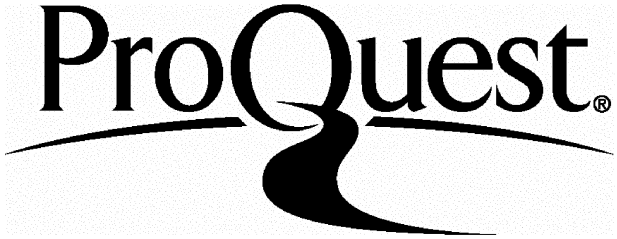
European Union and the Construction Industry:

The effects of the single market on construction related trade between the countries

Constantinos A. Papadopoulos

This thesis is submitted in partial fulfillment of the requirements for the degree of Master of Science from the University of London.

Bartlett School of Graduate Studies
University College London
September 2001



ABSTRACT

Around the time of 1992, many people were trying to forecast the economic impacts of the European Community on the member states for the coming years. The trade barriers between the country members were breaking down, so it was anticipated that there would be new prospects for intra-European trade, with a direct impact upon the construction industry. Starting from the building materials and component producers that will try to export abroad, contractors and design teams could face the dilemma whether to chose from local or other EU products.

This report will investigate whether and how the single European Market affects the construction industry. Thus all the research work has been directed from the years 1992, when the single market was established, until 2001.

ACKNOWLEDGMENTS

To turn this thesis into reality I have received much support and assistance from many people, firms, and organizations. Firstly I would like to thank my tutor Graham Ive that has contributed directly to the ideas that I have gone through this report, while giving me valuable comments. I would like to thank all the organizations, firms and people working there. From Eurostat (Hannah Lyons), Euroconstruct (James Hastings), FIEC (Maxime Wotquenne), J.P. Morgan (George Dedousis), Butterworths (Fiona Lemon) and many more. I would also want to thank my parents for their assistance and their valuable criticism.

TABLE OF CONTENTS

1. INTRODUCTION

1.1 OVERVIEW

This thesis sets out to examine the effects of the European union on the construction industry of the EU countries by analyzing the main element, that is, the intra – EU trade.

1.2 THE PROBLEM

The hypothesis that forms the basis of this report is that the effects of the custom union between the EC countries and the removal of the tariffs between them, will have an immediate effect on the traded products between these countries. Therefore the following problem areas will be investigated:

- The model that the custom union is based upon
- The growth of the intra-EU trade for selected imports
- Legislation that attempts to harmonize the market
- The imports and exports from all the EU countries to all the EU countries and the growth trends
- The routes that the construction industry of the member states have followed since 1992.

More specifically the value of some of the imports of the construction industry from the EU countries from 1992 to 2001 will be measured and compared to the total output during the same years. If the imports from the other countries that constitute the custom union are rising faster than the total output of the construction sector then we could have a good indication that the model is working.

1.3 RESEARCH AND METHODOLOGY

The data that the research has been carried out have been obtained from the sources

below. The economic model of the custom union was obtained from relevant bibliography. The data for the intra-EU trade were collected from the statistical department that the European community provides which is EUROSTAT. The data on the construction output of the European countries where provided from EUROCONSTRUCT and more specifically from the UK department which is located in London. Other data such as volumes of international contracts where collected from bank studies such as J.P.Morgan and other statistical offices such as European Construction Industry Federation (FIEC) located in Brussels. Finally, general ideas and direction where taken from periodicals and journals. All the figures in the main text and the appendix were formulated by the data above except in some cases such as Greece, where the series for the construction output is given from ESYE (National Statistical Office of Greece). In these cases the source is indicated as well. All the data was collected via e-mail, by phone or even by personal contact. All the figures in the Appendix and the main text are formulated using Microsoft Excel.

1.4 STRUCTURE OF THE REPORT

Chapters 1 and 2 provide an introduction to this thesis, firstly by stating the hypothesis of the effects of the single market and by introducing the model itself. In chapter 3, we look at some specific imports of building materials and construction services and attempt to identify the growth of the intra-EU trade. Chapter 4 looks at the EU Directives that attempt to harmonise the market and analyses the impact upon the construction industry. Chapter 5 examines the route of the European Union construction industry performance and makes a comparison with the other bigger markets for construction. Chapter 6 examines individual countries performance and the effects of the single market to the local construction industry. Chapter 7 contains conclusions and recommendations.

2. EUROPEAN UNION AND THE CONSTRUCTION INDUSTRY

2.1 THE EU HISTORY

The European Union has a history, which started quite early, at the end of the first half of the 20th century. On the 19th of September 1946, Winston Churchill called for a model of an 'United States of Europe,' in a speech that he gave at Zurich University. The next year the United Europe Movement was created, with the move of Winston Churchill in favor of an intergovernmental cooperation. In a speech, Robert Schuman, (the French Foreign Minister) proposed that France and Germany, and any other European country that wants to join, pool their Coal and Steel resources ('Schuman Declaration'). Belgium, France, Luxembourg, Italy, the Netherlands, and Germany subscribed promptly. The first enlargements came in the 1970's and 1980's, with the establishment of the Single market in 1993 to follow. The latest steps have been the introduction of the Euro in January 2002, and the negotiations with the countries of Eastern and central Europe for a new enlargement.

2.2 THE NATURE OF EC

The European Community is established on law with the member countries accepting the decisions taken by the European Court of Justice. The Single European Act that was signed in 1986 gave a further boost to the power of the Community. This provided some important characteristics of a national state.

2.3 THE SINGLE MARKET

The single market programme has the following objectives:

a) The formation of a single market all the way through, with the elimination of technological and fiscal obstruction. There are great expectations, with the creation of a market with more than 320 million people - this creates a great difference to the purchasing capacity.

b) The elimination of barriers to the movement of goods, services, people and capital. This will increase competitiveness, efficiency and production. On the other hand, the member states will be constrained in their ability to shield their national companies, so to avoid unfair competition.

2.4 DIFFERENT ASPECTS OF THE INTERNAL MARKET PROGRAMME

The different aspects of the internal market programme involved many issues. One was the removal of physical barriers and new measures that eliminated controls, which had made travelling and transport of products among member states complicated. Then, the removal of barriers arising from differences in national technical standards was a second issue, which led to the development of European Standards for many parts of industry including the construction industry. New standards and technical requirements were made that were concerned with quality and safety. There were also new standards in the structural design, with the issue of the Eurocodes. A third issue was the free movement of labour, whereby the acknowledgement of qualifications and training gained in any member country, aimed to make movement of people easier. Another issue was the financial transactions and the removal of fiscal barriers. There was also an intention to eliminate (within the EU) import duties and tariffs; and to move towards the harmonisation of VAT rates and other indirect tax rates. This was another step towards the economic integration. For many years economists have realised that integrating the economies of a region is a step to power and stability. The European integration was mostly a political and ideological step, however it was followed by economic benefits. The first policy was the removal of tariffs on the trade between the members of the European Union which was followed by the removal of other barriers to trade, and furthermore to the

harmonisation of standards and finally the 'Single European Market' (SEM).

2.5 MAIN TYPES OF INTERNATIONAL INTEGRATION

1. Common preferential external tariffs of all the members of the union on trade with non – members, when it involves a particular type of trade;
2. Common markets which involve free trade but with additional rules to help trade and integration such us the harmonisation of trading standards;
3. The harmonisation of the general economic, legal and social guidelines as well as new policies for all the members of the union. In the case of the European Union the economic union was pushed to a monetary union via the launch of the Euro and new harmonised monetary policies (such as the co-ordination of the interest rates);
4. The formation of a political union which is the consequence of the economic integration and engages the linking of different national institutions;
5. Specific areas with different tariffs on particular kinds of trade coming from the agreement of the union with certain countries;
6. Areas with free trade where the partners can have different tariff policies with external countries, continuing, however, to have no tariffs when they trade with their partners.

2.6 EFFECTS OF INTEGRATION

The creation of an area where free trade is allowed provides benefits to customs union producers because it encourages the member countries to increase trade with each other. However this may in effect discriminate against the most efficient producer of a particular product. The most efficient producer may be from a non-member country

and selling at lower prices — however, once a tariff is introduced, that producer's goods will become more expensive to consumers in the member country, who may therefore switch to a producer from within their member country who has no tariff imposed. The effect of this is that the producers from within the customs union are put at an unfair advantage in comparison to the rest of the world. It could lead to the producers in the customs union countries maybe being less inclined to attempt to improve their efficiency, (and hence reduce their prices) to compete with the rest of the world. The effects can be seen using the graph below (fig.1).

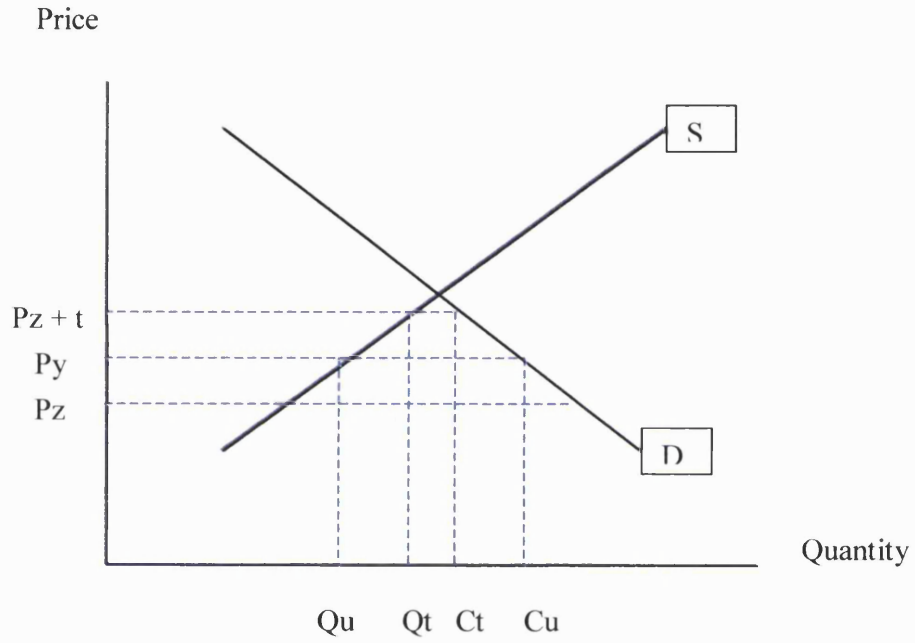


Figure 1: The effects of the custom union (Source: Macintosh, 1996)

Figure 1 shows the market for a commodity to a home country A. Looking at Py and Pz, these are the prices at which the two countries B and C will supply any good to the country A. Assume that the country A puts a tariff t on imports from both countries, but later forms free trade with country B. Assume that country C offers a more competitive price than country B, so Pz is lower than Py - so that before the free trade is applied with country B, all the imports were coming from country C with a border price Pz. Now, adding the tariff the former price of imports becomes Pz+t. The domestic output is Qt with consumption of Ct. Imports are Ct-Qt. After the discrimination in the tariff, consumers in country A will prefer imports from B, as

there is a lower price. The internal price falls now to Py and domestic output and consumption is now Qu and Cu. Then the imports increase to Cu-Qu.

To see the effect of the removal of tariffs and VAT, in the trade between the member states, we will conduct a search in a later chapter on the trade of building materials internally within the European Union.

3.INTRA EU TRADE

3.1 REMOVAL OF BARIERS – HARMONIZED SPECIFICATION

This chapter is aimed to investigate the trade between the European Union countries, which are involved in construction. We can see the impact of the barriers to trade in construction products in the European union and the benefits of harmonisation.

There are many national regulations and standards for the construction products, as well as certification requirements which cost a lot to the companies in both money and time. Typically, between 3 and 10 different certification procedures would be needed, for suppliers to trade through the EU. Only a few companies certify products for other than their home country and this restricts the utility of the single market. Harmonisation of regulations and standards would encourage full competition, leading to lower prices, better choice, and more efficient industry. However, it must be noted the Office of Fair Trading stated that the construction industry was a 'hive of collusive behaviour' and therefore the European Union may have a battle to improve competitive behavior (*Construction Law,* 1999).

Harmonized specifications (i.e. standards and European Technical Approvals – ETAs) will remove most of the barriers to trade, particularly because reference to national standards and codes in building regulations, building control, design specifications and contracts would also be removed. There would be a significant reduction in the "hypothetical" cost to certify products for the whole of the EU market (with an initial cost for obtaining CE marking), by replacing multiple national attestation procedures with one which is Europe-wide. However the actual volume of testing and certification will probably increase, because most companies in most Member States do not need 3rd party certification at present. These costs are insignificant, however, compared to the potential benefits from the increased trade, competition and restructuring of industry. These benefits will outweigh any testing and certification costs by orders of magnitude. The overall potential benefits are estimated as €10 billion/year (as will be shown later). Some parts of industry have concerns, however,

about the potential risks of over-complex and costly new attestation requirements, and the consequences of applying mandatory procedures to countries, products or small businesses where there were no previous requirements. (WS ATKINS,2000)

3.2 THE PRESENT SITUATION

There appears to be considerable potential for increased trade in construction products. The total EU market is around €200 billion (production for sale) and intra-EU trade amounts to around €40 billion [5] - some 20% of consumption. For most construction products the EU is a net exporter – total extra EU exports in 1998 were around €30 billion and imports €17 billion. Construction products contribute to about 3% of EU GDP (about 15% of manufacturing output) and around 5% of trade in manufactured goods. Although the degree of trade is below average for the manufacturing industry, it is significant, despite a wealth of evidence that barriers to trade are a problem. The statistics indicate that the highest trade penetration tends to be for the higher value-added products such as heating and ventilation equipment, and curtain walling - and lowest for commodities such as aggregates, cement, bricks, and gypsum products. Nevertheless, in almost all product families there are some countries with high levels of import penetration (20-50%) or of export performance. It is also noticeable that for many product families, Germany and France, despite reported barriers to trade and a market large enough to support efficient manufacturers of most products, have high levels of import penetration. [Undoubtedly the frequent reports of barriers in France and Germany are partly because many exporters target those markets and not smaller ones]. The absolute value of trade is high however, for some relatively low value added products like pipes and pipe fittings (€ 11bn) and reinforcement steel, floorings, structural metallic sections, structural timber (all over €2 bn).

3.3 RESEARCH POINT

We wanted to see some particular cases of building materials and concentrate our

study on the growth of this market. This could be a good indicator that there has been a growth of trade of products between the EU countries, and furthermore to prove our hypothesis which assumes that we should have a growth of intra trade between the member states of the SEM. The products in which we will concentrate are:

- Prefabricated structural components for building or civil engineering of cement
- Ceramic sinks
- Bars and rods of alloy steel other than stainless
- Panels of iron or steel
- Structures and part of structures
- Threaded screws and bolts of iron or steel
- Hand made plans and drawings
- Railway or tramway maintenance or service vehicles

Figure 2 shows the imports of the EU countries of prefabricated structural components for building or civil engineering of cement. There has been a 16.4% growth on this particular material between 1992 and 2001.

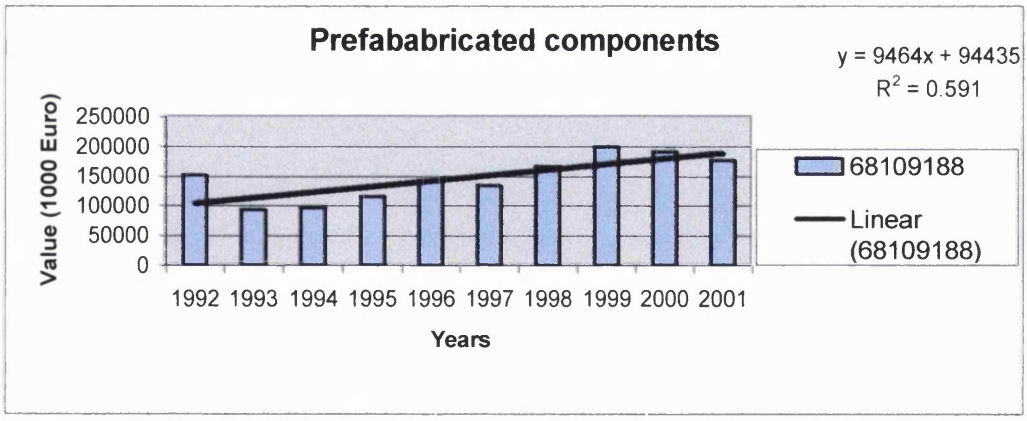


Figure 2: Imports of prefabricated Components (681091.88, Source: Eurostat Data)

In figure 3 we can see the imports of ceramic sinks, baths, bidets and similar sanitary. There is a 34.9% growth during years 1992 to 2001.

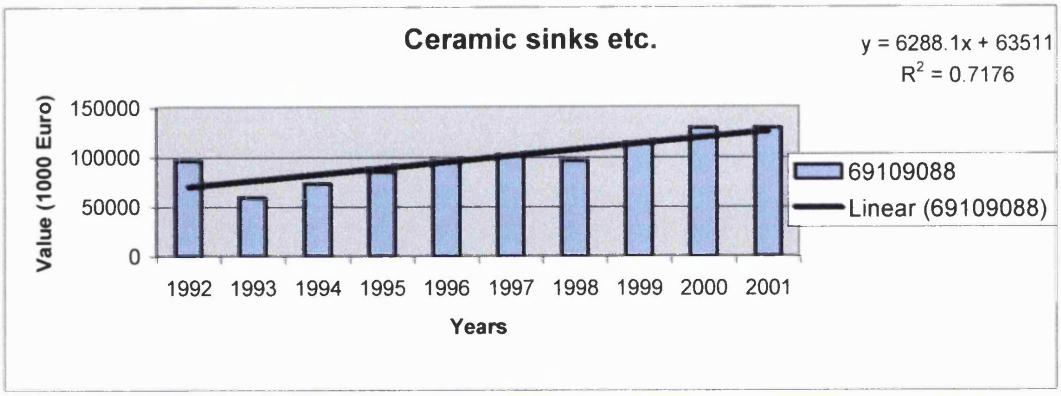


Figure 3: Imports of Ceramic Sinks etc. (691090.88, Source: Eurostat Data)

Figure 4 is showing the imports of bars and rods of alloy steel other than stainless. The growth of the intra-EU trade for these materials is 225.5%.

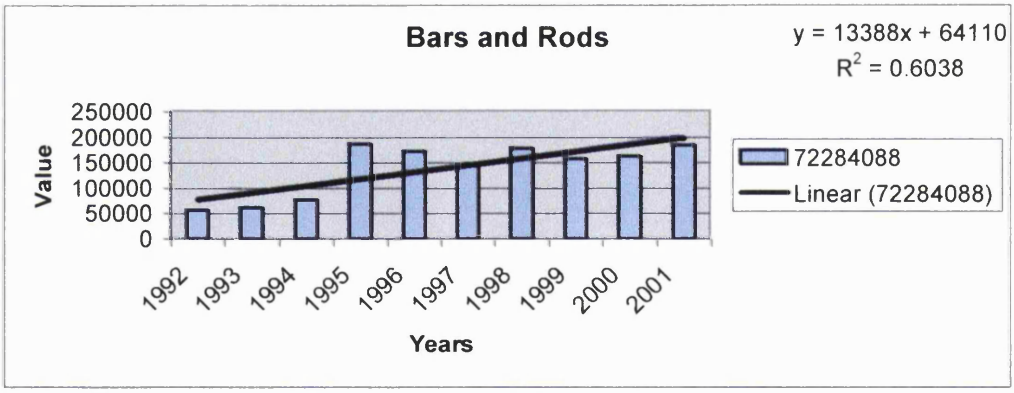


Figure 4: Imports of Bars and Rods (722840.88, Source: Eurostat Data)

Figure 5 illustrates structures and part of structures of iron or steel such as bridges or bridge sections. In this case intra-EU trade between years 1992 and 2001 shows a decline of –0.14%. However from year 1993 to 2001 we can see a strong growth of 85.8 %.

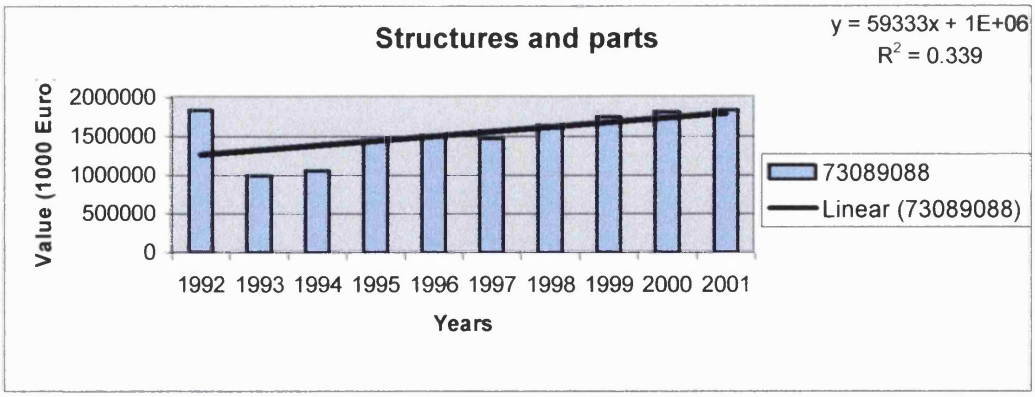


Figure 5: Imports of Structures and parts (730890.88, Source: Eurostat Data)

Figure 6 below shows the trade of panels comprising two walls of profiled 'ribbed' sheet of iron or steel with an insulating core. The growth here is around 43.6%.

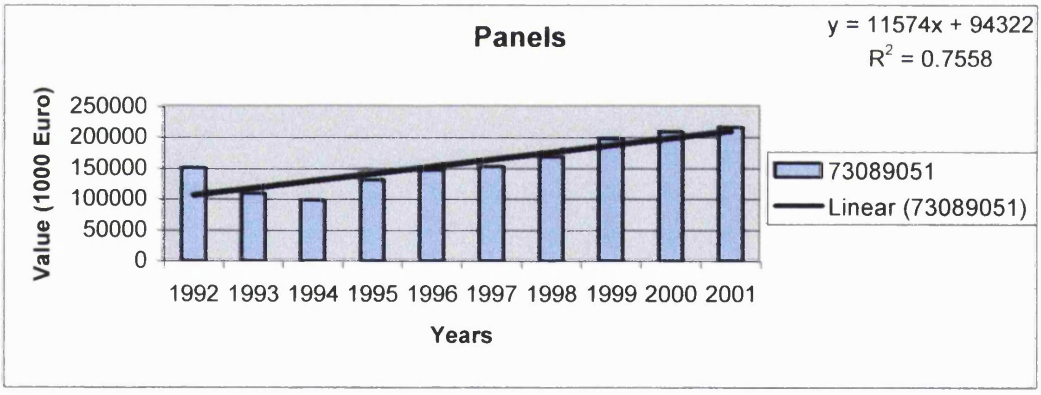


Figure 6: Imports of Panels (730890.51, Source: Eurostat Data)

Figure 7 shows the trade of threaded screws and bolts of iron and steel. The growth here is 117.8%

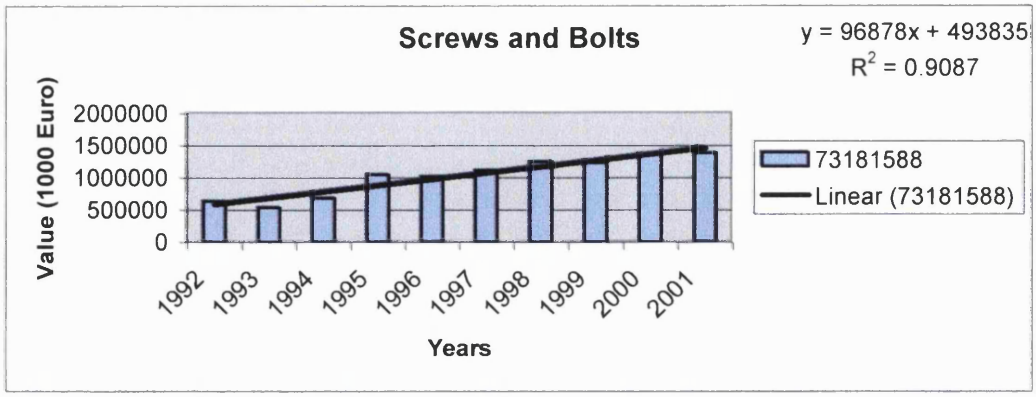


Figure 7: Screws and Bolts (731815.88, Source: Eurostat Data)

In figure 8 it is illustrated the trade of architectural plans and drawings, technical plans and drawings and photographic reproductions of the above mentioned plans, drawings and texts. The growth is 19.26%. However the peak time is shown to be in year 1998 with a value of 4.9 million Euro. The decline in the last years can be regarded as seductive because the trade may rise but in electronic form.

