 and 37.84 in model (C) depending on firm age and export experience respectively. Meanwhile the building material and glassware sector has a positive impact on export intensity in Model (C) estimations, the magnitude is between 20.85 and 25.56 relying on firm age and export experience respectively. These results are a reflection of the Saudi economy's dependence on oil-related industries.

From our findings, the estimation observed that number of employees as a measure of firm size has a negative influence on export intensity in Model (C) estimations, and no significant impact in Model (A) or Model (B) estimations. In fact, several studies have inferred from the results of their empirical analysis that the relationship between the number of employees and export intensity is not significant or are negatively significant. For example, Wolf and Pett (2000) found that small firms are able to pursue an export strategy by employing a specific skill base. Another important positive effect on export intensity is the role of innovation.

Our results found the positive impact that recognised quality certification has on Model (B) and Model (C) estimations. Locally recognised quality certification had a positive effect in model Model (C) relying on the firm age variable rather than export experience, as well as being run with the mean of each sector in total form. In addition, internationally recognised quality certification also had a positive effect in model Model (C) that was run by using both methods relying on the firm age variable and mean of each sector in total form, in addition to Model (B) estimations which showed that there were positive effects in all models. However, innovation had no significantly negative impacts on export intensity.

With regard to the age of firm, it had a positive and highly significant effect on export intensity in all models except in the replicated model (A). In the same way, but to a minimum degree, length of export experience used in Model (B) and Model (C) estimations had a positive effect in all models except two which were run by relying on mean of sector in total form in Model (C) estimations. This result implies that firm age and export experience played similar roles in the estimations. In contrast, the location of firms in all models used in our study had no effect on export intensity. Another aspect of trade operation characteristics of firms is annual sales; the effects were shown to be negative. All models in Model (B) estimations supported the exclusion of one model relying on export experience. Similarly, the models in Model (C) estimations showed annual sales had a negative impact, by relying on firm age and export experience within both sectors in the level. One reason for the negative impact of annual sales on export intensity is that firms with large sales, especially in the local market; does not strive to export more. The estimations show the influence other firm trade operation characteristics have on export intensity; supplies of domestic origin are significant with a positive impact in one model using both methods in Model (C); the mentioned model deals with firm age and each sector separately. In Model (B) estimations the influence of domestic origin suppliers is contradictory; the coefficient signal is negative, which shows that a one unit change in supplies of domestic origin results between 0.09 and 0.10 per cent in export intensity, but with more robust Model (C) the impact is in line with economies depending on local raw materials based on petroleum derivatives, the

coefficient magnitude for domestic origin suppliers in the mentioned model is positive and shows a one unit change in supplies of domestic origin results 0.19 per cent in export intensity. While the direct import of a firms' raw material supplies being of foreign origin is statistically insignificant.

The regressions are also controlled by sales distribution channels to measure the influence of firm alliance on export behaviour (e.g. Kaynak, 1984; Leonidou, 1991; Leonidou, 1995). The estimations show that distributors and wholesalers do not affect export intensity in any model. Firms relying on independent retail store's results found a positive influence on export intensity in all models of Model (B) estimations and in all models in Model (C) depending on each sector separately. Another positive impact amongst sales distribution channels was felt when firms relied on independent agent; all models in Model (B) estimation are supported, but this result is not reflected by Model (C) estimations. In contrast, the negative effect of the sales distribution channel on the export intensity appear when the firms rely on their firm sales force, in the Model (C) estimations especially when the model is controlled by means of sector. Similarly, firms relying on owned retail stores have a negative impact in Model (C) estimations, except one insignificant model which relies on export experience and sector in total form.

Analysing the factors that have an impact on export intensity has taken into account marketing promotion activities. In Model (C) estimations, firms that rely on TV and radio advertising and use the internet increased their export intensity. In contrast, the export intensity decreased in firms that depend on trade fair exhibitions, brochures to promote the firm and its products, and print advertising. There were negative effects because some firms do not rely on clear strategies for marketing their products, whilst the study did not find any significance in trade association participation, family or personal links, and direct mail advertising had an effect on export intensity in all models in Model (C) estimations.

The additional factors that added to the derivation model for export intensity is export support capabilities. The results show the significant effects of foreign language websites, which had a positive impact on export intensity with a

coefficient magnitude between 8.13 and 8.65 across all estimations in model (C), while export marketing plans had a positive impact on export intensity with a coefficient magnitude between 6.26 and 7.78 point. In contrast, firms paying more attention to involving staff with foreign language ability as support capabilities to export had a negative impact on export intensity. The magnitude of coefficient for involving staff with foreign language ability is between -11.50 points and -15.47 points, while the multi-lingual sales staff coefficient magnitude is -4.00 points. The other variables that had no significance were fax machine, product information on the web, and export document preparation. The impact of distribution channels, marketing activities, and supportive capacity was negative, due to a lack of marketing expertise or ability to penetrate distribution channels in foreign markets. Another aspect was the novelty of some firms, or the absence of strong strategies toward export marketing. The antecedent aspects should be developed by firms to help promote and grow sales in international markets.

Table 3.1 Variables included in replicated study analysis

A) Fernandez and Nieto variable		B) Model A variable	Value
EXPINT	Export sales/total sales	The proportion of exports in total sales	per cent
Independent Variables			
FAM A	Family firm; (0, 1) dummy used in models.	Sole proprietorship	(0,1) dummy
COR	A SME with a corporate blockholder (with at least 5 per cent of equity holdings); (0, 1) dummy used in models	Shareholding firm with trade shares on the stock market	(0,1) dummy
FAMCOR	A family firm with a corporate blockholder (with at least 5 per cent of equity holdings); (0, 1) dummy used in models	Limited partnership	(0,1) dummy
PID	Total R&D expenditure/total sales (lagged one period)	Export marketing research	(0,1) dummy
		Local patents registered	(0,1) dummy
		International patents registered	(0,1) dummy
ALLIANC	The firm has agreements with retailers and wholesalers; (0, 1) dummy used in models	Distribution channels; Distributors/Wholesalers	(0,1) dummy
AGE	Number of years since the first year of firm's operations until the year of observation	Number of years since the first year of firm's operations until the year of observation	Number
FOREIGN	The company investing in firms is a foreign firm; (0, 1) dummy used in models	Private foreign individuals, companies or organizations	(0,1) dummy
SIZE	Number of employees	Size=1 for firm in large group	(0,1) dummy
SECTOR	Mean by industry (sector)_and year of EXPINT	Mean of industry (sector) of export intensity	per cent

Table 3.2: Variables definition and descriptive statistics

	Variable	Obs	Mean	Std. Dev.	Min	Max	Definition
1	Export intensity	159	23.01	17.90	4	90	Export sales on total sales
2	Shareholding Firm (Shares trade)	175	0.03	0.17	0	1	Dummy variable (0,1)
3	Partnership Firm (Non-traded shares)	175	0.17	0.37	0	1	Dummy variable (0,1)
4	Family Firm (Sole proprietorship)	175	0.21	0.41	0	1	Dummy variable (0,1)
5	Partnership Firm	175	0.26	0.44	0	1	Dummy variable (0,1)
6	Limited partnership Firm	175	0.33	0.47	0	1	Dummy variable (0,1)
7	Foreign investment	175	0.10	0.30	0	1	Dummy variable (0,1)
8	Main Region	175	20.60	3.97	4	29.6	Means
9	Central	175	0.56	0.497	0	1	Dummy variable (0,1)
10	Eastern	175	0.20	0.405	0	1	Dummy variable (0,1)
11	Size	175	0.75	0.43	0	1	Dummy variable (0,1)
12	Mean of sector	175	0.30	0.17	0.08	0.48	Means
13	Age of firm	175	21.81	10.37	2	62	Number
14	Export experience	161	13.56	6.85	1	31	Number
15	females amongst the owners of the firm	166	0.27	0.45	0	1	Dummy variable (0,1)
16	Locally-recognised quality certification	170	0.75	0.44	0	1	Dummy variable (0,1)
17	Internationally-recognised quality certif.	171	0.74	0.44	0	1	Dummy variable (0,1)
18	Patents registered abroad	166	0.05	0.21	0	1	Dummy variable (0,1)
19	Patents registered in Saudi Arabia	169	0.06	0.24	0	1	Dummy variable (0,1)
20	Supplies of domestic origin	175	65.83	25.01	4	100	Percentage
21	Imported directly	171	90.32	19.74	5	100	Percentage
22	Annual sales	175	4.53	1.49	1	6	Category variable (1-6)
23	Firm Sales Force	175	0.86	0.34	0	1	Dummy variable (0,1)
24	Independent Agents	175	0.22	0.41	0	1	Dummy variable (0,1)
25	Distributors/Wholesalers	175	0.38	0.49	0	1	Dummy variable (0,1)
26	Firm -Owned Retail Stores	175	0.15	0.36	0	1	Dummy variable (0,1)
27	Independent Retail Stores	175	0.09	0.28	0	1	Dummy variable (0,1)
28	Trade Association Participation	175	0.31	0.46	0	1	Dummy variable (0,1)
29	Trade Fair Exhibition	175	0.86	0.34	0	1	Dummy variable (0,1)
30	Print Advertising	175	0.55	0.50	0	1	Dummy variable (0,1)
31	TV/Radio Advertising	175	0.13	0.34	0	1	Dummy variable (0,1)
32	Family/Personal Links	175	0.18	0.39	0	1	Dummy variable (0,1)
33	Direct Mail Advertising	175	0.18	0.39	0	1	Dummy variable (0,1)
34	Firm & Product Brochures	175	0.86	0.34	0	1	Dummy variable (0,1)
35	Internet	175	0.75	0.44	0	1	Dummy variable (0,1)
36	Foreign Language Ability	164	3.70	0.54	2	4	Category variable (1-4)
37	Multi-Lingual Sales Staff	164	3.12	0.83	1	4	Category variable (1-4)
38	Fax Machine	164	3.29	0.81	1	4	Category variable (1-4)
39	Foreign Language Web Site	158	3.74	0.58	1	4	Category variable (1-4)
40	Product Information on Web	158	3.56	0.79	1	4	Category variable (1-4)
41	Export Marketing Plan	161	3.40	0.71	1	4	Category variable (1-4)
42	Export Document Preparation	161	3.19	0.82	1	4	Category variable (1-4)

Table 3.3: Correlation matrix of empirical models

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Export intensity	1												
2 Shareholding Firm	0.12	1											
3 Non-traded Shares Firm	0.09	-0.08	1										
4 Family Firm (Sole proprietorship)	-0.09	-0.09	-0.23	1									
5 Partnership Firm	0.20	-0.10	-0.26	-0.30	1								
6 Limited partnership Firm	-0.23	-0.12	-0.31	-0.36	-0.41	1							
7 Foreign investment	0.07	-0.06	0.11	-0.03	-0.02	-0.03	1						
8 Main Region	0.15	0.20	0.17	-0.28	-0.03	0.07	0.02	1					
9 Labour Volume	0.00	0.02	0.21	-0.34	0.05	0.06	-0.02	-0.10	1				
10 Mean of sector	0.12	-0.13	0.05	0.12	0.11	-0.19	-0.01	0.04	0.01	1			
11 Age of firm	0.01	-0.01	0.09	0.02	-0.11	0.01	-0.06	0.02	0.31	-0.07	1		
12 Export experience	0.18	0.14	0.18	-0.15	-0.04	-0.03	0.02	0.16	0.44	-0.11	0.77	1	
13 Females amongst the owners of the firm	0.17	0.13	-0.03	-0.26	0.27	-0.01	-0.12	0.15	0.17	0.14	0.08	0.23	1
14 Locally-recognised quality certif.	0.27	-0.06	0.19	-0.38	0.20	0.02	0.05	-0.02	0.52	0.04	-0.03	0.15	0.17
15 Internationally-recognised certif.	0.25	-0.06	0.19	-0.37	0.21	0.00	0.06	-0.07	0.64	0.15	0.06	0.21	0.18
16 patents registered abroad	-0.14	-0.04	-0.02	0.01	-0.13	0.14	-0.07	0.14	-0.15	0.04	-0.08	-0.17	0.06
17 patents registered in Saudi Arabia	-0.16	-0.04	-0.04	-0.07	-0.14	0.24	-0.08	0.17	-0.06	0.13	0.06	-0.07	0.18
18 Supplies of domestic origin	-0.03	0.11	-0.05	0.19	-0.10	-0.05	-0.04	0.16	-0.07	0.01	0.01	0.12	-0.02
19 Imported directly	0.20	0.08	0.10	-0.29	0.08	0.07	0.15	0.07	0.24	-0.10	0.16	0.26	0.00
20 Annual sales	0.05	-0.06	0.33	-0.33	0.01	0.03	0.00	0.00	0.61	0.06	0.24	0.35	0.26
21 Firm Sales Force	-0.01	-0.03	0.04	0.08	0.04	-0.14	-0.09	0.00	0.18	0.24	0.17	0.16	0.23
22 Independent Agents	-0.02	0.08	0.03	-0.07	-0.25	0.25	-0.13	0.00	0.09	-0.08	-0.10	-0.07	0.15
23 Distributors/Wholesalers	0.01	0.08	0.16	-0.29	-0.08	0.18	-0.02	-0.06	0.11	-0.14	-0.11	0.04	0.00
24 Firm -Owned Retail Stores	-0.05	-0.07	0.19	0.09	-0.14	-0.07	0.07	0.02	0.07	0.16	0.23	0.22	0.04
25 Independent Retail Stores	0.11	-0.05	0.03	0.09	-0.04	-0.04	-0.10	-0.17	0.16	0.27	0.16	0.13	0.09
26 Trade Association Participation	0.18	0.11	0.07	-0.26	0.26	-0.10	-0.05	0.11	0.26	0.07	0.17	0.30	0.67
27 Trade Fair Exhibition	0.04	-0.13	0.00	-0.12	0.04	0.10	-0.04	0.16	0.08	0.14	0.25	0.19	-0.12
28 Print Advertising	-0.14	0.15	0.09	-0.13	0.08	-0.08	0.06	0.06	0.02	-0.09	-0.02	-0.08	0.09
29 TV/Radio Advertising	-0.01	0.24	0.24	-0.20	-0.15	0.05	0.10	0.20	0.21	-0.16	0.23	0.30	0.08
30 Family/Personal Links	-0.12	0.10	-0.05	0.19	-0.01	-0.14	-0.01	0.02	-0.22	0.05	-0.09	-0.13	-0.11
31 Direct Mail Advertising	-0.04	0.10	-0.21	-0.03	0.20	-0.02	0.14	-0.02	-0.16	-0.04	-0.32	-0.31	-0.11
32 Firm & Product Brochures	0.04	-0.03	0.04	-0.36	0.23	0.07	0.13	0.08	0.08	-0.06	-0.19	-0.06	-0.19
33 Internet	0.02	-0.06	-0.06	0.20	-0.05	-0.07	-0.03	-0.08	-0.05	-0.14	0.17	0.15	-0.27
34 Foreign Language Ability	0.13	0.08	0.10	-0.15	-0.01	0.04	-0.10	0.06	0.09	0.12	0.23	0.16	0.11
35 Multi-Lingual Sales Staff	-0.22	0.03	0.03	0.14	-0.29	0.12	-0.02	-0.12	-0.05	0.15	0.08	0.04	-0.09
36 Fax Machine	-0.11	0.01	0.08	0.20	-0.16	-0.10	-0.12	0.12	-0.20	-0.16	0.01	0.03	-0.12
37 Email	0.05	0.03	-0.10	-0.01	0.15	-0.07	-0.20	-0.04	-0.07	0.13	0.03	-0.02	0.14
38 Foreign Language Web Site	0.22	0.06	-0.14	-0.04	0.16	-0.04	-0.04	-0.03	0.07	-0.01	0.03	0.05	0.09
39 Product Information on Web	-0.26	0.08	-0.03	0.08	-0.31	0.22	-0.01	-0.07	0.16	-0.11	0.12	0.05	-0.15
40 Export Marketing Plan	-0.05	0.12	0.06	0.02	-0.22	0.09	-0.06	0.04	0.08	-0.30	0.17	0.07	-0.12
41 Export Document Preparation	-0.09	0.14	0.06	0.08	-0.28	0.10	-0.10	0.03	0.13	-0.01	0.22	0.17	-0.01

Continued Table 3.3: Correlation matrix of empirical models

	14	15	16	17	18	19	20	21	22	23	24	25	26
15 Internationally-recognised certif.	0.86	1											
16 Patents registered abroad	0.07	0.07	1										
17 Patents registered in Saudi	-0.02	-0.02	0.93	1									
18 Supplies of domestic origin	-0.17	-0.09	-0.06	0.08	1								
19 Imported directly	0.24	0.41	0.12	0.13	-0.10	1							
20 Annual sales	0.51	0.64	-0.07	-0.05	-0.23	0.27	1						
21 Firm Sales Force	-0.08	0.11	0.09	0.09	0.24	0.02	0.01	1					
22 Independent Agents	0.12	0.12	0.08	0.05	0.05	0.07	0.23	0.01	1				
23 Distributors/Wholesalers	0.24	0.22	0.05	-0.05	0.07	-0.05	0.23	-0.14	0.28	1			
24 Firm-Owned Retail Stores	0.14	0.14	0.15	0.11	0.06	0.17	0.20	-0.01	0.08	-0.01	1		
25 Independent Retail Stores	0.18	0.18	-0.07	-0.08	0.02	-0.01	0.14	0.12	0.14	-0.07	0.49	1	
26 Trade Association Participation	0.19	0.20	-0.03	0.10	0.08	0.09	0.21	0.12	0.07	0.02	-0.11	-0.07	1
27 Trade Fair Exhibition	0.19	0.19	0.09	0.10	-0.03	0.27	0.20	-0.16	0.13	0.17	0.08	0.12	0.12
28 Print Advertising	0.20	0.08	0.15	0.08	0.07	-0.03	-0.05	-0.02	0.11	0.22	-0.16	-0.18	0.28
29 TV/Radio Advertising	0.15	0.15	0.18	0.14	0.10	0.19	0.25	-0.19	0.16	0.19	0.26	-0.12	0.44
30 Family/Personal Links	-0.03	-0.20	-0.11	-0.12	0.12	-0.30	-0.27	-0.16	-0.25	0.15	0.21	0.12	-0.12
31 Direct Mail Advertising	0.07	-0.09	-0.10	-0.11	0.09	-0.28	-0.16	-0.07	-0.03	0.21	-0.16	-0.14	-0.09
32 Firm & Product Brochures	0.15	0.15	0.09	0.10	0.02	0.40	0.03	-0.16	-0.11	0.14	-0.29	-0.53	0.09
33 Internet	-0.19	-0.19	-0.13	-0.09	0.46	-0.14	-0.23	0.19	-0.01	-0.01	-0.04	-0.10	-0.07
34 Foreign Language Ability	0.27	0.26	0.01	0.09	0.15	-0.12	0.14	0.06	-0.01	0.21	-0.05	0.17	-0.10
35 Multi-Lingual Sales Staff	0.15	0.08	0.17	0.15	0.04	-0.13	0.05	0.00	0.05	0.18	-0.02	-0.02	-0.05
36 Fax Machine	-0.08	-0.14	0.05	-0.07	0.32	-0.17	-0.15	0.06	0.17	-0.10	0.14	0.23	-0.19
37 Email	0.00	-0.01	-0.09	0.06	0.10	0.02	-0.06	0.05	-0.07	-0.03	-0.20	0.08	0.05
38 Foreign Language Web Site	0.14	0.02	0.11	0.12	-0.19	-0.15	0.03	0.21	0.01	0.13	-0.35	0.03	0.04
39 Product Information on Web	-0.10	-0.14	0.13	0.14	0.05	-0.21	0.03	0.23	0.19	0.17	-0.15	0.10	-0.04
40 Export Marketing Plan	0.13	0.11	0.19	0.00	-0.06	-0.04	0.20	-0.23	0.20	0.25	-0.03	-0.06	-0.04
41 Export Document Preparation	0.18	0.16	0.05	-0.03	0.03	-0.13	0.20	-0.10	0.04	0.06	0.01	0.03	0.07

Continued Table 3.3: Correlation matrix of empirical models

	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
28 Print Advertising	0.24	1													
29 TV/Radio Advertising	0.16	0.35	1												
30 Family/Personal Links	0.10	0.13	-0.14	1											
31 Direct Mail Advertising	0.10	0.42	-0.10	0.39	1										
32 Brochures	0.13	0.18	0.16	-0.24	0.15	1									
33 Internet	0.11	0.04	-0.09	0.27	0.27	0.08	1								
34 Foreign Language Ability	-0.15	-0.16	-0.10	0.06	-0.15	-0.21	-0.05	1							
35 Multi-Lingual Sales Staff	0.03	0.10	0.00	0.22	0.01	-0.10	0.17	0.28	1						
36 Fax Machine	-0.08	0.01	-0.04	0.18	-0.09	-0.31	0.30	0.12	0.33	1					
37 Email	-0.08	-0.10	-0.21	0.11	-0.09	-0.09	0.00	0.41	0.29	0.12	1				
38 Foreign Language Web Site	0.09	-0.01	-0.13	-0.09	0.02	-0.06	-0.01	0.41	0.11	-0.06	0.41	1			
39 Product Information on Web	0.07	0.09	0.03	0.09	0.07	-0.13	0.19	0.20	0.34	0.17	0.24	0.50	1		
40 Export Marketing Plan	0.14	0.23	0.14	0.02	0.02	-0.08	-0.09	0.16	0.31	0.16	0.10	-0.05	0.25	1	
41 Export Document Preparation	0.04	0.21	0.10	0.11	-0.07	-0.16	-0.04	0.21	0.55	0.34	0.19	-0.10	0.28	0.69	1

Table 3.4 Estimation of Model (A)

Dependent Variable:	Model 1		Model 2	
Export intensity	Coef.	t_stat	Coef.	t_stat
Ownerships:				
Family Firm	-10.92	-2.87**	-11.03	-2.82**
Shareholding Firm	11.48	1.16	11.47	1.13
Limited partnership Firm	-10.05	-3.12**	-9.937	-2.98**
Foreign investment	6.625	1.37	6.654	1.35
Innovation:				
Research and development	0.545	0.19	0.832	0.24
Patents registered abroad	-13.65	-0.79	-13.39	-0.76
Patents registered in Saudi Arabia	28.07	1.52	28.01	1.49
Distribution Channel:				
Distributors/Wholesalers	-5.421	-1.67	-5.375	-1.62
Firm size:				
Firm Age	0.087	0.59	0.0916	0.61
Size	-3.525	-0.93	-3.605	-0.93
Mean of sector	1.25	4.54***		
sector of (Food and beverages)			1.541	0.23
sector of (Chemical, Petrochemical, ...)			7.337	1.33
sector of (Building Material, ...)			13.36	3.42***
sector of (Electrical, Machinery, ...)			18.92	3.42***
Constant	-11.46	-1.11	6.373	0.75
Observation	152		152	
R²	0.243		0.2427	
Adj R²	0.183		0.165	
F_stat	4.075		3.136	
Prob> F	0.00		0.0003	

*** Significant < 0.01

** Significant < 0.05

* Significant < 0.10

“ Note that 152 observations were used in the analysis, rather than the full 175, because we restricted the sample and removing non-response categories such as ‘do not know,’ ‘no answer,’ ‘not applicable (more details on page 210).”

Table 3.5: Estimation of Model B Empirical Enhanced Framework

Model specification		Model 1		Model 2	
Export intensity		Coef.	t_stat	Coef.	t_stat
Ownership	Shareholding trade on the stock market firm	50.46	2.92***	53.3	3.12***
	Shareholding with non-traded shares firm	2.43	0.2	5.554	0.46
	Sole proprietorship firm	-5.308	-0.44	-2.759	-0.23
	Partnership firm	-1.668	-0.14	1.521	0.13
	Limited partnership firm	-12.36	-1.02	-8.83	-0.73
	Foreign investment	-3.198	-0.7	-4.874	-1.07
	Females amongst the owners of the firm	-8.736	-2.45**	-9.149	-2.62**
Firm size , sector and location	Central	-3.551	-1.26	-2.905	-1.06
	Eastern	-0.51	-0.13	-2.311	-0.57
	size	0.937	0.21	-1.021	-0.22
	sector of (Food and beverages)	7.895	1.31	7.34	1.24
	sector of (Building Material, ...)	5.612	1.1	8.001	1.58
	sector of (Chemical, Petrochemical, ...)	3.619	0.94	4.895	1.27
	sector==5 (Electrical, Machinery,...)	16.06	3.02***	17.1	3.47***
	Age of firm	0.168	1.21		
Innovation	Locally-recognised quality certification	-1.098	-0.19	-1.773	-0.32
	Internationally-recognised quality certification	15.19	1.87*	16.76	2.08**
	Marketing Research	-2.344	-0.79	-1.954	-0.67
	Patents registered abroad	-10.66	-0.76	-9.209	-0.67
	Patents registered in Saudi Arabia	18.37	1.28	16.11	1.14
Trade operation	Supplies of domestic origin	-0.0919	-1.39	-0.106	-1.62
	Imported directly	0.011	0.15	0.00284	0.04
	Annual Sales	-2.221	-1.77*	-2.708	-2.14**
	Length of export(export experience)			0.431	2.14**
Distribution channels	Firm Sales Force	-0.825	-0.15	-0.885	-0.17
	Independent Agents	5.073	1.59	5.072	1.64
	Distributors/Wholesalers	-0.822	-0.29	-1.634	-0.59
	Firm -Owned Retail Stores	-4.258	-1.05	-3.472	-0.89
	Independent Retail Stores	11.57	2.70***	10.56	2.47**
	Constant	17.48	1.05	16.97	1.04
Observations		138		138	
R-squared		0.5114		0.5247	
Adjusted R-squared		0.386		0.403	
F		4.074		4.298	
Prop > F		0.00		0.00	

Significant *** p<0.01, ** p<0.05, * p<0.1,

“ Note that 138 observations were used in the analysis, rather than the full 175, because we restricted the sample and removing non-response categories such as ‘do not know,’ ‘no answer,’ ‘not applicable. Moreover, with added more independent variables lead to drop more observations more details on page 210 .

Table 3.6 Estimation of Model (C)

Model specification		Model 1		Model 2		Model 3		Model 4	
		Coef	t_value	Coef	t_value	Coef	t_value	Coef	t_value
Ownerships	Shareholding Firm	37.35	2.16**	30.92	1.86*	36.91	2.08**	33.29	2.01**
	Partnership Firm	1.45	0.12	-3.37	-0.28	-0.30	-0.02	-1.88	-0.15
	Family Firm	-12.79	-1.01	-14.11	-1.15	-11.19	-0.86	-11.55	-0.95
	Partnership Firm	-3.82	-0.32	-9.65	-0.81	-3.37	-0.27	-7.71	-0.65
	Limited partnership Firm	-13.91	-1.15	-16.51	-1.39	-13.48	-1.09	-13.70	-1.15
	foreign investment	-0.64	-0.13	0.02	0.00	-2.18	-0.41	-2.89	-0.58
	females amongst the owners	-7.30	-1.54	-5.72	-1.08	-7.94	-1.62	-6.21	-1.18
Firm size, location and sector	Central	-4.07	-1.38	-0.63	-0.21	-3.90	-1.28	0.73	0.24
	Eastern	-3.63	-0.90	1.72	0.40	-4.22	-1.01	0.92	0.21
	Labour Volume	-11.73	-2.30**	-10.98	-2.25**	-11.70	-2.23**	-11.76	-2.40**
	Mean of sector	39.24	2.84***			34.00	2.44**		
	sector==2(wood, Paper, Textiles,)			8.19	0.80			8.21	0.81
	sector==3 (Chemical, Petrochemical.)			24.99	2.68***			25.31	2.74***
	sector==4 (Building Material,...)			20.85	1.90*			25.56	2.28**
sector==5 (Electrical, Machinery,...)			33.16	3.19***			37.84	3.58***	
Age of firm	0.45	2.34**	0.39	2.12**					
Innovation	Locally-recognized quality certify.	13.20	1.73*	5.74	0.74	9.93	1.28	0.99	0.13
	Internationally-recognized qu. certif.	12.09	1.14	21.71	2.08**	11.69	1.07	25.59	2.41**
	patents registered abroad	-5.53	-0.37	-20.62	-1.39	4.00	0.27	-18.07	-1.26
	patents registered in Saudi Arabia	7.50	0.48	34.37	2.09**	-0.52	-0.03	33.57	2.07**
Trade operations and Experience	length of export					0.34	1.34	0.59	2.44**
	Supplies of domestic origin	0.05	0.55	0.19	1.80*	0.00	0.00	0.16	1.63
	Imported directly	0.03	0.28	0.01	0.07	0.03	0.27	0.02	0.19
annual sales	-0.55	-0.41	-2.25	-1.67*	-0.33	-0.25	-2.87	-2.06**	
Sales Distribution channel	Firm Sales Force	-18.38	-2.99***	-9.09	-1.07	-13.99	-2.41**	-6.42	-0.80
	Independent Agents	0.84	0.20	-0.28	-0.05	0.00	0.00	-0.65	-0.13
	Distributors/Wholesalers	2.68	0.75	-1.81	-0.46	2.00	0.54	-4.01	-1.01
	Firm -Owned Retail Stores	-8.98	-1.37	-11.19	-1.74*	-4.96	-0.77	-8.23	-1.32
	Independent Retail Stores	8.12	1.21	16.74	2.31**	7.95	1.15	16.61	2.31**
Marketing activities	Trade Association Participation	-4.22	-0.82	-2.03	-0.41	-3.04	-0.58	-1.17	-0.24
	Trade Fair Exhibition	-22.14	-4.05***	-27.52	-4.06***	-21.06	-3.79***	-27.60	-4.11***
	Print Advertising	-1.92	-0.58	-2.93	-0.89	-0.62	-0.18	-1.82	-0.56
	TV/Radio Advertising	2.88	0.52	10.73	1.83*	2.65	0.46	11.04	1.90*
	Family/Personal Links	-7.05	-1.29	-1.54	-0.24	-8.47	-1.51	-0.36	-0.06
	Direct Mail Advertising	0.64	0.13	1.05	0.22	-0.73	-0.15	1.62	0.34
	Firm & Product Brochures	-15.79	-2.31**	-4.17	-0.55	-17.01	-2.45**	-3.20	-0.42
	Internet	13.74	2.59**	4.14	0.70	16.25	3.07***	2.59	0.43
Export capabilities	Foreign Language Ability	-14.26	-3.49***	-15.47	-3.80***	-11.50	-2.93***	-14.26	-3.67***
	Multi-Lingual Sales Staff	-4.00	-1.77*	-2.98	-1.20	-2.92	-1.31	-2.06	-0.87
	Fax Machine	-1.79	-0.69	-1.89	-0.74	-2.51	-0.96	-2.30	-0.93
	Foreign Language Web Site	8.13	1.71*	5.46	1.20	8.65	1.79*	5.19	1.15
	Product Information on Web	0.46	0.14	1.42	0.41	-0.26	-0.08	2.02	0.59
	Export Marketing Plan	6.26	1.83*	2.75	0.81	7.78	2.29**	2.96	0.89
	Export Document Preparation	0.60	0.20	0.71	0.22	-0.06	-0.02	0.12	0.04
	Constant	53.22	2.06**	46.58	1.51	44.14	1.70*	36.96	1.20
<i>Observations</i> 2		132		132		132		132	
<i>R</i> ²		0.60		0.66		0.59		0.67	
<i>Adjusted R</i> ²		0.44		0.50		0.41		0.51	
<i>F</i>		3.61		4.12		3.38		4.21	

Significant *** p<0.01, ** p<0.05, * p<0.1, Model (1) estimated by using Length of export and a mean of sector as whole, whiles the Model (2) using Length of export and sector level. Model (3) estimated by using Age of firm and a sector as whole, whiles the Model (4) using Age of firm and sector level.

“ Note that 132 observations were used in the analysis, rather than the full 175, because we restricted the sample and removing non-response categories such as ‘do not know,’ ‘no answer,’ ‘not applicable. Moreover, with added more independent variables lead to drop more observations (more details on page 210).

Table (3.7) Derivation of Empirical Exports Models

Model specification	Fernandez and Nieto Model	Model (A)	Model (B)	Model (C)
ownerships	Family firm A SME with a corporate blockholder A family firm with a corporate blockholder The firm investing in firms is a foreign firm	Sole proprietorship Shareholding firm with shares trade in the stock market Limited partnership Private foreign individuals, companies or organizations	Sole proprietorship Shareholding firm with shares trade in the stock market Limited partnership Firm Partnership Firm Shareholding firm with non-shares trade foreign investment females amongst the owners	Sole proprietorship Shareholding firm with shares trade in the stock market Limited partnership Firm Partnership Firm Shareholding firm with non-shares trade foreign investment females amongst the owners
Firm size	Number of employees Mean by industry age of firm since the starting until the observation	Labour Volume Mean of Sector age of firm	Main Region Labour Volume Mean of sector age of firm	Location (Main Region) Labour Volume Mean of sector age of firm
Innovation	Total R&D expenditure/total sales	Export Market research International patents registered Local patents registered	locally-recognized quality certify. Internationally-recognized qu. certif. patents registered abroad patents registered in Saudi Arabia	locally-recognized quality certif. Internationally-recognized qu. certif. patents registered abroad patents registered in Saudi Arabia
Trade operations			length of export Supplies of domestic origin Imported directly annual sales	International experience (length of export) Supplies of domestic origin Imported directly annual sales
Sales Distribution channel	Retailers or Wholesalers agreement	Distributors or Wholesalers agreement	Firm Sales Force Independent Agents Distributors/Wholesalers Firm -Owned Retail Stores Independent Retail Stores	Firm Sales Force Independent Agents Distributors/Wholesalers Firm -Owned Retail Stores Independent Retail Stores
Marketing activities				Trade Association Participation Trade Fair Exhibition Print Advertising TV/Radio Advertising Family/Personal Links Direct Mail Advertising Firm & Product Brochures Internet
Export capabilities				Foreign Language Ability Multi-Lingual Sales Staff Fax Machine Foreign Language Web Site Product Information on Web Export Marketing Plan Export Document Preparation

Chapter 4: Financial constraints to firms' exports

4.1 Introduction

Financial aspects have been found to be highly important in impacting on firms' activities. Firms may require short, medium, and long-term finance. The short-term finance is required to pay working capital needs such as purchases of raw materials, payment of wages and salaries etc. On the other hand, medium-term and long-term finance includes operations like loans to finance fixed assets and long-term working capital needs. For this reason, financial constraints are often cited as an important factor in firms' exports. Moreover, a firm that is involved in foreign markets can earn benefits from exporting that enhance its financial position: human capital skills and production experience come from different internationally recognized standardisation, as well as production capacity and offer the opportunity to expand. As a result, the growth in the firm reflects on the country's economic development, which supports income diversification, creates employment opportunities, provides a source of foreign exchange, and so on (Cavusgil and Nevin, 1981; Pinho and Martins, 2010). Despite the importance of studying the financial constraints and its impact on export activity at the macroeconomic level, which was noted for example by Beck (2002), and Becker and Greenberg (2007), these studies tried to address the link between financial development and exports. These theoretical and empirical studies reveal a positive impact of financial development on foreign exporting markets, and countries with well-developed financial systems tend to export goods produced in industries that use external finance effectively (Lancheros and Demirel, 2012). However these literatures remain silent regarding such effects at the firm level (Kiendrebeogo and Minea, 2012).

In contrast, some literature finds that financially constrained firms are less likely to export (e.g. Greenaway et al., 2005; Bridges and Guariglia, 2008; Kuntchev et al, 2012). It is important to understand the different factors that can help or hinder firms' creation and development. Recent research (e.g. Goldman and Viswanath, 2009; Damijan et al, 2010; Bellone et al., 2010; Minetti and Zhu, 2011;

Manuel, 2011; Lancheros and Demirel, 2012) that discussed different cases around the world, provides evidence that small and medium sized firms in particular face greater financing obstacles than large firms. Moreover, the literature finds that small firms use less external finance, especially bank finance. However, Goldman and Viswanath (2009) and others report that export status might very well be correlated negatively with financial leverage. A lot of evidence (e.g. Damijan et al, 2010; Bellone et al., 2010; Minetti and Zhu, 2011) has supported the view that exporting firms are better and more efficient than other firms. These firms have a good influence through intangible assets like human capital, and do not support high debt. Hence, relying on this theory, exporting firms would have lower financial leverage.

There are good grounds for supposing that financial constraints might limit levels of exports. Jun-Du and Girma (2007) found that financial sector development based on International trade theory is a source of comparative advantage and consequently a determinant of international trade flows. Manuel (2011) found that firms with a longer credit period (because of delays in payments to creditors) faced more difficulties in entering export markets, and also found a negative and statistically significant relationship between financial constraints and export intensity. Damijan and Kostevc (2011) identified that financial constraints will therefore provide an important barrier not only to entry into export markets, but also to new exporters' expansion dynamics in foreign markets. Moreover, Greenaway et al. (2007) reported that financially constrained firms, for whom it is difficult or too expensive to obtain external finance such as loans, will in fact only invest if it has sufficient internal funds, and will invest more the higher its cash flow. On the other hand, firms rely less on external loans to finance the fixed and variable costs of exporting, examined by Lancheros and Demirel (2010). Bellone et al. (2010) argued that leverage and liquidity are strongly negatively correlated; more liquid firms are also less leveraged, meaning that these two measures of financial health go hand in hand. Kiendrebeogo and Minea (2012) defined 'financially constrained' as a firm that does not have access to sufficient external liquidity and is not productive enough to generate sufficient internal liquidity. Goldman and Viswanath

(2009) showed that the greater the ability of a firm to generate cashflow, the greater its ability to support debt (a positive relationship between financial leverage and measures of cashflow).

The impact of credit frictions on the intensive rather than on the extensive margin of export was investigated by Minetti and Zhu (2011), by looking at the effect of credit rationing on foreign sales. Bridges and Guariglia (2008) argued that global engagement may shield firms from financial constraints, and consequently improve their performance. Kuntchev et al. (2012) discussed the link between a firm's higher performance and credit constraints; firms with higher performance, as measured by labour productivity, are less likely to be credit constrained, advice which is taken as an indication of well-functioning financial markets. An antecedent study which examined this result shows that this relationship is weaker for small firms than for medium and large firms. Secchi et al. (2012) studied the effects of financial constraints which are large, and in general larger than what is estimated when corrections are not taken into account. Additionally, financing constraints increase the probability to reduce products or destinations, and reduce the probability to add new products or new destinations. Secchi et al. (2012) also concluded that financing constraints tend to hinder an effective reallocation of resources.

In Saudi Arabia, the country takes into consideration the importance of financing for exporters. As preceding chapters reported the government established an institutional framework, which is the "Saudi Export Program" (SEP) in 1999, in order to develop private sector exports, by providing financing incentives and credit to exporters on the one hand, and on the other hand through the provision of competitive credit terms for buyers abroad or funding institutions working in this area. However, as shown in the statistics in chapter two section one the private sector's contribution in the export sector remains weak, as it amounts to 15 per cent of the country's total exports. For this reason, the current work aims to address a fundamental question: What are the major obstacles and barriers that confront Saudi exporting firms in terms of finance? To answer this question, a number of sub-questions also need to be addressed: one major hypothesis is does

the financial factor have a significantly high effect on exporter behaviour? Are there problems regarding access to finance? This study attempts to identify the main credit constraints.

The present study aims to contribute to this developing field of research by studying the role of finance in exporting for manufacturing firms, an issue that has not been previously explored especially in Saudi Arabia. The study follows empirical models that measure the credit effect by classifying sample firms into four categories: not credit constrained, maybe credit constrained, partially credit constrained, and fully credit constrained.

The rest of the chapter is organized as follows: the next section presents the literature on financial constraints and firm export behaviour. Section 3 presents the econometric approach employed to measure financial constraints and illustrates the methodology that present. Section 4 contains the final data set and descriptive statistics. This study tests the hypothesis that less constrained firms self-select into exporting, and analyses the link between access to finance and credit constraints, then looks at how selling abroad improves firms' finances under credit constraints in section 5: these results are discussed as well as the testing of the model's health and robustness check. Finally, Section 6 is the conclusion.

4.2 Literature on the Financial Constraints and Firms Export Behaviour

The economic literature illustrates how data from firm level surveys collected by studies under a standard methodology can be used to analyse the financial issues confronting firms. Kuntchev et al (2012) addresses questions about the type of credit firms use to finance their working capital and their investments, as well as which firms are satisfied with the credit they have and which ones are credit-constrained. Kuntchev et al. argues that firms are better financed themselves by analysing the link between access to credit and firm performance, and the association between access to credit at the firm level and equivalent macro variables. In theory, access to finance is more likely to be reported as an increasing obstacle as firms are credit constrained.

Two frameworks have been discussed in the literature to analyse the relationship between the credit (financial) factors, and firms' behaviour towards exports. Firstly, some literature has studied the impact of different levels of firm characteristics such as firm size (labour and sales), age and ownership as control variables, and incentive to export on credit or financial constraints (e.g. Bridges and Guariglia, 2008; Damijan et al., 2010; Kuntchev et al., 2012). Secondly, there is literature comprising research on how export intensity is influenced by credit or financial constraints, checking the analysis by taking into account variables as labour, sales, age, and ownership (e.g. Goldman and Viswanath, 2009; Damijan et al., 2010; Bellone et al., 2010; Minetti and Zhu, 2011; Manuel, 2011; Kiendrebeogo and Minea, 2012; Lancheros and Demirel, 2012; Secchi, 2012). Those studies have used export intensity to test the impact of financial constraints. In addition, there are studies that rely on credit or financial constraints to analyse export propensity, such as Greenaway et al. (2007).

4.2.1 The effect of financial factors on export behaviour

The definition of credit or financial constraints has often been the subject of argument in the literature. Some studies that discussed the effects of financial factors on export behaviour addressed liquidity and leverage ratio as a main factors (e.g. Greenaway, 2005; Greenaway, 2007; Bridges and Guariglia, 2008; Bellone et al., 2010; Minetti and Zhu, 2011; Manuel, 2011; Kiendrebeogo and Minea, 2012). On the other hand, other studies use loan and debt measurement (e.g. Damijan et al., 2010; Manuel, 2011; Lancheros and Demirel, 2012; Kiendrebeogo and Minea, 2012). Both of these literatures involve financial measures and firm characteristics to provide perceptions of credit-constrained firms.

Despite the fact that much of the literature of financial constraint focuses on liquidity and leverage variables to analyse the impact of financial constraint on export behaviour, there are differences in definitions of liquidity and leverage. A literature review found that Greenaway et al. (2005) used definitions through four measures of leverage ratio. Firstly, the short-term debt to total assets ratio. Secondly, the total debt to assets ratio, which are indicators of the general

indebtedness of the firm. Thirdly, the short-term debt to current assets ratio, which shows whether short-term liabilities are backed with relatively liquid assets. Finally, the short-term debt to current liabilities ratio, which can be seen as a measure of bank dependence. Greenaway et al. (2007) defined leverage ratio as the firm's ratio of short-term debt to current assets. Furthermore, Bridges and Guariglia (2008) used a similar definition that is calculated as the firm's short-term debt to assets ratio. In addition, Bridges and Guariglia mentioned that leverage and collateral are financial variables proxying respectively for the degree of indebtedness of the firm and its degree of collateralisation, similar to those used by Fotopoulos and Louri (2000). While Manuel (2011) measured a firm's leverage as the ratio of total debt to total assets. Manuel was also concerned about the influence that could result from the variations in long-term debt on short-term funds and inventories. On the other hand, Minetti and Zhu (2011) defined leverage ratio as a firm's ratio of total liabilities to equity. Meanwhile, liquidity ratio was defined as current assets over current liabilities by Greenaway et al. (2005) and Bellone et al. (2010). However, Greenaway et al. (2007) and Minetti and Zhu (2011) calculated the liquidity ratio as a firm's current assets less current liabilities over total assets. There is another way of identifying liquidity ratio suggested by Manuel (2011), where this variable is computed as the ratio of cash flow (net income plus depreciation plus changes in deferred taxes) over total assets. In addition, Kiendrebeogo and Minea (2012) measured liquidity by a score Index in a range from 1 to 10, 10 being the situation of the most liquid firms. However, leverage and liquidity are strongly negatively correlated; as mentioned by Bellone et al. (2010), more liquid firms are also less leveraged, meaning that these two measures of financial health go hand in hand.

The second method used to define credit constraints is by measuring loan and debt. Damijan et al (2010) relied on ratio of total debt-to-assets, which represents various measures of financing employed such as the debt-to-assets ratio, Earnings before Interest, Taxes, Depreciation, and Amortization (EBITDA)-to-sales. The empirical model uses the share of collateral and share of loans from associated firms. Lancheros and Demirel (2010) examined two types of loans: long-term borrowing (LTB) is calculated as the stock of long-term debt normalised by total

assets, and short-term borrowing (STB) is measured as the flow of short-term borrowing normalized by total assets. The disequilibrium of a firm in the model is used by Manuel (2011); this is a dummy that takes on the value 1 if the loan demand is higher than loan supply. Kiendrebeogo and Minea (2012) uses the value of the last loan obtained by the firm from a financial institution and the value of the collateral required as a percentage of the loan value. Also a dummy variable is equal to 1 if the firm currently has an overdraft facility or line of credit.

4.2.2 A glance at measuring credit constraints

The manner in which financial constraints are measured is a very sensitive topic in the literature. There is limited guidance offered in this area of the literature (Bellone et al., 2010). The current analysis provides a glance at measure credit constraints for Saudi Arabia using the (Kuntchev et al., 2012) framework and applies to finance dates that have been provided by the Saudi Fund for Development (SFD) surveys. Our measures of credit rationing are based on firms' responses to the questions in the survey. Firms that are credit-constrained can be divided into four groups (figure 4.1). The first group, named **Fully Credit Constrained (FCC)**, includes firms that have no external loans because loan applications were rejected or the firm did not even bother to apply, even though they needed additional capital. The firms that meet all the following conditions jointly are fully credit constrained; firstly, the firm did not use external sources of finance for both working capital and investments during the previous fiscal year; it applied for a loan during the previous fiscal year, and does not have a loan outstanding at the time of the survey which was disbursed during the last fiscal year or later. These conditions are in the context of the questionnaire, that these firms applied for a loan and were rejected and do not have any type of external finance. Secondly, firms did not use external sources of finance for either working capital and investments during the previous fiscal year, did not apply for a loan during the previous fiscal year, do not have an outstanding loan at the time of the survey, and the reason for not applying for a loan was other than having enough capital for the firm's needs. Some characteristics of the potential loan's terms and conditions deterred these firms from applying. It is thus concluded that they were rationed out of the market.

The second group, named **Partially Credit Constrained (PCC)**, includes firms that manage to find some other forms of external finance. This group of firms meets the following conditions: they used external sources of finance for working capital and/or investments during the previous fiscal year and/or have a loan outstanding at the time of the survey, and did not apply for a loan during the previous fiscal year and the reason for not applying for a loan was other than having enough capital for the firm's needs. Some of these reasons may indicate that firms may self-select out of the credit market owing to prevailing terms and conditions; thus some degree of rationing is assumed, or they applied for a loan but were rejected.

The third group, named **Maybe Credit Constrained (MCC)**, includes firms that have had access to external finance and there is evidence of them having bank finance, they are classified under the possibility of maybe being credit constrained as it is impossible to ascertain whether they were partially rationed on the terms and conditions of their external finance. The questions in the survey that placed firms in this group asked whether firms used external sources of finance for working capital and/or investments during the previous fiscal year and/or have a loan outstanding at the time of the survey and applied for a loan during the previous fiscal year

Finally, the fourth group, named **Non-Credit Constrained (NCC)**, includes firms that fit the following description: firms that did not apply for a loan during the previous fiscal year and the reason for not applying for a loan was having enough capital for the firm's needs. This fourth group can be further divided according to their usage of external finance, since this group includes both firms that use external finance and ones that do not. The important characteristic of this group is that, independently of their current level of external finance, these firms are happy with their current financing structure for both working capital and investments³⁰.

³⁰ Appendix one provides more information that support analysis of current chapter , which is analysis the impact of firm level on a firm's credit position and access to finance on export intensity..

4.3 The econometric approach

Following Minetti and Zhu (2011), this research investigated the impact of credit on intensity of exports looking at the effect of credit rationing on direct exports. In practice, the analysis uses the specification below:

$$y_i = \alpha + \beta C_i + \gamma Z_i + v_i \quad \dots(4.1)$$

where

y_i = direct exports;

C_i = Credit measurement

Z_i = The vector of controls for firm characteristics such as labour, age consortium, sector and corporation.