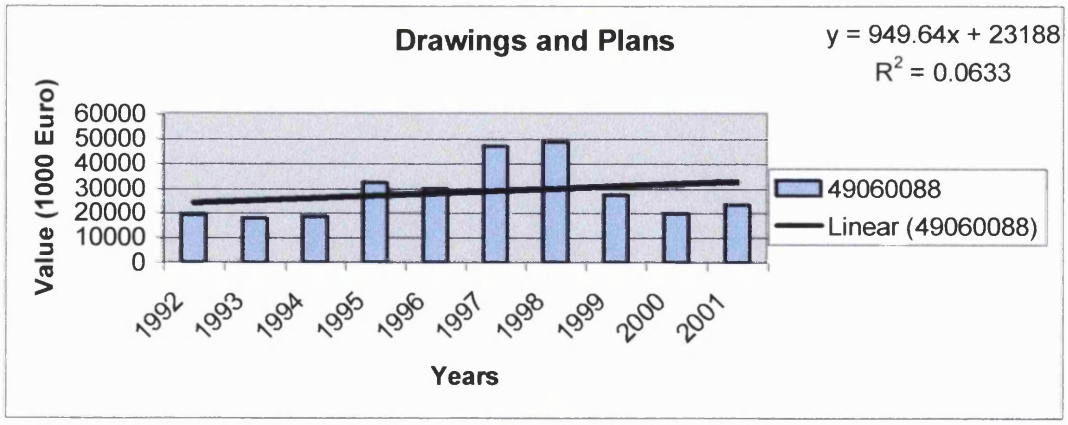


Figure 8: Imports of Drawings and Plans (490600.88, Source: Eurostat Data)

Figure 9 shows the imports of service vehicles for railway maintenance as well as general services provided for the maintenance of railways and tramways such as workshops testing coaches, cranes, trackliners and track inspection vehicles. The growth of the intra-EU trade here is the highest with an increase of 244%.

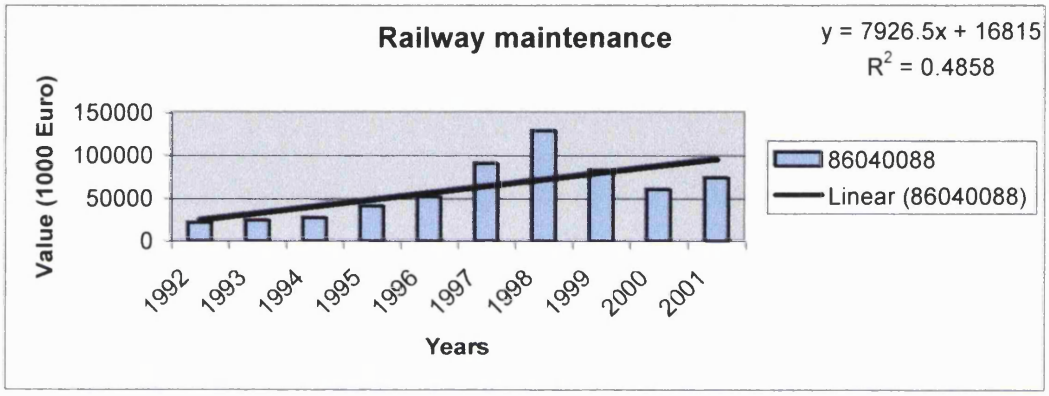


Figure 9: Imports for Railway maintenance (860400.88, Source: Eurostat Data)

4. EU LEGISLATION

4.1 EU DIRECTIVES THAT AFFECT TRADE IN CONSTRUCTION

The European Parliament enacted the Construction Products Directive (Council Directive 89/106/CE), which provided the approximation of the administrative provisions and the laws and regulations covering the construction industry. This thus completes, to a large extent, the internal market for construction products. This is achieved through supporting the production of standards and European Technical Agreements in the short term — with the integration of dangerous substances and environmental requirements in the harmonised specifications as a longer-term goal.

To ensure that all companies within the EU have the same standards, the council has attempted to harmonise the market by the introduction of directives in many different aspects of construction, such as: competition policy; company laws; public works Directive; environmental and social policy; and technical harmonisation.

Considering harmonised standards, Article 7 states:

'In order to ensure the quality of harmonised standards for products, the standards shall be established by the European standards organisations ....and in accordance with the general provisions concerning co-operation between the Commission and these bodies signed on 13 November 1984.....'

With regards as to European technical approval, Article 8 states:

'European technical approval is a favourable technical assessment of the fitness for use of a product for an intended use, based on fulfilment of the essential requirements for building works for which the product is used. ' This method is used for products which do not: have a harmonised standard or recognised national standard; or mandate for a harmonised standard; or where they greatly differ from the harmonised

or recognised national standards. Article 9 states that examinations, tests and assessments will be made on the basis of interpretative documents referred to in Article 3 (3) and the guidelines referred to in Article 11 (for the particular product or corresponding family of products).

Article 13 ensures that there is the declaration of conformity with the requirements of a technical specification within the meaning of Article 4, that is made by the manufacturers, or their agents established in the Community. These products then are assumed as being conformable. Conformity is ascertained via testing or other evidence. However, this depends upon a factory production control system existing which ensures that production conforms with those applicable technical specifications. The additional approved certification may be required of a body assessing and surveying production control or the actual product.

Generally speaking, it is essential that products are fit for their purpose, considering the economy and fulfil the following requirements (where the works are subject to regulations containing such requirements):

- Mechanical resistance and stability
- Safety in case of fire
- Hygiene, health and the environment
- Safety in use
- Protection against noise
- Energy economy and beat retention

The impact of this technical harmonisation will be that there will be a decline, in both the time and money, spent by companies on adapting products to suit the needs and requirements of each individual country. Companies within the European Union, exporting their goods to other member countries, will have one specification to meet that will satisfy the requirements of all the other member countries. Therefore

exporting goods between member countries will become more efficient due to the reduction of costs of adapting products. With harmonisation, there will be the increased economies of scale from the mass production of products made to a single specification (whereas previously products sold to each member country had different features). Also, following harmonisation, goods that are intended for sale in one member country can be easily transferred for sale in another member country if there is a decline in demand for example, thereby also improving efficiency. These efficiency gains will greatly encourage trade between the member countries. However, countries outside the European Union will be less desirable locations to export to, because the companies will have to adapt their products to meet the specific requirements of each non-member country.

5.EUROPEAN OUTLOOK

5.1 COUNTRIES CONFIDENCE IN EUROPEAN CONSTRUCTION INDUSTRY

In Europe, after so many years of talks about the community construction industry, there is no real evidence to show that there is such a community, so we will examine every country separately. We can look at the European commission's Construction Confidence survey, which shows that the overall confidence that European construction companies have had in their outlook has continued to weaken in the recent months.

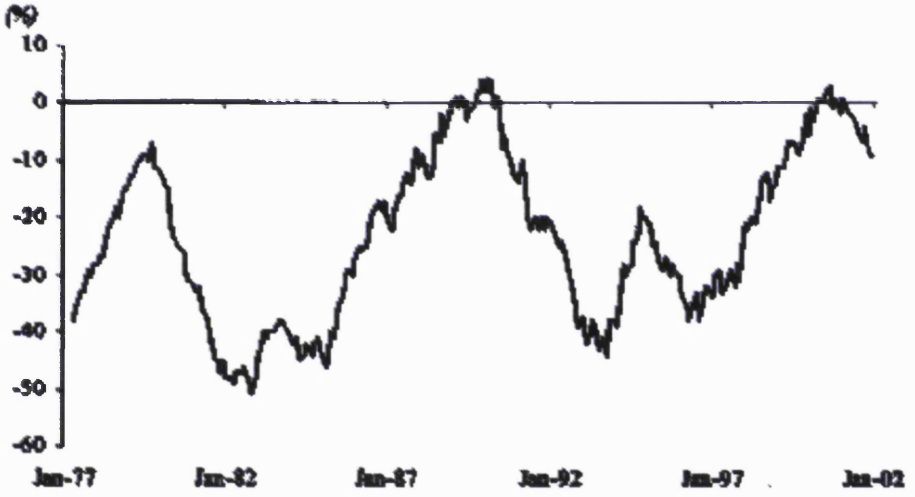


Figure 10: European Commissions construction confidence indicator (Source: European Commission, 2001)

The latest available data is for December 2001. The balance between the number of firms giving positive and negative replies remained the same at minus 9%. There was a decline in Germany (minus 1%) and the United Kingdom (minus 1%) but it improved in France (by 1%) while in Italy and Spain, it remained unchanged from November at 5% and 8%, respectively. The most significant change is coming in Greece with a 22% rise.

	Bel	Den	Ger	Gr	Sp	Fr	Irel	Italy	Lux	Neth	Aus	Por	Fin	Swed	UK	EU
Av 90-00	-12	-8	-31	-14	-9	-25	11	-19	-27	-2	-30	-23	-25	-44	-27	-21
Max 87-91	7	12	3	-12	32	3	32	21	24	9		12	33	21	43	4
Min 91-95	-35	-38	-54	-51	-57	-61	-43	-68	-74	-20		-55	-98	-83	-80	-44
2001																
Jan	1	0	-40	3	23	27	31	0	-1	21	-24	-8	6	25	-7	1
Feb	-4	3	-38	8	14	27	39	2	1	18	-58	-4	-3	9	-3	-1
Mar	-5	-6	-39	-2	13	21	46	2	-6	16	-28	-7	1	13	-5	-2
Apr	-6	-7	-38	2	14	19	14	5	-6	16	-27	-4	-4	3	-5	-2
May	-4	-12	-42	7	21	19	40	2	-21	16	-34	-2	-12	6	-8	-3
Jun	-4	-12	-44	11	20	17	26	1	-9	13	-43	-3	-16	9	-4	-4
Jul	-7	-13	-42	5	16	13	-6	1	-5	13	-44	-4	-27	4	-1	-5
Aug	-7	-16	-42	4	7	11	3	2	-3	10	-43	-6	-19	3	-4	-7
Sep	-11	-18	-42	4	21	8	-10	8	-8	8	-43	-4	-10	-8	3	-4
Oct	-9	-13	-46	9	14	9	-33	3	-13	7	-42	-5	-7	-19	-1	-7
Nov	-14	-18	-46	14	8	7	-21	5	-9	6	-45	-6	-19	-27	-3	-9
Dec	-13	-14	-47	22	8	8	-10	5	-11	5	-46	-16	-31	-30	-4	-9

Figure 11: European Commissions construction confidence indicator (Source: European Commission, 2001)

The differing outlooks of each country within the European Union reflect the different business cycles of each country. This will in turn reflect the differing levels of demand for construction products within these countries. However, with standardisation of product specifications within the EU, it means that there is now an opportunity for companies whose domestic demand has fallen, to easily export to those member countries that have experienced a growth in demand.

It would be very interesting to make a comparison of the largest construction markets in Europe with that of the US and Japan. The table below shows that the US construction market is more than three times the size of the German market, which is the largest in Europe. The Japanese construction Market is also large, but there is little involvement there of the European companies.

	Constr. Spending	% Total (150 Countr.)	% GDP
USA	$819.3	24.0	8.2
Japan	$617.9	18.1	13.9
Germany	$252.7	7.4	11.4
UK	$109.2	3.2	7.7
France	$106.7	3.1	7.0
Italy	$95.8	2.8	8.1
Spain	$86.4	2.5	14.8
Austria	$30.1	0.9	13.5
Belgium	$29.1	0.9	11.1

Fig.12 Largest Construction Markets 2000 (Source: Eng. News Record, 2000)

In 2001, the production in the US reached the 962 billion Euro, and in the EU it was 873 billion Euro while in Japan it was 554 billion Euro (FIEC, 2001).

6. INDIVIDUAL COUNTRY STUDIES

GERMANY

Germany is the most powerful Member State in the European Union. It is believed to be very committed to the European monetary union and exerts its influence towards economic stability. Being so large and having such economic strength means that it can influence the economic climate in every member of the community.

The construction industry in Germany is structured as an industry with many small companies and only a few large companies. The contractors here remain mainly local and only the largest ones operate outside Germany. These companies include Philipp Holzmann AG and Hochtief AG.

A weakening in world trade as well as the failure of recovery in domestic demand, were the main reasons for this slowdown in economic growth in recent years. There were no significant injections into the development of economic performance, even though exports continued to hold up well. A decline in investment and a fall in capacity utilisation followed the weakening of world-wide economic activity.

The construction industry had to deal with shrinkage of the total output of the industry from 1992. We could state that the decrease in output and developments throughout the previous year led to a sharp fall of 5% in construction investment in 2001, the extent to which was unexpected. Housing permits had fallen through 2000, which shows a future decline in demand for new buildings (J.P. Morgan, 2001). While residential construction seems to be problematic, some improvement is seen to take place for commercial and industrial buildings. This decline in construction demand made many construction companies reduce their workforce.

After 1995, the housebuilding sector has been declining. Only 312,000 new dwellings for construction were approved in the year 2000, which was half of those in the year 1994. Civil engineering is declining too and in opposition to other EU member states,

private sector participation in public infrastructure projects has not made much progress in Germany. GDP grew 12% from 1994 until 2001 the total investment on construction fell by almost 13% (FIEC, 2001).

If we take a close look at the imported inputs from the rest of the countries of the European Union, we can make the following observations. Having a value which was around 0.88 billion Euro in 1992, they fell to a value of 0.56 billion Euro in the following year and then rose again to reach the value of 0.91 billion Euro in 1998. Then on, until 2001, their value has been falling to nearly 0.76 billion Euro. We can divide these imported inputs with the total construction output from year 1992 to the year 2001 and form a graph, which is shown in the appendix. There we can observe a line with a small slope that indicates that the value of imports from the other European countries is rising slowly, which may be a sign of the application of the economic theory on the custom union.

We can conclude our discussion about Germany by a two – variable model. The two variables are again the imported inputs and the construction output of Germanys construction industry. Their relationship can be analysed as:

$$DBM_y = fDCON_x$$

Or $y = - 0.0028x + 1.3982$

Where: y= Imports of building materials, services from the rest of the EU

And x= German construction output

With a linear regression from our two series of data for the years 1992 to 2001, we obtain the above equation. However our regression has an R^2 of 0.038 which makes it difficult to make any assumptions (Source: Appendix C).

The recession that continues to hold in the construction industry during the last years has resulted in a major reduction in the construction workforce. The current total workforce is around 2.55 million people, almost 20% less than it was in 1995. The

same route has been followed, with the construction prices being almost 4% lower than they were even in 1995 in West Germany. (FIEC, 2001)

UNITED KINGDOM

It can be said that Britain is known as a European member state that is not tightly committed to the European Union. The British government has not played a headship role within the community, which cannot be criticised yet as either a right thing, or not. This can be illustrated by the British view about the channel tunnel project. The French side experienced a large amount of enthusiasm about the project while the British reaction was generally that of scepticism on the matter. In Britain, a small number of powerful firms can compete for the large projects while many small firms have a large number of small projects. The six largest EU contractors where British and French (in 1998). The traditional approach to a project for construction is assuming that a main contractor carries out the work with many subcontractors to help on the project. This is opposite to the French and German practises where the projects are typically split into separate pieces.

In the UK, the construction industry has contributed to around 7% - 7,5% of the GDP over the last 6 years and employs about 2 million people (DTI, 2001). UK construction output is nearly 12% of total European output. It is the third largest construction market in Europe and the fifth largest in the world.

The total output of the construction sector has been rising since 1992. In 1992 the total output was 103.82 million Euro, while in 2001 it was 120.16 million Euro. The output in 2001 constitutes housing activities of around 12%, and non-housing of 7%. The bigger percentage of construction output is from repair and maintenance, which provides 47% of the total construction output and private industrial/commercial construction being 22% of the total output. The 11% that remain is spent on infrastructure (J.P.Morgan, 2001). The UK construction industry is reliant on both new work and maintenance work of about equal proportion. However it is expected that the percentage of new work over the next years will rise due to new projects on

housing and higher amounts of government spending on new infrastructure work being promised.

The imports of the selected building materials and services are rising as well from 233 million Euro in 1992 to 272 million Euro at present. Peak year is 1998 with 315 million Euro of imports (Eurostat, 2001). Biggest UK producers of building materials are RMC Group, producing ready – mixed concrete with a turnover of around £4.5m, Pilkington producing flat glass with around £3m, Blue Circle Industries making cement with a turnover of £2.5m, and Tarmac Group with aggregates with a turnover near £1,5m. (DETR, 2000).

If we divide the imported inputs from the EU with the total construction output we would expect (because of the custom union effect) that the growth rate of intra – EU trade over time would increase. The figure in the appendix is showing that this is exactly what is happening, although slowly. Nevertheless the slope of the line in our graph is steeper than the one for Germany.

Our two variable model of the imported inputs to the construction sector with the total construction output is given by the relationship $y=0.073x–0.5555$ and with a coefficient of determination R^2 equal to 0.63 is theoretically accurate. The *marginal propensity* to *import* (MPI) building materials and services is 0.7 Eurocent for a Euro increase in *gross domestic product* (GDP) of the construction sector. Since the expenditure in foreign goods is a part of the aggregate consumption expenditure, we can expect a positive relationship between expenditure on imports and constructions GDP.

The employment in the construction sector from 1996 to 2001 has grown by 192,000, however this is still 300,000 below its peak period in 1989 (FIEC, 2001).

FRANCE

It is believed to be mainly the French who initially began the European Union with figures such as Robert Schuman, the initiator of the European Coal and Steel community in the 1950's. Indicating its faith to the community, when it comes to executing EC directives, France has the best record. France is the biggest country in the European Union with its central location holding a population of around 59.2 million people.

The construction industry in France is well developed and can compete with the UK's construction industry. There are many small firms carrying out local work and a number of huge firms that can work on the big projects. The large firms are well known and are firms including Bouygues and Societe Auxiliaire d'Entreprises. Acquisition in France is complicated because these huge organisations usually have complex holdings in each other. The French banks are often shareholders in these construction groups — something which provides economic stability for the firms.

Projects in other member states are planned very carefully through joint ventures, mergers and acquisitions. France is the EU country with the highest volume and growth of volume of international contracts over the last years. Since 1994 turnover which is related to public works in other EU countries has constantly increased. The French companies had a turnover of nearly 20,000 m Euro in 2000 - almost double from 1993 with a return of 12,290 mn Euro (FIEC, 2001).

From 1992 to 1997 there was a decline in the French construction output but since then there has been growth in the sector reaching 5.6% and 7.0% in the years 1999 and 2000 respectively. In 1992 the total output of the construction sector was 140.24 billion Euro and in 2001 it was 147.19 billion Euro (Euroconstruct, 2001). This growth is believed to be maintained in the next couple of years but at lower levels. Splitting the output into types of new work, the housing sector contributes to 21% of the total output and non – housing for 17%. Public works account for 25% of work and the remaining 37% is on repair and maintenance (J.P.Morgan, 2001).

Imports from the other European union countries are continually rising from 1992 to 2001. In 1992 their value was 514 million Euro, while in 2001 it was 779 million Euro. The imports from other SEM countries are growing faster than the construction sector in France, and the ratio of imports of materials and services for the construction industry from the rest of the EU countries over the total construction output is growing respectively. This is probably because of the above mentioned effects of the custom union to its states.

The imported inputs with the construction output have linear relationship, which is given by the equation y=0.0118x – 1.0305 .The MPI is 1.2 Eurocent for a Euro increase in the GDP in construction. However the low value of R^2 0.4689 means that our model explains only ≈47% of the variation in expenditure on our imports (Source: Appendix C).

According to the INSEE survey of April 2001, the utilisation rate for production capacity levelled off during the first quarter of 2001 at 93%, which is slightly more than the peaks of the early 1990s. The amount of company managers that report difficulties in finding workers continues to be great at 84%. Regarding carcass work, the situation is even worse with the figure being 86%. However, as discussed above, Germany has excess supply of skilled construction workers (from cutting employment in that sector by 20%), and yet France still remains to lack the amount of labour required. Therefore the EU's idea of labour transferability across countries may be plausible in theory but not so easy in practice.

ITALY

Italy has a population of 57 million people. There is a big distinction between the economic progress of the northern and the southern parts of the country. The northern part is the financial and industrial centre of the country while the southern side is characterised with high unemployment and economic despair.

The other unorthodox feature is that there is not any construction company listed on

the Italian stock exchange. The biggest companies are usually family owned. These include Lodigiani SpA, Cogefar Construzioni Generali SpA and Pizzaroti SpA. There are only a few of them that are large, while there is a huge number of small and medium sized groups. The hole system is highly incompetent with corrupted politicians that are involved in procedures of tendering. This situation makes it difficult for European construction firms to get into the Italian market, so the local contractors believe that the single market in Europe will make little difference to the construction market there.

However, the overall economic situation has remained satisfactory and the years 1992 to 2001 have had positive growth rates (except in the year 1993). For construction in 2001, the growth rate of the construction sector was higher than that of GDP. In the same year, the most dynamic component of construction investment was that of non – residential buildings for economic activities. Over half of the building industry output is on repair and maintenance. Extraordinary maintenance and rehabilitation accounts for 36% of the total output of the construction sector. These, together with regular maintenance are near 55% of the total sector. The total output of the construction sector seemed to grow over the last ten years and from 1992 it was 113.71 billion Euro, and in 2001 it was at 128.2 billion Euro. The imports and exports from the rest of the countries of the custom union are rising. The imports of our materials and services are 50% higher in 2001 than they were in 1992.

The ratio of the imported inputs to the construction industry over the construction output from 1992 to 2001 tends to rise, and for our selected building materials the growth is as much as 34%. The relationship of the total imports in Italy from the rest of the EU countries with the total output of the construction sector is also approximately linear. The relationship is given by the equation $y=0.0051x - 0.4218$. The marginal propensity to spend on imported goods (MPI) which represents the change in the mean expenditure in imported goods is 0.51 Eurocent for a Euro increase in the GDP of construction. The value of $R^2 =0.6643$ means that our model explains only $\approx$67% of the variation in expenditure on our imports (Source: Appendix C).

SPAIN

The second largest country of the EU is Spain, with a population of around 40.7 million people, situated in the Iberian Peninsula with Portugal as its western neighbour. There is a bad reputation of implementing the directives of the EU here — a situation similar to that of Italy. In Spain there are 17 different regions that are quite different in climatic conditions as well as terrain. Furthermore differences exist in the culture, the size of the industry and the administrative structure. There is even a difference in some of the regional languages. As we could expect there are differences in construction and planning as well.

From 1992 there was large growth in the construction industry, which is open to other European contractors. The industry pattern shows a large number of small companies and a small number of very big companies. The construction output in 2001 was 74.64bn Euro, while in 1992 was almost 57 billion Euro. If we split this by type of new work we can see housing to have a percentage of 37%, non-housing reaching 11%, renovation and modernisation with 30% and finally with the rest 22% to be on civil engineering (J.P. Morgan, 2001).

The ratio of our imported inputs from the rest European countries in the Spanish construction industry over the total output of the industry is rising. It seems to have a sharp fall from 1992 to 1993 where the imports are falling from 2.8 bn Euro to 1.7 bn Euro, but after this year they rise again to reach the value of 3.8 bn Euro. This reflects to our ratio which however is increasing. The total increase is near 19%. The regression shows, as expected, that there is a positive relationship between the expenditure on imports and the construction output. The MPI is ≈0.7 Eurocent. The value of r^2 is 0.88, which is quite high indicating that the chosen model fits the actual data quite well (Source: Appendix C).

The labour market of the construction industry has undoubtedly played a major part in the evolution of job creation in Spain. Biggest firms are Dragados y Construcciones SA and Agroman Expresa Constructora SA. As it is in France, the ownership patterns of the biggest construction groups are very complex. The banks here play a significant

role and many of the construction groups are diversified in many construction and non-construction activities such as motorway operations, car parks and even to food and service industries.

Foreign investment, as mentioned above, also is a very significant part of the economy, providing technology and financial means, and also management know-how because of a lack of local professional skills in that country. There are no restrictions in terms of private contracts if these comply with the civil law and no restrictions exist for subsidised work either. The above information indicates that Spain as a place to work in has many attractions.

NETHERLANDS

The Netherlands is a country that is situated at the north-west of Europe and has the highest density of population in Europe. Currently it has a population of almost 16.2 million people with the biggest city being the capital, Amsterdam. It is as well the flattest country in Europe with a large percentage of its land under the level of sea. Together with Belgium and Luxembourg have been in an economic union for 40 years, which is well known as the BENELUX.

The economy in Netherlands is quite open and relies very much on foreign trade. About 5% of the European Unions construction is occurs in the Netherlands. In 2001, housing was the largest sector of construction with 31% of total output. Non – housing contributed to 25% of the sector and repair and maintenance for 27%. Finally civil engineering added the remaining 16%. Less than 10% of civil engineering output is from direct investment from the government. Around 50% is coming from private companies and with the remaining 40% from lower municipalities.

Imports over output seem to have the peak value at year 1992. Then the ratio is falling sharply the next year to rise again but not in a value higher than in 1992. We can see that the ratio is falling from the graph in the index. The construction output is 46.39 billion Euro in 2001 near 20% more than 1992 that was 38.6 billion Euro. Applying a

linear regression between the imports and the construction output from years 1992 to 2001 we get the linear relationship y=0.0021x + 0.2576. But with an R^2 of 0.015 we cannot have clear assumptions (Source: Appendix C).

Many construction firms in 2000 reported that there were constraints to production, due to staff shortages (FIEC, 2001). So it is safe to assume that the construction output is responsible for employment growth in the construction industry here. The demand for qualified construction workers is still existing even though the tension on the labour market was decreasing in 2001. Having in mind that salaries in Netherlands are sometimes even higher than those in the UK, we could expect a movement of labour in Netherlands from the other countries of the custom union due to the free movement of labour between the borders of the member states.