By estimating the intensive margin of firm exports as the following empirical specification:

$$EXPRTS_i = \alpha_1 + \beta_1 CCS_i + \gamma_1 CashF_i + \gamma_2 ProdV_i + \gamma_3 SIZE_i + \gamma_4 EDU_i + \gamma_5 FixEMP_i + \gamma_6 AGE_i + \gamma_7 ISO_i + \gamma_8 CONS_i + \gamma_9 CORP_i + \gamma_{10} IND_i + v_i \quad (4.2a)$$

$$EXPRTS_i = \alpha_2 + \beta_2 LEV_i + \gamma_1 CashF_i + \gamma_2 ProdV_i + \gamma_3 SIZE_i + \gamma_4 EDU_i + \gamma_5 FixEMP_i + \gamma_6 AGE_i + \gamma_7 ISO_i + \gamma_8 CONS_i + \gamma_9 CORP_i + \gamma_{10} IND_i + v_i \quad (4.2b)$$

$$EXPRTS_i = \alpha_3 + \beta_3 LIQ_i + \gamma_1 CashF_i + \gamma_2 ProdV_i + \gamma_3 SIZE_i + \gamma_4 EDU_i + \gamma_5 FixEMP_i + \gamma_6 AGE_i + \gamma_7 ISO_i + \gamma_8 CONS_i + \gamma_9 CORP_i + \gamma_{10} IND_i + v_i \quad (4.2c)$$

The credit measurement identified in Eq.(4.2) as:

CCS =Credit rationing in Eq. (4.2a). A category variable that takes the value of 1 if firm is Not Credit Constrained-NCC, 2 1 if firm is Maybe Credit Constrained-MCC, 3 1 if firm is Partially Credit Constrained-PCC, and 4 1 if firm is Fully Credit Constrained-FCC.

LIQ =Liquidity ratio in Eq. (4.2b).

LEV =Leverage ratio in Eq. (4.2c).

Where the rest of variables in Eq.(4.2) are:

EXPORTS =Dependent variable; export intensity.

CashF =Cash flow.

ProdV =Labour productivity.

SIZE =Dummy measure for firm size value 1 if firm in the large size.

EDU	=Workforce composition by the shares of secondary school graduates and college graduates.
FixEMP	=Capital intensity by fixed assets per worker.
AGE	=Firm age.
ISO	=Dummy variable indicating whether the firm has an international recognized quality certification.
CONS	=Consortium: It belongs to a consortium or a business group.
CORP	=Corporation: Dummy variables indicating whether a firm is a corporation.
IND	=Sector.

The methodology that used to estimate Eq. (4.2) relied on that some literature (e.g. Baum, P184 2006 Edition; Minetti and Zhu, 2011) has mentioned that there are three common instances where the zero-conditional-mean assumption may be violated in economic research: endogeneity (simultaneous determination of response variable and regressors), omitted-variable bias, and errors in variables (measurement error in the regressors). In each of these cases, OLS is not capable of delivering consistent parameter estimates. Instrumental Variables (IV) estimation is designed to deal with this problem. The general concept is that of the instrumental variables estimator is known as two-stage least squares (2SLS). The IV approach provides consistent estimators of the parameters when the OLS estimators are inconsistent (in situations such as omitting a relevant variable, measurement errors, and simultaneity). Econometrically, OLS estimators of the model parameters are invalid (e.g. inconsistent) in the case of endogenous explanatory variables to obtain consistent estimators of the model parameters in the presence of endogenous explanatory variables using instrumental variables and applying the two-stage least squares estimation (2SLS).

Based on the results obtained from estimating the Eq. (4.2) that will rely on simple regression of foreign sales on credit rationing and control variables, some literatures propose that the results in this case may still overstate or understate the effect of rationing. The most important is the omitted variable bias. Whether a firm is rationed or not is likely to be correlated with several firm characteristics. Even

though the study includes different characteristics as controls, rationing may correlate with unobserved firm characteristics.

Following Minetti and Zhu (2011), the econometric technique to address these endogeneity issues is to identify exogenous restrictions on the local supply of banking services. The study expects these restrictions to directly influence the firms' ability to obtain financing and, hence, the probability of rationing. On the other hand, the study does not expect these restrictions to affect firms' export directly. The explanation of instruments relies on the role of monetary policy in Saudi Arabia. The government, as a controller and monitor of monetary policy, has not allowed the formation of new banks in the country; there were 10 banks before accession to the WTO (the negotiations to join the WTO took place between 1995-2005). The other aspect is that the government also prevents foreign banks from entering the local economy. In 2011, after new regulations were implemented because of the WTO, the total number of banks increased to 22, with 1,607 branches distributed around the country, while the total number in 2005 was around 1,202 branches (SAMA, 2011). The preceding arguments imply that locations that have seen the expansion of new branches, as determined by WTO regulations, are unlikely to be correlated with structural characteristics of the different areas of the country. For this reason, to capture the local structure of regulation, the study included the provincial number in 2011.

Credit measurement may be endogenous in Eq. (4.1). For this reason, the study estimated the effect of credit on foreign sales using an instrumental variable using Eq. (4.2) with the regional measure of the number of banks and effect of foreign ownership. The endogenous variable C_i in Eq. (4.2a) is category; the first stage is to obtain fitted probabilities of credit rationing \hat{c}_i rely on definition listed on section (4.2.2), and then use \hat{c}_i as the instrument for C_i in the two-stage least square (2SLS) estimation of Eq. (4.2a). Minetti and Zhu (2011) affirm that this method is robust to misspecification of the probit model of credit rationing. The estimates of Eq. (4.2b) rely on Leverage ratio while the Eq. (4.2c) estimates rely on Liquidity ratio both using the instrumental variable rely on the regional measure of the number of banks and effect of foreign ownership.

However, a number of studies find supporting evidence using different variables to identify constrained firms. Hence, variables such as size, labour, age, labour productivity, concentration of ownership, whether managed by females, or foreign participation are used to capture ways to overcome having imperfect information (Bellone et al., 2010), which hinders access to capital markets and credit constraints status. For example, the effect of firm size on credit status; researchers such as Kuntchev et al. (2012) found that smaller firms rely more on trade credit and informal sources of finance and less on equity and formal debt than large firms.

In the export intensity model, the analysis follows Minetti and Zhu (2011), who consider the measures of firms' financial conditions as controls; these are liquidity, leverage ratio, and cash flow. Also the study adds controls for these factors. By using the questionnaire variables, the analysis measures firm size by the number of workers, computes labour productivity as value added per worker, workforce composition by the proportion of college graduates, and capital intensity by fixed assets per worker. Additionally, the estimation uses dummy variables to capture whether a firm is a corporation or belongs to a consortium or a business group. The role of using a consortium or a group to allow a firm to share a distribution network with other firms reduces the cost of entering international markets (Minetti and Zhu, 2011). In addition, a consortium or a group could provide a firm with financial resources for sustaining export costs through, for example, internal capital markets. Also, firms distributing their products through specialised intermediaries can significantly save on the costs of setting up foreign distribution networks. The study also includes a dummy variable indicating whether the firm has an internationally-recognized quality certification, which is a system required by most importers to certify the efficiency of production, and hence, the quality and productivity of a firm. Finally, the analysis includes the number of current bank branches in each province.

As regards financial constraints, the most common proxy used is the sensitivity of investment to cash flow (Bellone et al., 2010). It defines firms as financially constrained or unconstrained based on their dividend layout ratio, then shows that

likely constrained firms (low dividend layout) display higher investment–cash flow sensitivity. Bellone et al. (2010) find that larger firms (less likely to be constrained) exhibit a higher cash flow coefficient in the regression equation, even after controlling for sector heterogeneity. However, Bellone et al. (2010) argue that the usefulness of investment–cash flow sensitivity as a measure of financial constraint has been definitely questioned, because there are arguments which have discussed evidence of a negative relationship between investment–cash flow sensitivity and financial constraints. The main finding provided by Kuntchev et al. is that firms with higher performance, as measured by productivity reliance on labour, are less likely to be financially constrained, which the literature takes as an indication of well-functioning financial markets. This analysis shows that this relationship is weaker for small firms than for medium and large firms. All these variables can reflect the extent of a firm's credit risk and its financial health and, hence, help grasp the probability of credit rationing (Greenaway et al., 2007).

4.4 Descriptive statistics of variables

The present chapter uses results from a section of the survey which looks at the financial operations of the respondents and general information about the companies. Table 4.1 weighs up the credit constraint level among the sample companies. Roughly 12 per cent of the companies that were surveyed were fully credit constrained. Only 7 per cent were partially credit constrained, while most of them were maybe credit constrained. Also, 37 per cent of the companies showed as not credit constrained. We can see from this table that most of the western firms are not credit constrained - about 57 per cent - but the majority of central firms 51 per cent are not credit constrained (figure 4.2). However, 37 per cent of eastern firms are maybe credit constrained, and 25 per cent are fully credit constrained. The food and beverages sectors are less impacted by credit constraints, whilst the wood, paper, leather, and textiles sectors have the most issues regarding credit constraints (figure 4.3). Additionally, examining the characteristics of size of sales and labour, the data showed that the larger the firm, the fewer credit constraints they faced (figure 4.4).

4.5 Results

After controlling for a firms' financial conditions and other firm characteristics, for some firms the estimations lack data on firm characteristics, especially liquidity and leverage ratios, cash flows, and capital intensity. Moreover, the analysis restricted the sample and removing non-response categories such as 'do not know,' 'no answer,' 'not applicable. Moreover, with added more independent variables lead to drop more observations (more details on page 210). As a result, in the analysis that follows the sample reduces from 175 to 139 and to 81 firms.

The estimation results of the models in Eq. (4.2i) are presented in Tables 4.4, 4.5 and 4.6. While Table 4.4 lists the ordinary least square (OLS) estimates in which rationing is considered exogenous. The regression results show that Model 1 estimated by using the credit rationing, while Model 2 estimated by using the leverage ratio and Model 3 estimated by using the liquidity ratio. There is no evidence that credit rationing and leverage ratio have a statistically significant effect on foreign sales, while the liquidity ratio is statistically significant at the 10% level. On the other hand, more productive, larger, more capital intensive firms, firms that have a lower cash flows, and better educated workers with recognized quality certification have significantly higher foreign sales. These results are consistent with results obtained by Minetti and Zhu (2011).

Table 4.5 column 2 shows 2SLS estimates that when the endogeneity of rationing is accounted for, there is a significantly negative effect of rationing on foreign sales. The magnitude of the effect found by Minetti and Zhu (2011) is large, but in our study the point estimate is small: it is -0.50 with a 90 per cent confidence interval between 0.09 and -1.09. While Table 4.6 column 2 shows 2SLS estimates that when the endogeneity of leverage ratio is accounted for, there is a insignificantly effect on foreign sales. Moreover, column 2 in Table 4.7 shows 2SLS estimates that when the endogeneity of liquidity ratio is accounted for, also there is insignificantly effect of liquidity on foreign sales.

In general, the 2SLS estimates of credit rationing with other variables are more statistically significant than the OLS estimates. Under the 2SLS estimators more

productive and larger firms, and those that have a lower cash flow and better educated workers with recognized quality certification have significantly higher foreign sales. These results are consistent with results obtained by Minetti and Zhu (2011).

4.5.3.1 Testing over identifying restrictions

The testing procedure was carried out using STATA v12. From a regression of the IV or 2SLS estimation, the Sargan-Hansen test is a test of over identifying restrictions (Baum, 2006). The joint null hypothesis is that the instruments are valid instruments, i.e. uncorrelated with the error term, and that the excluded instruments are correctly excluded from the estimated equation. Under the null, which is: H_0 : over identifying restrictions are valid. The results obtained by Sargan statistic are:

	<u>Credit rationing</u>	<u>Leverage ratio</u>	<u>Liquidity ratio</u>
Sargan statistic chi2-sq(i)	0.221	0.002	0.017
Prob>chi2	0.638	0.966	0.896

The test statistic is distributed as chi-squared.

It quite clearly indicates that the analysis cannot reject the null, which is a good indicator.

4.5.3.2 Collinearity

The analysis checked the lists of included instruments, excluded instruments and endogenous regressors for collinearity. The estimation using a new version of Stata program, the estimation dropped one variable endogenous that is one sector amongst sectors is collinear with another, after that the model is far from having any econometrics problems.

4.6 Robustness checks

The robustness check is using the different measures of the credit constraints, it were taken in this study to ensure that the model in Eq. 4.2i was robust, these are displayed in Table 4.5, Table 4.6, and Table 4.7. The first measure (Table 4.5) rely on

credit rationing only and did not use the liquidity ratio and the leverage ratio when performing the regressions, and discovered that the same results were obtained. The second measure, shown in Table 4.6 utilised the impact of leverage ratio without using credit rationing and liquidity ratio. Lastly, the research only uses liquidity ratio, and is displayed in Table 4.7.

4.7 Conclusions

This Chapter has given an overview of the latest empirical studies on exporters by focusing on financial factors that have an effect upon firms regarding export behaviour. The descriptive statistics highlight some financial indicators and elements, which Saudi firms have shown during their existence in the export markets. The study has analysed the firms' export behaviour, the influence of credit constraint on the firm's attributes, the importance of access to finance for firms, and the export intensity influenced by credit constraints.

The importance of access to credit for firms, in particular for exporting firms, has been considered in the related literature. The study relied on the latest measures of the credit constrained status based on micro data, and describing what type of firms are more likely to be credit constrained and which ones are not. The value of the measure of credit constraint comes from firms' responses to the questionnaire instead of firms' financial statements. The analysis tested the hypothesis that internationalisation leads to better access to financial markets and found no support for that hypothesis. Another main finding is that more productive firms are less likely to be credit constrained. In terms of the financial constraints, the results show that there exists a negative relationship between credit constraint and exports, which means that financial constraints constitute a common problem for firms that are involved in foreign markets. However, our results found that there exists a positive relationship between a firm's export behaviour, productivity and capital intensity.

The present chapter has important implications. The financial factors are an additional reason that Saudi Arabia should undertake an expansion of its exports. Consequently, it is important to enhance the Saudi export programme (which

provides finance and guarantees to the Saudi exporter) to face the increasing needs of finance by export firms.

Figure 4.1: Correspondence between the questions in SFD Surveys and the credit-constrained firms (Kuntchev et al., 2012)

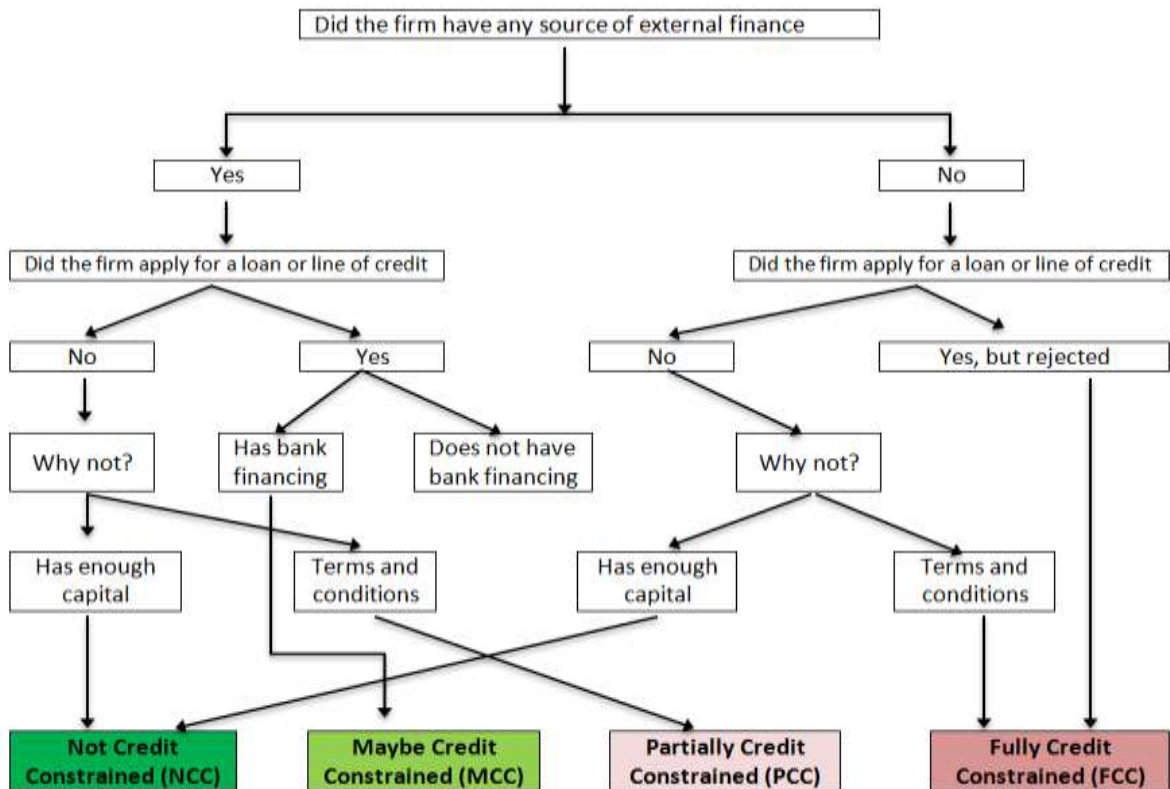


Figure 4.2: Credit constraint status by Region

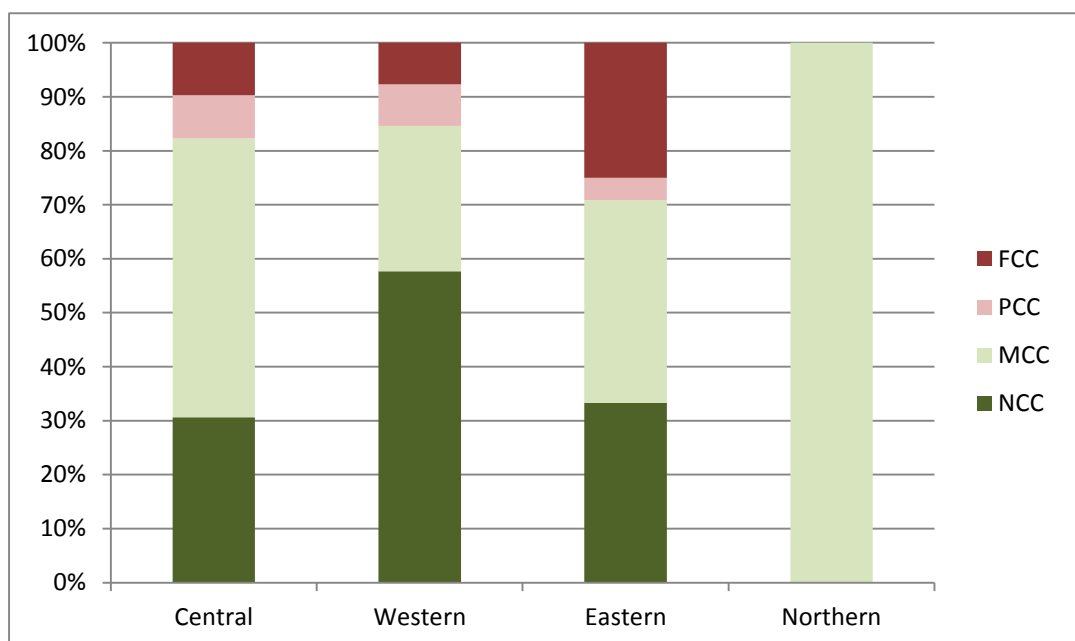


Figure 4.3: Credit constraint status by industry

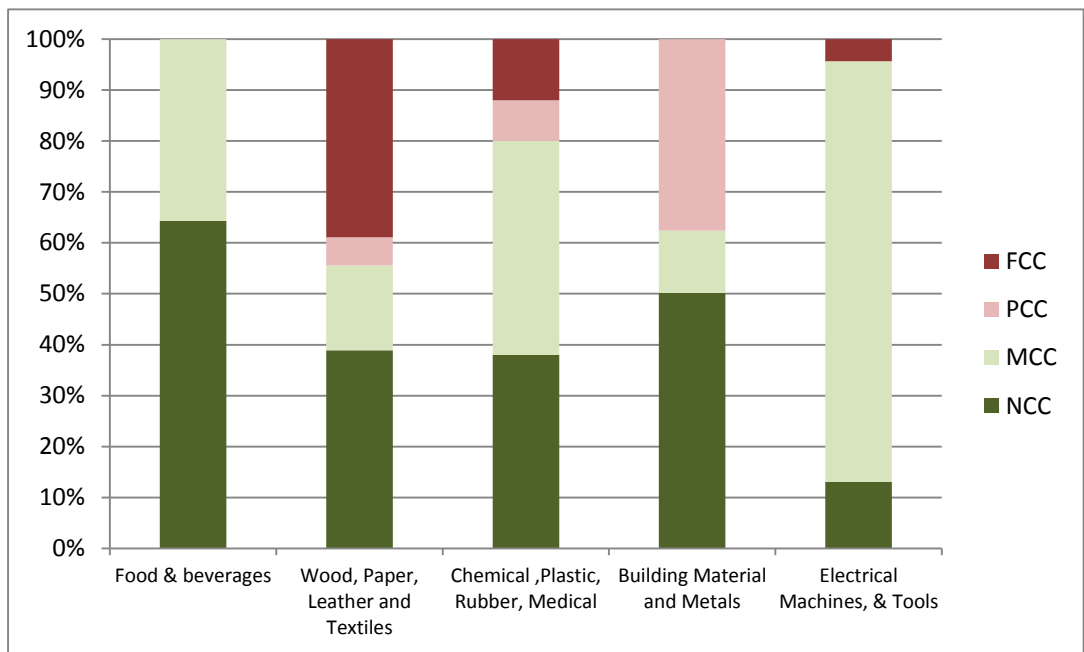


Figure 4.4: Credit constraint status by firm size (Labour)

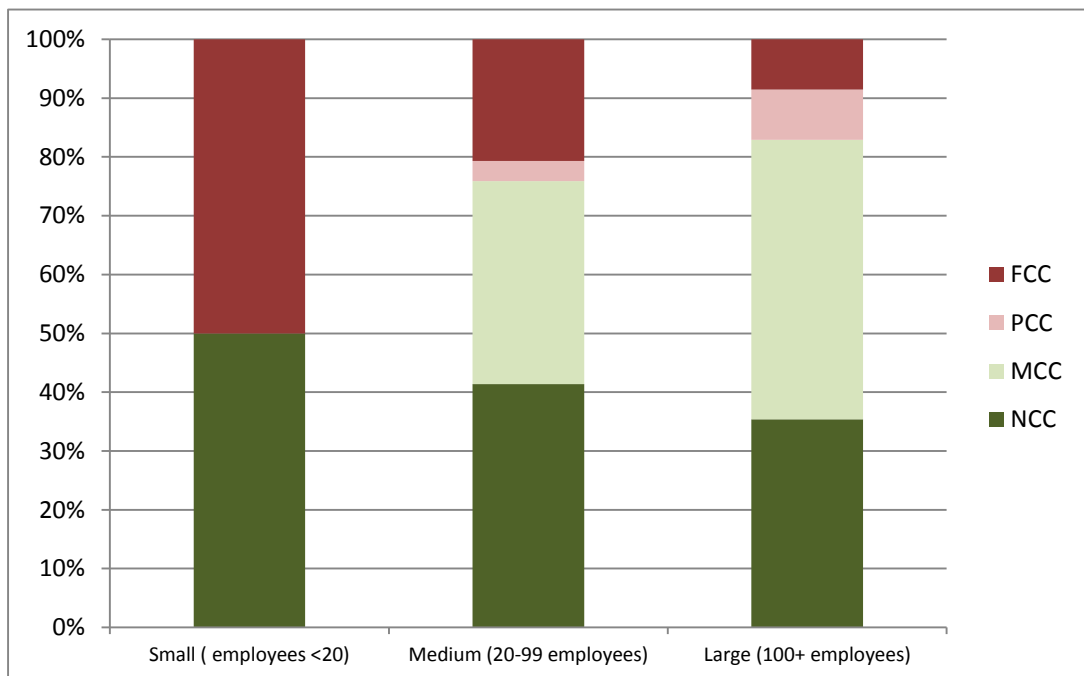


Table 4.1: % firms by level of credit constraint, by sector, total sales and labour.