PORTUGAL

Portugal is a state located at the south-west side of EU. It has a population, of just over 10 million people. This is around 2.7% of the EC population. The biggest city is capital Lisbon. It is a developing country and since 1992 the GDP is continually growing which shows that has benefited considerably from membership in the community. And the population and the business community are showing their faith to the union.

The majority of foreign investment in construction has come from within the European community (Spencer Chapman N. F. and Grandjean C., 1991). This was on infrastructure, communications, and industrial development.

The imported material and services from the rest EU countries rose significantly from 1992 to 2001. From a value of 51 million Euro now there are 107 million of these imports. The output of the construction sector is rising as well and for the same period it climbed from 14 billion to 22 billion Euro. However the EU imports are rising faster than the total output of the sector. The ratio of the imports over the output for the ten years can prove that because it is growing (Source: Appendix C).

These imports also have a linear relationship with the total construction output. The relationship between them is given from equation y=0.0065x – 0.0522. The regression comes with a coefficient R^2 of 0.8 which is very high and can explain 80% of the variation in the quantity demanded. The MPI is 0.065 which shows that for a dollar increase in construction's GDP the imported goods will go up by 0.65 Eurocents.

IRELAND

The second smallest Member State in the community with regards its population, is Ireland with near 3,85 million people. There are many similarities in the institutional and legal framework with the UK. Between 1995 and 2000 the local economy experienced a very high growth of GDP reaching values much higher than the average in the community. Investment responded to this growth and annual volume increases had exceeded 10% for the same period.

Practically all the sectors of the economy have benefited from this strong growth. The construction industry has experienced very high growth rates from 1992 until 2001. In 1992, the total output of the construction industry was reaching 9.5 billion Euro and in 2001 the number was more than double with almost 20 billion Euro output. With the exception of 1993 (when there was negative growth), for the rest of the years during that period, growth rates reached values as much as 18% in 1996 and 15 % in 1997.

We can say that the country has benefited in financial terms from its EU membership. Ireland has encouraged foreign manufacturers to establish in the country. The imports from the other EU countries in 1992 were around 34 million Euro. The number is much larger in 2001 with the same imports reaching a value of 129 million Euro. The ratio of our imported inputs over the total construction output is rising. The number is almost the double in 2001 than it was in 1992 (Source: Appendix C).

The relationship between our imports and the total output of the construction industry is linear and is given from the formula y=0.0083x – 0.0511. With a coefficient of

determination R^2 at 0.94 we can say that the sample regression gives an excellent fit. The MPI is 0.83 Eurocent for a dollar increase in construction's GDP.

Construction employment has increased since 1992 reflecting this strong growth in work volume. In 1994 the increase was around 2000 people while in 2001 the growth was approximately 6000 people. This was achieved by a combination of young people entering the industry, the elimination of unemployment in the sector and the inward migration of Irish workers and other nationalities as well.

DENMARK

In 1973, Denmark joined the European community, which was at the same time as the UK. It has one of the greatest standards of living in Europe. The GDP is rising from 1992 since now, except from 1993 when it remained stagnant. The Danish construction market represented about 3% of the EC construction market in 1990 while in 2001 it represented around 2.3% (FIEC, 2001).

The construction output between the years 1992 and 2001 has grown an average higher than this of the community. However it is lower than the growth of imports from the custom union. The imports from other EC countries had grown dramatically and are more than double in 2001 than it was in 1992. The difference between the growth of these two variables can be seen in the ratio between them. This is increasing with peak year being in 2001 with 191 million Euro imports (Source: Appendix C).

These imports appear to have a minor relationship with the construction output in the country. This is linear and can be described from equation $y=0.0213x - 0.2109$. It is clear the Denmark has the highest MPI from all the rest of the states of the community. This is 2.1 Eurocent for a Euro increase in construction's GDP. The value of the coefficient of the regression is almost 0.75 which is considerably high to assure our hypothesis.

Being negative in 1993 the per cent variation of production of buildings is growing

from 1992 since 2000. The variation is even higher in housebuilding, which is growing continually from 1992 to 2000, which is the biggest growth of the period reaching 10.9%. Both are declining in year 2001.

GREECE

In 1992 the proportion of construction in GDP was around 4.3% with 6% of the workforce officially employed in the construction industry. This numbers at the end of 2000 thousand were around 15% and 7.5%. We can see that over recent years there has been an increase in the population working in construction and a very big increase in the share of construction industry in the proportion of GDP. New projects are created such as roads (Via Egnantia) and Bridges (Rio, The bridge with the longest span in Europe) and the forthcoming Olympic games of 2004 have created many jobs and chances in the Industry. The biggest companies list includes AEGEK S.A, ACTOR S.A and many others. The largest building material sectors are the marble sector, the cement sector and the gypsum sector. The greatest problem for the competitiveness of the construction sector on an international scale, is that there are thousands of medium sized companies, with no really big companies that have large share of the output. The last years there are attempts from the government to merge the biggest companies so to improve competitiveness and efficiency. Another great problem is the delays on payments from the government to the companies and possible accounting misinterpretations from the companies books. However for the moment, it is the fastest growing sector in Greece and the European Commissions confidence indicator shows that is the fastest growing construction industry in Europe.

The fastest growing sector in the construction industry is the PFI sector that has the biggest growth of all the European Union countries. The three main categories of the construction industry are the residential, the commercial, and the public works. (Bativille Reports, 2001) The Greek market for building materials and products is around 4.2 billion Euro (IOBE, 2001). Imports mainly from the European Union are around 27% of the market. The market need is covered by the local production and exports by local manufacturers are around 20 million Euro, excluding the cement

exports, which are considerably high.

Our selected imported materials and services have a fast growth and from a value of 27 million in 1992, their value now (2001) has doubled to reach the value of 55 million Euro. The biggest growth of products is experienced by the prefabricated structural components, for building or civil engineering that can be regarded as a product of higher value to weight ratio. The ratio of our selected imported materials is rising but in a very slow rate. However with a value of R^2 of 0.022 we cannot have any useful assumptions. The MPI is 0.4 Eurocent for one Euro increase in the construction output (Source: Appendix C). (The output for the construction sector in 2001 will be published in 1st of October 2002 because of the change of the accounting system, so it wasn't possible to include this in the research.)

BELGIUM – LUXEMBOURG

The cases of these two European countries are examined at the same time because the data that has been used are showing their imports together from 1992 to 1998.

The Economy of Belgium is open and small with a big percentage of GDP coming from the imports and exports. The percentage of construction in GDP in 2000 was around 11.1% and a few large companies have most of the works to be done. The total output of the construction industry is growing slowly and from an output of 19 million Euro in 1992 the output in 2001 was at 23 million Euro. In 1992 there was a very low proportion of people employed in the construction industry (around 5.6%). Belgian firms in the construction sector continue to develop their activities in other European counties the last years. They usually work through subsidiaries located there. However their expansion is mainly on neighbour countries with more attention to Netherlands.

On the other hand Luxembourg is the smallest country in the EU with the highest GDP per capita. Limited in both size and capacity, the construction industry is faced with the threat that many other European contractors and consultants find it easy to

export their activities there. Before the introduction of the Eurocodes German and French standards were widely accepted.

The imports of both of these two countries from the rest EU states are rising significantly. The growth between the period of 1992 since 2001 is 22% (Source: Appendix C).

SWEDEN

Sweden is a country, which is located in the northern part of the European Unions borders and it is the third largest country in EU in terms of area. It has a population of nearly 9 million people, with the biggest city being the capital of Stockholm. Sweden has accomplished a high standard of living and has a modern distribution system with exceptional communications and a skilled labour force.

The economic situation the last year was weakening and the growth prospects are not the best. Being reliant on exports for nearly half of the GDP, the effects of the international events have been very significant on the local economy. Despite that, the construction market has been growing over previous years and will continue to grow over the next years. The construction industry is one of the largest industries in Sweden and is contributing to the above mentioned prosperity. The Swedish construction is highly developed and in international terms, highly industrialised. Prefabrication is widespread and project management skills are advanced. These factors helped to create large construction companies as well as internationally competitive consulting firms. A few large companies dominate in the construction sector. The largest of all is SKANSKA that is a pure builder contractor and project developer and is active in around 50 countries. Other companies are NCC, Peab and JM. Overall construction investments are allocated approximately as follows by subsector: housing for 33%, miscellaneous private and public building for 34%, infrastructure for 24% and the remaining 9% is on industrial construction. (The Swedish institute, 2001)

The number of our imported inputs from the other EU countries in construction production seems to be rising. In 1995 their value was at 127 million Euro, while in 2001 was 160 million Euro. These imports have a linear relationship with the construction output which is given from the equation $y=0.0207x - 0.2171$. The R^2 value of 0.76 is relatively high and means that almost 76% of the variation on imported goods is explained from our model. This means that there is a clear relationship between these two variables and that our chosen model fits our data in a satisfactory degree (Source: Appendix C).

The ratio of imported inputs from the rest EU countries over the Swedish total construction output has been growing from 1995, when Sweden joined the SEM. However the best fit line between our points is the less steep than all the countries that were examined above besides the Netherlands where there is a decline in the ratio.

FINLAND

Finland entered into the European community in 1995, in the same year as did Sweden and Austria. It has a population of 5.195 million people in 2001 more than it was in 1995 with 5.117 million people. It is a reasonably rich country with 25,800 Euro in GDP per capita in 2001 (FIEC,2001).

The local construction output was contributing for the 2.1% of the European Union's total output in 2000 and 2001 respectively. The imports to the construction industry from the rest of the EU countries were higher in 2001, than it was in 1995. The difference is nearly 12, million Euro. The construction output has been rising too and from 1995, it was 12.9 billion Euro and by 2001 it was 19.1 billion Euro. It is clear that the construction output is rising faster than the EU imported materials and services. For this reason the ratio between them is decreasing. Only in 1998 the ratio has a greater value than in the first time of entering in the union in 1995. Construction output had during this period strong growth which reached 11.4% units in 1998. Before Finland join the EC and from 1990 to 1995 the output was decreasing (Source: Appendix C). This could be a reason to say that entrance in EU could have been

beneficial for the country's construction industry.

The imports have a linear relationship with the construction output which is given by the equation y=0.0028x+0.0098. The MPI then is 0.3 Eurocent for a Euro increase in construction output.

The Finnish international contractors have strengthened their positions in other countries after 1995 through acquisitions or mergers. There is a clear trend that international operations are managed through local subsidiaries companies. The share of such subsidiaries in the total invoice in 2001 will be about 50% (FIEC, 2001).

AUSTRIA

Austria joined EC during 1995. It has a population of 8.086 million people, slightly more than 1995 when it was 8.046 million. The economy is growing well since then, with the GDP having a slow growth near to the average of the EU.

The total output of the construction sector is remaining stagnant during the period of the 7 years. The imported materials and services from the other EC countries are rising during this period by 32% (Source: Appendix C). From the graph in the appendix we can see clearly through a very good linear approximation that the imports are rising steadily and the growth rate is higher than the growth of the total output of the construction sector in Austria.

The imports cannot be related clearly with the output because our regression had come with a low coefficient of regression with value near 0.17. Nevertheless for this regression the MPI is increasing by 2.7 Eurocent for one Euro increase in the GDP for construction.

7. CONCLUSION

7.1 CONCLUSION AND PROOF OF HYPOTHESIS

In conclusion, the implementation of a single market via the European Union has been shown to lead to an overall increase in the trade of construction products between the EU countries. The trade of construction products between these countries has grown. This indicates that the EU countries have transferred their trade from the rest of the world to trade with other countries from within the Union. Therefore the European Union's aims of reducing trade barriers between the countries directly through tariffs, and indirectly through the standardisation of product specifications, seems to have proved successful with regards to the construction industry.

In the individual country studies we can see how the construction industry of every country reacted to the single European market. We should observe that the political success of the SEM program led to a wave of optimism within Europe. In part this optimism also led to an investment boom. EU investment rose from the late 1980s and it is notable how European Free Trade Association (EFTA) firms diverted their investment to the EU. Furthermore there has been a merger boom as European firms positioned themselves in the new market. In all the countries we can see a growth of imports from the other member states. In some countries this happens very fast and in others it occurs at a slower rate. In France and Italy for example, the growth rate is quite high, significantly greater than the growth of the local output of the construction sector. In others, such as Sweden the growth is slower. The only country that is showing a decline in these imports from the other EU countries is the Netherlands. The imports also seem to have a strong relationship with the total output of most of the countries in this study.

The European Commissions' construction confidence indicator also shows the non-synchronisation of the differing business cycles experienced by the countries within the European Union and so there are even more benefits to be gained from EU membership. When one country experiences a downfall in demand, they can export

construction products and services to another EU country that is experiencing a growth in that sector. Other opportunities also exist where countries with excess supply of skilled workforce in construction can 'export' their workforce to countries that lack skilled labour. However, Germany has an excess supply of skilled construction workers and yet France still remains with a shortage of labour – this reflects how the idea of labour transferability across countries within the EU being a simple process, may be unrealistic in practice. Each country's circumstances are different, and people may simply be unwilling to move across country borders so freely to find work – foreign companies may also remain prejudiced against those people who have foreign qualifications.

The EU's reduction of barriers between member countries has been shown to have increased trade between these countries – but there may be a cost. It was examined that the impact of putting tariffs against the rest of the world may exclude the actual 'most efficient' producer of the good and could possibly mean that companies within the EU may be less inclined to increase their efficiency because there is no longer any real competition from the rest of the world (where there is in some circumstances considerably cheaper labour costs).

There is also the impact of the standardisation of product specifications whether these products will actually meet the specifications will be a question to research. There is also the fact that testing all the products to ensure that they conform to the standards will prove to be very costly in both time and money. Therefore actual efficiency could be reduced. The EU's focus upon environmental issues may incur further costs, because many countries will maybe have not been so concerned with the environment previously – however, there is no argument against the fact that the environmental considerations are of course of great importance and enforcing such regulations will reduce social costs caused by pollution and other environmental issues.

All these effects remain to some extent predictions because of the short period that was examined of ten years. They are only very broad indicators of likely effect. It is only a start to explore the actual effects of the SEM. However we should observe that the current study shows a success of the SEM program. The uptrade in intra – EU

manufacturing trade during the period examined is reflecting that. Thus, there is at least some sign that the SEM is having the significant effects predicted for it.

It is true that we are in a period of significant changes, but the construction industry can look to the future with hope and optimism. In spite of fears of some people the introduction of the SEM has been a success. The introduction of the Euro in 1/1/2002 is a new challenge but it will bring Europe closer carrying to great weight at world-wide level, and this will be a great advantage to our companies.

7.2 VALUE OF REASEARCH

This report will be useful to have a good idea of the current situation in the construction industry in Europe and the route that this followed after the establishment of the single Market. The successes of the model allow us to look the future with hope and optimism. It is in our interest to make any effort to ensure that the integration has taken place successfully.

7.3 INTERESTED PARTIES

The sector of the industry that may be interested more from the outcome of this report is the building material sector. Companies could find that there are new markets that may be interested in their products as a result of the competitive prices that the removals of the tariffs are creating. However contractors and designers could not stay unconcerned as standards are harmonized and so the costs of expanding in the other markets are reducing. Furthermore their bargaining power is bigger in the new market. The market is more competitive and efficient for everybody with more buyers and sellers.

7.4 RECCOMMENDATION FOR FURTHER REASEARCH

Further research could be done upon the effects of the Euro on the construction industry in the EU. We would expect that this would boost the trade further. However, in order to assess the effects fully, it may be required to wait until more time has passed. This is because the Euro was introduced on the 1st of January of 2001, which is a very short period in which to measure any effects accurately and make assumptions.

BIBLIOGRAPHY

Barrett N.***Construction Law*** Vol 10 Issue 4 May 1999 p1

Beckers S., **'Investment Implications of a Single European Capital Market'**, The Journal of Portfolio Management

Commission of the EU, **'One Market, One Money, European Economy'**, No 44, October 1990, p.19

DETR, **'A study of the UK building materials sector'**, September 2000
Engineering News Record, Dec 4, 2000

ESYE (Hellenic National Statistical Office), **'Hellenic Construction Output'**, 2001

EUROCONSTRUCT, **'European Countries Output'**, 2001

European Commission Enterprise DG **'Effects of Regulation and Technical Harmonisation on the Intra-Community Trade in Construction Products'**, WS Atkins International, September 2000

European Construction Industry Federation (FIEC), **'Construction activity in Europe'**, 2001

EUROSTAT, **'Intra-EU trade'** 2001

Gujarati, Damodar N. **'Essentials of Econometrics'**, McGraw Hill, 2nd edition, 1998
IOBE (Institute of Economic and Industry Research),**'Greek National Report'**, 2001

J.P.MORGAN, **'Country Forecasts'**, Construction and Building Material Sector, London, February 4, 2001

Mackintosh M. et al, **'Economics and changing economies'**, 1996, The Open

University

Molle W. **'The Economics of European Integration. Theory, Practice, Policy'** Dartmouth Publications, 1990

Mpizopoulos, **'The Perspective of Greek Construction Companies in EU market'**

Spencer Chapman N. F. and Grandjean C., **'The construction Industry and the European Community'**, Country studies, p. 234

The Economist, **'A survey of EMU'**, April 11, 1998

WEBSITES

http://bativille.cstb.fr/CIB_Reports_pdf/gr.pdf

http://www.si.se/docs/infosweden/engelska/fs130a.pdf, **The Swedish institute**

www.Europa.eu.int **(European Union Website),**

http://www.teeam.com/teeam/articles/industry_article_2a.html

http://www.irishconstruction.com/REPORTS/abroad/abroad/uk00.html

APPENDIX A – PRODUCT SPECIFICATION

681091 .88- PREFABRICATED STRUCTURAL COMPONENTS FOR BUILDING OR CIVIL ENGINEERING OF CEMENT, CONCRETE OR ARTIFICIAL STONE, WHETHER OR NOT REINFORCED

691090 .88- CERAMIC SINKS, WASH BASINS, WASH BASIN PEDESTALS, BATHS, BIDETS, WATER CLOSET PANS, FLUSHING CISTERNS, URINALS AND SIMILAR SANITARY FIXTURES (EXCL. OF PORCELAIN OR CHINA, SOAP DISHES, SPONGE HOLDERS, TOOTH-BRUSH HOLDERS, TOWEL HOOKS AND TOILET PAPER HOLDERS)

722840 .88- BARS AND RODS OF ALLOY STEEL OTHER THAN STAINLESS, NOT FURTHER WORKED THAN FORGED (EXCL. PRODUCTS OF HIGH-SPEED STEEL OR SILICO-MANGANESE STEEL)

73089051 .88- PANELS COMPRISING TWO WALLS OF PROFILED 'RIBBED' SHEET, OF IRON OR STEEL, WITH AN INSULATING CORE

730890 .88- STRUCTURES AND PARTS OF STRUCTURES, OF IRON OR STEEL, N.E.S. (EXCL. BRIDGES AND BRIDGE-SECTIONS, TOWERS AND LATTICE MASTS, DOORS AND WINDOWS AND THEIR FRAMES, THRESHOLDS FOR DOORS, PROPS AND SIMILAR EQUIPMENT FOR SCAFFOLDING, SHUTTERING OR PIT-PROPPING)

731815 .88- THREADED SCREWS AND BOLTS, OF IRON OR STEEL, WHETHER OR NOT WITH THEIR NUTS AND WASHERS (EXCL. COACH SCREWS AND OTHER WOOD SCREWS, SCREW HOOKS AND SCREW RINGS, SELF-TAPPING SCREWS, LAG SCREWS, STOPPERS, PLUGS AND THE LIKE, THREADED)

490600.88- ARCHITECTURAL PLANS AND DRAWINGS, TECHNICAL DRAWINGS AND OTHER PLANS AND DRAWINGS FOR INDUSTRIAL, COMMERCIAL, TOPOGRAPHICAL OR SIMILAR PURPOSES, BEING ORIGINALS DRAWN BY HAND; HAND-WRITTEN TEXTS; PHOTOGRAPHIC

REPRODUCTIONS ON SENSITIZED PAPER AND CARBON COPIES OF THE ABOVE-MENTIONED PLANS, DRAWINGS AND TEXTS

860400 .88- RAILWAY OR TRAMWAY MAINTENANCE OR SERVICE VEHICLES, WHETHER OR NOT SELF-PROPELLED -FOR EXAMPLE, WORKSHOPS, CRANES, BALLAST TAMPERS, TRACKLINERS, TESTING COACHES AND TRACK INSPECTION VEHICLES

APPENDIX B – PRODUCT STATISTICS

TABLE A1

68109188		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Imports-Arrivals		INTRA-EU TRADE									
		1010									
0	EUR	151573	94123	96390	115114	141353	133605	165925	199230	191140	176412
1	France	24299	19415	18435	16921	21721	16600	20636	27389	28808	38174
2	Belg.-Luxb	14921	8334	9921	10523	11426	14973	16865	-	-	-
3	Netherlanc	43191	19303	28033	30676	34003	31726	46261	60501	42222	30815
4	Fr Germar	56688	39449	30249	33932	42869	34613	42722	39584	33712	23612
5	Italy	2254	1421	1595	2124	2166	2865	2227	2591	4092	5163
6	Utd. Kingd	4157	2820	6275	5506	12005	11816	8320	7847	11242	6559
7	Ireland	1390	815	464	890	2420	3112	3051	3200	5996	8227
8	Denmark	259	562	121	360	976	2612	10381	14882	17192	14553
9	Greece	7	50	2	191	875	327	843	978	1237	926
10	Portugal	313	517	473	1005	3166	6559	6880	6260	2574	4484
11	Spain	4094	1438	822	834	974	981	2062	4494	4590	3551
17	Belgium	-	-	-	-	-	-	-	19167	20918	19782
18	Luxembou	-	-	-	-	-	-	-	3837	6914	7800
30	Sweden	-	-	-	7820	4277	2170	1148	3013	2755	1613
32	Finland	-	-	-	119	221	386	673	478	953	776
38	Austria	-	-	-	4215	4254	4866	3856	5009	7936	10378

Source: EUROSTAT

TABLE A2

68109188		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Exports-Expeditions		INTRA-EU TRADE									
		1010									
0	EUR	159650	169441	202855	284207	262907	246055	363238	332334	321844	309728
1	France	9957	11478	12381	17071	23173	25099	23429	23774	26301	15761
2	Belg.-Luxb	58532	65580	75098	126174	100990	99989	117328	-	-	-
3	Netherlanc	27731	17657	23365	19536	17420	14873	18654	18517	24898	18513
4	Fr Germar	23290	14683	16878	17831	19800	22521	30614	24289	31820	35743
5	Italy	3240	2785	4833	5518	4764	2333	2759	2179	5312	9204
6	Utd. Kingd	2580	5284	6344	8453	12653	16493	17689	15979	22612	22511
7	Ireland	168	1403	1683	4236	7563	11025	2949	4264	2795	961
8	Denmark	33340	50064	61824	61025	59913	37680	22772	21816	20383	14328
9	Greece	0	-	-	5	-	10	-	3	-	12
10	Portugal	349	251	-	118	-	30	151	321	696	2520
11	Spain	463	256	448	1168	2289	3627	116200	63926	8928	8557
17	Belgium	-	-	-	-	-	-	-	136516	154542	160679
18	Luxembou	-	-	-	-	-	-	-	9589	9458	9196
30	Sweden	-	-	-	5790	777		445	1545	3806	3004
32	Finland	-	-	-	7076	4889	2501	2849	2980	3535	2371
38	Austria	-	-	-	10208	8677	3106	7400	6645	6757	6370

Source: EUROSTAT

FIGURE A1

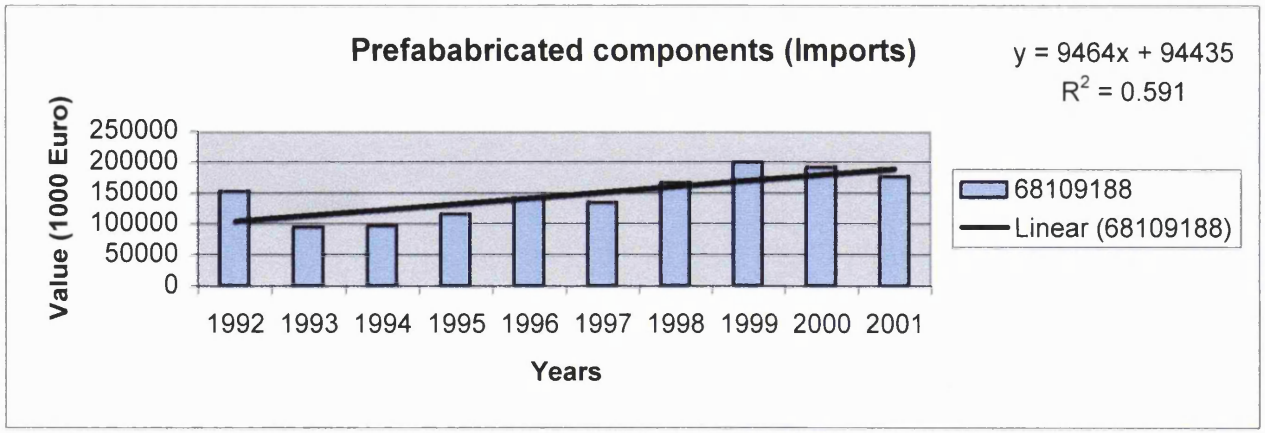


FIGURE A2

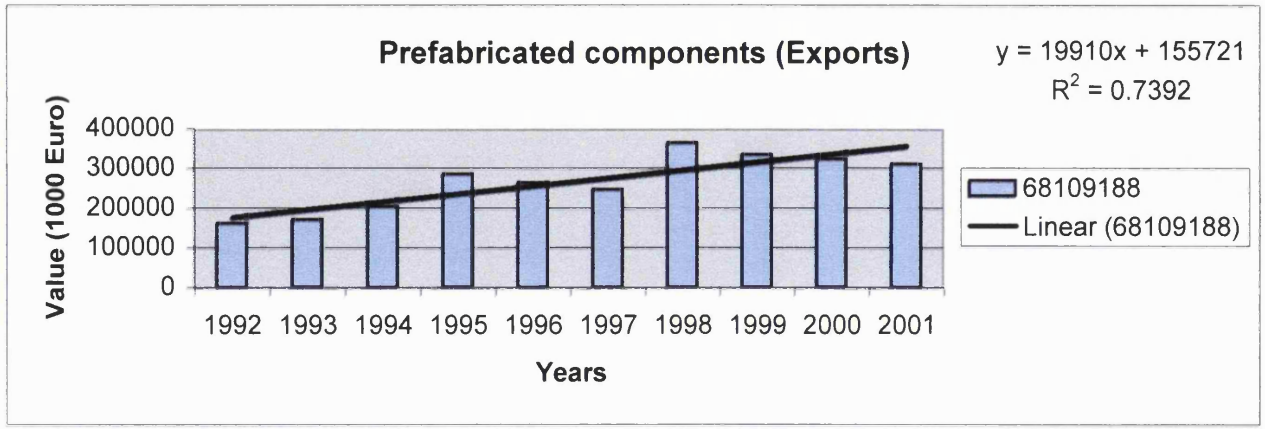


TABLE A3

69109088		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Imports-Arrivals		INTRA-EU TRADE									
		1010									
0	EUR	96105	59601	72964	85013	95408	102134	96548	114183	129389	129616
1	France	15564	12846	11419	10477	11031	12457	16534	18463	23201	26313
2	Belg.-Luxb	17503	7072	10225	10827	8731	8464	7783	-	-	-
3	Netherlanc	4791	6069	8233	7573	11386	10397	10197	11849	10883	9596
4	Fr Germar	37186	19447	26380	26047	29057	27928	18475	27674	25589	20860
5	Italy	4524	3437	5706	8128	7897	5612	6626	7396	8237	5958
6	Utd. Kingd	7771	3081	3124	3125	4437	7693	4170	4658	14640	10518
7	Ireland	3398	1518	1537	2378	2263	3466	4605	4208	4057	8176
8	Denmark	421	485	380	2719	1688	3918	5921	2832	1287	1680
9	Greece	948	1632	2028	2137	2868	3634	3954	3881	2789	3214
10	Portugal	1835	1807	1685	2353	2415	2654	2561	2726	2764	4496
11	Spain	2164	2208	2245	3167	3423	4339	5973	7870	11777	14447
17	Belgium	-	-	-	-	-	-	-	6111	6655	4895
18	Luxembou	-	-	-	-	-	-	-	1236	1518	1210
30	Sweden	-	-	-	289	261	208	130	547	310	461
32	Finland	-	-	-	170	364	245	155	265	278	281
38	Austria	-	-	-	5623	9585	11120	9465	14467	15403	17511

Source: EUROSTAT

TABLE A4

69109088		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Exports-expeditions		INTRA-EU TRADE									
		1010									
0	EUR	125787	61837	70058	86746	86706	96768	96964	107659	124952	137303
1	France	44381	29539	25691	27995	24315	26503	27109	29226	32066	28427
2	Belg.-Luxb	1580	1516	1351	2516	2958	3230	3527	-	-	-
3	Netherlanc	1241	426	737	441	327	497	515	692	408	214
4	Fr Germar	5354	4643	4882	10031	9998	10505	12271	12679	16400	18259
5	Italy	40359	21676	31307	32772	37641	42914	38635	44427	54452	66760
6	Utd. Kingd	3388	1005	1121	1171	2234	2889	2340	2399	909	768
7	Ireland	850	-	4	-	1	68	192	174	168	196
8	Denmark	36	976	1014	4914	852	1417	1272	1415	1459	1603
9	Greece	5	12	211	137	29	41	4	5	4	-
10	Portugal	25952	382	1742	2080	3338	5594	7110	7821	8481	9413
11	Spain	2640	1663	1999	2739	2270	963	1188	2004	3060	3507
17	Belgium	-	-	-	-	-	-	-	4348	4994	4474
18	Luxembou	-	-	-	-	-	-	-	11	10	8
30	Sweden	-	-	-	103	57	13	26	20	132	76
32	Finland	-	-	-	40	26	9	35	48	1	7
38	Austria	-	-	-	1806	2661	2126	2738	2392	2410	3591

Source: EUROSTAT

FIGURE A3

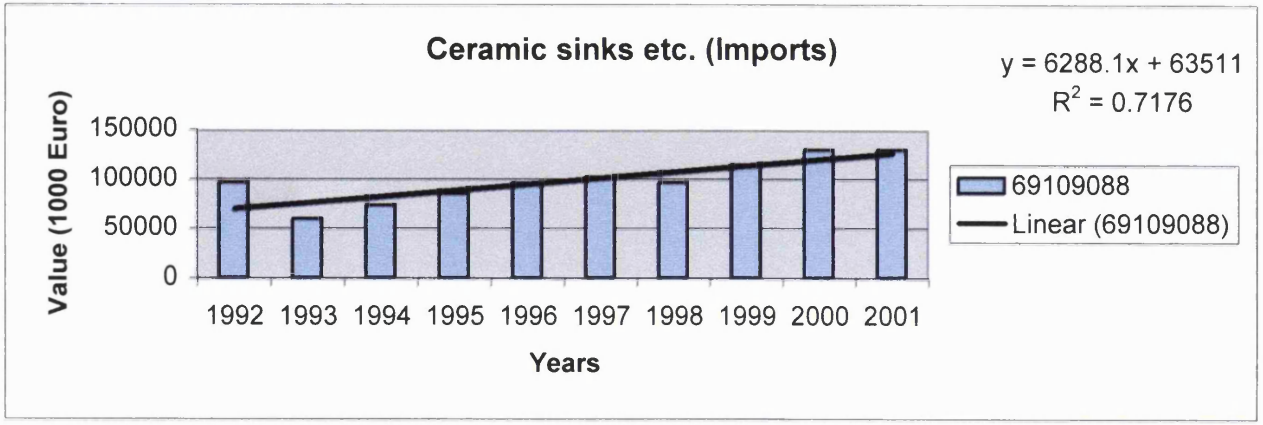


FIGURE A4

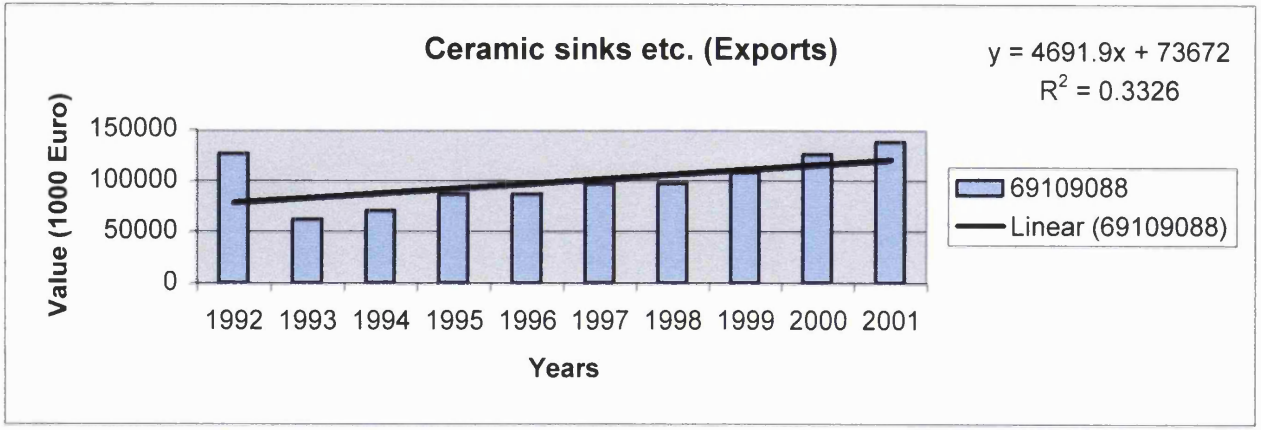


TABLE A5

72284088		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Imports-Arrivals		INTRA-EU TRADE									
		1010									
0	EUR	56648	60941	77028	186453	171297	142560	178064	157679	162354	184393
1	France	9892	11310	12746	25862	27264	19017	19940	17775	22407	23872
2	Belg.-Luxb	4955	3730	4333	8456	7151	7300	9710	-	-	-
3	Netherlanc	3427	2760	3970	7324	6037	4828	6083	3907	5392	4709
4	Fr Germar	3200	7306	10093	31371	31669	18900	33593	33674	32601	44745
5	Italy	14151	10428	14827	37396	38267	39596	44079	46417	45635	49425
6	Utd. Kingd	13036	17078	16191	19308	16921	18772	17699	9293	9968	13594
7	Ireland	828	198	140	158	99	11	34	175	495	816
8	Denmark	786	1616	2971	6781	4366	2832	3121	3993	2915	3089
9	Greece	200	159	355	1106	1090	1155	1167	1036	692	524
10	Portugal	2247	2811	4298	5887	5961	4494	4907	5768	6036	4518
11	Spain	3927	3544	7103	11115	9849	8191	10828	7604	10342	10112
17	Belgium	-	-	-	-	-	-	-	6032	5815	5637
18	Luxembou	-	-	-	-	-	-	-	438	343	425
30	Sweden	-	-	-	5552	5250	3590	4978	2579	1821	2207
32	Finland	-	-	-	6031	6246	4727	5830	5554	6273	6351
38	Austria	-	-	-	20108	11129	9148	16094	13433	11619	14369

Source: EUROSTAT

TABLE A6

72284088		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Exports-expeditions		INTRA-EU TRADE									
		1010									
0	EUR	57831	55388	72642	167860	173146	155119	197171	175787	181173	171823
1	France	3615	2696	4714	8541	5846	8901	12777	9207	11371	11623
2	Belg.-Luxb	255	1838	1325	8126	12347	7320	13105	-	-	-
3	Netherlanc	571	1036	1823	3752	3181	2457	2791	4817	2074	3023
4	Fr Germar	50699	44781	59759	91254	98786	73563	100498	82759	82871	87832
5	Italy	514	1424	1528	2418	1826	981	1605	1808	1926	4687
6	Utd. Kingd	683	1454	1721	3649	2999	3137	2973	1856	1615	2555
7	Ireland	607	1	-	-	-	-	-	-	-	-
8	Denmark	1	141	96	-	-	-	3	-	-	-
9	Greece	-	-	-	-	-	-	2	-	-	40
10	Portugal	0	403	24	3530	146	5340	7800	10722	23647	2304
11	Spain	886	1614	1653	3393	6523	7265	9139	6204	7181	6843
17	Belgium	-	-	-	-	-	-	-	17237	9877	13749
18	Luxembou	-	-	-	-	-	-	-		-	-
30	Sweden	-	-	-	34751	33416	37864	36064	33462	33661	27800
32	Finland	-	-	-	8	-	-	-	1	-	-
38	Austria	-	-	-	8440	8076	8291	10416	7714	6951	11367

Source: EUROSTAT

FIGURE A5

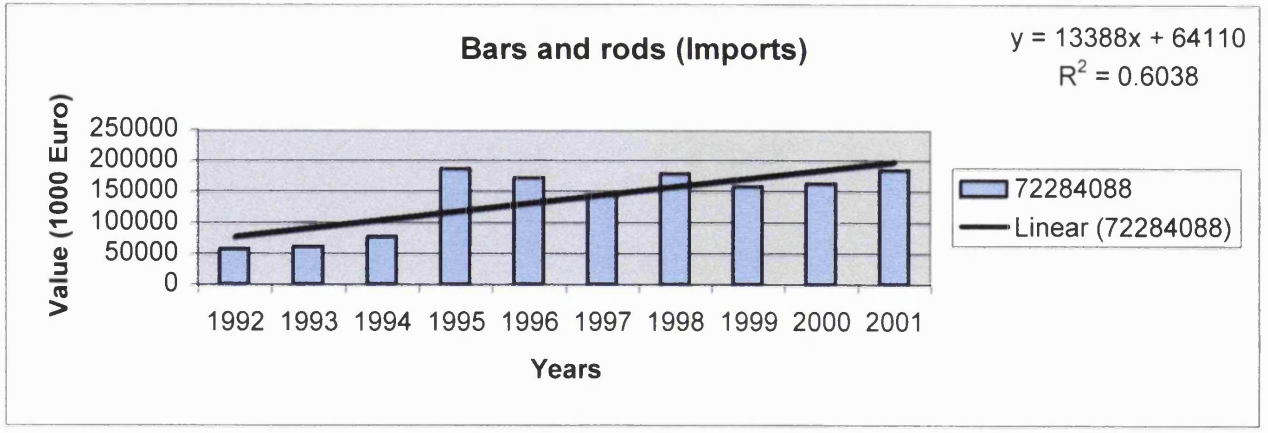


FIGURE A6

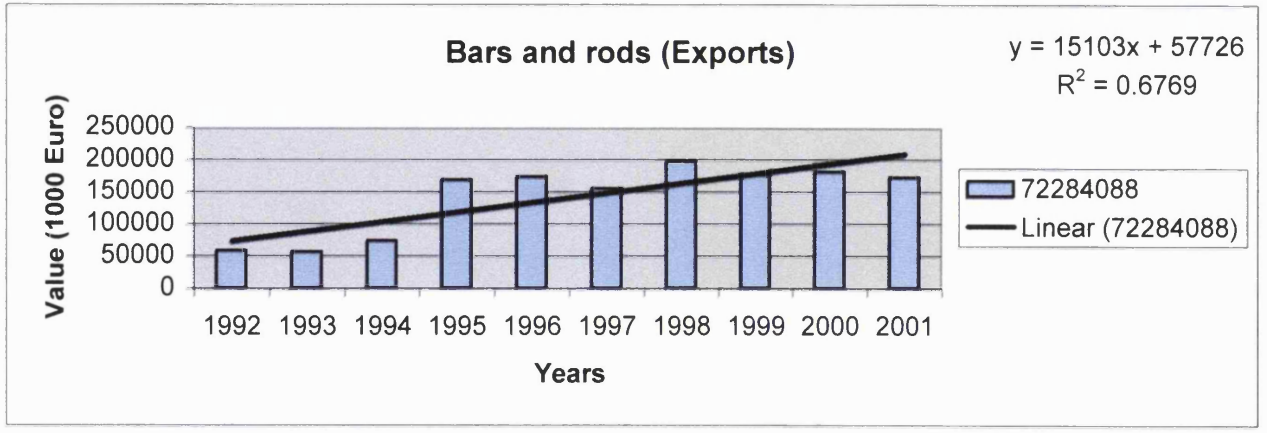


TABLE A7

73089088		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Imports-Arrivals		INTRA-EU TRADE									
		1010									
0	EUR	1832382	984969	1051050	1429986	1506199	1470091	1629568	1742809	1812256	1829874
1	France	292621	176761	193795	219195	241984	223106	242237	272677	342817	357590
2	Belg.-Luxb	264183	129669	144805	158030	192795	163394	158935	-	-	
3	Netherlanc	289580	129174	169639	215441	178148	178398	200851	180916	170714	158833
4	Fr Germar	550116	309055	309286	393793	411897	363831	438078	444003	335048	327175
5	Italy	75665	26241	21327	36082	41702	45562	53695	66367	92445	87507
6	Utd. Kingd	128164	62614	56694	76744	63277	99283	129509	133870	114555	97185
7	Ireland	19828	14443	16438	20363	29628	52804	50040	59132	75858	89326
8	Denmark	78528	76119	71871	99018	106533	108366	107487	106661	114565	134330
9	Greece	16645	15333	22884	20862	19948	19495	20077	25706	53346	38775
10	Portugal	31646	21208	14995	17489	23127	30157	31111	28330	31337	49002
11	Spain	85404	24352	29315	38141	39026	40137	42981	61207	70155	59655
17	Belgium	-	-	-	-	-	-	-	173306	192556	205414
18	Luxembou	-	-	-	-	-	-	-	24589	32760	25431
30	Sweden	-	-	-	28599	38089	31270	36110	35859	50849	47757
32	Finland	-	-	-	17643	14881	14832	21608	19608	23088	24810
38	Austria	-	-	-	88584	105166	99457	96848	110579	112164	127087

Source: EUROSTAT

TABLE A8

73089088		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Exports-expeditions		INTRA-EU TRADE									
		1010									
0	EUR	2062259	1575979	1352039	1864954	1995647	1915936	2013684	2201823	2406677	2501341
1	France	362423	198687	209532	227157	230678	249055	250642	277511	284439	263498
2	Belg.-Luxt	326748	235012	242322	274010	278070	277258	284054	-	-	
3	Netherlanc	536224	505564	288800	290037	305438	251743	252181	255083	253956	191701
4	Fr Germar	385793	284022	247453	332615	361553	353440	426518	451140	494212	555257
5	Italy	129552	81543	93507	132177	141360	145587	172423	207622	224219	236963
6	Utd. Kingd	91680	82654	78575	83845	141016	144835	136211	166082	172909	229710
7	Ireland	15919	22643	26579	35274	39173	51485	45568	35982	42912	37244
8	Denmark	138690	130666	126439	170680	137018	123938	131754	151786	148029	138500
9	Greece	1743	922	1382	2691	2903	2089	6091	5351	5653	12020
10	Portugal	2089	2009	3418	5002	6268	6238	10043	17155	18369	18116
11	Spain	71396	32257	34035	39212	70047	58813	49823	55846	72660	66262
17	Belgium	-	-	-	-	-	-	-	293166	365865	369562
18	Luxembou	-	-	-	-	-	-	-	11980	12093	19214
30	Sweden	-	-	-	71949	80273	83388	71303	78207	90747	81390
32	Finland	-	-	-	76557	81405	71549	66300	72998	96992	143309
38	Austria	-	-	-	123746	120446	96519	110776	121915	123621	138596

Source: EUROSTAT

FIGURE A7

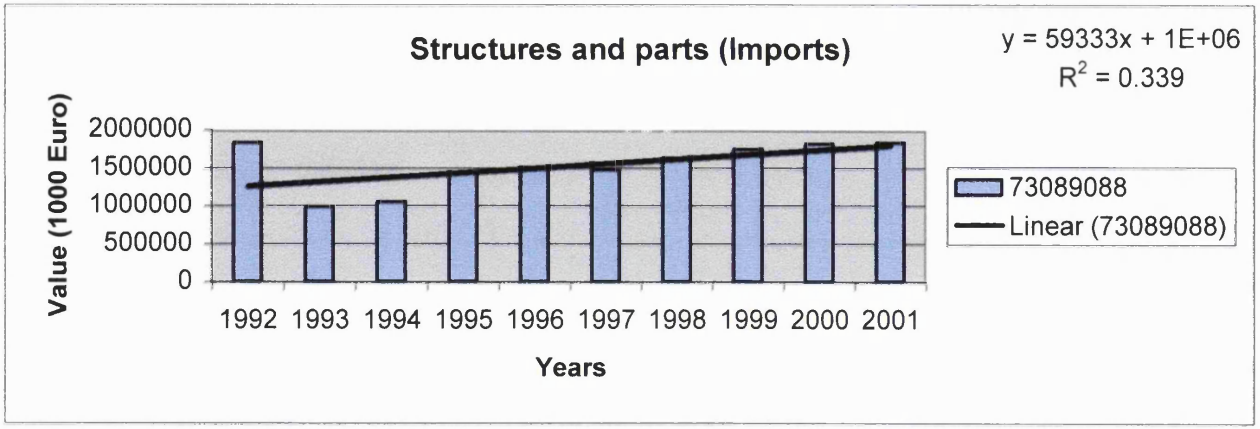


FIGURE A8

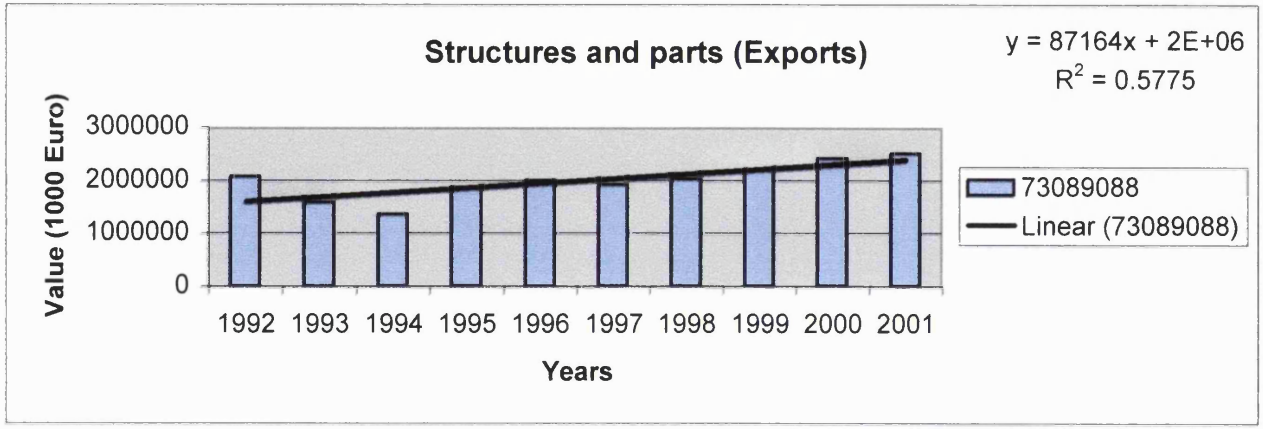


TABLE A9

73089051		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Imports-Arrivals		INTRA-EU TRADE									
		1010									
0	EUR	150548	108665	98643	130954	146679	152292	168646	198008	209212	216144
1	France	29992	18293	19804	24630	24566	25042	28498	36317	44997	42598
2	Belg.-Luxb	16573	12126	17379	14265	26578	22590	17349	-	-	-
3	Netherlanc	30136	19659	22454	32609	27552	32835	30090	29690	27774	35216
4	Fr Germar	30375	26958	19681	21081	32212	20824	26649	29676	19294	24577
5	Italy	9856	2578	1010	4359	1925	3220	5078	5577	4890	3879
6	Utd. Kingd	15430	19903	8394	10291	9136	16004	23342	21933	22793	17089
7	Ireland	951	579	741	1016	1538	5947	6354	5439	7173	7252
8	Denmark	603	1188	1898	2815	3704	4891	4291	5360	7698	6070
9	Greece	3120	4108	2876	2787	3662	3240	4710	7545	7539	5152
10	Portugal	3597	1930	2027	2169	2028	3523	3895	6016	4656	17077
11	Spain	9914	1343	2379	2669	3488	4241	6546	8781	13125	9736
17	Belgium	-	-	-	-	-	-	-	24691	27268	24903
18	Luxembou	-	-	-	-	-	-	-	1441	1653	1633
30	Sweden	-	-	-	4986	4681	4372	4633	8230	10614	8959
32	Finland	-	-	-	2309	979	263	927	978	2331	2105
38	Austria	-	-	-	4967	4631	5301	6283	6333	7408	9897

Source: EUROSTAT

TABLE A10

73089051		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Exports-Expeditions		INTRA-EU TRADE									
		1010									
0	EUR	174415	168246	173271	232801	241651	279181	313251	340537	383613	384720
1	France	58547	47918	52986	59368	65202	66834	65240	69198	51999	48091
2	Belg.-Luxt	2002	1985	2643	2068	4056	3712	3311	-	-	-
3	Netherlanc	22675	20974	22550	30365	17710	12811	18162	16807	19695	13695
4	Fr Germar	46945	41911	35562	43223	40524	39927	49864	51365	58389	58624
5	Italy	15979	21854	26273	33986	36254	45612	55773	75486	93065	102465
6	Utd. Kingd	1641	3196	3384	6010	14268	26633	29899	37505	51730	54347
7	Ireland	7452	17702	19020	27414	34373	46263	41620	30176	36835	33438
8	Denmark	14866	9430	7412	9853	7106	8157	8656	10587	8309	10079
9	Greece	-	-	11	43	220	397	4521	4189	5463	6562
10	Portugal	321	1	-	9	-	-	17	36	36	31
11	Spain	3987	3276	3430	2166	1882	3082	4315	9545	13591	10951
17	Belgium	-	-	-	-	-	-	-	5355	8254	8673
18	Luxembou	-	-	-	-	-	-	-	653	789	792
30	Sweden	-	-	-	4540	3609	6229	5394	5426	5682	4857
32	Finland	-	-	-	13548	14751	18337	23384	18621	22521	23490
38	Austria	-	-	-	208	1695	1188	3094	5588	7254	8624