Type	Not Credit Constrained NCC	Maybe Credit Constrained MCC	Partially Credit Constrained PCC	Fully Credit Constrained FCC
Central	30.65	51.61	8.06	9.68
Western	57.69	26.92	7.69	7.69
Eastern	33.33	37.5	4.17	25.00
Northern	-	100.00	-	-
Food & beverages	64.29	35.71	-	-
Wood, Paper, Leather and Textiles	38.89	16.67	5.56	38.89
Chemical ,Plastic, Rubber, Medical	38.00	42.00	8.00	12.00
Building Material and Metals	50.00	12.25	37.5	-
Electrical Machines, & Tools	13.04	82.61	-	4.35
10 million and less	56.25	12.5	6.25	25.00
11-25 million	54.17	12.5	8.33	25.00
26-51 million	58.33	25.00	-	16.67
51-100 million	42.86	52.38	4.76	-
More than 100 million	10.00	75.00	10.00	5.00
Small (employees <20)	50.00	-	-	50.00
Medium (20-99 employees)	41.38	34.48	3.45	20.69
Large (100+ employees)	35.37	47.56	8.54	8.54
All firms	37.17	43.36	7.08	12.39

Table 4.4: financial constraints and export intensity

OLS Regression Parameters

Export intensity	Model 1		Model 2		Model 3	
	Coef.	t_stat	Coef.	t_stat	Coef.	t_stat
Credit rationing	-0.045	-0.56				
Leverage Ratio			-0.013	-0.89		
Liquidity Ratio					-0.3	-1.84*
Cash flow	-0.54	-4.94***	-0.19	-2.12**	-0.22	-2.47**
Labour productivity	0.24	5.47***	0.19	5.02***	0.19	5.10***
Logarithm of labour	0.21	1.38	0.21	1.87*	0.21	1.90*
Workforce by the shares of graduates	-0.13	-0.26	0.11	0.25	0.13	0.29
Fixed assets per worker	0.02	2.00**	0.024	2.18**	0.033	2.71***
Firm age log	0.31	2.44**	0.17	1.81*	0.19	2.11**
Internationally-recognized quality certification	0.57	2.42**	0.57	2.70***	0.57	2.78***
Consortium	-0.041	-0.27	0.022	0.19	-0.0064	-0.057
Corporation	0.015	0.14	-0.065	-0.83	-0.054	-0.7
sector of (Food and beverages)	-0.69	-2.53**	-0.36	-1.36	-0.34	-1.3
sector of (Building Material,...)	0.026	0.091	0.51	2.80***	0.55	3.00***
sector of (Chemical, Petrochemical.)	0.14	0.77	0.094	0.61	0.15	0.96
sector of (Electrical, Machinery,...)	0.44	2.02**	0.58	2.90***	0.64	3.20***
Bank	0.19	0.2	0.91	1.1	0.84	1.03
Foreign investment	0.35	1.65	0.15	0.84	0.14	0.81
Constant	0.9	0.83	0.11	0.15	0.16	0.21
Observations"	81		139		139	
R ²	0.6273		0.4039		0.4163	
Adjusted R ²	0.53		0.33		0.34	
F	6.73		5.17		5.44	

t statistics in * p< 0.10, ** p< 0.05, *** p< 0.01

Model (1) estimated by using Credit rationing, while Model (2) estimated by using Leverage Ratio and Model (3) estimated by using Liquidity Ratio

" Note that 81 observations in model (1) and 139 in models (2) and (3) were used in the analysis, rather than the full 175, because we restricted the sample and removing non-response categories such as 'do not know,' 'no answer,' 'not applicable. Moreover, with added more independent variables lead to drop more observations (more details on page 210). In addition, observations reducing in model (1) more than in both models (2) and (3) because Credit rationing generated rely on four categories Groups not directed of the sample.

Table 4.5: Credit rationing and export intensity
2SLS Regression Parameters

Export intensity	(1) 1 st stage			(2) 2SLS		
	Coef.	Std. Err.	t_stat	Coef.	Std. Err.	t_stat
Credit rationing				-0.50	0.30	-1.66*
Cash flow	-0.08	0.17	-0.50	-0.57	0.13	-4.56***
Labour productivity	0.04	0.07	0.54	0.26	0.05	4.96***
Logarithm of labour	0.18	0.23	0.77	0.30	0.18	1.61
Workforce by the shares of graduates	-1.09	0.74	-1.48	-0.49	0.50	-0.97
Fixed assets per worker	0.00	0.02	-0.29	0.02	0.01	1.63
Firm age log	-0.64	0.18	-3.61***	0.01	0.20	0.07
Internationally-recognized quality certification	-0.18	0.36	-0.50	0.47	0.27	1.77*
Consortium	0.12	0.24	0.50	0.03	0.16	0.21
Corporation	0.02	0.17	0.11	0.02	0.12	0.14
Mean of Sector	-0.05	0.02	-2.67***	0.00	0.02	0.12
sector of (Building Material,...)	-1.09	0.39	-2.81***	-1.22	0.47	-2.62***
sector of (Wood, paper, Textiles...)	-0.68	0.41	-1.66*	-0.48	0.36	-1.34
sector of (Chemical, Petrochemical.)	-0.19	0.20	-0.98	-0.24	0.16	-1.55
Bank branches	-1.37	1.44	-0.95			
Foreign Ownership	-0.65	0.32	-2.06***			
_cons	5.18	1.56	3.31***	2.67	1.48	1.81*
Number of obs	81			81		
F	3.45			5.2		
Prob > F	0.0003			0		
Centered R2	0.4434					
(overidentification test of all instruments):						
Sargan statistic				0.221		
Chi-sq P-val				0.638		

t statistics in * p< 0.10, ** p< 0.05, *** p< 0.01

“ Note that 81 observations in model (1) and 139 in models (2) and (3) were used in the analysis, rather than the full 175, because we restricted the sample and removing non-response categories such as ‘do not know,’ ‘no answer,’ ‘not applicable. Moreover, with added more independent variables lead to drop more observations (more details on page 210).

**Table 4.6: Leverage Ratio and export intensity
2SLS Regression Parameters**

Export intensity	(1) 1 st stage			(2) 2SLS		
	Coef.	Std. Err.	t_stat	Coef.	Std. Err.	t_stat
Leverage Ratio				-0.23	0.24	-0.95
Cash flow	0.65	0.52	1.24	-0.05	0.18	-0.28
Labour productivity	0.06	0.22	0.28	0.20	0.06	3.36***
Logarithm of labour	-0.08	0.68	-0.11	0.20	0.17	1.15
Workforce by the shares of graduates	-3.31	2.60	-1.27	-0.58	0.72	-0.80
Fixed assets per worker	0.32	0.06	5.44***	0.09	0.07	1.26
Firm age log	-1.21	0.55	-2.22**	-0.09	0.30	-0.29
Internationally-recognized quality certification	2.53	1.23	2.05**	1.10	0.63	1.74*
Consortium	1.09	0.68	1.60	0.25	0.31	0.81
Corporation	-0.38	0.46	-0.82	-0.15	0.15	-0.97
Mean of Sector	0.03	0.08	0.35	0.04	0.02	2.06**
sector of (Building Material,...)	-1.66	1.53	-1.08	-0.77	0.57	-1.35
sector of (Wood, paper, Textiles...)	0.05	0.95	0.06	0.29	0.24	1.19
sector of (Chemical, Petrochemical.)	-0.21	0.69	-0.30	-0.34	0.18	-1.88*
Bank branches	-4.44	4.94	-0.90			
Foreign Ownership	-0.67	1.07	-0.63			
_cons	1.97	4.57	0.43	-0.01	1.04	-0.01
Number of obs	139			139		
F	5.36			2.28		
Prob > F	0			0.0084		
Centered R2	0.3952					
(overidentification test of all instruments):						
Sargan statistic				0.002		
Chi-sq P-val				0.9661		

t statistics in * p< 0.10, ** p< 0.05, *** p< 0.01

“ Note that 139 observations were used in the analysis, rather than the full 175, because we restricted the sample and removing non-response categories such as ‘do not know,’ ‘no answer,’ ‘not applicable. Moreover, with added more independent variables lead to drop more observations (more details on page 210).

**Table 4.7: Liquidity Ratio and export intensity
2SLS Regression Parameters**

Export intensity	(1) 1 st stage			(2) 2SLS		
	Coef.	Std. Err.	t_stat	Coef.	Std. Err.	t_stat
Liquidity Ratio				-2.43	2.46	-0.99
Cash flow	-0.07	0.05	-1.43	-0.36	0.24	-1.55
Labour productivity	0.01	0.02	0.27	0.20	0.06	3.53***
Logarithm of labour	0.00	0.06	-0.03	0.21	0.16	1.28
Workforce by the shares of graduates	-0.09	0.24	-0.39	-0.04	0.51	-0.08
Fixed assets per worker	0.04	0.01	8.07***	0.13	0.10	1.21
Firm age log	0.02	0.05	0.37	0.23	0.15	1.58
Internationally-recognized quality certification	0.12	0.11	1.07	0.83	0.39	2.13**
Consortium	-0.05	0.06	-0.73	-0.10	0.20	-0.52
Corporation	0.02	0.04	0.47	-0.01	0.12	-0.10
Mean of Sector	0.01	0.01	2.11**	0.07	0.04	1.73*
sector of (Building Material,...)	-0.03	0.14	-0.23	-0.47	0.38	-1.24
sector of (Wood, paper, Textiles...)	0.03	0.09	0.30	0.34	0.24	1.40
sector of (Chemical, Petrochemical.)	0.03	0.06	0.42	-0.23	0.18	-1.28
Bank branches	-0.43	0.46	-0.94			
Foreign Ownership	-0.05	0.10	-0.55			
_cons	0.05	0.42	0.12	-0.34	1.05	-0.32
Number of obs	139			139		
F	10.22			2.51		
Prob > F	0			0.0035		
Centered R2	139			139		
(overidentification test of all instruments)						
Sargan statistic				0.017		
Chi-sq P-val				0.8966		

t statistics in * p< 0.10, ** p< 0.05, *** p< 0.01

“ Note that 139 observations were used in the analysis, rather than the full 175, because we restricted the sample and removing non-response categories such as ‘do not know,’ ‘no answer,’ ‘not applicable. Moreover, with added more independent variables lead to drop more observations (more details on page 210).

Chapter 5: Business Environment, Competition, and Firm Performance impact on export behaviour

5.1 Introduction

The overall business environment plays an instrumental role and does have an impact export performance. In reform economies accurately, what determines the success can respond to the demands of the market environment? And where can the most important gains in business environment be expected to come from? In this kind of question, some of the literature reports results that show the relative influence of competition and other features of firms' external environment on their restructuring actions and subsequent sales and productivity performance. This literature shows realistically that competition matters, but it matters in an intriguing and complex way.

The current work contributes to this literature and sheds light on the importance of features of the business environment. This work begins with a review of the export determinants, such as the competition and business constraints literature, in order to establish the framework used for the study. Most importantly, the work coincides with a recent methodology to test for the existence of interactions among export and business regulations, while this work often uses the same or similar dependent variables of the studies mentioned in the literature, such as Commander and Svejnar (2011). All of the literature focuses on a particular set of explanatory variables and usually does not take into account the explanatory variables deemed important in other strands of research. This raises the issue of whether existing studies generate biased estimates on account of omitted variables. Basically, microeconomic data are better suited for such analyses of productivity, are better able to capture possible obstacles to firm performance, and are thus more likely to shed light on the key policy implications.

The investment environment plays an important role and increasingly in the developed economies. Numerous studies have been allocated to present its relationship with firm performance, especially in developing countries issue countries (e. g. Dollaret et al.,2005; Asaftei et al., 2008; Goedhuyset al., 2010; Xu.

2010; Commander and Svejnar, 2011; Augier et al., 2012). The recent dependence on micro level datasets, collected whether by World Bank surveys or other institutions, supports raising research to link the business environment to firm performance, which would lead to a better perception of economic development. Hence, this work aims to examine the relationship between the competition and business environment on one side and export performance on the other side in Saudi Arabia. To explore this issue in our case more intensively, we examine in this study examines how Saudi firms' characteristics, perceived competition intensity, and constraints in the domestic markets affect their efforts to increase the level of export. Although Saudi Arabia is an interesting and rich oil country, there are no studies discussing the competition and business environment, and no data have been collected to provide a knowledge base for this matter. To do so, we employ a cross-sectional micro-data set obtained by preparing a specific questionnaire; the outcome is a unique dataset covering 175 firms spanning different attributes. The objective of the survey is to obtain feedback from export enterprises in Saudi Arabia on the operation of the state and of the private sector as well as to help in building a panel of enterprise data that will make it possible to track the situation in the business environment. This survey primarily addresses issues related to the exports of firms and their business environment, i.e. access to finance, access to infrastructure, competition, labour, etc. In the macroeconomic policy, Saudi Arabia has striven to take great steps in improving the stability and predictability of laws, regulations and procedures that firms must comply with in order to start and run their business operations. We expect to have a better insight into the impacts of internal and external factors on the export intensity of firms in Saudi Arabia, a country so far pursuing export-led growth strategies, setting some policy and intensive for implications in enhancing firm exports.

To that end, the purpose of this project is therefore to evaluate the potential contribution of both competition and specific business constraint measures to trade and export competitiveness, as well as the potential gains from adopting a more integrated and coherent approach to trade and business (investment) facilitation. The work makes numerous new contributions to the existing body of literature on

the impact of behind the border regulations and the business environment on export or trade in general. For instance, by distinguishing between export and general specific regulatory measures, the analysis provides estimates of how important business regulations, typically outside the purview of trade and customs authorities, affect exports.

This chapter is outlined as follows. The next section, Section 2, outlines the literature review. Section 3 sets up the model and the empirical methodology. Section 4 contains the descriptive statistics. Section 5 presents the empirical findings using the ordinary least squares (OLS) method. Section 6 presents the results of the robustness check. And Section 7 raises some concluding remarks.

5.2 Literature Review

Trade theories that depend on heterogeneous firms constitute a large body of economic theoretical background on the export behaviour of firms. Firms in these kinds of theory take into consideration different in terms of efficiency. Further, they experience different variable and fixed costs when engaged in trade. The heterogeneity in firm-specific efficiency and trade costs determines the difference in export behaviour among firms (Hiep, 2009). To this end, whatever factors affect the efficiency levels and trade costs of firms will be possible determinants of their export behaviour. These findings coincided with Yan Aw et al. (2000) and Melitz (2003) that the more efficient firms have higher levels of export intensity. This prediction is then confirmed by others, such as Arnold and Hgussinger (2005), Cirno et al. (2008), Lages et al. (2008), Beveren and Vandenbushe (2010), Powell and Wagner (2010) and others. Hiep (2009) discussed theoretical that argue that export sales, and hence export intensity, are negatively linked to trade costs. In summary, economic theories support the argument that a firm's attributes and business environment characterise its export intensity by affecting efficiency and firm-specific trade costs. In the current work the analysis is principally based on this argument. Factors such as competition and domestic business constraints may constitute the exporting strategy of the firm, besides affecting the firm's efficiency and costs.

However, the impact of competition on productivity is not so simple to evaluate. The degree of competition in a specific industry is difficult to measure and is determined by many different elements. On the other hand, it is not easy to determine the effect of productivity on competition, whether in a direct or any measurable way. Carlin et al. (2001) argues that the measurement of competitive pressure in the economy is very difficult. Additionally, in much of the literature, only industry level proxies for competition in the form of indicators of market structure are available. The issue is that the “industry” may be completely distant from the concept of the “market” that is relevant to a firm’s products. Nevertheless, the role of competition is not easy to identify. Some literature relies on the level of competition which is constructed from responses of firms to the following inquiry asked in the questionnaire. In addition, the degree of competition faced by a firm is not particularly easy to measure, especially as competition could be affecting performance through a range of quite different means and changes in performance would be expected in turn to affect market structure. Carlin et al. (2001) reported that, even if the degree of competition it faces has no direct causal influence on the behaviour of any individual firm, it may be that more competitive market environments see a faster replacement of the relatively inefficient by relatively efficient firms. As a result of this, a correlation appears over time between a measure of competition at industry level and the average efficiency of those firms.

Although some economic models show that the effect of competition on export behaviour may be ambiguous, others argue that it is quite likely that competition has a direct influence on behaviour. Willig’s (1987) and Carlin et al.(2001) demonstrates two offsetting effects of raised competition on the incentives for managers to exert effort. Whilst increased competition makes profits more sensitive to managerial effort, it also depresses demand for the firm’s output, which dampens profits and hence blunts the incentive. Although some economic models shown that competition is indirect to measure, there are reasons for thinking that the economic environment in different economies provides a more productive setting in which to test hypotheses about the effects of competition by

taking into consideration the environments in the market. Bombardini (2011) found that, under a competitive environment, the relatively higher productivity of goods exporting firms translates into more competitive economic conditions for firms exporting out of the same country and industry. This result reflects that higher relative productivity in an industry leads to a relatively higher wage of the specific factor associated with that industry. For this reason, this raises all the costs, including the fixed costs of exporting, and lowers the probability of exporting and the level of exports for a firm with a given productivity level. Industry-specific inputs can be thought of as factors of production that cannot easily be moved from industry to industry. Bombardini summarised these results that can be industry-specific knowledge of workers or physical capital that reduces in capacity if moved from one industry to another. Heckman and Pages (2000) look at labour market regulations in Latin America. They find that labour market regulations in Chile and Colombia make labour quite immobile due to extensive hiring and firing costs based on different reasons. They find evidence of this channel in the data, as the industry wage correlates negatively with firm performance after having been purged of country- and industry-specific effects.

Mayer et al. (2011) show how firm-level measures of exported output per worker as well as shrunk sales per worker for a given export destination increase with tougher competition in that destination. This effect of competition on firm productivity holds even when one fixes the set of products exported, thus removing any potential effects from the extensive (product) margin of trade. Then, the firm-level productivity increase is entirely driven by the response of the firm's product mix: producing relatively more of the better-performing products raises measured firm productivity. Mayer et al. described how tougher competition affects the selection of both the firms in a market, and of the products they produce: high cost firms exit, and firms drop their high cost products. These selection effects induce productivity improvements at both the firm and the aggregate level. Hiep (2009) analysed theoretically that competition is a determinant of export decision making, which was discussed by Morgan (1999) who reported the intensity of competition in a market was negatively associated with the market's attractiveness. The

empirical findings of Hiep show no significant evidence of the relationship between perceived competitive intensity in the domestic market and export strategy development. The theoretical view that Hiep reported included a positive relationship between intense domestic market competition and greater export involvement. However, he also argued other theoretical points that reported non-significant results.

The direct impact of competition on firms also listed a number of studies by Carlin et al. (2001). They found a positive effect of larger market share on performance that was applied in Bulgaria, by Jones et al. (1998). Using a measure of competition at industry level, Konings (1998) also found in a study of Bulgaria and Estonia that more competitive pressure in the industry enhanced firm performance in Bulgaria but not in Estonia. For Russia, Earle and Estrin (1998) found that greater competition in the market complemented the effect of privatisation in enhancing performance. Brown and Earle (2000) reported strong positive effects of domestic and import competition in the product market on total factor productivity. A study of Georgian firms (Djankov and Kreacic, 1998) found that competition from foreign producers tended to be associated with employment cuts and changes in suppliers (but tended to reduce the likelihood of the disposal of assets, renovations and computerisation). In contrast, firms with a larger market share were more likely to engage in computerisation, renovations and the establishment of a new marketing department and the disposal of assets. Djankov and Murrell (2000) pool 17 studies and report a positive impact of competition on performance. Whereas for the non-CIS, both domestic and foreign competition is effective, for the CIS countries, only domestic competition is significant.

The World Bank (2005) has noted that the barriers to doing business vary widely across regions and countries. Some literature (e.g. Colin Xu, 2010 and Commander and Svejnar, 2011) supported the World Bank policy regarding must take into consideration the investment environment as a strategy for economic development. The business environment covers whatever external environment has an impact on the returns and risks faced by exporters. To that end, the measurement of the business environment has confronted major methodological

challenges that may have generated biased estimates on account of issues such as errors in variables, omitted variables and the endogeneity of regressors. Commander and Svejnar (2011) reported that, to the investigations of the effects of business environment, researchers have been analysing the effects on firm performance of three key structural features: the extent of the firm's export orientation, competition, and other firm attributes. They found a number of studies and findings in the overall sense that the performance effects of exports are found to be positive.

Augier (2012) discussed relevant recent studies in this field, such as Dollar et al. (2005) who consider Bangladesh, China, India and Pakistan and point to the negative role of power outages, customs delays and access to finance on firm-level performance. An important result of their papers is that the empirical link between the investment climate indicators and firm performance is robust to the inclusion of country dummies, confirming that the business environment is not constant within a country, and emphasising the need to use firm-level data. Similarly, Fernandes (2008) focuses on Bangladesh and examines the relationship between TFP and business environment indicators. By using protection payments as proxy for criminal activity, Fernandes finds that firms with lower TFP are those making larger protection payments. The main result of Fernandes study is to show the negative effect of crime and corruption on firm performance TFP. Fernandes also discusses the positive correlation of TFP with access to short-term credit proxied by overdraft facilities, but the negative correlation with longer term financing needs proxied by loan facilities. However, it is important to point out these results are not statistically significant. For China, Hallward-Driemer et al. (2006) show that ownership and investment climate measures matter for the investment rate, TFP and sales growth. In particular, light regulatory burdens, limited corruption, technological infrastructure and labour market flexibility appear to have a positive impact on firm performance, while gains from improved access to banking and physical infrastructure are quite limited. The paper of Asaftei et al. (2008) underlines the importance of market structure and soft budget constraints in ensuring that privatisation improves firm productivity in Romania. Eifert et al. (2008), in analysing

17 poor African countries, show that productivity is inversely linked to the cost and importance of indirect inputs, related to infrastructure and public services, in production. Finally, Gatti and Love (2008) show that improved access to credit impacts positively on the productivity of Bulgarian firms while, as does Goedhuys et al. (2010), who focus on labour productivity for Tanzania. Moreno-Badia and Sloomakers (2009), admittedly with a different methodology, do not confirm this relationship for Estonian firms.

5.3 Setup of the model

Our framework extends Commander and Svejnar's (2011). The estimation begins with a production function for firm i . The model relies on augmented Cobb-Douglas function, which is:

$$y_i = \beta_0 + \beta_1 C_i + \beta_2 x_i + \rho Z_i + \delta I_i + \theta S_i + \zeta T_i + \xi_i \quad \dots(5.1)$$

Where:

y_i = Exports intensity;

C_i = Competition variable;

x'_s = Represents the capital and labour inputs;

Z_i = A vector of the business environment;

I'_i = Structural variables (export orientation of the firm and total sales);

S'_s = Dummy variable for industries;

T'_s = Dummy variable for regions;

ξ = An independently distributed error term.

Estimating Eq.(5.1) allows export efficiency to vary across institutional and structural variables, industries, and regions. The equation represents our basic specification. Our main explanatory variable is the level of competition, which is constructed from the responses of firms to the question which was asked in the survey to evaluate: Competitive Advantages of firms products in Domestic market and in Foreign market is: Their responses were on a 1-5 scale defined as: no advantage (1), tend to advantage (2), advantage (3), strongly advantage (4) and very strongly advantage (5). The analysis defined the measure of competition as the

average score on each parts of question ([a] price, [b] quality, and [c] service), then the average score of all parts. The level of competition cannot be used directly in the estimation due to the possibility that they could be endogenous to industry characteristics such as size, age, etc. In addition, there is an average level of competition faced by firms within each region. Being a group average, it suffers less from the measurement errors and endogeneity problems associated with industry or sector responses, although these problems cannot be ruled out totally.

Commander and Svejnar (2011) reported that controlling adequately for endogeneity is not an easy task in survey data that does not come from a natural experiment. However, in our model the analysis included variables as proxy for the capital and labour inputs in Eq.(5.1), which are wages and employment, in the vector of the business environment our survey includes: access to finance, tax rates, cost of financing, tax administration, customs and trade regulations, business licensing and permits, labour regulations, political instability, courts, corruption, crime, theft and disorder, practices of competitors in the informal sector, and average level of infrastructure. The indicators that the study has used in the models follow the World Bank indicators to measure a business, which is measured on a scale of 1 to 5. In addition, the analysis include in Eq. (5.1) structural variables which are export experience and total sales, and a dummy variable for industry and for region to control for the heterogeneity between firms. In the event of direct estimation of a firm's revenue garnered from exporting in a competitive environment, many factors mean that it is unlikely to be ruled out completely, when considering the facets of regulation, infrastructure, etc. that are, to some extent, commonly shared by firms in a given region. For instance, more stringent business regulations are known to reduce competition by their effect on new products or new markets.