Source: EUROSTAT

FIGURE A9

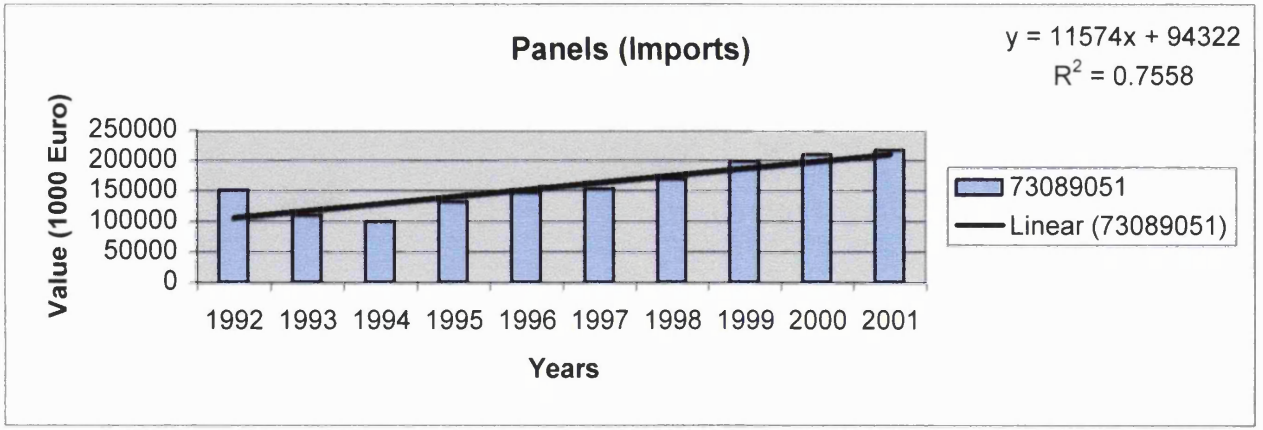


FIGURE A10

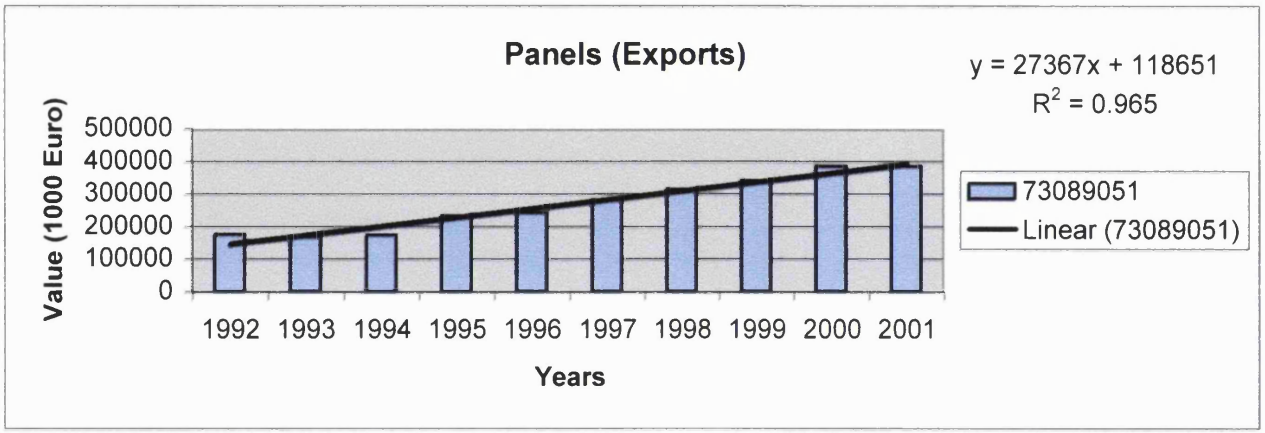


TABLE A11

73181588		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Imports-Arrivals		INTRA-EU TRADE									
		1010									
0	EUR	634453	538724	684335	1046366	1017913	1111870	1247951	1234755	1368641	1381639
1	France	134531	118843	147871	191496	178403	180531	211445	212736	255058	271540
2	Belg.-Luxt	62829	61726	62269	81291	90091	101627	115965	-	-	-
3	Netherlanc	65531	46031	64682	82453	82697	83553	79842	77606	85150	82105
4	Fr Germar	196220	149140	182486	228022	204384	251352	306312	293030	315829	308047
5	Italy	28890	19803	24566	29478	29774	30438	40896	44499	45270	43135
6	Utd. Kingd	62972	59310	79634	96853	110264	133893	122299	124275	121063	118737
7	Ireland	7015	9366	9139	11646	12122	15500	14374	12274	13713	14117
8	Denmark	16154	19944	25538	36906	24918	25374	25114	24265	30449	30811
9	Greece	5308	4128	4226	5214	4725	5048	6352	5504	6760	6228
10	Portugal	11600	7441	9217	15251	20014	21728	22922	23143	25098	24930
11	Spain	43408	42985	74707	84109	93331	94816	106229	121547	129964	129876
17	Belgium	-	-	-	-	-	-	-	106664	123363	149648
18	Luxembou	-	-	-	-	-	-	-	3808	4223	7219
30	Sweden	-	-	-	79246	69402	67065	78578	77125	93505	76173
32	Finland	-	-	-	24024	21452	22631	23904	20936	26915	25093
38	Austria	-	-	-	80376	76333	78316	93726	87336	92285	93982

Source: EUROSTAT

TABLE A12

73181588		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Exports-Expeditions		INTRA-EU TRADE									
		1010									
0	EUR	640293	606566	760780	1118955	1132233	1191270	1371404	1330896	1458995	1389537
1	France	64212	69276	92244	123181	127613	139106	164712	173665	190744	172117
2	Belg.-Luxb	13290	20488	19831	23197	31775	36215	42846	-	-	-
3	Netherlanc	42010	38819	66023	74770	74462	87501	97922	91910	97899	73333
4	Fr Germar	189497	157774	181945	315345	333739	334096	404873	380123	393938	395063
5	Italy	250900	227294	279104	344500	318691	338422	391852	398747	456028	435746
6	Utd. Kingd	26896	43986	61480	74720	85134	97872	97762	88551	82004	72019
7	Ireland	6260	6454	6176	6901	5214	5534	4595	4896	3556	2901
8	Denmark	4529	4592	4271	21169	20815	21373	24960	25208	22995	23298
9	Greece	89	66	17	116	8	142	126	-	25	150
10	Portugal	617	38	222	210	399	440	921	1351	1699	2104
11	Spain	41996	37775	49465	78597	73935	72770	78650	71388	98812	87497
17	Belgium	-	-	-	-	-	-	-	44891	50635	57762
18	Luxembou	-	-	-	-	-	-	-	346	331	558
30	Sweden	-	-	-	40897	44686	43433	46249	36329	41160	45792
32	Finland	-	-	-	2313	2836	3108	2675	2596	4151	4245
38	Austria	-	-	-	13033	12930	11253	13262	10904	15023	16952

Source: EUROSTAT

FIGURE A11

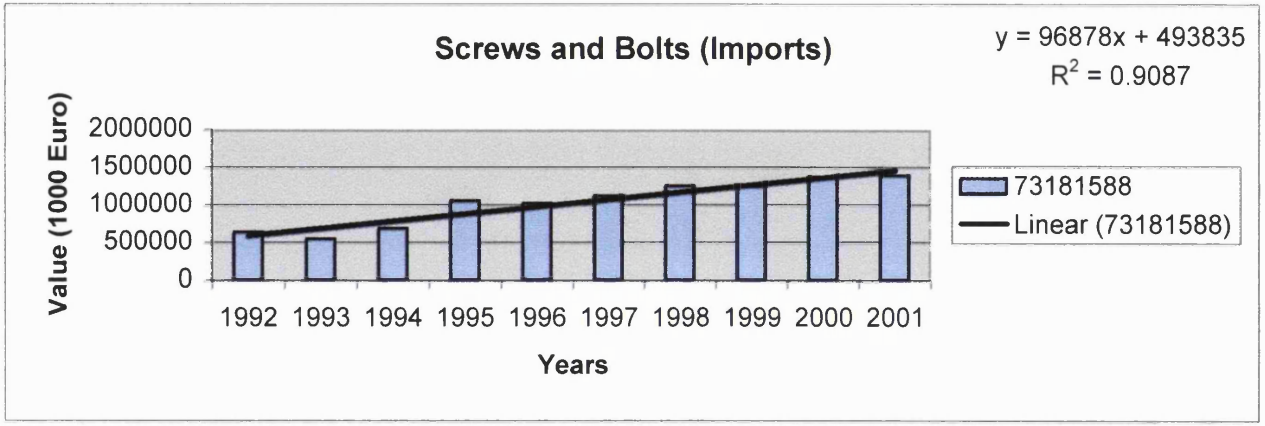


FIGURE A12

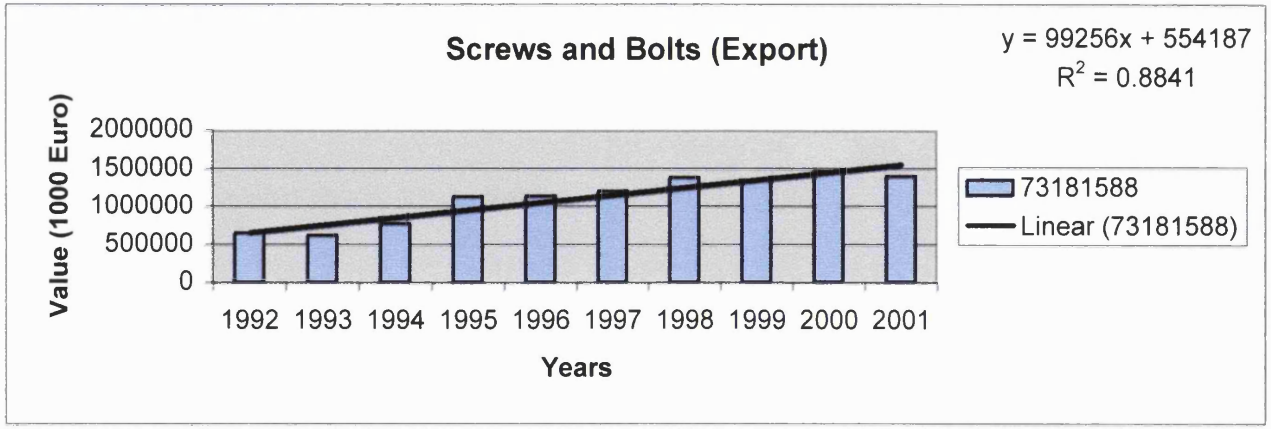


TABLE A13

49060088		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Imports-Arrivals		INTRA-EU TRADE									
		1010									
0	EUR	19361	17870	18748	32175	29879	47123	48867	27169	19829	23089
1	France	1722	3126	2017	2740	6734	17503	15389	2786	3624	6413
2	Belg.-Luxb	1479	2121	1605	2020	1833	1669	2278	-	-	-
3	Netherlanc	3554	1538	4340	3288	2273	2147	1423	2578	953	1117
4	Fr Germar	5750	5412	5159	9905	8004	4067	15699	9259	5093	6734
5	Italy	-	-	-	-	-	-	-	-	-	-
6	Utd. Kingd	979	814	871	2943	2650	2380	2284	2881	1372	916
7	Ireland	274	747	231	429	761	891	1029	1019	742	561
8	Denmark	593	63	73	279	161	239	200	224	287	442
9	Greece	701	649	1523	441	428	409	2668	1686	441	331
10	Portugal	439	291	246	404	573	890	456	486	480	270
11	Spain	3870	3108	2683	6699	4259	12573	4756	2541	3519	2760
17	Belgium	-	-	-	-	-	-	-	1401	796	1227
18	Luxembou	-	-	-	-	-	-	-	285	983	653
30	Sweden	-	-	-	334	583	730	412	213	157	230
32	Finland	-	-	-	49	88	84	141	61	54	92
38	Austria	-	-	-	2645	1532	3542	2133	1749	1326	1345

Source: EUROSTAT

TABLE A14

49060088		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Exports-Expeditions		INTRA-EU TRADE									
		1010									
0	EUR	30332	30741	26790	38489	34555	26560	31806	24663	27367	21888
1	France	3891	6221	11232	10085	4276	3124	2604	3349	4390	4100
2	Belg.-Luxb	648	891	314	590	497	717	533	-	-	-
3	Netherlanc	303	1212	384	336	1986	3655	3693	1389	2244	1876
4	Fr Germar	16166	9844	9302	14202	13778	9851	19591	13043	15559	9124
5	Italy	-	-	-	-	-	-	-	-	-	-
6	Utd. Kingd	2341	3103	1668	3439	4766	1336	855	853	716	986
7	Ireland	219	326	148	430	632	295	233	294	277	175
8	Denmark	111	75	13	195	17	5	10	39	60	29
9	Greece	8	10	17	40	33	47	31	397	5	10
10	Portugal	10	126	13	45	30	23	69	107	44	97
11	Spain	6635	8935	3700	5570	7296	6490	3274	3194	3190	4104
17	Belgium	-	-	-	-	-	-	-	764	266	229
18	Luxembou	-	-	-	-	-	-	-	2	1	-
30	Sweden	-	-	-	611	610	641	578	623	322	64
32	Finland	-	-	-	11	25	14	5	-	4	9
38	Austria	-	-	-	2934	609	362	330	609	289	1085

Source: EUROSTAT

FIGURE A13

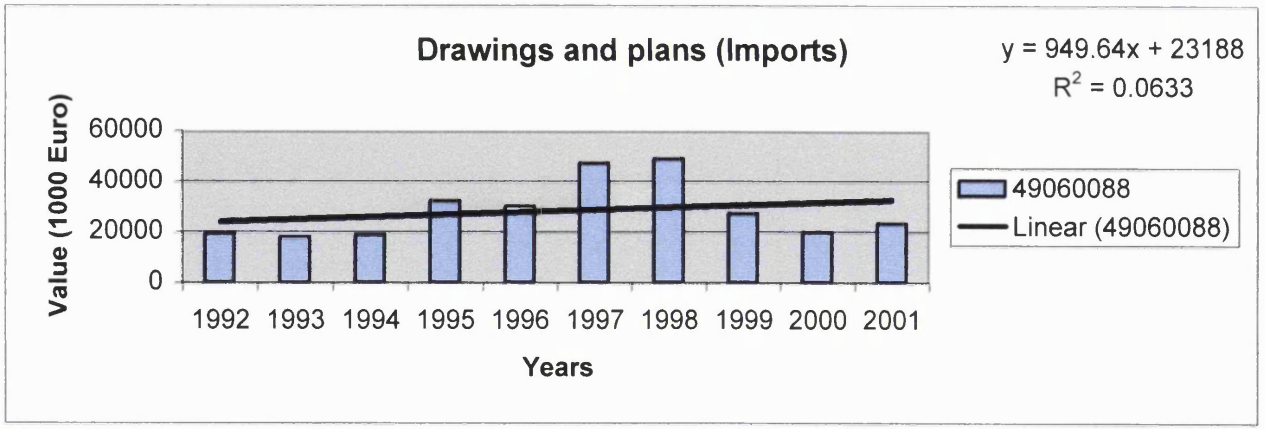


FIGURE A14

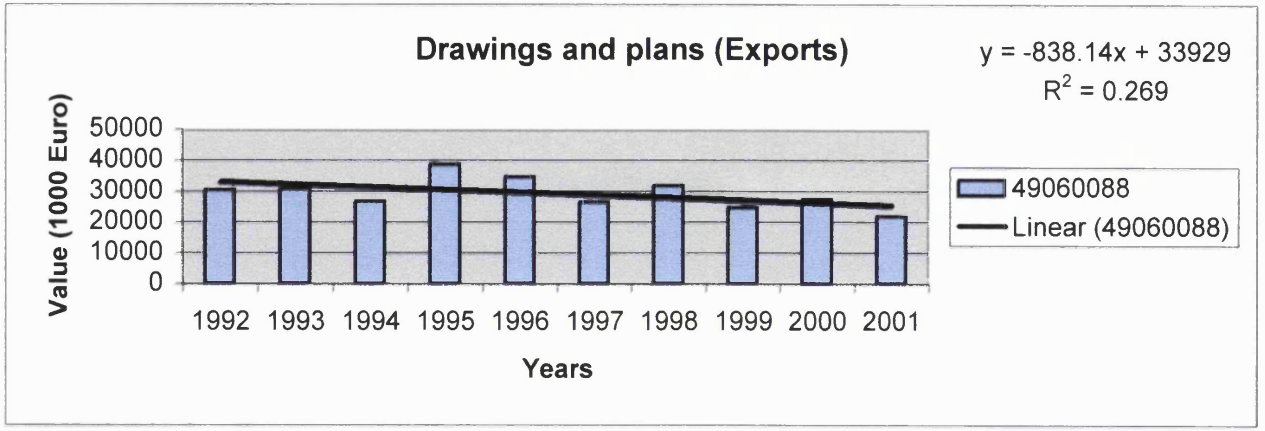


TABLE A15

86040088		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Import-Arrival		INTRA-EU TRADE									
		1010									
0	EUR	21484	24708	27095	40970	52249	90677	129029	83118	60785	73997
1	France	5400	7550	829	2697	5957	21114	25446	34005	2943	12750
2	Belg.-Luxt	2766	2714	2171	9619	6721	5128	11130	-	-	-
3	Netherlanc	237	125	793	166	-	2439	-	644	1175	-
4	Fr Germar	4981	3440	14297	10723	11834	20521	25146	18220	4580	7958
5	Italy	4792	7	5258	8915	7287	23335	29378	4725	2535	16009
6	Utd. Kingd	645	8807	256	239	2701	6703	7697	3650	9636	7704
7	Ireland	112	234	777	457	9	93	91	134	314	47
8	Denmark	2205	86	217	18	526	288	605	3964	3451	8
9	Greece	-	-	-	302	957	30	1103	-	45	1
10	Portugal	66	921	154	1151	5098	3205	1065	2960	1100	1815
11	Spain	280	825	2342	444	1194	2749	4567	293	14647	6781
17	Belgium	-	-	-	-	-	-	-	11205	10018	10692
18	Luxembou	-	-	-	-	-	-	-	898	1225	1715
30	Sweden	-	-	-	557	3269	2029	3828	685	88	19
32	Finland	-	-	-	71	-	1071	16711	344	7042	3375
38	Austria	-	-	-	5611	6696	1974	2262	1390	1986	5124

Source: EUROSTAT

TABLE A16

86040088		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Exports-Expeditions		INTRA-EU TRADE									
		1010									
0	EUR	19933	22388	22693	89310	74808	122868	181638	152350	155223	105312
1	France	843	11988	2043	4620	8707	18123	32535	20316	14433	5257
2	Belg.-Luxb	313	-	-	3525	228	7304	2039	-	-	-
3	Netherlanc	919	613	1115	-	-	-	-	0	9	57
4	Fr Germar	6463	2219	17095	22723	5225	19047	27161	30744	48569	14892
5	Italy	6643	993	2440	14826	8031	20963	40558	15158	2667	1161
6	Utd. Kingd	912	4073	-	162	201	1652	677	196	1038	167
7	Ireland	-	10	-	-	-	217	-	14	33	7
8	Denmark	2786	1082	-	318	17	-	-		-	23
9	Greece	-	-	-	-	-	-	-	22	-	-
10	Portugal	-	-	-	-	-	-	-	-	-	-
11	Spain	1054	1411	-	106	214	150	2082	192	-	2625
17	Belgium	-	-	-	-	-	-	-	5771	-	-
18	Luxembou	-	-	-	-	-	-	-	697	1151	1684
30	Sweden	-	-	-	2	8	10	106	42	-	83
32	Finland	-	-	-	-	-	123	-	-	-	-
38	Austria	-	-	-	43027	52178	55279	76480	79198	87324	79356

Source: EUROSTAT

FIGURE A15

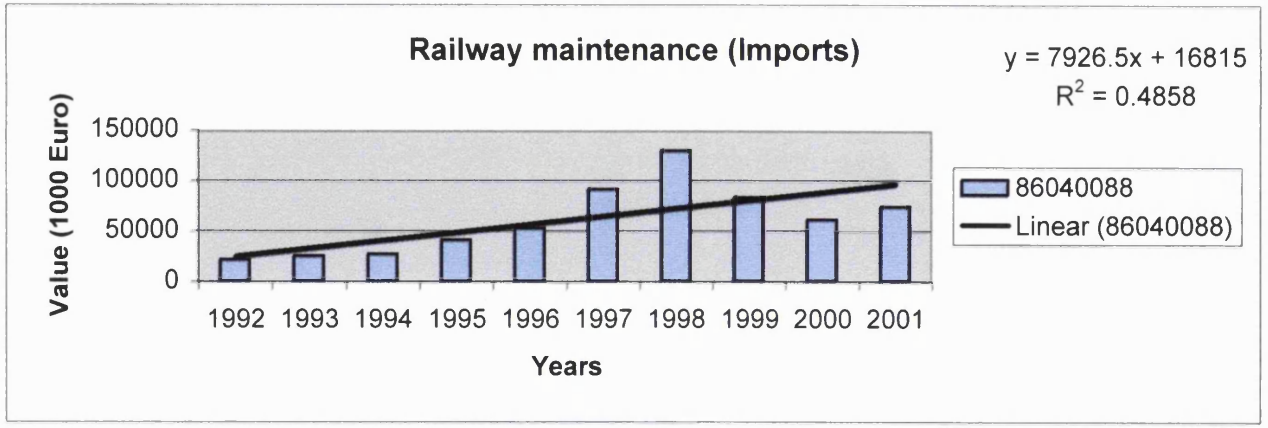
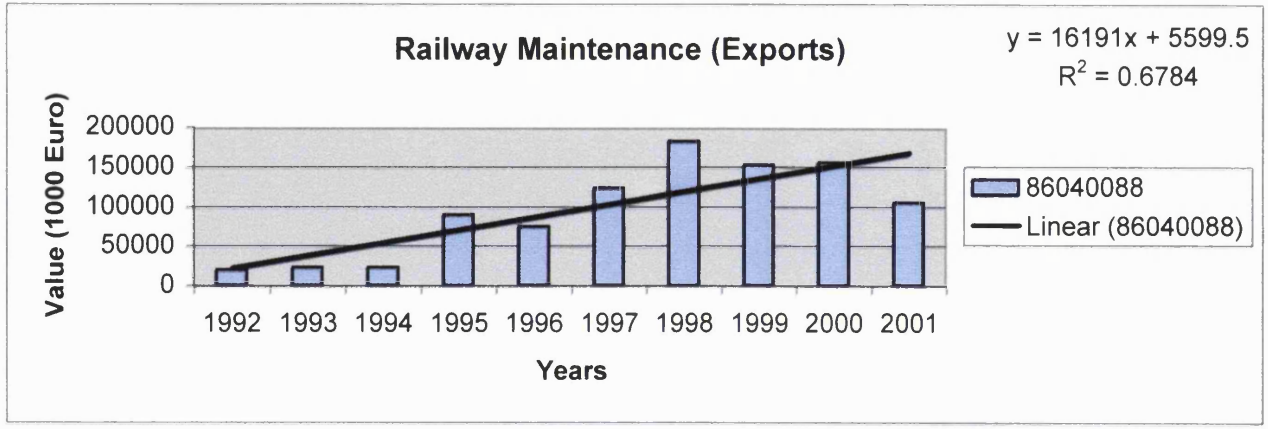


FIGURE A16



APPENDIX C – COUNTRIES STATISTICS

GERMANY

TABLE A17

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	4981	3440	14297	10723	11834	20521	25146	18220	4580	7958
73181588	196220	149140	182486	228022	204384	251352	306312	293030	315829	308047
73089088	550116	309055	309286	393793	411897	363831	438078	444003	335048	327175
73089051	30375	26958	19681	21081	32212	20824	26649	29676	19294	24577
72284088	3200	7306	10093	31371	31669	18900	33593	33674	32601	44745
69109088	37186	19447	26380	26047	29057	27928	18475	27674	25589	20860
68109188	56688	39449	30249	33932	42869	34613	42722	39584	33712	23612
49060088	5750	5412	5159	9905	8004	4067	15699	9259	5093	6734
Total	884516	560207	597631	754874	771926	742036	906674	895120	771746	763708

TABLE A18

Year	Imports	Imp (Bln)	Output Bln	Imports/Output
1992	884516	0.884516	218.9421	0.00404
1993	560207	0.560207	220.2558	0.002543
1994	597631	0.597631	233.9116	0.002555
1995	754874	0.754874	234.8473	0.003214
1996	771926	0.771926	228.0367	0.003385
1997	742036	0.742036	224.6161	0.003304
1998	906674	0.906674	222.37	0.004077
1999	895120	0.89512	225.4832	0.00397
2000	771746	0.771746	219.8461	0.00351
2001	763708	0.763708	207.095	0.003688

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A17

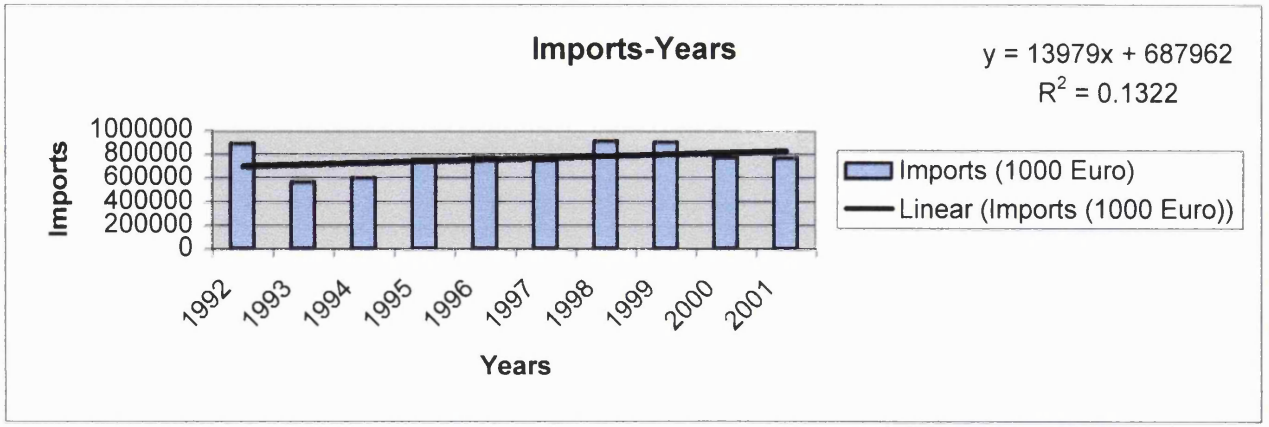


FIGURE A18

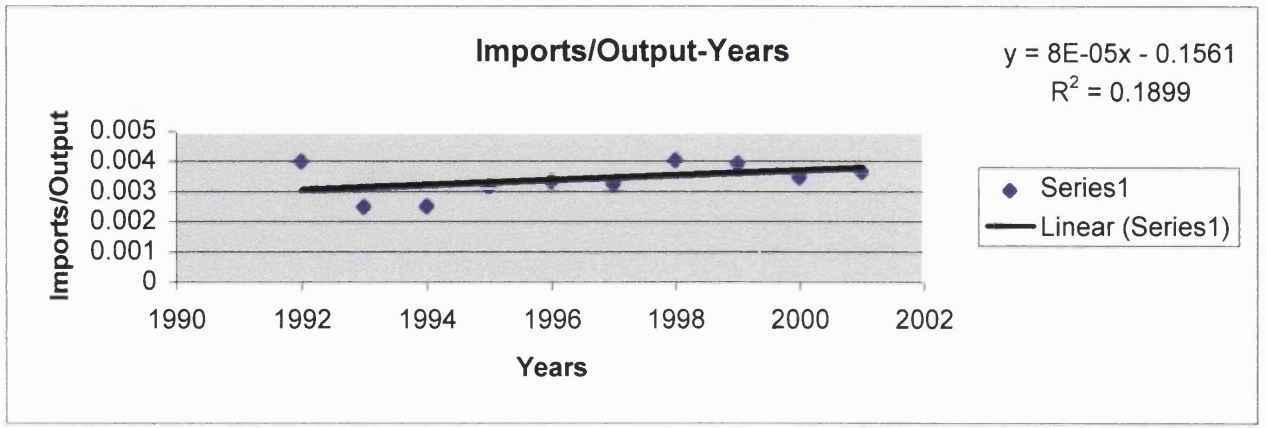
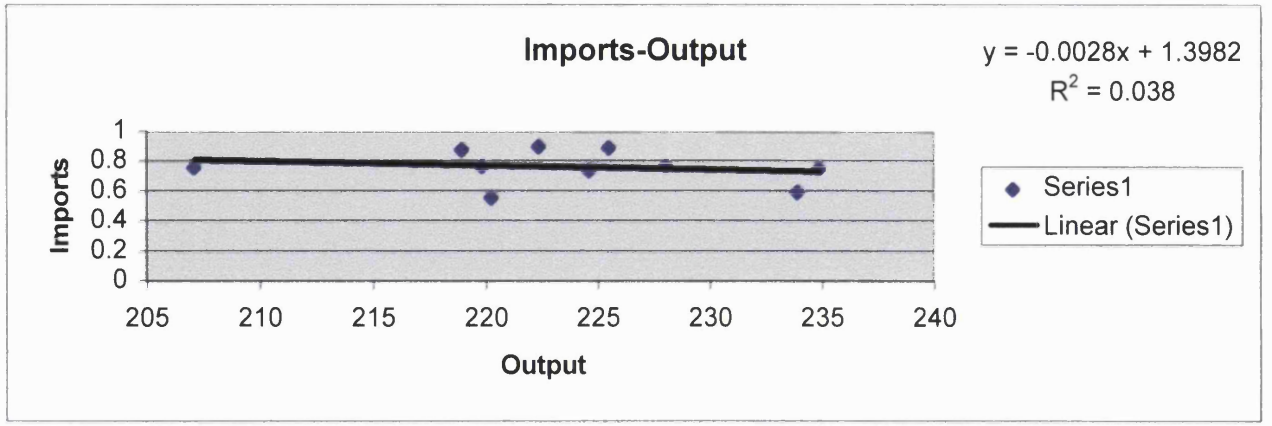


FIGURE A19


Imports-Output
y = -0.0028x + 1.3982
R2 = 0.038
Imports
1
0.8
0.6
0.4
0.2
0
205
210
215
220
225
230
235
240
Output
Series1
Linear (Series1)

UNITED KINGDOM

TABLE A19

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	645	8807	256	239	2701	6703	7697	3650	9636	7704
73181588	62972	59310	79634	96853	110264	133893	122299	124275	121063	118737
73089088	15430	19903	8394	10291	9136	16004	23342	21933	22793	17089
73089051	128164	62614	56694	76744	63277	99283	129509	133870	114555	97185
72284088	13036	17078	16191	19308	16921	18772	17699	9293	9968	13594
69109088	7771	3081	3124	3125	4437	7693	4170	4658	14640	10518
68109188	4157	2820	6275	5506	12005	11816	8320	7847	11242	6559
49060088	979	814	871	2943	2650	2380	2284	2881	1372	916
Total	233154	174427	171439	215009	221391	296544	315320	308407	305269	272302

TABLE A20

Year	Imports	Output Bln	Imports Bl	Imports/Output
1992	233154	103.82	0.233154	0.002246
1993	174427	101.93	0.174427	0.001711
1994	171439	105.36	0.171439	0.001627
1995	215009	105.26	0.215009	0.002043
1996	221391	107.69	0.221391	0.002056
1997	296544	110.92	0.296544	0.002674
1998	315320	112.69	0.31532	0.002798
1999	308407	114.38	0.308407	0.002696
2000	305269	116.10	0.305269	0.002629
2001	272302	120.16	0.272302	0.002266

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A20

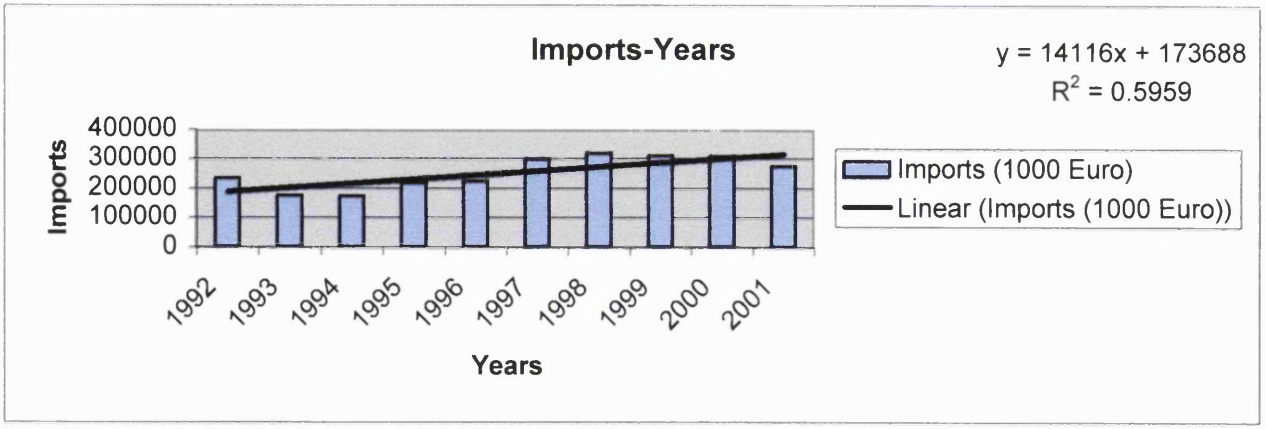


FIGURE A21

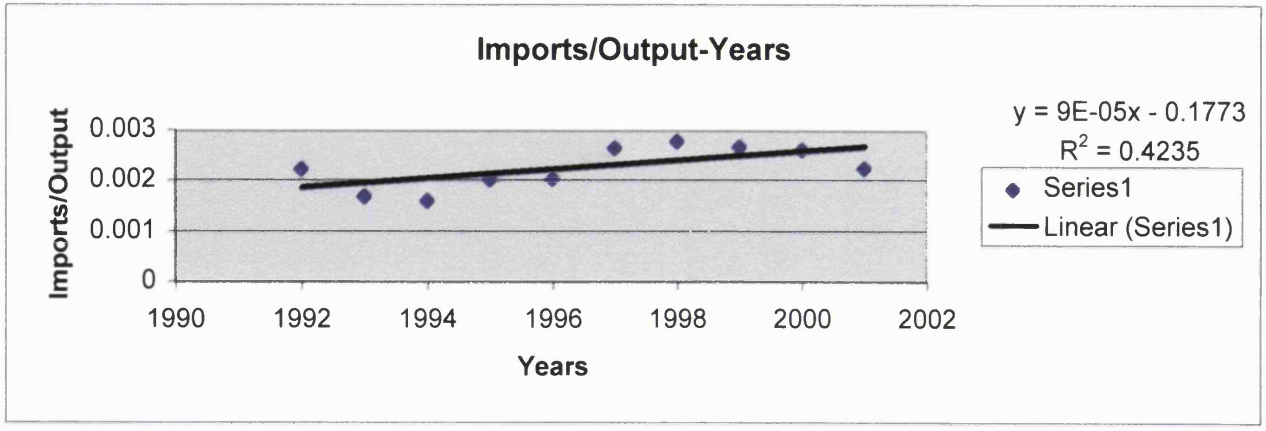
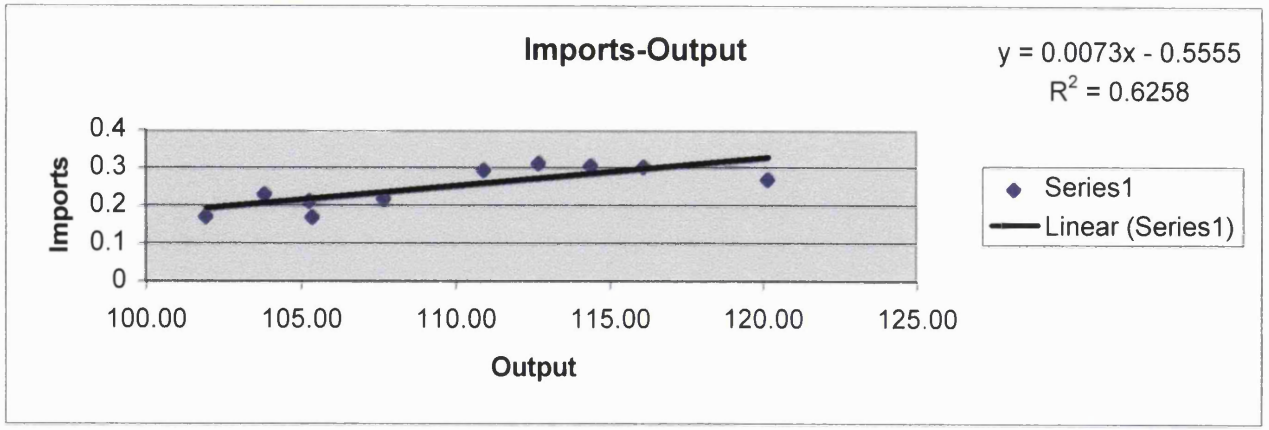


FIGURE A22


Imports-Output
y = 0.0073x - 0.5555
R2 = 0.6258
Imports
0.4
0.3
0.2
0.1
0
100.00
105.00
110.00
115.00
120.00
125.00
Output
Series1
Linear (Series1)

FRANCE

TABLE A21

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	5400	7550	829	2697	5957	21114	25446	34005	2943	12750
73181588	134531	118843	147871	191496	178403	180531	211445	212736	255058	271540
73089088	292621	176761	193795	219195	241984	223106	242237	272677	342817	357590
73089051	29992	18293	19804	24630	24566	25042	28498	36317	44997	42598
72284088	9892	11310	12746	25862	27264	19017	19940	17775	22407	23872
69109088	15564	12846	11419	10477	11031	12457	16534	18463	23201	26313
68109188	24299	19415	18435	16921	21721	16600	20636	27389	28808	38174
49060088	1722	3126	2017	2740	6734	17503	15389	2786	3624	6413
Total	514021	368144	406916	494018	517660	515370	580125	622148	723855	779250

TABLE A22

Year	Output	Imports	Imports Bl	Imports/Output
1992	140.24	514021	0.514021	0.003665
1993	132.24	368144	0.368144	0.002784
1994	131.58	406916	0.406916	0.003092
1995	131.58	494018	0.494018	0.003754
1996	126.45	517660	0.51766	0.004094
1997	125.82	515370	0.51537	0.004096
1998	128.21	580125	0.580125	0.004525
1999	135.39	622148	0.622148	0.004595
2000	144.87	723855	0.723855	0.004997
2001	147.19	779250	0.77925	0.005294

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A23

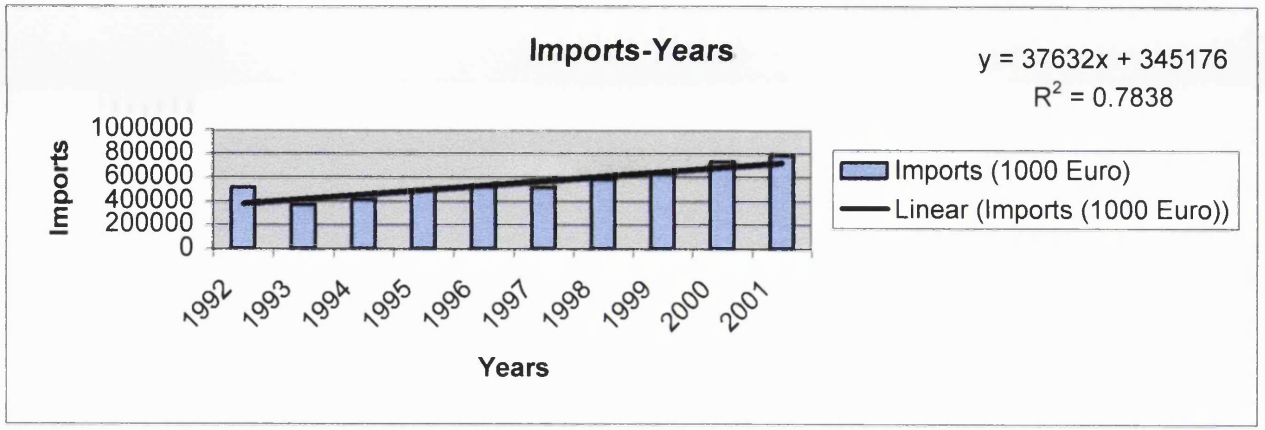


FIGURE A24

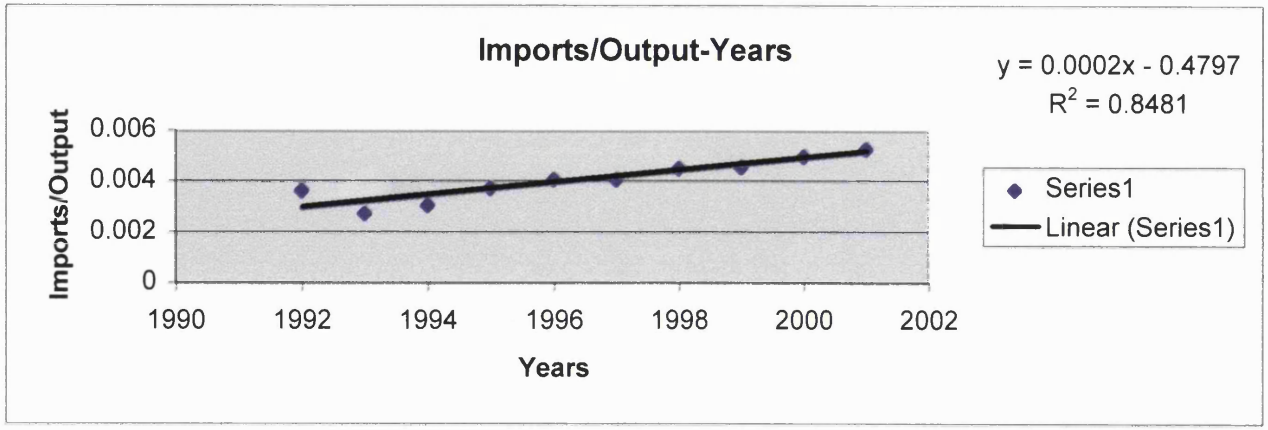
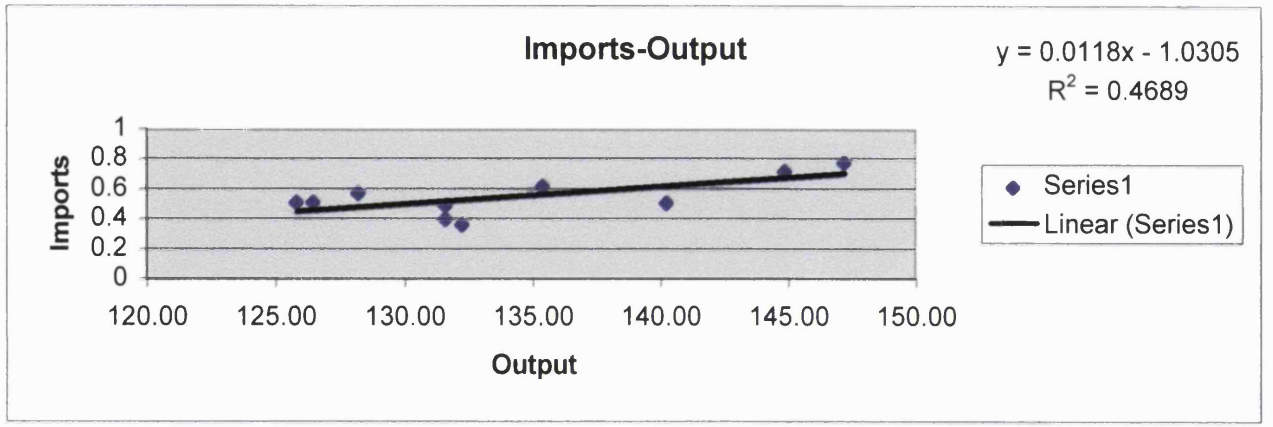


FIGURE A25


Imports-Output
y = 0.0118x - 1.0305
R2 = 0.4689
Imports
1
0.8
0.6
0.4
0.2
0
120.00
125.00
130.00
135.00
140.00
145.00
150.00
Output
Series1
Linear (Series1)

ITALY

TABLE A23

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	4792	7	5258	8915	7287	23335	29378	4725	2535	16009
73181588	28890	19803	24566	29478	29774	30438	40896	44499	45270	43135
73089088	75665	26241	21327	36082	41702	45562	53695	66367	92445	87507
73089051	9856	2578	1010	4359	1925	3220	5078	5577	4890	3879
72284088	14151	10428	14827	37396	38267	39596	44079	46417	45635	49425
69109088	4524	3437	5706	8128	7897	5612	6626	7396	8237	5958
68109188	2254	1421	1595	2124	2166	2865	2227	2591	4092	5163
49060088	-	-	-	-	-	-	-	-	-	-
Total	140132	63915	74289	126482	129018	150628	181979	177572	203104	211076

TABLE A24

Year	Imports	Imports Bln	Output Bln	Imports/Output
1992	140132	0.140132	113.71	0.001232
1993	63915	0.063915	107.25	0.000596
1994	74289	0.074289	104.02	0.000714
1995	126482	0.126482	105.06	0.001204
1996	129018	0.129018	107.16	0.001204
1997	150628	0.150628	107.91	0.001396
1998	181979	0.181979	110.93	0.00164
1999	177572	0.177572	116.59	0.001523
2000	203104	0.203104	123.12	0.00165
2001	211076	0.211076	128.168	0.001647

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A26

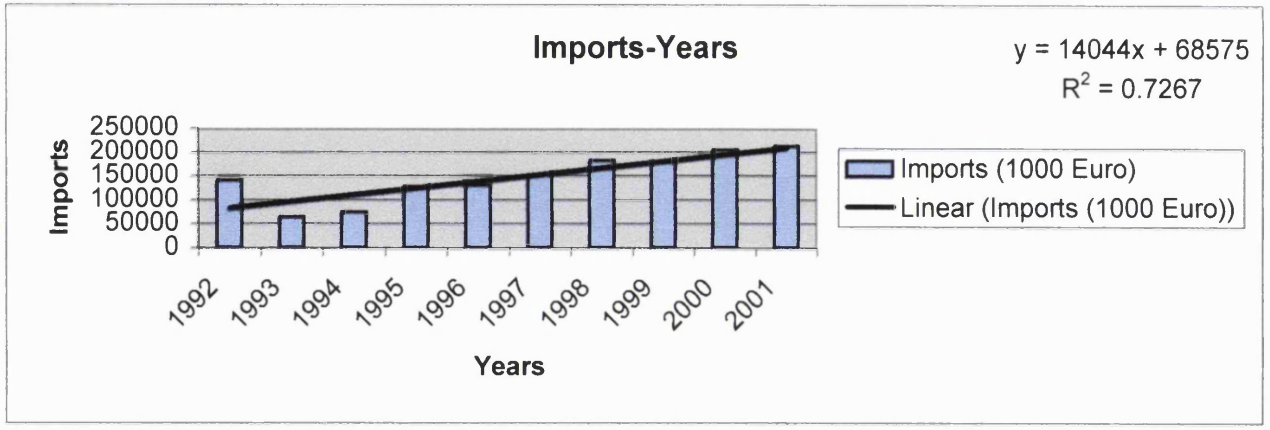


FIGURE A27

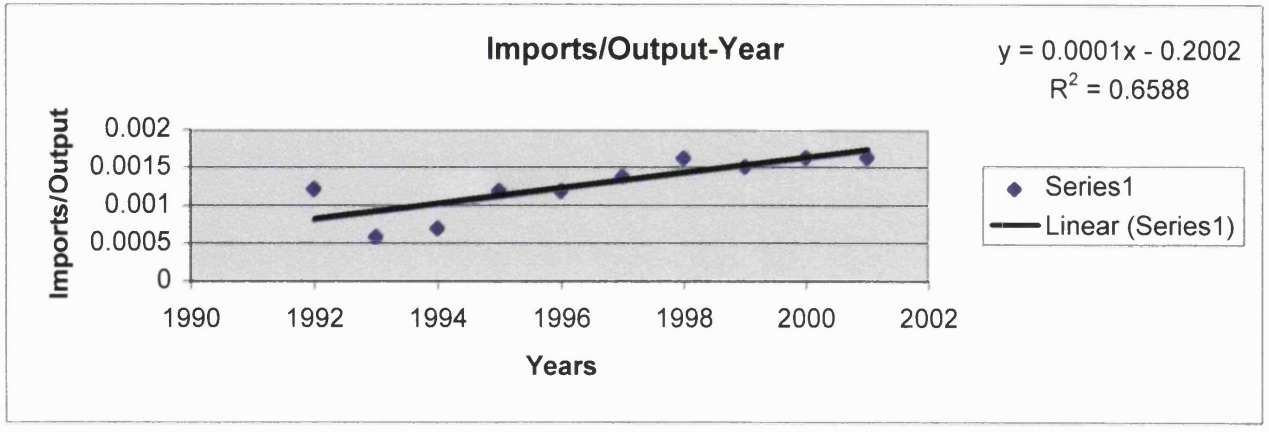
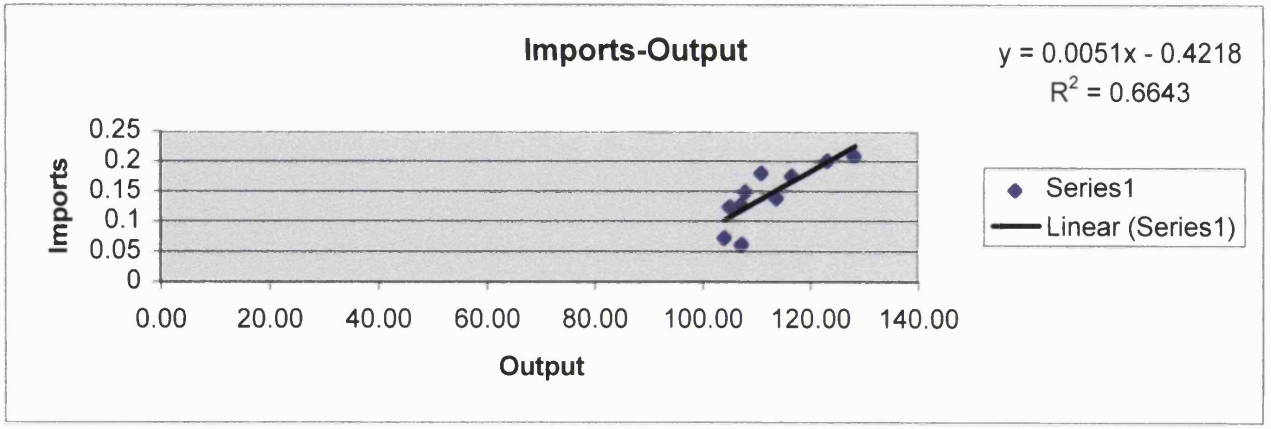