Moreover, the relationships between business environment constraints is measured by Commander and Svejnar (2011). This method was used to examine the relationships among the various constraints, the aim is to find out whether these business environment constraints are highly correlated or not. This pair-wise correlation is also detected in an ANOVA regression that was carried out to assess

the extent to which the variation in the value of any given constraint can be explained by the other constraints. In what follows, the study enters only one of each of these pair-wise correlated constraint variables, noting that it generally does not matter which of the two is entered. Regression coefficients are from a regression of the dependent variable in each column on the other constraints, and the R^2 values are from the reported regression as correlation coefficients among these constraints.

5.4 Descriptive Statistics

A questionnaire was used in this study to look at the specifics of the business environment, and the interaction between firm and state across a multitude of variables and interactions. The present research uses the responses of the sample to evaluate the impact of competition on the sampled firms. The question evaluating this was as follows: "Competitive Advantages of firm's products in Domestic market and in Foreign market is: (1) No advantage; (2) tend to advantage; (3) advantage; (4) strongly advantage; (5) Very strongly advantage and (.) Don't Know for (a) price, (b) quality and (c) service". The question was analysed by producing an average score for all parts of the question (price, quality, service).

Table 5.1 displays the results of this question and shows that none of the respondents described their competitive environment as "no advantage", 3 per cent as "tend to advantage", 22 per cent as "advantage", 62 per cent as "strongly advantage" and the remaining 13 per cent as "very strongly advantage". Table 5.1 also displays the levels of competition by firm ownership structure, size of firm, and the sector of the respondent. Table 5.1 tells us that the food and beverages sector operates in a highly competitive environment in terms of both price and quality, whether at home or abroad. However, the wood, paper, leather and textiles sector find higher competition when looking at their level of service.

Table 5.2 displays the key areas to focus on by exploiting information derived from the firms' own perceptions as to the most crucial obstacles they confronted. The major obstacles recognised by the firms were related to the labour regulations (average degree 8.22), inadequately educated workforce (average degree 7.67),

and practices of competitors in the informal sector (average degree 7.10). Other key obstacles where a degree of between 10 and 12 is identified by firms were: access to finance (average degree 6.97), transport (average degree 6.17), and electricity (average degree 6.14), while the business environment that takes a low degree is court (average degree 1.82), crime theft and disorder (average degree 1.92), and corruption (average degree 2.04). In addition, Table 5.3 provides a summary of the descriptive statistics of the variables used on the models, the comprehensive descriptive was discussed in chapter 2.

5.5 Main findings

The base performance equation having been estimated, the estimation then proceed to consider the impact of business environment constraints on firm performance. Throughout the analysis, the study used, for each constraint, the average value of responses. As can be seen from Table 5.4, the partial correlation coefficients among these eight constraints are relatively low, and the total R^2 in the reported regressions of each constraint on others is at or below 0.5 in all, while the rest of the constraints (i.e. access to finance, tax administration, business licensing and permits, and corruption) are below 0.65. Main constraints are not highly correlated, and collinearity among the constraints is limited as a result.

The literature argues that one should enter each variable individually to check its effect on export efficiency (e.g. Commander and Svejnar, 2011). Table 5.5 provides a first pass at including the constraints in the performance regression: individually (Columns 1–13), and with all constraints entered together (Column 14). Despite the obvious omitted variable problem, the estimation reports the specifications with the constraints entered one at a time because this approach has been used frequently in the literature, and much of the accepted wisdom on the effects of institutions and regulation on performance derives from these types of specifications (Commander and Svejnar, 2011). With the model in Table 5.5, the competition coefficient is negative and significant in Column 14, and the R^2 are higher than other models. It can be seen that, when entered individually, nine constraints enter negatively, as would be expected from the existing literature,

while four constraints are contrary to the existing literature and are entered positively. Tax administration, customs and trade regulations, political instability, corruption, and the practices of competitors in the informal sector amongst negative business constraints are significant, while infrastructure and labour regulation amongst positive business constraints is significant at 1 per cent test levels.

However, when all the constraints are entered together in Table 5.5, the customs and trade regulations, tax administration and practices of competitors in the informal sector constraints remain negative and significant, Access to finance appears a negative and significant, but labour regulation loses significance or, in the case of tax rate and infrastructure, becomes positive and significant. Hence, the negative effect of most business environment constraints on performance disappears. The analysis can impute the positive effect of tax rate to the fact that Saudi Arabia has effectively applied a lower taxation rate, and has facilitated foreign ownership of business and investment ventures within the Kingdom. Recently it has become the largest recipient of FDI in the Arab world. As may be seen from Table 5.5, the corresponding ordinary least squares (OLS) estimates are very similar for the individually entered constraints (Columns 1–13). Also the estimation is the same when all the constraints are entered together (Column 14). As a final remark, all the mentioned results are close to consistent with the literature concerning firm performance and business environment.

However, Commander and Svejnar (2011) argued that the lack of exposure effect of the reported severity of various constraints in the business environment could reflect the fact that (a) firms can get around these constraints at a relatively low cost and the effect is hence not detectable in the data, the example listed by Commander and Svejnar being that the firms may pay a bribe to obtain a licence, but the cost of the bribe is small; or (b) managers who face severe constraints compensate for the presence of these constraints and report lower severity than is actually the case, another example being that firms that need more external financing may “pre-save” from retained earnings and consequently report a lower severity of the financing constraint than is in fact the case. Regarding the observation by Commander and Svejnar of the significant variation in reported

constraints across firms, the latter phenomenon of compensating for constraints may reduce the observed effect of constraints, but it is unlikely to eliminate it altogether.

5.6 Conclusion

The purpose of this work has been to jointly consider two issues: first, how the competitive advantage and experience of Saudi firms affect export behaviour; and second, the joint linkages between competition and the business environment that are faced by Saudi firms, and their performance measured by the intensity of exports. These issues are generally considered in isolation, but this study argues that they must be considered together if analysis is to develop a fuller picture of their role in the intensity of exports. The principal contributions of the work regard the consideration of the impact of the business environment while fully allowing for the endogenous relationship between exporting and competition.

Furthermore, the current work provides a deeper analysis of the structural characteristics of the infrastructure, labour situation, production capacity, competition, and business environment. The high cost of infrastructure services and low quality of infrastructure will affect the production costs of certain products more than others. In the same vein, poor infrastructure conditions have an effect on goods exports. The econometrics results also support the positive impact of Infrastructure on export intensity.

In this chapter, the study has addressed the challenge by using unique firm level data to analyse the performance effects of a firm's competition and the business (institutional) environment. The estimations found evidence that competition does not have an impact on performance, but the effect appears negative once the model takes into account business environment constraints. The export experience of the firm is found to have a positive effect on export intensity in same situation, while the number of employees has a negative effect. When the study examined the impact of perceived business environment constraints, the estimation found that few appear to have explanatory power, once they are entered together rather than one at a time, whereas wage and export experience have a positive effect.

Table 5.1: Degree of Competition by type of ownership, size and sector.

Advantage	In Domestic market			In foreign market			Average of competition	
	Price	Quality	Service	Price	Quality	Service	freq.	per cent
(1) No advantage	2.33	-	-	4.49	-	-	-	-
(2) Tend to advantage	5.23	2.91	4.65	3.85	-	1.94	5	3
(3) Advantage	29.65	2.91	12.21	27.56	5.13	7.1	38	22
(4) Strongly advantage	37.79	23.26	30.23	30.77	18.59	32.26	106	62
(5) Very strongly advantage	25	70.93	52.91	33.33	76.28	58.71	23	13
							172	100%

In Domestic market				In Foreign market			
Freq	Price	Quality	Service	Freq	Price	Quality	Service
Status by type of ownership							
Shares in stock in market	5	4.8	4.6	5	3	4.67	5
Non-traded share	29	3.86	4.83	4.55	28	3.82	4.79
Sole proprietors	37	3.92	4.68	4.43	35	4.43	4.89
Partnership	42	3.29	4.31	4	42	3.55	4.55
Limited partners	58	3.91	4.71	4.28	47	3.64	4.66
Status by type of labour							
Micro < 5 employ)	1	3	3	4	1	3	3
Small (>5 &<20)	2	3.5	4.5	4	1	4	5
Medium (20-99)	40	4	4.58	4.13	31	4.32	4.61
Large (100+)	129	3.72	4.65	4.38	123	3.73	4.75
Status by type of sector							
Food & beverages	14	4.21	4.86	4.07	10	4.3	5
Wood, Paper, Lea	27	3.75	4.68	4.82	27	4.15	4.74
Chemical ,Plastic	81	3.54	4.44	4.16	78	3.83	4.67
Building Material	21	4	4.86	4.48	18	3.39	4.67
Electrical Machine	28	4.11	4.79	4.25	23	3.7	4.74
Mean	172	3.78	4.62	4.31	156	3.85	4.71
s.e	98%	0.073	0.052	0.065	89%	0.086	0.043

Table 5.2: Degree of obstacle of some element of business environment *

Element	1 Access to finance	2 Access to land	3 Business licensing	4 Corruption	5 Courts	6 Crime, theft and disorder	7 Customs and trade regulations	8 Electricity	9 Educated workforce	10 Labour regulations	11 Political instability	12 informal competitors	13 Tax admin.	14 Tax rates	15 Transport
By ownership	6.00	4.40	4.60	1.00	1.00	1.80	3.40	6.40	5.60	5.00	1.60	3.60	1.00	3.00	5.60
shares in stock	6.31	4.21	6.28	1.62	1.38	1.03	6.14	4.52	8.28	8.62	2.41	3.90	1.52	2.14	5.55
Non-traded share	7.70	5.16	6.08	1.35	1.43	1.76	6.76	6.89	8.51	8.57	2.73	7.54	3.65	3.00	6.68
Sole proprietors	7.87	6.69	6.76	1.20	1.22	1.33	6.27	7.78	7.07	9.09	1.91	7.69	1.56	2.27	6.89
Partnership	6.28	5.93	5.45	3.41	2.76	2.93	5.03	5.12	7.36	7.31	2.09	8.24	4.33	4.12	5.55
Limited partners	4.00	10.00	8.00	3.00	5.00	2.00	6.00	9.00	14.00	13.00	1.00	8.00	1.00	1.00	11.00
Other															
By labour	10.00	9.00	7.00	1.00	1.00	1.00	3.00	5.00	5.00	6.00	1.00	10.00	1.00	6.00	5.00
Micro < 5 employ	7.50	6.50	10.00	2.00	7.00	8.50	12.00	9.50	9.50	11.00	2.00	12.50	7.00	6.00	8.50
Small (>5 &<20)	7.00	6.08	6.15	3.08	1.75	1.83	5.55	5.88	7.35	8.75	2.98	7.10	3.42	2.42	6.63
Medium (20-99)	6.93	5.49	5.95	1.73	1.77	1.86	5.88	6.17	7.76	8.03	1.99	6.99	2.68	3.14	6.00
Large (100+)															
By industry	5.29	5.07	4.07	1.00	1.00	1.71	3.86	6.93	5.93	6.21	1.00	4.79	1.00	2.07	5.57
Food & beverages	6.71	5.79	4.79	1.29	1.54	1.32	5.39	6.61	7.00	8.00	1.14	7.96	1.75	2.29	6.68
Wood, Paper	6.76	4.55	6.26	1.85	1.80	1.81	6.50	6.65	8.61	8.30	2.27	7.50	2.77	2.64	5.38
Chemical ,Plastic	7.29	6.00	5.67	2.05	2.95	3.19	4.33	4.14	7.76	9.38	3.71	7.43	3.10	3.52	6.62
Building Material	8.46	8.89	7.93	3.89	1.71	2.00	6.54	5.21	6.32	8.32	2.57	5.93	5.18	5.04	7.96
Electrical Machine	6.97	5.66	6.05	2.04	1.82	1.92	5.86	6.14	7.67	8.22	2.21	7.10	2.89	3.03	6.17
Average	12	7	9	3	1	2	8	10	14	15	4	13	5	6	11
Average Rank	6.00	4.40	4.60	1.00	1.00	1.80	3.40	6.40	5.60	5.00	1.60	3.60	1.00	3.00	5.60
Number of firms reporting a business environment element to be the top obstacle															
Obstacle degree															
(13-15)	24	10	13	7	1	0	9	14	28	22	3	16	0	0	1
(10-12)	32	29	27	1	3	3	20	14	37	56	7	45	14	6	29
(7-9)	28	42	36	3	3	1	31	43	40	42	4	35	14	27	52
(4-6)	42	19	31	7	11	18	57	45	37	36	11	38	17	21	53
(1-3)	49	75	68	157	157	153	58	59	33	19	150	41	130	121	40
Total	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175

* (1-3) No Obstacle, (4-6) a Minor Obstacle, (7-9) a Moderate obstacle, (10-12) a Major Obstacle, (13-15) a Very Severe Obstacle

Table 5.3 Descriptive statistics summary

Variable	Obs	Mean	Std. Dev.	Min	Max
Export intensity	159	23.01	17.90	4	90
Employment	175	5.32	1.06	1.39	6.21
Sales	175	3.54	1.47	1	5
Wages	175	19.85	8.87	4	55
Sector	175	0.30	0.17	0.08	0.48
Mean Region	175	0.20	0.03	0.04	0.29
Export experience	161	13.56	6.85	1	31
Access to finance	175	2.66	1.41	1	5
Tax rates	149	2.97	1.26	1	5
Cost of financing	175	1.53	0.88	1	4
Tax administration	175	1.50	0.95	1	4
Customs and trade regulations	175	2.23	1.18	1	5
Business licensing and permits	175	2.35	1.33	1	5
Labour regulations	175	3.15	1.20	1	5
Political instability	175	1.30	0.84	1	5
Courts	175	1.17	0.59	1	5
Corruption	175	1.25	0.86	1	5
Crime, theft and disorder	175	1.17	0.50	1	4
Practices of competitors in the informal sector	175	2.75	1.31	1	5
Infrastructure	175	2.35	0.89	1	4
competition	156	3.85	1.07	1	5

Table 5.4: Linear relations among constraints

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)Access to finance		0.407*** (0.107)	-0.0106 (0.0614)	-0.132** (0.0508)	-0.102 (0.0883)	0.421*** (0.0751)	0.259*** (0.0968)	0.0447 (0.0639)	0.0297 (0.0369)	0.0966* (0.0540)	0.106*** (0.0337)	0.0493 (0.110)	0.281*** (0.0616)
(2)Cost of financing	0.238*** (0.0623)		0.0455 (0.0468)	-0.0298 (0.0397)	0.0298 (0.0678)	-0.0863 (0.0633)	-0.280*** (0.0721)	0.0260 (0.0489)	-0.0652** (0.0278)	0.0910** (0.0410)	-0.00768 (0.0267)	-0.159* (0.0829)	0.0196 (0.0506)
(3)Tax rates	-0.0206 (0.120)	0.152 (0.156)		0.473*** (0.0603)	-0.0886 (0.124)	0.0135 (0.116)	-0.201 (0.138)	-0.0118 (0.0893)	0.147*** (0.0501)	-0.373*** (0.0692)	-0.0474 (0.0486)	-0.0292 (0.153)	0.253*** (0.0898)
(4)Tax administration	-0.357** (0.138)	-0.138 (0.184)	0.659*** (0.0839)		0.183 (0.145)	0.205 (0.136)	-0.248 (0.162)	0.250** (0.103)	-0.272*** (0.0563)	0.691*** (0.0677)	0.275*** (0.0525)	-0.205 (0.180)	0.0546 (0.109)
(5)Customs and trade regulations	-0.0953 (0.0824)	0.0477 (0.108)	-0.0424 (0.0592)	0.0631 (0.0500)		0.509*** (0.0676)	-0.0674 (0.0958)	0.0147 (0.0618)	0.0592* (0.0354)	-0.165*** (0.0508)	-0.0892*** (0.0329)	0.0739 (0.106)	0.124* (0.0631)
(6)Business licensing and permits	0.446*** (0.0796)	-0.156 (0.115)	0.00734 (0.0632)	0.0802 (0.0532)	0.578*** (0.0768)		0.146 (0.101)	-0.0459 (0.0658)	-0.0771** (0.0375)	0.0851 (0.0557)	0.0244 (0.0359)	0.0198 (0.113)	-0.0231 (0.0681)
(7)Labor regulations	0.193*** (0.0721)	-0.357*** (0.0918)	-0.0769 (0.0526)	-0.0681 (0.0446)	-0.0538 (0.0765)	0.103 (0.0714)		0.132** (0.0541)	-0.0687** (0.0314)	0.0409 (0.0470)	-0.0218 (0.0301)	-0.0804 (0.0946)	0.0956* (0.0565)
(8)Political instability	0.0803 (0.115)	0.0800 (0.150)	-0.0109 (0.0823)	0.165** (0.0683)	0.0282 (0.119)	-0.0779 (0.111)	0.318** (0.130)		0.164*** (0.0476)	-0.0943 (0.0727)	0.0181 (0.0468)	-0.0843 (0.147)	-0.231*** (0.0865)
(9)Courts	0.159 (0.198)	-0.598** (0.255)	0.405*** (0.138)	-0.539*** (0.111)	0.340* (0.203)	-0.390** (0.190)	-0.495** (0.226)	0.489*** (0.142)		0.843*** (0.104)	0.381*** (0.0740)	-0.237 (0.254)	0.129 (0.153)
(10)Corruption	0.238* (0.133)	0.384** (0.173)	-0.472*** (0.0876)	0.628*** (0.0615)	-0.436*** (0.134)	0.198 (0.130)	0.135 (0.156)	-0.130 (0.0999)	0.388*** (0.0477)		-0.282*** (0.0493)	0.537*** (0.166)	-0.0708 (0.104)
(11)Crime, theft and disorder	0.639*** (0.203)	-0.0792 (0.275)	-0.147 (0.150)	0.611*** (0.117)	-0.576*** (0.212)	0.139 (0.204)	-0.176 (0.243)	0.0606 (0.157)	0.428*** (0.0831)	-0.687*** (0.120)		0.0686 (0.270)	-0.0356 (0.162)
(12)Practices of competitors in the informal sector	0.0300 (0.0668)	-0.166* (0.0863)	-0.00912 (0.0479)	-0.0460 (0.0404)	0.0482 (0.0691)	0.0114 (0.0650)	-0.0657 (0.0773)	-0.0285 (0.0498)	-0.0269 (0.0288)	0.132*** (0.0410)	0.00693 (0.0272)		0.176*** (0.0494)
(13)Infrastructure	0.472*** (0.103)	0.0561 (0.145)	0.218*** (0.0773)	0.0338 (0.0674)	0.223* (0.113)	-0.0366 (0.108)	0.215* (0.127)	-0.215*** (0.0808)	0.0404 (0.0478)	-0.0481 (0.0706)	-0.00993 (0.0453)	0.485*** (0.136)	
Constant	-1.372*** (0.444)	3.689*** (0.511)	0.603* (0.325)	-0.0170 (0.279)	1.293*** (0.462)	-0.214 (0.446)	3.570*** (0.435)	0.483 (0.340)	0.451** (0.195)	0.0971 (0.292)	0.690*** (0.178)	1.868*** (0.567)	0.339 (0.353)
Observations	149	149	149	149	149	149	149	149	149	149	149	149	149
R-squared	0.613	0.228	0.480	0.649	0.439	0.604	0.341	0.223	0.486	0.660	0.412	0.284	0.485
F	17.93	3.349	10.47	20.97	8.879	17.29	5.856	3.246	10.70	22.03	7.925	4.505	10.68

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 5.5: Impact of individual business environment constraints and competition on intensive of export, OLS estimation

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Competition	-1.289 (1.302)	-2.709** (1.352)	-1.244 (1.304)	-1.128 (1.294)	-1.596 (1.267)	-1.166 (1.299)	-1.044 (1.298)	-1.133 (1.294)	-1.129 (1.298)	-1.168 (1.272)	-1.325 (1.301)	-1.642 (1.274)	-2.050 (1.259)	-3.922*** (1.091)
Employment	-3.302 (2.974)	-2.638 (3.110)	-3.067 (2.967)	-3.001 (2.939)	-2.250 (2.893)	-3.150 (2.950)	-2.892 (2.942)	-4.008 (2.980)	-2.929 (2.949)	-2.819 (2.896)	-3.311 (2.967)	-2.637 (2.895)	-3.430 (2.833)	-3.073 (2.365)
Sales	0.917 (2.128)	0.791 (2.167)	0.744 (2.130)	0.697 (2.108)	0.541 (2.065)	1.257 (2.135)	0.680 (2.108)	0.951 (2.108)	0.467 (2.126)	0.0647 (2.094)	1.011 (2.132)	0.504 (2.075)	1.172 (2.032)	0.491 (1.719)
Wages	0.874*** (0.180)	0.846*** (0.187)	0.885*** (0.181)	0.880*** (0.177)	0.831*** (0.174)	0.902*** (0.180)	0.853*** (0.177)	0.895*** (0.178)	0.838*** (0.179)	0.836*** (0.175)	0.854*** (0.179)	0.828*** (0.175)	0.892*** (0.171)	0.980*** (0.156)
sector of (Wood...)	2.535 (5.809)	2.756 (6.046)	2.390 (5.811)	2.246 (5.756)	1.150 (5.654)	2.071 (5.791)	3.460 (5.772)	2.824 (5.757)	2.495 (5.767)	2.526 (5.666)	3.045 (5.824)	0.121 (5.726)	2.054 (5.548)	-4.454 (4.525)
sector of (Chemical...)	7.661 (5.049)	1.810 (5.496)	7.433 (5.045)	7.768 (5.000)	6.561 (4.906)	7.115 (5.030)	6.732 (5.020)	10.21* (5.237)	9.903* (5.240)	10.03** (5.005)	7.645 (5.041)	7.614 (4.916)	8.672* (4.828)	13.94*** (4.988)
sector of (Building...)	11.90*** (3.753)	9.467** (4.091)	11.79*** (3.752)	12.57*** (3.739)	12.40*** (3.645)	12.09*** (3.737)	11.84*** (3.717)	13.33*** (3.815)	12.79*** (3.774)	13.93*** (3.737)	11.83*** (3.749)	11.86*** (3.656)	13.28*** (3.603)	17.50*** (3.214)
sector of (Electrical..)	19.24*** (5.032)	16.58*** (5.272)	17.78*** (5.262)	21.35*** (5.145)	20.19*** (4.877)	19.13*** (4.985)	19.16*** (4.964)	21.07*** (5.116)	20.09*** (5.030)	21.01*** (4.945)	18.93*** (5.005)	15.48*** (5.035)	16.60*** (4.826)	12.44** (5.217)
Central	2.290 (3.058)	3.070 (3.365)	2.402 (3.066)	2.338 (3.014)	2.421 (2.950)	2.346 (3.029)	2.500 (3.019)	0.618 (3.134)	1.680 (3.030)	2.101 (2.965)	1.783 (3.060)	1.667 (2.965)	0.891 (2.920)	2.382 (2.583)
Eastern	6.288 (4.082)	9.025** (4.470)	6.621 (4.057)	7.070* (4.031)	6.558* (3.937)	6.351 (4.039)	7.142* (4.034)	5.642 (4.057)	5.956 (4.048)	6.314 (3.961)	6.433 (4.056)	2.227 (4.238)	7.112* (3.878)	5.108 (4.120)
export experience	0.567** (0.226)	0.470** (0.235)	0.604*** (0.229)	0.563** (0.224)	0.425* (0.224)	0.489** (0.233)	0.553** (0.224)	0.680*** (0.232)	0.634*** (0.228)	0.703*** (0.225)	0.558** (0.226)	0.476** (0.223)	0.779*** (0.222)	0.980*** (0.220)
Access to finance	-0.554 (0.949)													-2.720** (1.304)
Cost of financing		0.190 (1.201)												-0.737 (1.153)
Tax rates			1.211 (1.649)											5.836** (2.349)
Tax administration				-2.765* (1.575)										-6.210** (2.678)
Customs and trade regulations					-3.340*** (1.094)									-2.769** (1.341)
Business licensing and permits						-1.498 (1.101)								-1.380 (1.638)
Labor regulations							1.812* (1.030)							0.831 (1.023)
Political instability								-2.756* (1.617)						-4.389** (1.812)
Courts									-4.430 (2.897)					2.868 (3.689)
Corruption										-5.964*** (2.170)				-5.102* (2.839)
Crime, theft and disorder											-3.037 (3.743)			3.782 (3.758)
competitors in the informal sector												-3.167*** (1.119)		-4.209*** (1.307)
Infrastructure													5.449*** (1.448)	11.93*** (1.887)
Constant	7.277 (13.50)	9.588 (14.93)	2.660 (13.75)	7.272 (13.09)	12.58 (12.99)	7.088 (13.16)	-1.726 (13.70)	10.35 (13.36)	9.098 (13.29)	10.01 (12.96)	9.875 (14.20)	17.71 (13.54)	-7.218 (13.04)	8.892 (13.74)
Observations	156	138	156	156	156	156	156	156	156	156	156	156	156	138
R-squared	0.318	0.341	0.319	0.331	0.358	0.325	0.331	0.330	0.327	0.350	0.319	0.352	0.378	0.686
F	5.549	5.387	5.573	5.883	6.643	5.733	5.885	5.862	5.792	6.428	5.588	6.484	7.234	10.27

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Chapter 6: Conclusions, Limitations and Future Research

6.1 Conclusion

Saudi Arabia has recognised the need to diversify their economy away from oil as the main source of income. Due to the fact that oil is an exhaustible resource and the oil price fluctuates considerably. It is clear from this thesis that the country was especially concerned with the subject of the diversification of the economic base. The state has followed an economic strategy that encourages industrial development. It has provided facilities to ensure the development and promotion of the role of the private sector, primarily focusing on industrial exports, trying to reduce the impact of the risks which businesses face, and encouraging the creation and activation of appropriate institutional frameworks to support these exports. In this regard, the government has established an critical institutional framework in the shape of the "Saudi Export Programme" under the umbrella of the Saudi Fund for Development, in order to develop national non-oil exports and encourage diversification by providing financing incentives and credit to exporters on the one hand, and on the other hand through the provision of competitive credit terms for buyers abroad or funding institutions working in this area.

This work has attempted to investigate the obstacles and barriers faced by Saudi exporters through a survey of 175 manufacturing firms, employing data which was first collected in Saudi Arabia at the end of 2011. The questionnaire content has been discussed in appendix two. The current study analysed the firm export behaviour from the point of view of three methodologies: the firm's trade operations, access to finance and credit constraints and, finally, competition and the business environment.

Chapter Two has highlighted the role of the Saudi government in motivating manufacturers to export. In addition It, was a description of the data that was used in the analysis. In this chapter, the study summarised statistically the structure of infrastructure, labour situation, production capacity, and competition. Then, it concluded with some problems that hindered the firms surveyed, such as freight

costs, the cost of raw materials or components, the cost of finance, a lack of skilled staff, exchange rate volatility, economic conditions overseas, tariff barriers overseas, a lack of export skills or knowledge, a lack of skills in logistics and knowledge of trade regulations, and language or cultural barriers.

Moreover, this chapter presented the policy-makers' firm position regarding expanding national sales or expanding exports, the study benefited by comparing the influence between the same independent variables. Standards compliance and customs and border procedures are the most important factors affecting decision-makers and whether they expand national sales or expand exports. Taxes on labour, the supply of skilled labour, limited export diversification, and informal restrictions are factors for the firms positions towards expanding exports, whilst inadequate transport links are a factor in the decision-makers' position towards expanding national sales.

In Chapter Three's results we found support for the idea that the country encourages the turning of family businesses into companies. The main result is that firms managed individually or by family members have a negative effect on export behaviour, while companies that are run through shareholders have a positive impact on export intensity. In this chapter the results also show that foreign ownership does not have an influence on export behaviour. For this reason, these results indicate that foreign investment in Saudi Arabia may be taking advantage of domestic demand rather than the international market.

The age of firms and export experience in international markets both have a positive impact on export intensity. The effect of age is an indication of the importance of benefiting from the experience of those firms, and analysing their methods of achieving success and overcoming obstacles for the purpose of designing programmes that support the firms that are interested in exporting more. Recognised quality certifications and patents registered are aspects that show that firms are interested in developed countries as an indicator of the role of innovation in manufacturing and export. Recognised quality certifications prove to be an associated factor in increasing export intensity, whether locally or internationally.

The patent results did not show any role in export behaviour. Another aspect observed by the present study was that the increasing volume of firm sales led to less willingness for export expansion, thus these firms will be under conditions of domestic demand in the future. It is important to encourage these firms to diversify their markets.

Although for some firms in the current study, using TV, radio, and the internet has had a positive impact on export behaviour, other aspects have emerged which negatively affect export intensity, such as firms depending on the firm's sales force to distribute their products or firm-owned retail stores. In addition, there were negative impacts with regard to export marketing firms participating in trade fair exhibitions and relying on brochures to promote the firm and its products; this may be due to the firm carrying costs additional to the cost of export. We also argue that this negative impact may be plausible because of the importance of spending on promotion in order to market the products. Support capabilities for export were discussed by some studies; our results show the importance of the firm engaging with capabilities for export expansion. The results show it is more important to prepare a marketing plan for export and to use foreign languages to identify products. From the results, export capabilities are also shown to have a negative impact on export behaviour. The firms responsible believe that having multilingual sales staff is very important for export expansion, in addition to the use of email. This is their perception of an important factor in the expansion of exports that is not supported by the study results.

Chapter Four focuses on how financial factors affect firms. In this chapter we have analysed the firms' export behaviour by relying on three methodologies: the influence of credit constraint on the firm's attributes, the importance of access to finance for firms, and how export intensity is influenced by credit constraints. We relied on the latest measures of credit constrained status based on micro data and describing what type of firms are more likely to be credit-constrained and which ones are not. The results of testing the hypothesis that internationalisation leads to better access to financial markets, was to find no support for this hypothesis in our analysis. In general, the main finding is consistent with literature, especially the

works which argue that younger firms are more likely to be credit-constrained than large, older firms. Another interesting result is that younger firms are also more likely to use trade credit and informal sources of finance as funds for investment and working capital than large firms. Furthermore, involvement in foreign markets leads to a negative relationship between credit constraint and exports which mean the credit rationing reduces foreign sales by more than 8 per cent.

The purpose of Chapter Five has been to analyse the competition and business environment, and firms' performance measured by the intensity of exports. The current study has taken into account the business environment constraints to analyse the performance effects of a firm's competition. The main finding is that competition does not have an impact on performance isolated in business constraints, but the effect appears negative once the model takes into account the business environment constraints. Also in this chapter the export experience of the firm is found to have a positive effect on intensity as well as wages, while the effect of the number of labourers also has a negative effect.

6.2 Policy Recommendations

Saudi Arabia strives to expand its productive base and alleviate its dependence on oil. For this purpose, the country fosters policies and plans to support and encourage the private sector to play a role in the economy by exporting and benefiting from the comparative advantages of the economy. The Saudi economy is characterised by the comparative advantages that support industry. The study results show that several industry sectors have a positive impact on export. The country encourages the turning of family businesses into sharing (public) companies. There are economically beneficial results of restructuring family businesses, such as more commitment from family and administration in order to increase the returns to shareholders, continuation of sales and profit growth, ongoing work to develop and attract the best talent from outside the family, ease of access to sources of funding, and a strengthening of the company's competitive position. One of the main results of the present study is that the management of firms by individuals or family members has a negative effect on export behaviour. In

contrast, the running of companies through shareholders has a positive impact on export intensity. The present study results also show that foreign ownership does not have an impact on export behaviour. This implies that foreign investment in Saudi Arabia is oriented toward taking advantage of domestic demand for firms' output.

The age of the firm and export experience in international markets both have a positive impact on export intensity. The effect of age is an indication of the importance of benefiting from the experiences of those firms. An analysis of their methods in success and overcoming barriers can help in the design of programmes to support firms that are interested in exporting more. Recognised-quality certifications and patents registered are aspects that show that firms are interested in developed countries as an indicator of the role of innovation in manufacturing and export. Recognised-quality certifications prove to be an associate factor in increasing export intensity, whether locally or internationally. The patent results did not show any role in export behaviour. Another aspect observed by the present study where the result was marginal was that the increasing volume of firm sales led to less willingness for export expansion, and thus these firms will be under conditions of domestic demand in the future. It is important to encourage these firms to diversify their markets.

Although for some firms in the current study the use of TV, radio and the internet has had a positive impact on export behaviour, other aspects have emerged that negatively affect export intensity, such as firms depending on the firm's sales force to distribute their products, or firm-owned retail stores. Also, there were negative impacts with regard to export marketing firms participating in trade fair exhibitions and relying on brochures to promote the firm and its products. This may be due to the firm carrying costs additional to the cost of export. The analysis also argues that this negative impact may be plausible because of the importance of spending on promotion in order to market the products.

Support capabilities for export were discussed by some studies; our results show the importance of the firm engaging with capabilities for export expansion.

The results show it is more important to prepare a marketing plan for export and use foreign languages to identify products. Also from the results, export capabilities are shown to have a negative impact on export behaviour. The firms responsible believe that having multilingual sales staff is very important for export expansion. Their perception of an important factor toward the expansion of export is not supported by the study's results.

Moreover, In terms of the financial constraints, the results show that there exists a negative relationship between credit constraint and exports, which means that financial constraints constitute a problem for firms that are involved in foreign markets. In addition, our results found that there exists a positive relationship between firms' export behaviour and productivity, size and capital intensity. Controlling for productivity and other firm characteristics, and accounting for the endogeneity of credit, we find that credit rationing reduces foreign sales by more than 8 per cent. The present work has the important implication that the need for an expansion of exports is an additional reason why Saudi Arabia should enhance its Saudi Export Programme (SEP), which provides finance and guarantees to Saudi exporters. The government should provide more efforts to use the finance incentives of the Saudi Export Programme to encourage the private sector to fund their export operation. In this thesis, we have explored the linkages between the competition and business environment faced by firms and their performance as measured by employment, sales and wages. In the first place, we have considered the role of the business environment individually based on the firm-level; second, we have used the business environment entered together based on the firm-level. The thesis highlights several results that are highly relevant from a policy point of view: To attract investment, the country should give top priority to improving their country's business climates, such as customs and trade regulations, and practices of competitors in the informal sector. In line with improving business climates the analysis show that competition has a negative impact on export intensity in Saudi Arabia.

However, the findings cannot claim that a firm is guaranteed success if it only takes good care of these success factors. However, it is likely that a firm that does not

deal adequately with these factors will decrease its intensity of export compared with firms that pay adequate attention to these issues.

6.3 Limitations and Future Research

The study have learned from this study to continue building a base of knowledge of the private sector by survey analysis, because it is the first time this kind of analysis has been done in Saudi Arabia. As for future lines of research in this area, there are many questions to consider. First, and with respect to the current work, this analysis could be extended to take into account the influence of different firm attributes on export intensity.

The research attempted to include, in our current questionnaire, variables that we found in the literature. The researcher found evidence that there are some important questions that must be included in the questionnaire that will develop and enhance the database for exports in the future. The main question would be to analyse how export behaviour is related to the number of products (export diversification: the total number of products exported to each destination). This would contribute to enriching our comprehension of the effects on firm export behaviour by investigating the exporting behaviour of multi-product firms in Saudi Arabia. There should also be more questions about productivity, such as measures of productivity (sales per worker). In terms of finances, it could be worth asking about cash flow in firms and the percentage of stock leftover at the end of the year. Moreover, although we collected data from Saudi Arabian exporters, it is important to expand our analysis by including firms that have not exported to form a control group and assess whether there are firms that could be exporting but are not, and why they are not.

Although the empirical results documented in this thesis are plausible, at this stage we cannot be sure that they hold in general. Testing whether our results extend beyond Saudi firms is therefore a promising area for future research. Finally, the general results of this study could assist in highlighting the main determinants in term of ownership structure, finance, competition and business environment that confront the Saudi exporting firms

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Appendix 1: Analysis The impact of firm level on a firm's credit position and Access to finance on export intensity

In order to analyse the relationship between financial constraints and intensity of exports across the firms sampled, the analysis utilized more two econometric methodologies. Firstly, the analysis identified the credit position of the firm as above. Secondly, the study analysed the relationship between access to finance and export intensity under the effect of credit constraints.

A1.1 The impact of firm level on a firm's credit position

To test the relationship between firm characteristics and credit constraint status, the estimation relies on the ordinal regression model, which is commonly presented as a latent variable model. Defining credit constraint status c^* as a latent variable ranging in our case from 1 to 4. The measurement model for outcomes responses are linked to the latent variable by the measurement model explained in Figure 4.1 and Table 4.1:

$$c_i = \begin{cases} 1 \Rightarrow NCC & \text{Not Credit Constrained} \\ 2 \Rightarrow MCC & \text{Maybe Credit Constrained} \\ 3 \Rightarrow PCC & \text{Partially Credit Constrained} \\ 4 \Rightarrow FCC & \text{Fully Credit Constrained} \end{cases}$$

The structural model is:

$$y_i^* = \alpha + x_i \beta' + \varepsilon_i \quad \dots(a.1)$$

The credit constraint status takes the form below:

$$\begin{aligned} \text{Credit constraint status}_i^* &= \alpha + \beta_1 \text{Exports}_i + \beta_2 \text{ProdV}_i \\ &+ \beta_3 \text{size}_i + \beta_4 \text{age}_i + \beta_5 \text{female}_i + \beta_6 \text{foreign}_i + \varepsilon_i \end{aligned} \quad \dots(a.2)$$

Where i is the firm observation and ε is a random error, x in Eq. (a.2) is a list of independent and control variables. Thus, to motivate our empirical analysis, the analysis draws upon the model of Kuntchev et al. (2012). Higher values of the dependent variable denote higher levels of credit constraint. The study chose explanatory variables based on theory. The literature review shows that besides the level of export (exports), the study add variables as shown in Eq.(a.3) i.e. labour

productivity (Prodv), size of firm, firm age, females amongst owners, and participation of foreign experience.

A.1.2 Estimates of the impact of firm level on a firm's credit position

According to the descriptive statistical results in Table 4.1, the estimations of Eq. (a.2) are confirmed through an ordered logit model where the dependent variable is the credit constrained status and the independent variables of firm size and age, female and foreign ownership dummies were used as controls. Table a.2 presents the result of the regression. There is a significant negative relationship between firm age and credit constraint, i.e. the younger the firm, the higher the probability of being credit constrained. Labour productivity is significant and negatively correlated with credit constraint, i.e. more productive firms are less likely to be credit constrained. Kuntchev et al. (2012) say that this result is explained because the cross-sectional nature of the data does not permit establishing whether this is the result of proper client selection by financial markets, or greater financial access causing greater productivity; the positive correlation is indicative of well-functioning financial markets

A.2.1 Access to finance and export intensity

The perception of access to credit as an obstacle is based on a direct question. The degree of obstacle access to finance represents to the current operations of the firm is a five-point scale: no obstacle, minor obstacle, moderate obstacle, severe obstacle, and very severe obstacle. This type of variable has often been used in the literature as a proxy for being credit constrained (Kuntchev et al., 2012). The hypotheses is the perception of the obstacle is positively correlated to objective measure of credit constraint. The hypothesis also shows a negative correlation with size and with age: smaller firms and younger firms tend to find access to credit to be more of a constraint to their operations than larger and older firms.

According to the preceding discussion on access to finance, identifying the effect of firm characteristics on access to finance, given the ordered nature of the dependent variable, an ordered Logit approach is followed which is specified as Eq.

(a.1), where y^*_i in the current empirical model is an unobservable latent variable, x_i is a set of control variables and ε_i represents the error term. Then the following:

$$\begin{array}{lll}
 y_i = 0 & \text{if} & y^*_i \leq \lambda_0 \\
 y_i = 1 & \text{if} & \lambda_0 < y^*_i \leq \lambda_1 \\
 y_i = 2 & \text{if} & \lambda_1 < y^*_i \leq \lambda_2 \\
 y_i = 3 & \text{if} & \lambda_2 < y^*_i \leq \lambda_3 \\
 y_i = 4 & \text{if} & y^*_i > \lambda_3
 \end{array}$$

with ‘No Obstacle’, ‘Minor Obstacle’, ‘Moderate Obstacle’, ‘Major Obstacle’, and ‘Very Severe Obstacle’ coded as 0, 1, 2, 3 and 4, respectively and the λ_i 's as unknown parameters that will be estimated together with β .

In the access to finance model, x_i that is mentioned in Eq. (a.2) contains a set of firm-level characteristics, in similar variables in Eq.(a.2) as well as adding credit constraint position and excluding the effect of labour productivity, because the estimation uses firm size in category form. The equation considered to estimate our access to finance model is given as:

$$\text{Access to finance}^*_i = \alpha + \beta_1 \text{Credit constraint}_i + \beta_2 \text{Exports}_i + \beta_3 \text{size}_i + \beta_4 \text{age}_i + \beta_5 \text{female}_i + \beta_6 \text{foreign}_i + \varepsilon_i \quad \dots(\text{a.3})$$

On the basis of the previous discussion, access to funds may be more difficult for firms that, by this time, have a loan or line of credit from a financial organization. The firm size variable is included to reflect the role of the size of the firm by employee numbers in determining the ease of accessing funding. The hypotheses and some empirical views argue that older firms depend more heavily on internal funds as opposed to younger firms, and refrain from using other sources such as lenders, friends, or other sources to finance their needs. In addition, our sample data analysis as shown in Table 2B.32 (Chapter 2) explains that on average smaller firms (measured by sales) report significantly higher obstacles to finance than larger firms. Moreover, foreign ownership of firms may take advantage of internal and external funds even though external sources may be more expensive, limited, or difficult to access owing to cost and credit rationing. However, some empirical studies demonstrate that foreign-owned firms actually enjoy easier access to finance. Dummy variables are included in Eq. (a.3) for foreign as well as female ownership.

A.2.2 Estimates of access to finance and export intensity

Table a.3 shows the estimation of Eq. (a.3) from an ordered logit regression of the perception of access to credit as a barrier. The perceived obstacle is positively and significantly correlated to our objective measure of credit constraint. The perception also shows a negative significant correlation with foreign ownership, female ownership, and with age: younger firms, firms owned by females, and foreigners ownership tend to find access to finance to be more of a constraint to their operations than older firms.

Table b.1: Dependent variable: Credit constraints status, Ordered Logit.

Credit constraints status	Model (1)			Model (2)			Model (3)			Model (4)		
	Coef.	S. E.	Z_test	Coef.	S. E.	Z_test	Coef.	S. E.	Z_test	Coef.	S. E.	Z_test
Export intensity	-0.007	0.012	-0.57	0.008	0.012	0.65	-0.01	0.01	-0.43	0.01	0.01	0.83
Labour productivity	-0.247	0.122	-2.03	-0.265	0.123	-2.15	-0.31**	0.14	-2.21	-0.33**	0.14	-2.41
Firm size	-0.393	1.611	-0.24	-0.953	1.547	-0.62	-1.00	1.93	-0.52	-1.53	1.67	-0.91
Firm Age	-2.25***	0.462	-4.87				-2.44***	0.50	-4.90			
Exports experience				-1.57***	0.346	-4.56				-1.73***	0.38	-4.51
Female	-0.757	0.519	-1.46	-0.710	0.505	-1.41	-1.05*	0.54	-1.94	-0.97**	0.53	-1.84
Foreign ownership	-3.42***	0.928	-3.70	-2.46***	0.778	-3.17	-3.52***	0.98	-3.58	-2.51***	0.82	-3.05
Group							1.31***	0.36	3.65	1.21***	0.35	3.47
/cut1	-9.653	2.668		-7.183	2.446		-9.310	3.078		-6.712	2.644	
/cut2	-6.574	2.564		-4.223	2.381		-5.855	2.984		-3.443	2.591	
/cut3	-6.001	2.547		-3.651	2.371		-5.215	2.979		-2.817	2.588	
Observations''		90			90			90			90	
LR chi2		46.77			41.50			61.79			54.87	
Prob> chi2		0.00			0.00			0.00			0.00	
Pseudo R ²		0.231			0.205			0.31			0.27	
Log likelihood		-77.53			-80.16			-70.01			-73.47	

Note: Model (1) estimated by using age of firm, while Model (2) used export experience instead of age of firm, Model (3) estimated by using age of firm and has an added (Group) variable, which is a dummy variable equal to 1 if the firm is part of a group, and 0 otherwise. Model (4) estimated by using export experience instead of age of firm and a (Group) variable.

“ Note that 90 observations were used in the analysis, rather than the full 175, because we restricted the sample and removing non-response categories such as ‘do not know,’ ‘no answer,’ ‘not applicable. Moreover, with added more independent variables lead to drop more observations (more details on page 210).

Table b.2: Dependent variable: Access to finance, as a Major constraint

Access to finance	Model (1)			Model (2)			Model (3)			Model (4)		
	Coef.	Std. Err.	z	Coef.	Std. Err.	z	Coef.	Std. Err.	z	Coef.	Std. Err.	z
Credit constraints status	3.255*	1.745	1.87	2.98**	1.33	2.24	3.46*	1.81	1.91	2.62*	1.35	1.94
Export intensity	-0.013	0.011	-1.21	0.00	0.01	-0.47	-0.01	0.01	-0.93	0.00	0.01	-0.14
Firm size	-2.001	1.254	-1.59	-1.91	1.14	-1.68	-2.42*	1.28	-1.89	-2.42**	1.18	-2.05
Firm Age	-1.607**	0.552	-2.91				-1.65**	0.57	-2.89			
Experts experience				-1.53***	0.37	-4.16				-1.37***	0.37	-3.69
Female	-1.81***	0.496	-3.66	-1.61***	0.48	-3.35	-1.89***	0.50	-3.77	-1.64***	0.48	-3.39
Foreign ownership	-2.991**	1.07	-2.80	-2.57***	0.84	-3.05	-3.04**	1.11	-2.73	-2.36**	0.86	-2.73
Group							1.06***	0.28	3.73	0.88***	0.29	3.07
/cut1												
/cut2												
/cut3												
/cut4												
Observations	132			132			132			132		
LR chi2	43.89			54.00			58.46			63.85		
Prob> chi2	0.000			0.000			0.000			0.000		
Pseudo R ²	0.1336			0.1644			0.1779			0.1943		
Log likelihood	-124.34			-137.28			-135.05			-132.36		

Note: The dependent variable is the response to the following question: 'Is access to financing, which includes availability and cost No Obstacle (0), a Minor Obstacle (1), a Moderate Obstacle (2), a Major Obstacle (3), or a Very Severe Obstacle (4) to the current operations of this establishment?'. Methodologically, an ordered logit approach is taken.

Model (1) estimated by using age of firm, while Model (2) using export experience instead of age of firm, Model (3) estimated by using age of firm and has an added (Group) variable, which is a dummy variable equal to 1 if the firm is part of a group, and 0 otherwise. Model (4) estimated by using export experience instead of age of firm and (Group) variable.

" Note that 132 observations were used in the analysis, rather than the full 175, because we restricted the sample and removing non-response categories such as 'do not know,' 'no answer,' 'not applicable. Moreover, with added more independent variables lead to drop more observations (more details on page 210).

Appendix 2: Sample and Questionnaire

1. Introduction

Saudi Arabia is an oil rich country where the private sector represents a major factor in the economy. The government encourages and establishes different programmes to attract foreign investment. Despite these two factors, there is no database to provide micro data, whether periodically or for one instance, on the industrial sector. Similarly, there is no micro data collected by World Bank's enterprise surveys. There is no data presenting information that would enable one to analyse the business environment. The current work has explored a number of organisations that are relevant to the private sector. It aimed to obtain empirical studies, provide data of Saudi exporting and firm performance. The focus was on studies prepared by the micro data. The most important organisations that were contacted were as follows: Local Banks in Saudi Arabia (Riyadh Bank, The National Commercial Bank, Al-Rajhi Capital, SABB Bank and SAMA Bank); Regional Organisations (Federation of Gulf cooperation Council-GCC Chambers, The Islamic Development Bank, The Islamic Corporation for the Insurance of Investment and Export Credit, The Council of Saudi Chambers of Commerce and Industry, Saudi Export Development Centre (SEDC) and the Riyadh Chamber of Commerce and Industry); Government Organisations (Ministry of Economy and Planning and the Saudi Arabian General Investment Authority); International Organisations (Association for Financial Professionals AFP, International Chamber of Commerce ICC, International Monetary Fund and Bankers' Association for Finance and Trade and The Exporta Group) and Universities (King Fahd University of Petroleum and Minerals-King Saud University)

Due to the lack of data, there are no recent studies discussing the needs of the private sector in terms of financing their trade. In general no studies have been conducted by survey or prepared by using secondary data in Saudi Arabia or the GCC. In short, there are no studies discussing the firm export behaviour and relationship with finance factors. For this reason, the current study intends to answer the research aims by obtaining the perspectives of those responsible for the management of industrial exporting firms. This questionnaire was conducted to

survey the most important processes and elements around the non-oil export sector. The analysis relied on the quantitative and qualitative data collected. A further rationale for conducting this survey was to provide a knowledge base regarding this matter to policy makers and investors. These results that there is no database to provide micro data of Saudi exporters lead this research and encourages designing a specific questionnaire to collect data from original sources. The questionnaire was funded by the Saudi Fund for Development (SFD) and is entitled "Trade and finance questionnaire in 2011". The micro data were collected in Saudi Arabia for the first time. They were obtained by this specific questionnaire designed to generate information from Saudi exporters between September and December 2011.