FIGURE A28


Imports-Output
y = 0.0051x - 0.4218
R2 = 0.6643
Imports
0.25
0.2
0.15
0.1
0.05
0
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
Output
Series1
Linear (Series1)

SPAIN

TABLE A25

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	280	825	2342	444	1194	2749	4567	293	14647	6781
73181588	43408	42985	74707	84109	93331	94816	106229	121547	129964	129876
73089088	85404	24352	29315	38141	39026	40137	42981	61207	70155	59655
73089051	9914	1343	2379	2669	3488	4241	6546	8781	13125	9736
72284088	3927	3544	7103	11115	9849	8191	10828	7604	10342	10112
69109088	2164	2208	2245	3167	3423	4339	5973	7870	11777	14447
68109188	4094	1438	822	834	974	981	2062	4494	4590	3551
49060088	3870	3108	2683	6699	4259	12573	4756	2541	3519	2760
Total	153061	79803	121596	147178	155544	168027	183942	214337	258119	236918

TABLE A26

Year	Imports	Imports Bln	Output Bln	Imports/Output
1992	153061	0.153061	56.89	0.00269
1993	79803	0.079803	52.34	0.001525
1994	121596	0.121596	54.28	0.00224
1995	147178	0.147178	56.99	0.002582
1996	155544	0.155544	56.42	0.002757
1997	168027	0.168027	57.55	0.00292
1998	183942	0.183942	61.06	0.003012
1999	214337	0.214337	66.43	0.003226
2000	258119	0.258119	70.75	0.003648
2001	236918	0.236918	74.64	0.003174

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A29

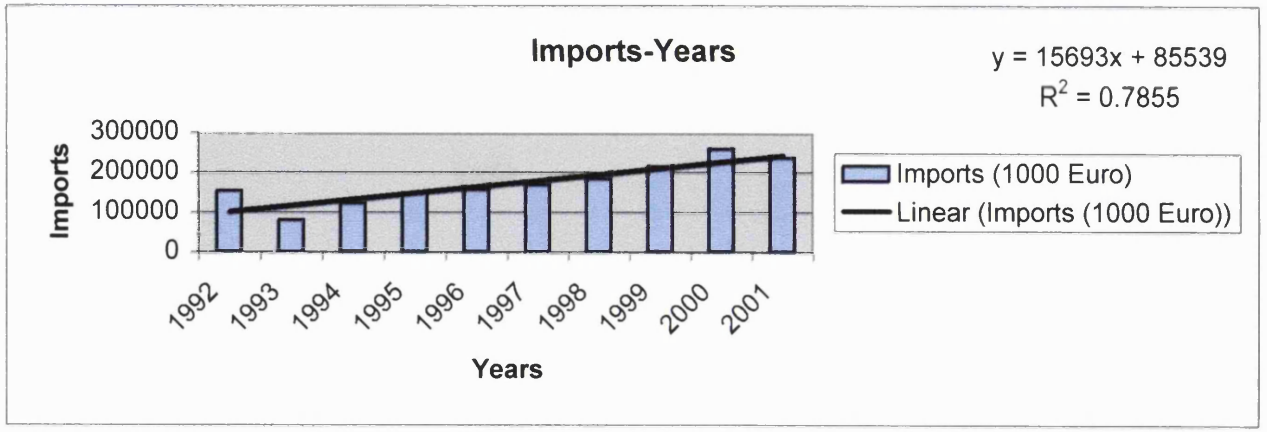


FIGURE A30

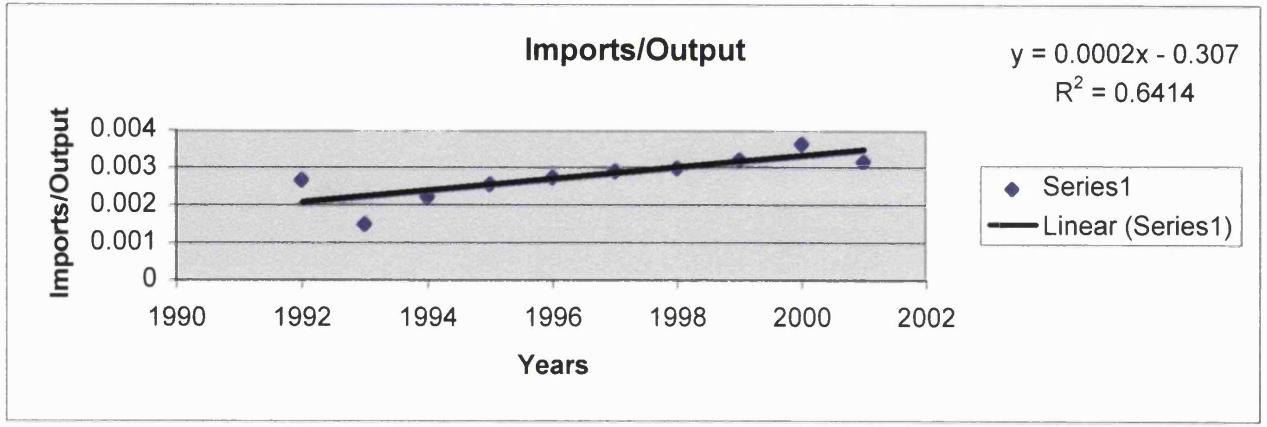
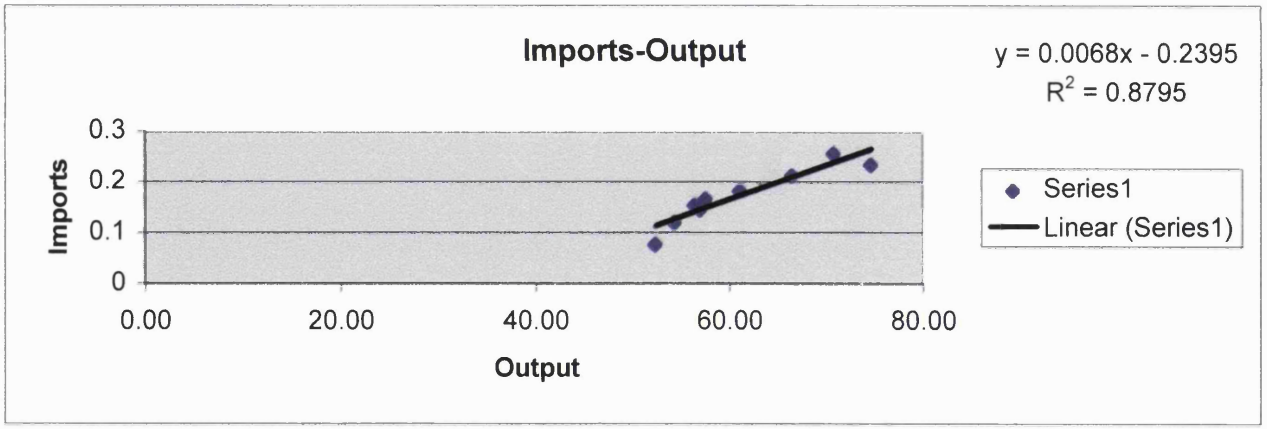


FIGURE A31


Imports-Output
y = 0.0068x - 0.2395
R2 = 0.8795
Imports
0.3
0.2
0.1
0
0.00
20.00
40.00
60.00
80.00
Output
Series1
Linear (Series1)

NETHERLANDS

TABLE A27

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	237	125	793	166	-	2439	-	644	1175	-
73181588	65531	46031	64682	82453	82697	83553	79842	77606	85150	82105
73089088	289580	129174	169639	215441	178148	178398	200851	180916	170714	158833
73089051	30136	19659	22454	32609	27552	32835	30090	29690	27774	35216
72284088	3427	2760	3970	7324	6037	4828	6083	3907	5392	4709
69109088	4791	6069	8233	7573	11386	10397	10197	11849	10883	9596
68109188	43191	19303	28033	30676	34003	31726	46261	60501	42222	30815
49060088	3554	1538	4340	3288	2273	2147	1423	2578	953	1117
Total	440447	224659	302144	379530	342096	346323	374747	367691	344263	322391

TABLE A28

Year	Imports	Imports Bl	Output Bln	Imports/Output
1992	440447	0.440447	38.60107	0.01141
1993	224659	0.224659	37.79044	0.005945
1994	302144	0.302144	38.33724	0.007881
1995	379530	0.37953	39.02731	0.009725
1996	342096	0.342096	39.96396	0.00856
1997	346323	0.346323	40.96306	0.008455
1998	374747	0.374747	42.23292	0.008873
1999	367691	0.367691	44.64019	0.008237
2000	344263	0.344263	46.11332	0.007466
2001	322391	0.322391	46.39	0.00695

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A32

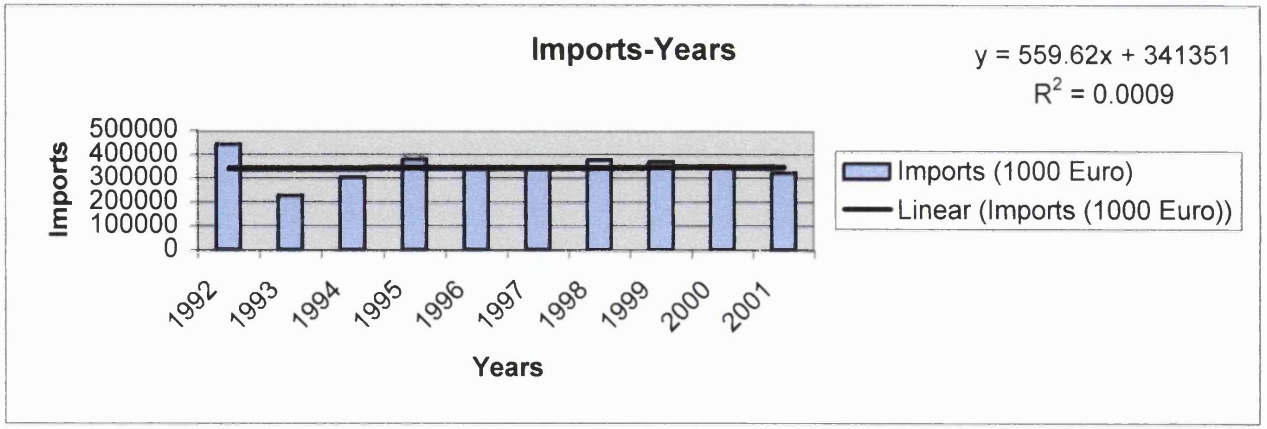


FIGURE A33

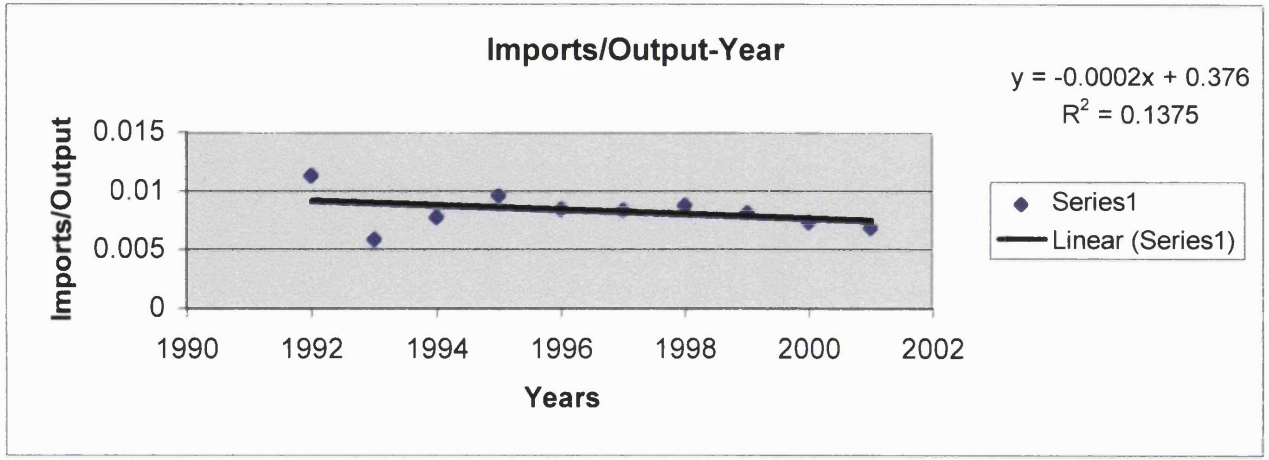
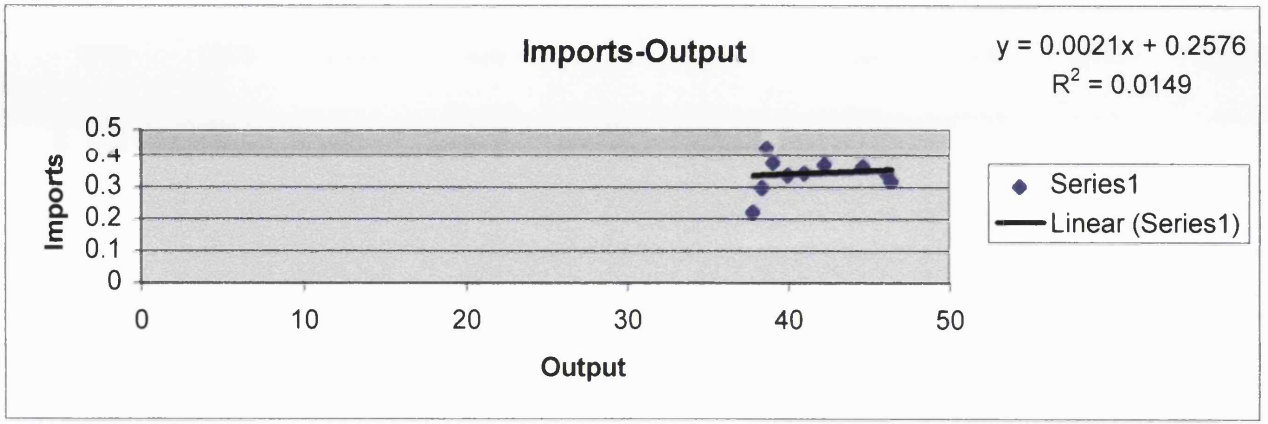


FIGURE A34


Imports-Output
y = 0.0021x + 0.2576
R2 = 0.0149
Imports
0.5
0.4
0.3
0.2
0.1
0
0
10
20
30
40
50
Output
Series1
Linear (Series1)

PORTUGAL

TABLE A29

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	66	921	154	1151	5098	3205	1065	2960	1100	1815
73181588	11600	7441	9217	15251	20014	21728	22922	23143	25098	24930
73089088	31646	21208	14995	17489	23127	30157	31111	28330	31337	49002
73089051	3597	1930	2027	2169	2028	3523	3895	6016	4656	17077
72284088	2247	2811	4298	5887	5961	4494	4907	5768	6036	4518
69109088	1835	1807	1685	2353	2415	2654	2561	2726	2764	4496
68109188	313	517	473	1005	3166	6559	6880	6260	2574	4484
49060088	439	291	246	404	573	890	456	486	480	270
Total	51743	36926	33095	45709	62382	73210	73797	75689	74045	106592

TABLE A30

Year	Imports	Imports Bln	Output Bln	Imports/Output
1992	51743	0.051743	13.98643	0.0037
1993	36926	0.036926	14.81163	0.002493
1994	33095	0.033095	14.88569	0.002223
1995	45709	0.045709	15.65975	0.002919
1996	62382	0.062382	16.27048	0.003834
1997	73210	0.07321	18.28801	0.004003
1998	73797	0.073797	19.36701	0.00381
1999	75689	0.075689	20.35472	0.003718
2000	74045	0.074045	21.63707	0.003422
2001	106592	0.106592	22.19964	0.004802

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A35

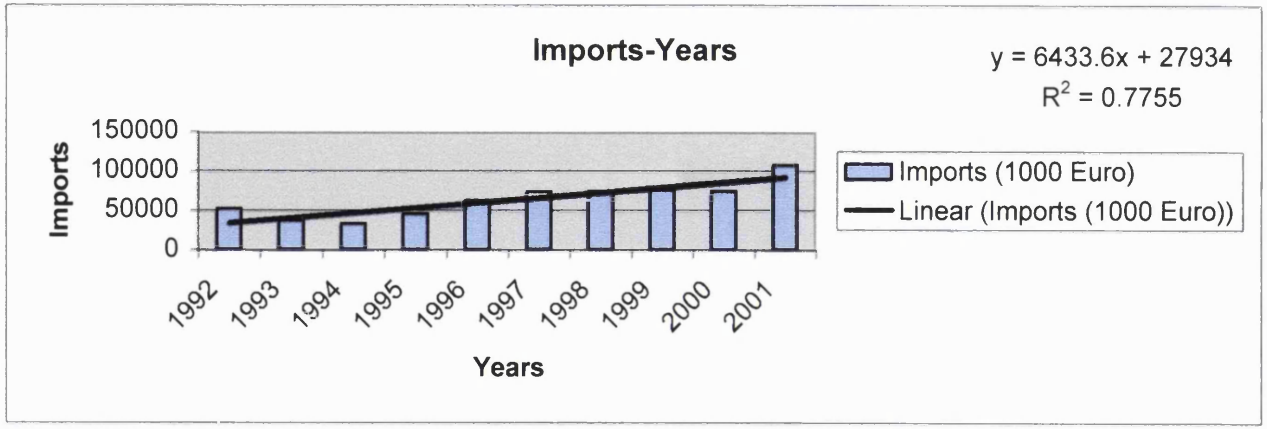


FIGURE A36

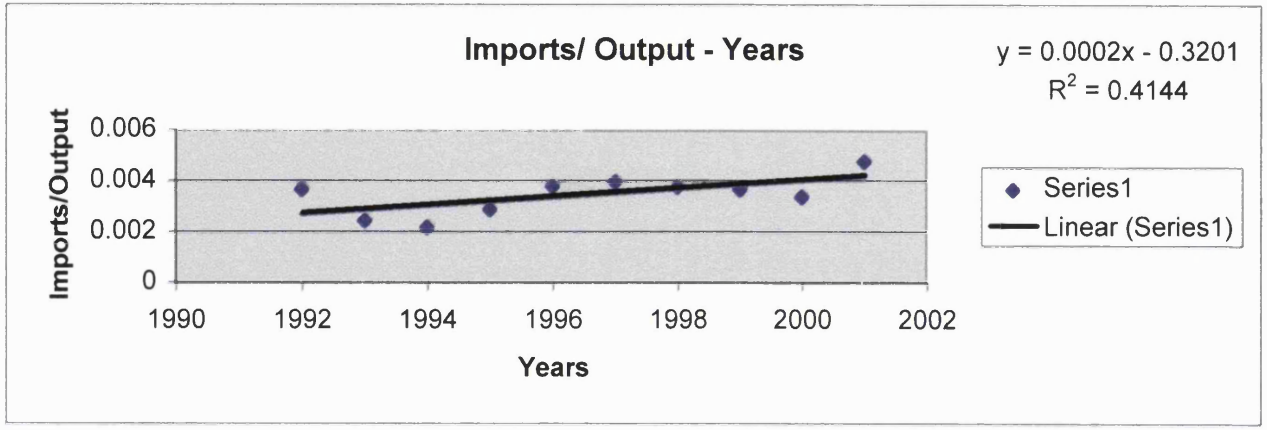
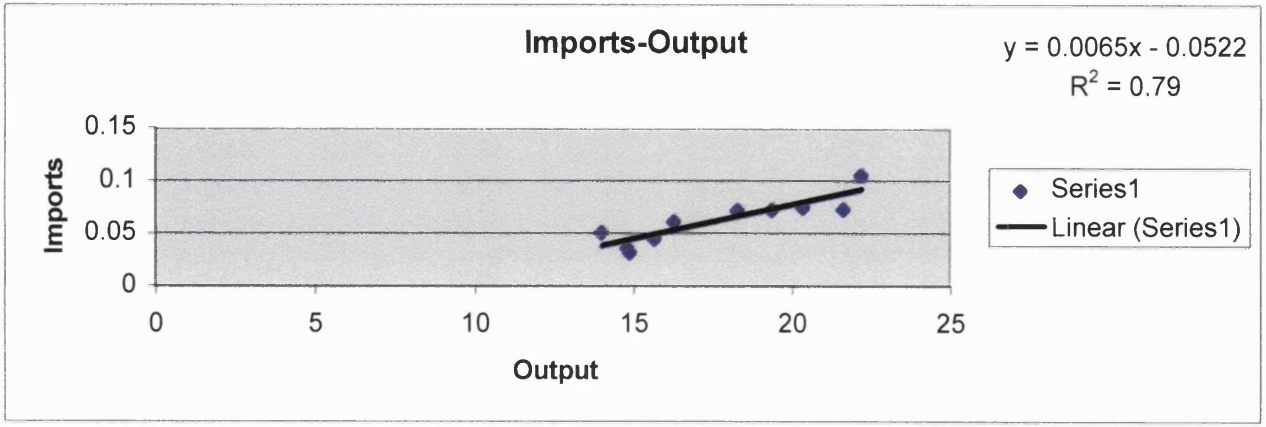


FIGURE A37


Imports-Output
y = 0.0065x - 0.0522
R2 = 0.79
Imports
0.15
0.1
0.05
0
0
5
10
15
20
25
Output
Series1
Linear (Series1)

IRELAND

TABLE A31

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	112	234	777	457	9	93	91	134	314	47
73181588	7015	9366	9139	11646	12122	15500	14374	12274	13713	14117
73089088	19828	14443	16438	20363	29628	52804	50040	59132	75858	89326
73089051	951	579	741	1016	1538	5947	6354	5439	7173	7252
72284088	828	198	140	158	99	11	34	175	495	816
69109088	3398	1518	1537	2378	2263	3466	4605	4208	4057	8176
68109188	1390	815	464	890	2420	3112	3051	3200	5996	8227
49060088	274	747	231	429	761	891	1029	1019	742	561
Total	33796	27900	29467	37337	48840	81824	79578	85581	108348	128522

TABLE A32

Year	Imports	Imports Bl	Output Bln	Imports/Output
1992	33796	0.033796	9.489451	0.003561
1993	27900	0.0279	8.840133	0.003156
1994	29467	0.029467	9.957368	0.002959
1995	37337	0.037337	11.25183	0.003318
1996	48840	0.04884	13.28841	0.003675
1997	81824	0.081824	14.98932	0.005459
1998	79578	0.079578	16.17348	0.00492
1999	85581	0.085581	18.16282	0.004712
2000	108348	0.108348	19.28891	0.005617
2001	128522	0.128522	19.829	0.006482

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A38

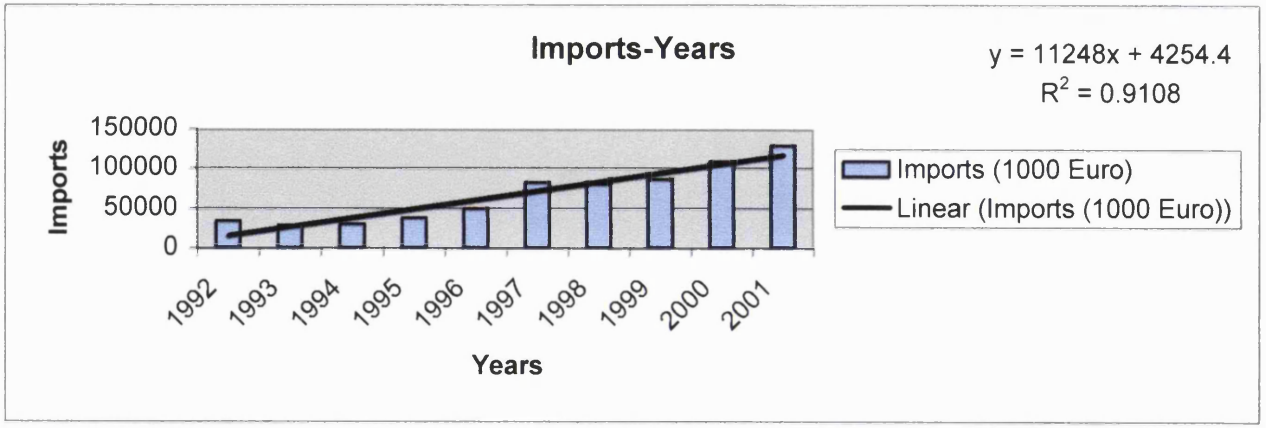


FIGURE A39

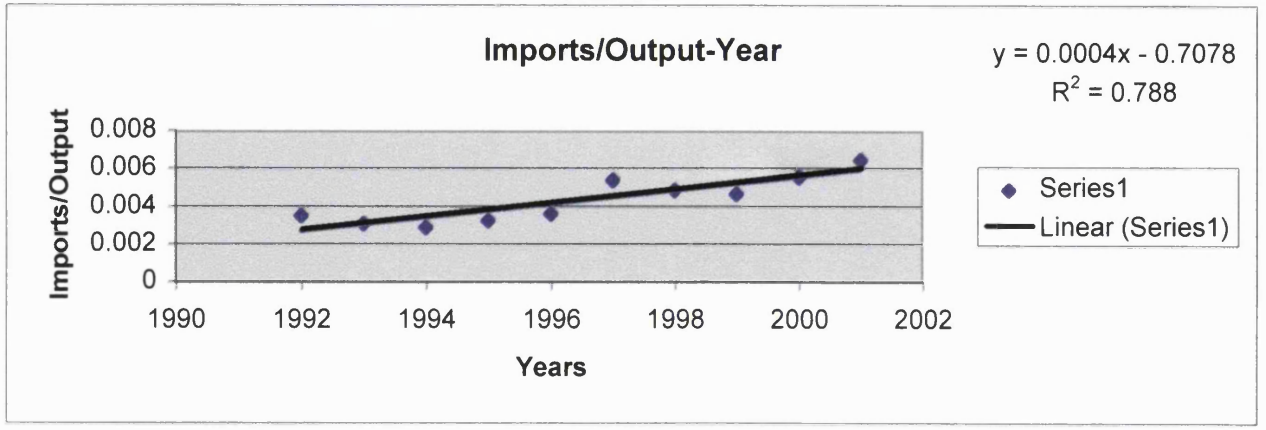
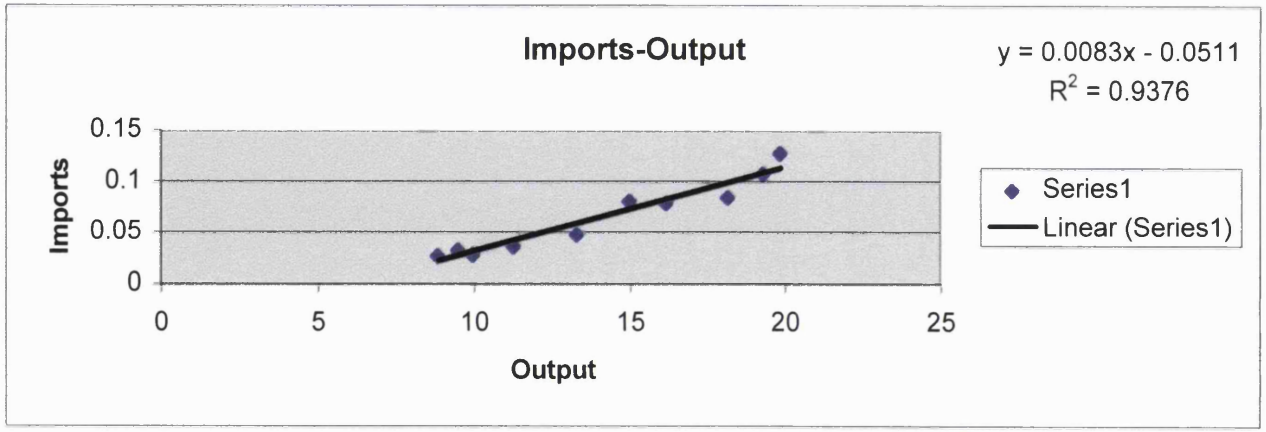


FIGURE A40


Imports-Output
y = 0.0083x - 0.0511
R2 = 0.9376
Imports
0.15
0.1
0.05
0
0
5
10
15
20
25
Output
Series1
Linear (Series1)

DENMARK

TABLE A33

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	2205	86	217	18	526	288	605	3964	3451	8
73181588	16154	19944	25538	36906	24918	25374	25114	24265	30449	30811
73089088	78528	76119	71871	99018	106533	108366	107487	106661	114565	134330
73089051	603	1188	1898	2815	3704	4891	4291	5360	7698	6070
72284088	786	1616	2971	6781	4366	2832	3121	3993	2915	3089
69109088	421	485	380	2719	1688	3918	5921	2832	1287	1680
68109188	259	562	121	360	976	2612	10381	14882	17192	14553
49060088	593	63	73	279	161	239	200	224	287	442
Total	99549	100063	103069	148896	142872	148520	157120	162181	177844	190983

TABLE A34

Year	Imports	Imports Bl	Output Bln	Imports/Output
1992	99549	0.099549	15.57982	0.00639
1993	100063	0.100063	14.62945	0.00684
1994	103069	0.103069	14.99958	0.006871
1995	148896	0.148896	15.52456	0.009591
1996	142872	0.142872	16.78205	0.008513
1997	148520	0.14852	17.36942	0.008551
1998	157120	0.15712	18.0642	0.008698
1999	162181	0.162181	17.43195	0.009304
2000	177844	0.177844	18.12923	0.00981
2001	190983	0.190983	17.676	0.010805

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A41

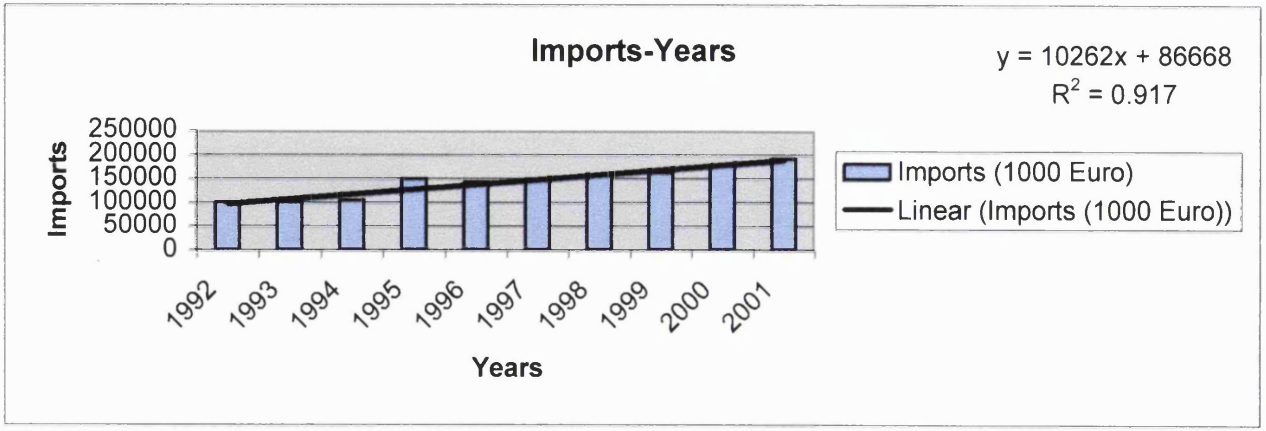


FIGURE A42

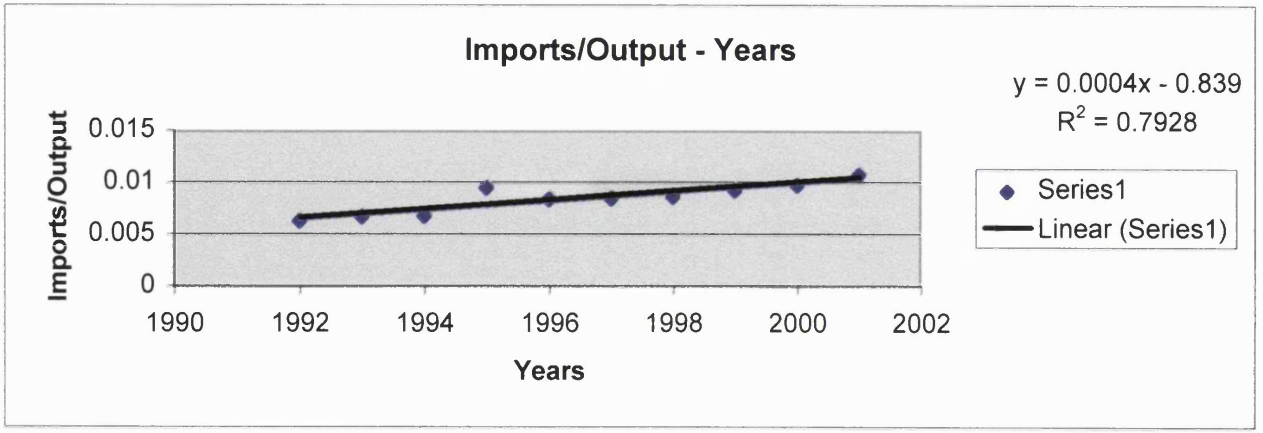
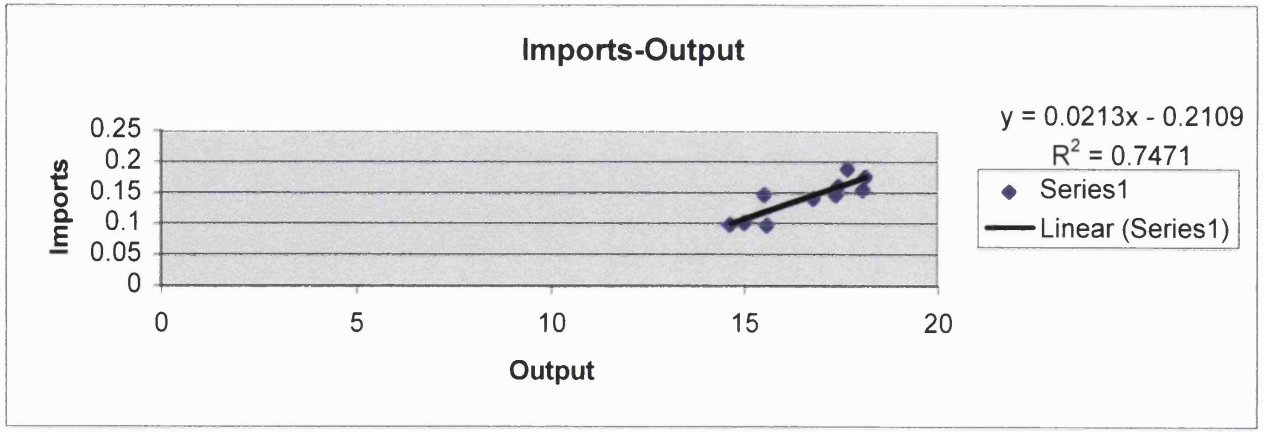


FIGURE A43


Imports-Output
Imports
0.25
0.2
0.15
0.1
0.05
0
0
5
10
15
20
Output
y = 0.0213x - 0.2109
R2 = 0.7471
Series1
Linear (Series1)

GREECE

TABLE A35

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088				302	957	30	1103		45	1
73181588	5308	4128	4226	5214	4725	5048	6352	5504	6760	6228
73089088	16645	15333	22884	20862	19948	19495	20077	25706	53346	38775
73089051	3120	4108	2876	2787	3662	3240	4710	7545	7539	5152
72284088	200	159	355	1106	1090	1155	1167	1036	692	524
69109088	948	1632	2028	2137	2868	3634	3954	3881	2789	3214
68109188	7	50	2	191	875	327	843	978	1237	926
49060088	701	649	1523	441	428	409	2668	1686	441	331
Total	26929	26059	33894	33040	34553	33338	40874	46336	72849	55151

TABLE A36

Year	Imports	Imports Bl	Output Bln	Imports/Output
1992	26929	0.026929	8.13806	0.003309
1993	26059	0.026059	8.797629	0.002962
1994	33894	0.033894	9.307026	0.003642
1995	33040	0.03304	10.55018	0.003132
1996	34553	0.034553	11.65193	0.002965
1997	33338	0.033338	12.73984	0.002617
1998	40874	0.040874	14.46193	0.002826
1999	46336	0.046336	15.89555	0.002915
2000	72849	0.072849	16.94705	0.004299
2001	55151	0.055151	?	

Imports Source: EUROSTAT
Output Source: Hellenic National Statistics Office

FIGURE A44

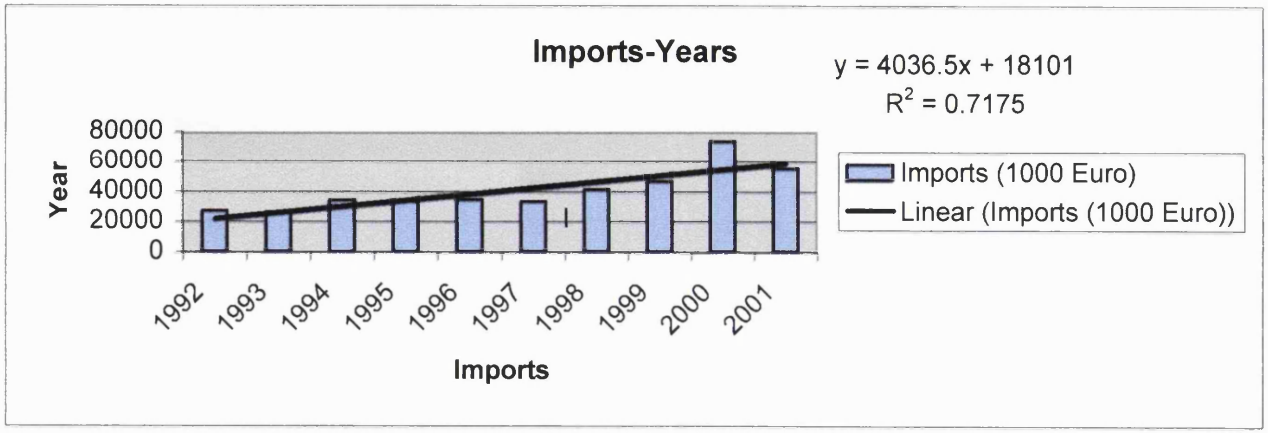


FIGURE A45

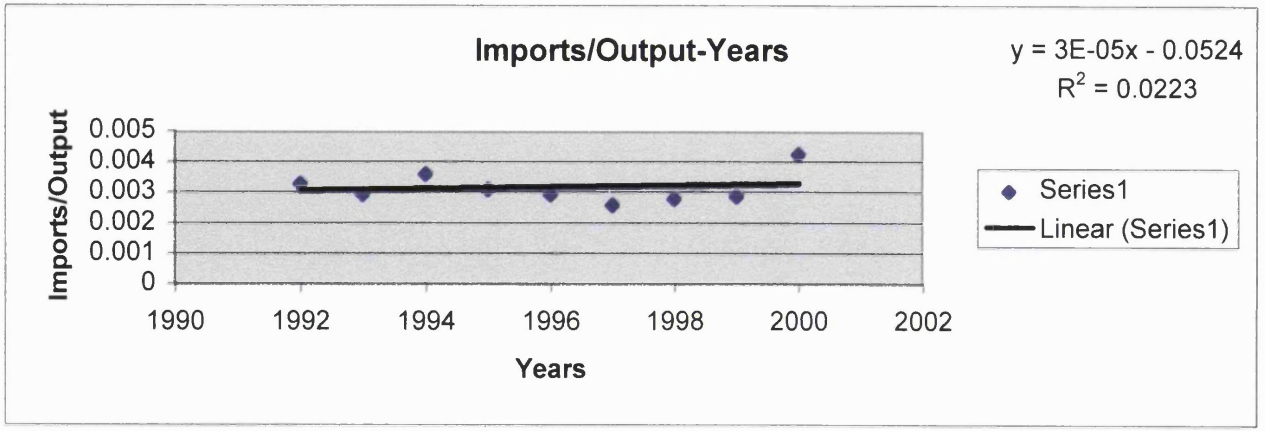
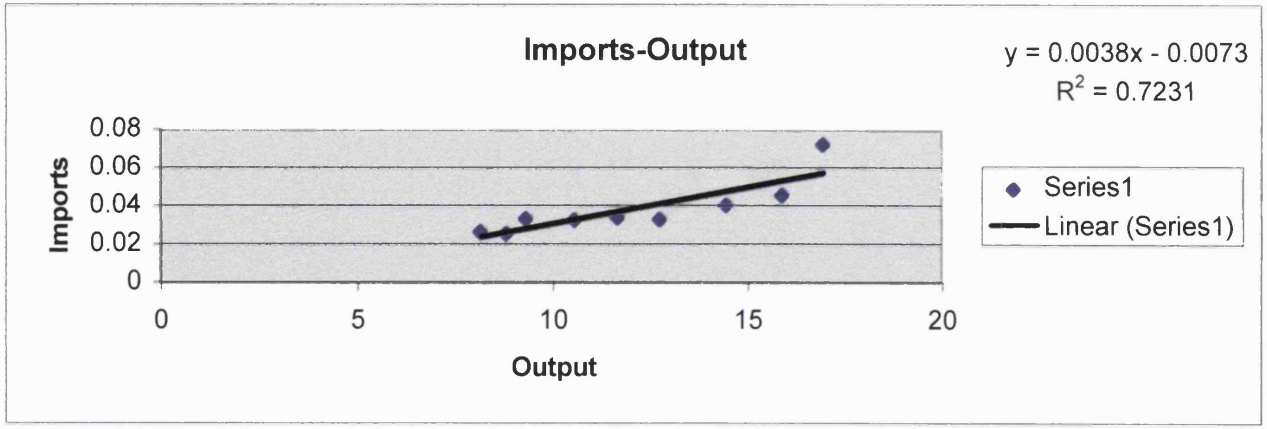


FIGURE A46


Imports-Output
y = 0.0038x - 0.0073
R2 = 0.7231
Imports
0.08
0.06
0.04
0.02
0
0
5
10
15
20
Output
Series1
Linear (Series1)

BELGIUM - LUXEMBOURG

TABLE A37

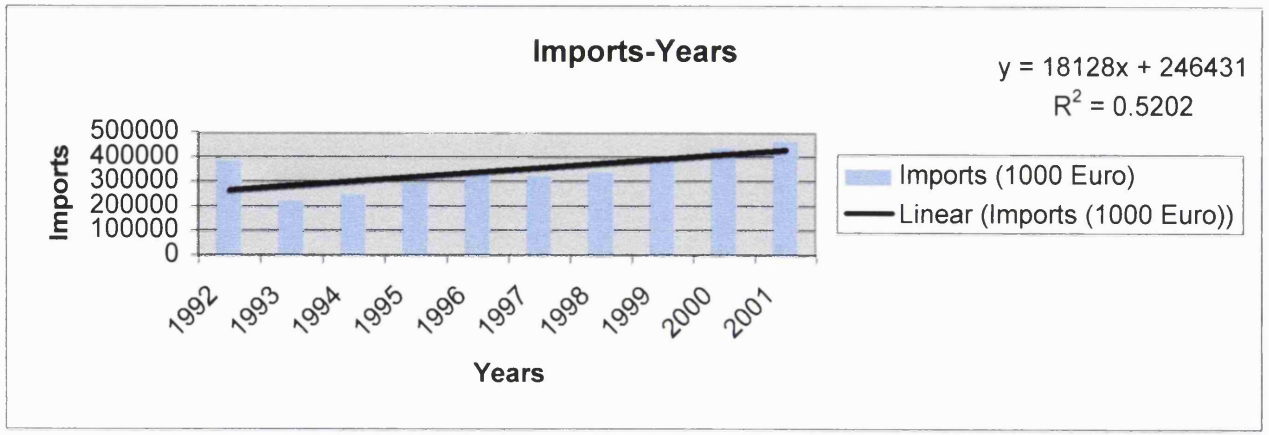
Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	2766	2714	2171	9619	6721	5128	11130	12103	11243	12407
73181588	62829	61726	62269	81291	90091	101627	115965	110472	127586	156867
73089088	264183	129669	144805	158030	192795	163394	158935	197895	225316	230845
73089051	16573	12126	17379	14265	26578	22590	17349	26132	28921	26536
72284088	4955	3730	4333	8456	7151	7300	9710	6470	6158	6062
69109088	17503	7072	10225	10827	8731	8464	7783	7347	8173	6105
68109188	14921	8334	9921	10523	11426	14973	16865	23004	27832	27582
49060088	1479	2121	1605	2020	1833	1669	2278	1686	1779	1880
Total	385209	227492	252708	295031	345326	325145	340015	385109	437008	468284

TABLE A38

Year	Imports	Imports Bl	Output Belgium Bln
1992	385209	0.385209	19.19928
1993	227492	0.227492	18.94969
1994	252708	0.252708	19.32868
1995	295031	0.295031	19.56063
1996	345326	0.345326	19.16942
1997	325145	0.325145	20.47294
1998	340015	0.340015	21.12807
1999	385109	0.385109	22.69155
2000	437008	0.437008	23.93958
2001	468284	0.468284	22.982

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A47


Imports-Years
y = 18128x + 246431
R2 = 0.5202
Imports
500000
400000
300000
200000
100000
0
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
Years
Imports (1000 Euro)
Linear (Imports (1000 Euro))

SWEDEN

TABLE A39

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	-	-	-	557	3269	2029	3828	685	88	19
73181588	-	-	-	79246	69402	67065	78578	77125	93505	76173
73089088	-	-	-	28599	38089	31270	36110	35859	50849	47757
73089051	-	-	-	4986	4681	4372	4633	8230	10614	8959
72284088	-	-	-	5552	5250	3590	4978	2579	1821	2207
69109088	-	-	-	289	261	208	130	547	310	461
68109188	-	-	-	7820	4277	2170	1148	3013	2755	1613
49060088	-	-	-	334	583	730	412	213	157	230
Total	-	-	-	127383	125812	111434	129817	128251	160099	137419

TABLE A40

Year	Imports	Imports Bln	Output Bln	Imports/Output
1992	-	-	18.60491	-
1993	-	-	17.02349	-
1994	-	-	16.58088	-
1995	127383	0.127383	16.84617	0.007562
1996	125812	0.125812	16.57663	0.00759
1997	111434	0.111434	15.73123	0.007084
1998	129817	0.129817	16.59644	0.007822
1999	128251	0.128251	17.2769	0.007423
2000	160099	0.160099	17.69154	0.009049
2001	137419	0.137419	17.78	0.007729

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A48

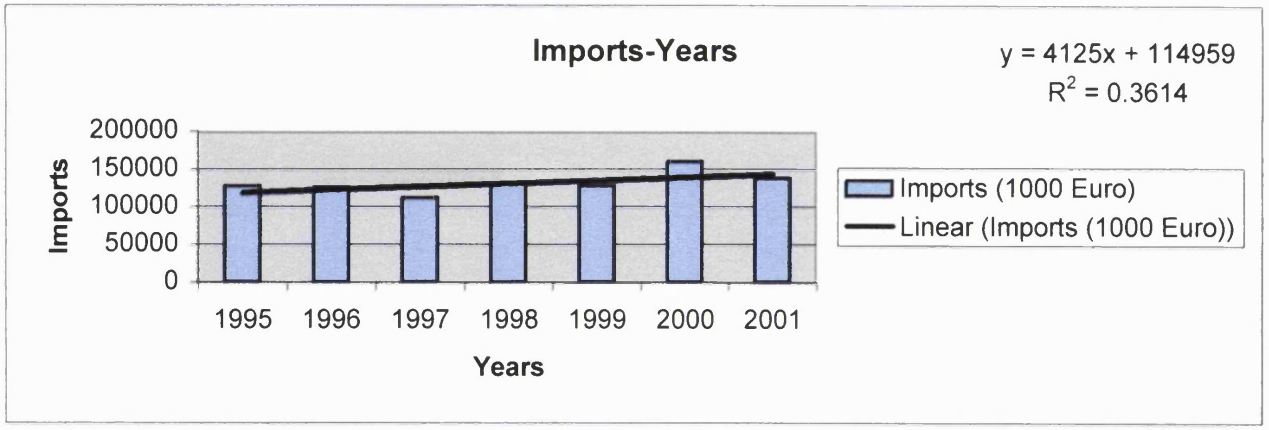


FIGURE A49

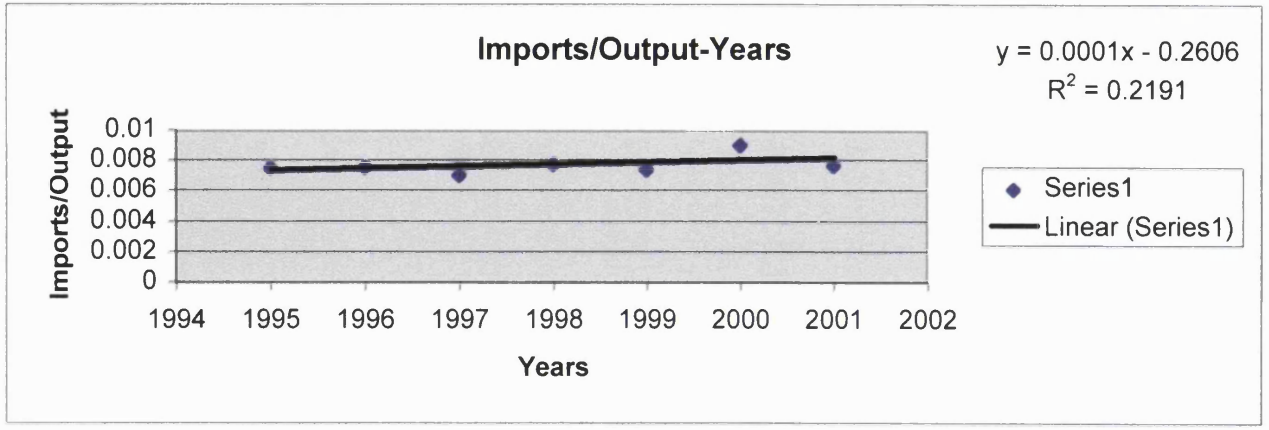