2. Methods of Data Collection

The current work was dependent upon quantitative data. The questionnaire was distributed between September and December in 2011. For some this entailed meeting the responsible managers of industrial exporting firms face to face in central, western and eastern provinces. Alternatively, some questionnaires were sent by mail and email to firms based in other provinces. Only industrial firms were included in the sample which was also registered with the Saudi Fund for Development (SFD). There were 500 participants recorded at the end of 2011.

There were some considerations in preparing the questionnaire. It is important to consider the order in which questions are presented. Sensitive questions, such as questions about real income, actual sales, or total number of nationalities of workers, should be presented as category levels. This encourages respondents to answer questions. The questionnaire was designed to avoid using emotionally loaded or biased words and phrases. The questionnaire used: Open format questions that give dates and percentages, 'yes' or 'no' (dichotomous) questions, which are simple questions that ask respondents to choose either one answer or 'don't know', and closed format questions that include multiple-choice answers. The topics included in this category were questions about sector, labour volume, total sales size, sales orientation and types of loans and credit lines.

The next set of questions was importance questions or rating scale questions where the respondents were asked to rate the importance of a particular issue. The range consisted of: not applicable (0), not at all important (1), somewhat important (2), important (3), and very important (4). Bipolar questions were used where there were two extreme answers. The respondent was asked to mark responses between the two opposite ends of the scale from (1) no obstacle to (5) very severe obstacle and (1) no advantage to (5) very strong advantage.

The manufacturing firms classified in the questionnaire whereas a follows: food and beverages, textile products, cloth products, leather products, wood industry and products, paper industry and its products, printing press and copying of recorded multi-media, refined petroleum and nuclear fuel products, chemical materials and products, rubber and plastic products, other non-metal products, basic metal products, construction metal products, machines and equipment industry, office and accounting terminals as well as computers, electric machines and terminals (unclassified elsewhere), radio, TV and telecommunications equipment and terminals, medical terminals, optic tools and all types of watches, engine and trailer motors, other transportation equipment, furniture and products unclassified elsewhere, and recycling.

3. Content of the Questionnaires

Based on the background above, this research attempts to provide a complete overview of the non-oil export environment, including the financing and business environment. The main procedure is based on analysing the relationship between private sector exports and different aspects such as trade operation structure, financing, infrastructure, and competition. In addition, the micro data will assist by illuminating the investment climate and government actions directed to alleviate the restrictions on doing business. For questionnaire see Appendix 3. The questionnaire was divided into 8 sections, consisting of 95 questions. Eight questions contained 68 sub-questions, meaning that the full number of questions totalled 146.

The cover letter of the questionnaire invites the management or particular responsibility for exporting firms. This cover letter provided an endorsement from the director general of the Saudi Export Programme (sponsor of the questionnaire) to assist in encouraging a reasonable response rate. Furthermore, this letter showcases that the results will contribute to and develops Saudi export programme services. Even so, it was recognised that the use of a key respondent may have biased the results (Crick, 1998), particularly if this respondent thought that Saudi-Arabian policy makers could identify them, in spite of promises of anonymity.

PART A: General Information

This section aimed to obtain the general profile of the firm and its manufacturing sector. It included gathering information about firm size, legal situation, ownership, years of formal registration, in what year the firm began operations, and discovering some innovation measurements such as local and internationally recognised quality certifications.

PART B: Infrastructure and services

The aim of this section was to explore whether the firm is faced issue of the Infrastructure services. The data from this section was also used to evaluate the quality of the industrial environment. This section asked questions regarding electricity and water services, such as if this firm experiences electricity failures or insufficient water, and the average number of power outages or incidents of insufficient water during a year, as well as an estimate of the losses that resulted from power outages or incidents of insufficient water, either as a percentage of total annual sales or as a total of annual losses. Finally, this section also explored the communication base in the firms to measure the benefit of these technologies.

PART C: Trade Analysis

This section reviewed the trade analysis, for example asking the respondent to report the time waiting for imports and exports to clear customs, and also to gage the benefits of international trade for firms in terms of less expensive inputs and new markets for exporting their products. Other questions were analysed sales

environment and operation. The respondent was asked to characterise the type of activity that they engage in when exporting. Most firms would not be exporting to a single country, but rather to different countries, and they may face difficulties and barriers.

PART D: Financial analysis

This section of the questionnaire focused on access to finance. It searched the credit resources and loan requirements that work around Saudi industry. This section also attempted to evaluate the financial statement of firms, especially of the depth affecting firms' operations and expansion. Most exporters face the problem of obtaining export financing. In general, this section in the questionnaire points to a firm's ability to provide trade credit arrangements with suppliers and customers.

PART E: Degree of competition

The study in this section believes that there is a competition facing Saudi firms whether in the local, national or international market. The questionnaire collected data that reflect the impact of price, quality and service of the exporting firms' products against the competition in different markets. The questionnaire defines the measurement of competition as an average score on a 1-5 scale defined as: no advantage (1) tends to be an advantage (2), advantage (3), strongly advantageous (4) and very strongly advantageous (5). This section also aims to define the number of competitors and consider the firms' main markets.

PART F: Labour

This section measures the employment position in the industrial sector. It discusses permanent full-time employees, and temporary or seasonal employees. This section also determines production workers and non-production workers, as well as skilled and unskilled production workers. Finally, it identifies the average length of employment of temporary or seasonal employees.

PART G: Production capacity

This section shows the proportion of unused production capacity in the industrial sector, as well as listing some reasons which prevent obtaining maximum

production capacity. On the other hand it provides the percentage of total annual labour costs, including wages, salaries, bonuses, social security payments, raw materials and intermediate goods used in production, costs of fuel and electricity and other costs of production not included above.

PART H: Business environment

This final section of the questionnaire focuses on the customs and trade regulations which represent obstacles for the current operation of this firm, as well as if the firm has any legal cases against their business currently pending in judicial authorities. On the other hand, it looks at whether the firm submitted an application to obtain an import licence and approximately how many days it took. This section gathers data about the firm in terms of what they pay for security, for example equipment, personnel, or professional security services, and if this firm suffered losses as a result of theft, robbery, vandalism or arson. In this section of the questionnaire, the survey provides the main elements of the business environment, if any, currently representing the biggest obstacle faced by the firm.

4. Pilot Test

The questionnaire was developed based on the findings derived from previous literature on the Saudi economy and the notion of expanding current exports. An element of practical experience was also involved in the questionnaire development, and a pilot study was conducted to determine any potential problems that the questionnaire presented. In this particular study, the pilot test was presented to six firms. The problems considered were the wording of questions to be certain that their meaning was clear, response criteria were clear and that data entry following the responses posed no difficulties. A further advantage to conducting a pilot study is that the questionnaires validity can be determined; meaning the questionnaire assesses what it set out to assess. Overall the pilot test is an important component prior to distributing the questionnaire for the study as it allows for the correction of any presenting issues and therefore the presentation of a reliable measure in the data collection stages.

5. Data Preparation

This work takes into consideration that an important part of any survey is data preparation. The research has dealt with data by editing and entry. The respondent questionnaire was revised and edited before data entry to ensure the quality of the collected data. On the other hand, the questionnaires which were not completed (around twenty questionnaires) were edited for completeness by the respondent using email or phone to correct their answers. Then the data was coded and cleaned by removing non-response categories such as 'do not know,' 'no answer,' 'not applicable,' 'not sure' and 'refused.' These were removed as their presence could distort the mean or regression results as outliers. Therefore this avoids misinterpretation. This step of the surveying process was accomplished using Ms Excel computer programs, then transferring the data to a STATA file.

6. Sample Size

Studies have reported various population sizes in relation to export research. For example, Crick et al. (1998) used all the Saudi exporters of non-oil products that were identified by the Saudi Export Development Centre from the Saudi Export Directory. The questionnaire was mailed to a total of 411 firms. The response was 108 questionnaires, although nine were deemed to be unusable. Overall, 99 responses were obtained, representing a response rate of 24 per cent. In his study concerning obstacles perceived by exporters in Saudi Arabia, Al-Aali (1999) used manufacturing exporters who obtained certificates of origin from the Ministry of Commerce in a two-year period preceding the study (n=447). A total of 148 exporters participated in Al-Aali's (1999) study. Finally, Al-Qahtany (2001) determined the target population of his study as all non-oil producing exporting firms in Saudi Arabia. The source of his information is the Saudi Export Directory (1995) which is published by the Saudi Export Development Centre.

The survey population is the 500 firms who registered with the Saudi Export Programme (SEP). Although the number of Operating Industrial Unites (Manufacturing firms) is 4744 units at end of 2011 (more details is provided in chapter 2 section 1), there were no officially statistic shows number of exporters

whether each year or for one year in Saudi Arabia. The study assumes these 500 firms are representative of exporters in the Saudi export sector. The study concerns that every member of the SEP has an equal chance of being selected. A final sample of 175 firms that represent 35 per cent of total member of the SEP was collected to participate in the study (Figure B.1 shows map of the study sample size to the manufacturing sector at end 2010). The study considers that the 175 firms in the sample are themselves representative of the 500 SEP firms. On the other hand, firms register with the SEP have been benefited of its services and facilities, chapter 2 in section (2.1.6.1 The Saudi Export Program) that SEP have provided insurance and guarantees directly to exporters, this program provides financial incentives and credit to exporters on the one hand, and on the other provides competitive credit terms for buyers abroad or for funding institutions working in this area.

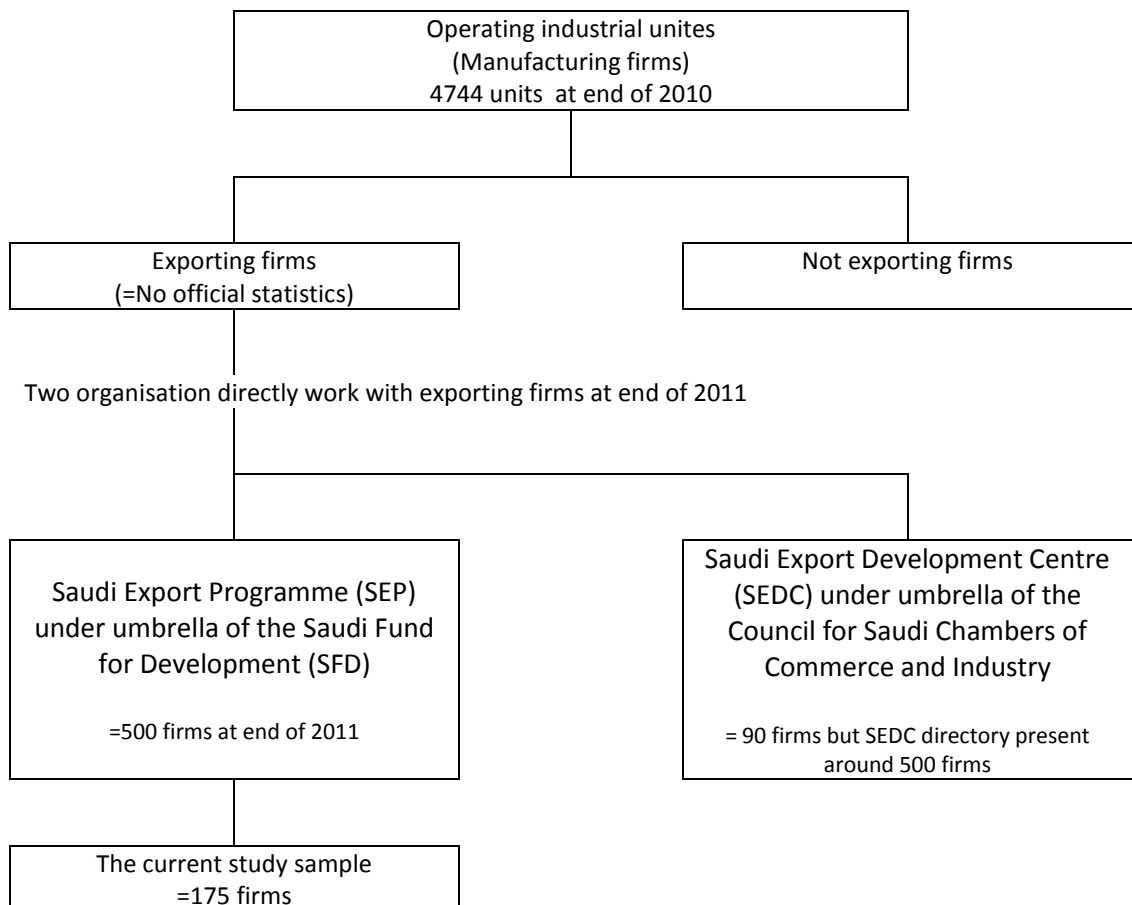
The survey faced difficulties during period of data collection. First, the period is limited to three months because the administration producers in the UK immigration are restricted, as well the fact that the Saudi Arabia sponsorship system limits the period to three months. Second, the questionnaires were sent by mail and e-mail to the respondents and asked them to choose the date for the face-to-face interview. Due to the poor quality of the postal service in the industrial areas, some firms did not receive the questionnaire, and in some cases the researcher had to deliver it by hand. Some respondents thought the questionnaire was a waste of time because they did not recognise the importance of such research to their export development.

However, according to the world bank sample selection standards via enterprise surveys (2009), it reported the minimum sample sizes of a population for 500 firms is 176 firms at 5 per cent and 97 firms at 7.5 per cent precision. It was consequently decided to send 500 questionnaires to the whole population -which are all firms who registered with SEP at end of 2011-. The study concerns that every member of the SEP has an equal chance of being selected. A final sample of 175 firms that represent 35 per cent of total member of the SEP was collected to participate in the study.

7. Summary

The research aimed to obtain sufficient data and to meet the research questions outlined in the introduction. The main difficulty faced by the researcher was in regards to the length of the questionnaire. It is difficult to create a comprehensive questionnaire using a small number of questions. Therefore the questionnaire was 18 pages long. The length of the questionnaire caused a number of managers to withdraw, under the pretext of lack of time, or that the questionnaire required participation from more than one department within the firm to answer it.

Figure B.1 : Map of the study sample size to the manufacturing sector at end 2010



Appendix 3: Questionnaire.



Trade and Finance Questionnaire 2011

Dear General Manager

First of all, I would like to express my sincere appreciation to you for your consideration and interaction in participating in the questionnaire directed to the business environment for products of the private sector in Saudi Arabia.

This study aims to examine the development of non-oil exports in the Kingdom and assess both their contribution in the Saudi Economy and discover obstacles hindering them. Therefore, it can be noted that the questionnaire has been prepared carefully in a manner that caters to the fact that the original source of information is the private sector, most of which can be used to test the efficiency and adequacy and unbiasedness of the export sector, in addition to the efficiency in playing an active role in the development of an additional source of National Income though the export of surplus production, or otherwise benefit from the comparative advantages that are features of the Saudi Economy.

Furthermore, to assess the situation of the export sector, it is necessary for the completion of this study in a satisfactory manner to support it with other enhancing factors, to assist in promoting the export sector and for carrying-out its functions, such as infrastructure, financial facilities, labor, the degree of competition and business environment in general.

Undoubtedly, this study seeks to lead to results making an applied scientific, realistic addition to the planners and government programs related to the development of exports, taking into account that this study and the data conducted in it was generated from its original source.

Hence, in this study, the role of the private sector is prominent in pushing the government in this area, and on the other hand, the study sets-out to assess and explore the past and the future of the export environment in the Kingdom.

Important note: All information collected by this questionnaire are only for scientific purposes, the firm shall not bear any responsibility based on it. For more information, please use the contact information provided below.

Best wishes,

D.G of Saudi Export Program

Mr. Ahmed M. Al Ghanam



Sent to:

The Saudi fund for development

P.O.Box (50483) RIYADH 11523

- By Fax : (014647450)

Download electronic copy: www.sep.gov.sa Sent to: alsakran@sfd.gov.sa

For more information contact :Mr. Abdullah Alsakran, mobile 0555201903

SFD Questionnaire: Trade and Finance Questionnaire 2011

PART (A) -General Information:

(A1)- Region	(1)Central (2)Western(3)Eastern(4)North(5)South	Name of firm (preferred)	
(A2)- City /town			

	<u>Subject</u>	(v)
(A3)-Labor Volume	1- Micro < 5 employees	<input type="checkbox"/>
	2- Small (>5 employees <20)	<input type="checkbox"/>
	3- Medium (20-99 employees)	<input type="checkbox"/>
	4- Large (100+ employees)	<input type="checkbox"/>
(A4)-Sector	1-Food & beverages	<input type="checkbox"/>
	2-Products of wood, Paper, Leather and Textiles	<input type="checkbox"/>
	3-Products of Chemical, Petrochemical, Plastic, Rubber and Medical care	<input type="checkbox"/>
	4-Products of Building Material and Glassware	<input type="checkbox"/>
	5-Products of Electrical, Machinery, Transport, Tools and Medical equipment	<input type="checkbox"/>

(A5)-Describe your manufacturing area; tick (v) more than one if needed:

Sector of Manufacturing	(v)
1- Food & beverages	<input type="checkbox"/>
2- Textiles products	<input type="checkbox"/>
3- Cloth products	<input type="checkbox"/>
4- Leather products	<input type="checkbox"/>
5- Wood industry and products	<input type="checkbox"/>
6- Paper industry and its products	<input type="checkbox"/>
7- Printing press and copying of recorded multi-media	<input type="checkbox"/>
8- Refined petroleum and nuclear fuel products	<input type="checkbox"/>
9- Chemical materials and products	<input type="checkbox"/>
10- Rubber and plastic products	<input type="checkbox"/>
11- Other nonmetal products	<input type="checkbox"/>
12- Basic metal products	<input type="checkbox"/>
13- Construction metal products	<input type="checkbox"/>
14- Machines and Equipment industry	<input type="checkbox"/>
15- Office and accounting terminals as well as computers	<input type="checkbox"/>
16- Electric machines and terminals (unclassified elsewhere)	<input type="checkbox"/>
17- Radio, TV and telecommunication equipment and terminals	<input type="checkbox"/>
18- Medical terminals, optic tools and all types of watches	<input type="checkbox"/>
19- Engine and trailer motors	<input type="checkbox"/>
20- Other transportation equipment	<input type="checkbox"/>
21- Furniture and products unclassified elsewhere	<input type="checkbox"/>
22- Recycling	<input type="checkbox"/>

(A6)-Years indicating formal registration.	formally registered	(v)
	1- <5 (after 2005)	<input type="checkbox"/>
	2- 6-15 (between 1996-2005)	<input type="checkbox"/>
	3- 16+ (before 1995)	<input type="checkbox"/>

(A7)- Current legal status		
Type of current legal status		(√)
1- Shareholding firm with shares trade in the stock market	<input type="checkbox"/>	
2- Shareholding firm with non-traded shares or shares traded privately	<input type="checkbox"/>	
3- Sole proprietorship	<input type="checkbox"/>	
4- Partnership	<input type="checkbox"/>	
5- Limited partnership	<input type="checkbox"/>	
6- Other	<input type="checkbox"/>	

(A8)-Ownership		
Type of Ownership	(√)	(%)
1- Private domestic individuals, companies or organizations	<input type="checkbox"/>	a8a
2- Private foreign individuals, companies or organizations	<input type="checkbox"/>	a8b
3- Government or State	<input type="checkbox"/>	a8c
4- Other	<input type="checkbox"/>	a8d

(A9)- Is this firm part of another firm, whereas		
Type of Ownership		(√)
1- This firm is only one entity	<input type="checkbox"/>	
2- This firm is the headquarters and has another branch	<input type="checkbox"/>	
3- This firm is a branch / is part of another firm	<input type="checkbox"/>	
4- Don't know	<input type="checkbox"/>	

(A10)-Are there any females amongst the owners of the firm,		(√)
	1- Yes=1	<input type="checkbox"/>
	2- No=0	<input type="checkbox"/>
	3- Don't know =.	<input type="checkbox"/>

(A11)-In what year did this firm begin operations?	

(A12)- Does this firm have a locally-recognized quality certification?		(√)
	1- Yes=1	<input type="checkbox"/>
	2- No=0	<input type="checkbox"/>
	3- Don't know =.	<input type="checkbox"/>

(A13)- Does this firm have an internationally-recognized quality certification?		(√)
	1- Yes=1	<input type="checkbox"/>
	2- No=0	<input type="checkbox"/>
	3- Don't know =.	<input type="checkbox"/>

PART(B)- Infrastructure and services

Electric services

B1-Did this firm experience electric failures?	<u>list</u>	(√)
	1- Yes =1	<input type="checkbox"/>
	2- No(go to Q.5) =0	<input type="checkbox"/>
	3- Don't know =.	<input type="checkbox"/>

B2-How many out gages (on average) did this firm experience during this year?	(√)
Average number of power outages during a year	
Don't know =.	<input type="checkbox"/>

B3-How long (periods) did these power outages last on average?	
<u>list</u>	hour
Average duration of power outages	
Less than one hour	<input type="checkbox"/> =1
Don't know	<input type="checkbox"/> =.

B4-Please, estimate the losses that resulted from power outages either as a percentage of total annual sales or as a total of annual loses.	%
Loss as percentage of total annual sales due to power outages	
(OR)Loss as percentage of total annual losses due to power outages	
None	<input type="checkbox"/> =0
Don't know	<input type="checkbox"/> =.

Water services

B5-Did this firm experience insufficient water supply for production?	<u>list</u>	(√)
	1- Yes	<input type="checkbox"/>
	2- No (go to Q.8)	<input type="checkbox"/>
	3- Don't know	<input type="checkbox"/>

B6-How many incidents of insufficient water supply did this firm experience?	<u>list</u>	No.
	Average number of incidents of water insufficiency per month(no insufficient water supply experience =.)	
	Don't know =0	<input type="checkbox"/>

B7-How long did these incidents of insufficient water supply last on average.	<u>list</u>	hour	hour
	insufficient water supply		
	Less than one hour	<input type="checkbox"/>	=1
	Don't know	<input type="checkbox"/>	=.

B8-What percentage of this firm`s water supply, used in the production process, was from public sources?		%
Water from public sources		
None	<input type="checkbox"/>	=0
Don't know	<input type="checkbox"/>	=.

Communication

B9-Does this firm use e-mail to communicate with clients or suppliers?	<u>list</u>	(√)
	1. Yes =1	<input type="checkbox"/>
	2. No =0	<input type="checkbox"/>
	3. Don't know =.	<input type="checkbox"/>

B10- Does this firm use its own website?	<u>list</u>	(√)
	1. Yes =1	<input type="checkbox"/>
	2. No =0	<input type="checkbox"/>
	3. Don't know =.	<input type="checkbox"/>

B11-Does this firm have a high-speed Internet connection on its premises?	<u>List</u>	(√)
	1. Yes =1	<input type="checkbox"/>
	2. No =0	<input type="checkbox"/>
	3. Don't know =.	<input type="checkbox"/>

B12- Is this firm's Internet connection used to:(√)	<u>list</u>	Yes	No	Don't know
	(B12A)Make purchases for this firm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(B12B)Deliver services to this firm's clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(B12C)Do research and develop ideas on new products and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PART(C)-Trade Analysis

C1- what percentage of this firm`s material inputs or supplies were:	list	(%)
	(C1A)Supplies of domestic origin	
	(C1B)Supplies of foreign origin	
C2-Were any of the material inputs or supplies purchased, imported directly or indirectly:	list	(%)
	(C2A)Imported directly	
	(C2B)Imported indirectly	
C3-At the time inputs of production (raw material, supplies etc..) were imported, please define the number of days i,e period on average from the time of arrival (point of entry- airport, port) to customs claim?	Average number of days to clear customs	
	Less than one day =1	<input type="checkbox"/>
	Don't know =0	<input type="checkbox"/>
C4-How many years ago did you begin exporting?		Year
(C4A)Began exporting directly		
(C4B)Began exporting indirectly		
Didn't export		<input type="checkbox"/>
C5- The total of this firm's annual sales amount to the tune of:		(√)
1. Less than 1 million Saudi Riyal		<input type="checkbox"/>
2. 1-10 million		<input type="checkbox"/>
3. 11-25 million		<input type="checkbox"/>
4. 26-51 million		<input type="checkbox"/>
5. 51-100 million		<input type="checkbox"/>
6. More than 100 million		<input type="checkbox"/>
C6-Sales of this firm were oriented towards:		(%)
(C6A)National sales (c6y category variable;1 "1-20", 2 "21-40", 3 "41-60", 4 "61-80", 5 "81-100")		
(C6B)Indirect exports (sold domestically to third party that exports products)		
(C6C)Direct exports(c6x category variable;1 "1-20", 2 "21-40", 3 "41-60", 4 "61-80", 5 "81-100")		
C7-Current Distribution Channels		(√)
(C7A)Firm Sales Force		<input type="checkbox"/>
(C7B)Independent Agents		<input type="checkbox"/>
(C7C)Distributors/Wholesalers		<input type="checkbox"/>
(C7D)Firm -Owned Retail Stores		<input type="checkbox"/>
(C7E)Independent Retail Stores		<input type="checkbox"/>
C8-At the time the firm exported its products directly, please define the number of days i.e. period on average from the time of arrival (point of exit,- airport, port) to customs claim.		
	Days	<input type="text"/>
	Don't know=.	<input type="checkbox"/>

C9-Export Destinations	<u>Countries & Regions</u>	(√)
	(C9A) GCC	<input type="checkbox"/>
	(C9B) Arabian countries	<input type="checkbox"/>
	(C9C) Asian countries (Excluded Arab States)	<input type="checkbox"/>
	(C9D) African countries (Excluded Arab States)	<input type="checkbox"/>
	(C9E) European countries	<input type="checkbox"/>
	(C9F) American countries	<input type="checkbox"/>
	(C9G) Australian	<input type="checkbox"/>
	(C9H) Didn't export	<input type="checkbox"/>

C10- The ratio of exports by region	<u>Countries & Regions</u>	(%)
	(C10A) GCC	
	(C10B) Arabian countries	
	(C10C) Asian countries (Excluded Arab States)	
	(C10D) African countries (Excluded Arab States)	
	(C10E) European countries	
	(C10F) American countries	
	(C10G) Australian	
	(C10H) Didn't export	<input type="checkbox"/>

C11-Export Delivery Terms :the percentage of this firm for exports delivery mechanism	(%)
(C11A) EXW (ex-works)	
(C11B) CIF (cost, insurance, and freight)	
(C11C) FOB (free on board)	
(C11D) FAS (free alongside ship)	
(C11E) Don't know =0	<input type="checkbox"/>

C12- The percentage of the value of the products <u>exported</u> directly was lost while in transit because of breakage or spoilage?	(%)
Percentage of breakage or spoilage (No losses= 0%)	
Don't know	<input type="checkbox"/>

C13-What percentage of the consignment value of products this firm shipped to supply <u>domestic markets</u> was lost while in transit because of breakage or spoilage?	(%)
Percentage of breakage or spoilage (No losses =0%)	
Don't know=.	<input type="checkbox"/>

C14-What percentage of the value of the products exported directly was lost while in transit because of theft?	(%)
Percentage of theft (No losses= 0%)	
Don't know=.	<input type="checkbox"/>

C15-What percentage of the value of the products this firm shipped to supply domestic markets was lost while in transit because of theft?	(%)
Percentage of theft (No losses= 0%)	
Don't know=.	<input type="checkbox"/>

16-Please, provide details of costs incurred for each unit after factory and up to Free on Board (FOB) in the country of export. Such costs may include (%):	<u>Type of costs</u>	(%)
	Export packing	
	Storage	
	Inland freight from factory to port	
	Insurance	
	Handling	
	Export taxes	
	Export inspection fees	
	Customs brokers' fees	
	Commissions	
Other taxes		

C17-Current Sales Promotion Activities Chosen =1 Not chosen =0	<u>Activities</u>	(√)
	(C17A) Trade Association Participation	<input type="checkbox"/>
	(C17B) Trade Fair Exhibition	<input type="checkbox"/>
	(C17C) Print Advertising	<input type="checkbox"/>
	(C17D) TV/Radio Advertising	<input type="checkbox"/>
	(C17E) Family/Personal Links	<input type="checkbox"/>
	(C17F) Direct Mail Advertising	<input type="checkbox"/>
	(C17G) Firm & Product Brochures	<input type="checkbox"/>
	(C17H) Internet	<input type="checkbox"/>
	(C17I) No Activities	<input type="checkbox"/>

C18-Did this firm participate in promoting activities for its products nationally or internationally Chosen =1 Not chosen =0	<u>Fair</u>	(v)
	(C18A) National	<input type="checkbox"/>
	(C18B) GCC	<input type="checkbox"/>
	(C18C) Arab countries	<input type="checkbox"/>
	(C18D) Asia countries	<input type="checkbox"/>
	(C18E) African countries	<input type="checkbox"/>
	(C18F) European countries	<input type="checkbox"/>
	(C18G) American countries	<input type="checkbox"/>
	(C18H) Australian	<input type="checkbox"/>
	(C18I) No participation	<input type="checkbox"/>
(C18J) Don't know	<input type="checkbox"/>	

C19- How would you categorize the supporting capabilities to exports.....:					
<u>Capabilities</u>	(1)Not at all important	(2)Somewhat important	(3)Important	(4)Very important	(.)Not applicable
(C19A)Foreign Language Ability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C19B)Multi-Lingual Sales Staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C19C)Fax Machine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C19D)EMail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C19E)Foreign Language Web Site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C19F)Product Information on Web	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C19G)Export Marketing Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C19H)Export Document Preparation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C20- How important is on your firm's ability to expand domestic sales?
Would you say....?

<u>List</u>	(1)Not at all important	(2)Somewhat important	(3)Important	(4)Very important	(.)Not applicable
(C20A) low demand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20B) Taxes on labor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20C) Supply of skilled labor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20D) Taxes on capital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20E) Access to credit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20F) Distribution problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20G) Competitiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20H)Limited export diversification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20I) Inadequate transport link	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20J) Standards compliance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20K) Customs and border procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C20L) Informal restrictions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C21- How important is on your firm's ability to expand exports?
Would you say....?

<u>List</u>	(1)Not at all important	(2)Somewhat important	(3)Important	(4)Very important	(.)Not applicable
(C21A) Low regional demand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21B) Import tariffs and charges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21C) Port charges /delays	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21D) Tariffs or quotas in export markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21E) Freight charges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21F) Standards compliance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21G) Customs and border procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21H) Informal restrictions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21I) Access to credit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21J) Taxes on labor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21K) Supply of skilled labor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21L) Taxes on capital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21M) Cost of export	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21N) Inadequate transport link	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21O) Product quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21P) Foreign marketing costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21Q) Competitiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C21R) Limited export diversification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C22-The barriers preventing your exporting or exporting more were, in order of importance					
Barriers	(1)Not at all important	(2)Somewhat important	(3)Important	(4)Very important	(.)Not applicable
(C22A)The price competitiveness of our products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22B)Freight costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22C)Cost of raw materials /components	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22D)Cost of finance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22E)Lack of skilled staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22F)Exchange rate volatility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22G)Economic conditions overseas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22H)Demand offshore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22I)Hidden costs (government approvals) unpredictable regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22J)Export market risk or taking on more export market risk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22K)Tariff barriers overseas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22L)Non-tariff barriers, eg, sanitary restrictions overseas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22M)Insufficient funds for developing further export markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22N)Lack of knowledge about potential export markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22O)Lack of export skills/knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22P)Lack of skills/knowledge of international logistics and trade regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(C22Q)Language or cultural barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C23- Which of these challenges do you think has most/least importance. Place them in order from the list below for the highest to (12) for the lowest challenge think has most/least importance. Place them in order from the list below (1) for the highest to (12) for the lowest challenge	
Strategic Challenges	Order
(C23A)Increasing the current level of exports	
(C23B)Maintaining the current level of exports	
(C23C)Generating new markets	
(C23D)Maintaining the current level of sales on domestic markets	
(C23E)Increasing the current level of sales on domestic markets	
(C23F)Ensuring adequate raw material supply	
(C23G)Obtaining new working capital	
(C23H)Providing funds for the current operations	
(C23I)Obtaining new capital for plants and equipment	
(C23J)Identifying and engaging trained workers	
(C23K)Training workers for the skills required	
(C23L)Developing a Business Plan	

PART(D)-Financial analysis

D1-What percentage, as a proportion of the value of total annual <u>purchases</u> of material inputs or services, were:	<u>list</u>	(%)
	D1A-Paid for before the delivery?	
	D1B-Paid for on delivery?	
	D1C-Paid for after delivery?	

D2-what percentage of this firm's total annual <u>sales</u> of its goods or services were:	<u>list</u>	(%)
	D2A-Paid for before the delivery?	
	D2B-Paid for on delivery?	
	D2C-Paid for after delivery?	

D3-Export Payment Terms Chosen =1 Not chosen =0	<u>Terms</u>	(√)
	D3A-Payment in Advance	<input type="checkbox"/>
	D3B-Bank Draft at Sight	<input type="checkbox"/>
	D3C-Bank Draft at Time	<input type="checkbox"/>
	D3D-Letter of Credit at Sight	<input type="checkbox"/>
	D3E-Letter of Credit at Time	<input type="checkbox"/>
	D3F-Barter	<input type="checkbox"/>
	D3G-Credit	<input type="checkbox"/>
	D3H-Open Account	<input type="checkbox"/>
	D3I-Don't know =.	<input type="checkbox"/>

D4-Did this firm purchase any fixed assets, such as machinery, vehicles, equipment, land or buildings, what percentage of this purchase of total assets?	<u>list</u>	D4A	D4B
	1. Yes=1	<input type="checkbox"/>	(_ _ _%)
	2. No =0	<input type="checkbox"/>	
	3. Don't know=.	<input type="checkbox"/>	

D5-Please estimate the proportion of this firm's <u>working capital</u> that was financed from each of the following sources?	(%)
D5A-Internal funds or retained earnings	
D5B-Borrowed from banks (private and state-owned)	
D5C-Borrowed from non-bank financial institutions	
D5D-Purchases on credit from suppliers and advances from customers	
D5E-Other (moneylenders, friends, relatives, etc.)	

D6-Please estimate the proportion of this firm's <u>total purchase of fixed assets</u> that was financed from each of the following sources:	(%)
D6A-Internal funds or retained earnings	
D6B-Borrowed from banks (private and state-owned)	
D6C-Borrowed from non-bank financial institutions	
D6D-Purchases on credit from suppliers and advances from customers	
D6E-Other (moneylenders, friends, relatives, etc.)	

D7- Does this firm have a checking or savings account?	<u>List</u>	(√)
	1. Yes=1	<input type="checkbox"/>
	2. No=0	<input type="checkbox"/>
	3. Don't know=.	<input type="checkbox"/>

D8-Does this firm have an overdraft facility?	<u>List</u>	(√)
	1. Yes=1	<input type="checkbox"/>
	2. No=0	<input type="checkbox"/>
	3. Don't know=.	<input type="checkbox"/>

D9-Did this firm in the fiscal year apply for any loans or lines of credit?	<u>List</u>	(√)
	1. Yes=1	<input type="checkbox"/>
	2. No=0	<input type="checkbox"/>
	3. Don't know=.	<input type="checkbox"/>

D10- Does this firm have a line of credit or a loan from a financial institution?	<u>List</u>	(√)
	1. Yes=1	<input type="checkbox"/>
	2. No=0	<input type="checkbox"/>
	3. Don't know=.	<input type="checkbox"/>

D11- Referring to the most recent line of credit or loan, what type of financial institution granted this loan:	(%)
(1)Private commercial banks, (2) State-owned banks or government agency, (3) Non-bank financial institutions, (4) 1+2, (5) 1+3, (6) 2+3, (7) 1+8,(8)Other,(9)Don't know	
D11A-Private commercial banks	
D11B-State-owned banks or government agency	
D11C-Non-bank financial institutions (microfinance institutions, credit cooperatives, credit unions, or finance companies)	
D11D-Other	
(9)-Don't know =.	<input type="checkbox"/>

D12- Referring only to this most recent line of credit or loan, in what year was the most recent line of credit or loan approved?	Year
Year most recent loan/line of credit approved	
Don't know =.	<input type="checkbox"/>

D13- Referring only to this most recent loan or line of credit, what was its value at the time of approval? Chosen =1 Not chosen =0	<u>list</u>	value
	1. Less than 1 million SAR	<input type="checkbox"/>
	2. Between 1-5 million SAR	<input type="checkbox"/>
	3. Between 6-10 million SAR	<input type="checkbox"/>
	4. Between 10-50 million SAR	<input type="checkbox"/>
	5. Between 50-100 million SAR	<input type="checkbox"/>
	6. More than 100 million SAR	<input type="checkbox"/>
	7. Don't know=.	<input type="checkbox"/>

D14- Referring only to this most recent loan or line of credit, did the financing require collateral?	1. Yes=1	<input type="checkbox"/>
	2. No=0	<input type="checkbox"/>
	3. Don't know=.	<input type="checkbox"/>

D15- Referring only to this most recent loan or line of credit, what type of collateral was required? Chosen =1 Not chosen =0	<u>List of collateral (chose one or more)</u>	(√)
	D15A-Land, buildings under ownership of the firm	<input type="checkbox"/>
	D15B-Machinery and equipment including movables	<input type="checkbox"/>
	D15C-Accounts receivable and inventories	<input type="checkbox"/>
	D15D-Personal assets of owner (house, etc.)	<input type="checkbox"/>
	D15E-Other forms of collateral not included in the categories above	<input type="checkbox"/>

D16- Referring only to this most recent line of credit or loan, what was the approximate value of the collateral required?	<u>Value of collateral</u>	(√)
	1. %100 of facility value	<input type="checkbox"/>
	2. %101-%125 of facility value	<input type="checkbox"/>
	3. %126-%150 of facility value	<input type="checkbox"/>
	4. %156-%200 of facility value	<input type="checkbox"/>
	5. more than %200 of value	<input type="checkbox"/>
	6. Don't know=.	<input type="checkbox"/>

D17- What was the main reason why this firm did not apply for any line of credit or loan? Chosen =1 Not chosen =0	<u>List (chose one or more)</u>	(√)
	D17A-No need for a loan - firm had sufficient capital	<input type="checkbox"/>
	D17B-Application procedures were complex	<input type="checkbox"/>
	D17C-Interest rates were not favorable	<input type="checkbox"/>
	D17D-Collateral requirements were too high	<input type="checkbox"/>
	D17E-Size of loan and maturity were insufficient	<input type="checkbox"/>
	D17F-Did not think it would be approved	<input type="checkbox"/>
	D17G-Other	<input type="checkbox"/>
	D17H-Don't know =.	<input type="checkbox"/>

D18-Please place your perception as to regarding the access to finance, in which availability, cost, interest rates fees, and collateral requirements, as obstacles to meet current obligations:							
<u>Access to finance</u>	(0)No obstacle	(1)Minor obstacle	(2)Moderate obstacle	(3)Major obstacle	(4)Very Severe Obstacle	(.)Don't Know	(.)Does Not Apply
D18A-Availability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D18B-Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D18C-Interest rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D18D-Fees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D18E-collateral requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D19- Has the recent Global Economic Crisis have an impact on this firm's operations.	<u>Impact</u>	(√)
	1. Direct impact	<input type="checkbox"/>
	2. Indirect impact	<input type="checkbox"/>
	3. No	<input type="checkbox"/>
	4. Don't know =.	<input type="checkbox"/>

D20- Please estimate the proportion of the majority of foreign currencies of which your exports are priced	<u>list</u>	(%)
	D20A-US dollars	
	D20B- Euro.	
	D20C-Pound	
	D20D-Others	

D21- Did this firm has its annual financial statements checked and certified by an external auditor?	(√)
1. Yes =1	<input type="checkbox"/>
2. No =0	<input type="checkbox"/>
3. Don't know=.	<input type="checkbox"/>

PART(E):Degree of Competition

E1-Which of the following was the main market in which this firm sold its main product?	<u>list</u>	(%)
	E1A-Local – main product sold mostly in same area where firm is located	
	E1B-National – main product sold mostly across the KSA	
	E1C-International	

E2- For the main market in which this firm sold its main product, how many competitors did this firm's main product face?	<u>list</u>	(√)
	1-One	<input type="checkbox"/>
	2-2-5	<input type="checkbox"/>
	3-More than 5	<input type="checkbox"/>
	4-Don't know=.	<input type="checkbox"/>

E3- Does this firm have any patents registered abroad?	<u>list</u>	(√)
	1. Yes	<input type="checkbox"/>
	2. No	<input type="checkbox"/>
	3. Don't know =.	<input type="checkbox"/>

E4- Does this firm have any patents registered in Saudi Arabia?	<u>list</u>	(√)
	1. Yes	<input type="checkbox"/>
	2. No	<input type="checkbox"/>
	3. Don't know =.	<input type="checkbox"/>

E5-Competitive Advantages of firms products in Domestic market (√)						
<u>Advantages</u>	(0)No advantage	(1)tend to advantage	(2)advantage	(3)strongly advantage	(4)Very strongly advantage	(.)Don't Know
E5A-Price	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E5B-Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E5C-Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E6-Competitive Advantages of firms products in Foreign market(√)						
<u>Advantages</u>	(0)No advantage	(1)tend to advantage	(2)advantage	(3)strongly advantage	(4)Very strongly advantage	(.)Don't Know
E6A--Price	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E6B-Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E6C-Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PART(F)- LABOR

F1-Please estimate the proportion of this firm's Production workers of total employees	<u>list</u>	%
	F1A-Production workers	
	F1B-Non-production workers [e.g., managers, administration, sales]	
		100%

F2-Please estimate the proportion of this firm`s Production workers were:	<u>list</u>	%
	F2A-Skilled production workers	
	F2B-Unskilled production workers	
		100%

F3 How many full-time temporary employees did this firm employ throughout fiscal year	full-time temporary employees	(√)
	1- 1%-10% of full time employees	<input type="checkbox"/>
	2- 11%-25% of full time employees	<input type="checkbox"/>
	3- 26%-50% of full time employees	<input type="checkbox"/>
	4- More than 50% of full time employees	<input type="checkbox"/>
	5- Does Not Apply =.	<input type="checkbox"/>
	6- Don't know =.	<input type="checkbox"/>

F4- What was the average length of employment of all full-time temporary employees in fiscal year	<u>list</u>	(√)
	1- One month or Less	<input type="checkbox"/>
	2- More than month and less than 3 months.	<input type="checkbox"/>
	3- More than 3 month and less than 6 months.	<input type="checkbox"/>
	4- More than 6 months	<input type="checkbox"/>
	5- Does Not Apply =.	<input type="checkbox"/>
	6- Don't know =.	<input type="checkbox"/>

F5-Did this firm have formal training programs for its permanent, full-time employees?	<u>list</u>	%
	1- Yes =1	<input type="checkbox"/>
	2- No =0	<input type="checkbox"/>
	3- Don't know =.	<input type="checkbox"/>

F6- What percentage of employees of the following categories received training?	<u>list</u>	%
	F6A-Production employees trained	
	F6B-Non-production employees trained	

F7-What percentage of the nationalities of employment in this firm?	<u>list</u>	%
	F7A-Arabs (including the Saudis)	
	F7B-Asian Non Arab country	
	F7C-African Non Arab country	
	F7D-European	
	F7E-Australian	
	F7F-America	

PART(G)- Production capacity

G1- The proportion of unused production capacity of the total capacity available	
Unused production capacity:	(v)
1- Less than 25%	<input type="checkbox"/>
2- 26-50%	<input type="checkbox"/>
3- 51-75%	<input type="checkbox"/>
4- More than 76%	<input type="checkbox"/>
5- NO unused production =0	<input type="checkbox"/>
6- Don't know =.	<input type="checkbox"/>

G2-What was the main reasons why this firm did not run the total production capacity available		
Reasons	(Chosen=1, Not chosen =0)	(v)
G2A-Limited local market		<input type="checkbox"/>
G2B-Lack of funding to increase production		<input type="checkbox"/>
G2C-Difficulty in expanding export		<input type="checkbox"/>
G2D-Cost of production inputs (raw materials)		<input type="checkbox"/>
G2E-Difficulty of marketing the product in the local market		<input type="checkbox"/>
G2F-Difficulty in obtaining skilled workers		<input type="checkbox"/>
G2G-Others		<input type="checkbox"/>
G2H-NO unused production		<input type="checkbox"/>
G2I-Don't know =.		<input type="checkbox"/>

G3-please provide the percentage of following information about this firm	
<u>Total annual costs</u>	%
G3A-Total annual cost of labor including wages, salaries, bonuses, social security payments	
G3B-Total annual cost of raw materials and intermediate goods used in production	
G3C-Total annual costs of fuel	
G3D-Total annual costs of electricity	
G3E-Other cost of production not included above	
	100%

PART(H)- Business Environment

H1-To what extent do custom and trade regulations represent obstacles to the current operations of this firm?	Rank 1-5				
	(1) No Obstacle	(2) Minor	(3) Moderate	(4) Major	(5) Very Severe
H1A-Transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H1B-Customs and trade regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

H2-Does the firm have any legal cases against their business currently pending in judicial authorities.	<u>list</u>	(v)
	1- Yes =1	<input type="checkbox"/>
	2- No =0	<input type="checkbox"/>
	3- Don't know =.	<input type="checkbox"/>

H3-Over the last two years, did this firm submit an application to obtain an import license?	<u>list</u>	(v)
	1- Yes =1	<input type="checkbox"/>
	2- No =0	<input type="checkbox"/>
	3- Don't know =.	<input type="checkbox"/>

H4-Approximately how many days did it take to obtain this import license from the day of the application to the day it was granted?	<u>list</u>	H4a
	Wait for import license =2	
	One day or less =1	<input type="checkbox"/>
	Don't know =.	<input type="checkbox"/>

H5-What percentage of ownership does the firm have in its lands	<u>list</u>	%
	H5A-Owned by this firm	
	H5B-Rented by this firm	
	H5C-Other	

H6-Did this firm pay for security, for example equipment, personnel, or professional security services?	<u>list</u>	(v)
	1- Yes =1	<input type="checkbox"/>
	2- No =0	<input type="checkbox"/>
	3- Don't know =.	<input type="checkbox"/>

H7- What percentage of this firm's total annual sales was paid for security, or what percentage of this firm's total costs?	<u>list</u>	%
	Percentage of total annual sales for security	
	(OR) Percentage of total annual cost?	
	Don't know =.	<input type="checkbox"/>

H8-Did this firm experience losses as a result of theft, robbery, vandalism or arson?	<u>list</u>	(v)
	1- Yes =1	<input type="checkbox"/>
	2- No =0	<input type="checkbox"/>
	3- Don't know =.	<input type="checkbox"/>

H9-As a percentage of total annual sales or as total annual losses, define the estimated losses as a result of theft, robbery, vandalism or arson that occurred on this firm's premises.	<u>list</u>	%
	Losses as percentage of total annual sales	
	(OR) Losses as percentage of total annual losses	
	Don't know =.	<input type="checkbox"/>

H10-which of the elements of the business environment included in the list, if any, currently represents the biggest obstacle faced by this firm (1-3) No Obstacle, (4-6) a Minor Obstacle, (7-9) a Moderate obstacle, (10-12) a Major Obstacle, (13-15) a Very Severe Obstacle	Rank from 1-15	Rank
	H10A-Access to finance	
	H10B-Access to land	
	H10C-Business licensing and permits	
	H10D-Corruption	
	H10E-Courts	
	H10F-Crime, theft and disorder	
	H10G-Customs and trade regulations	
	H10H-Electricity	
	H10I-Inadequately educated workforce	
	H10J-Labor regulations	
	H10K-Political instability	
	H10L-Practices of competitors in the informal sector	
	H10M-Tax administration	
	H10N-Tax rates	
H10O-Transport		

Please type any information you want to add: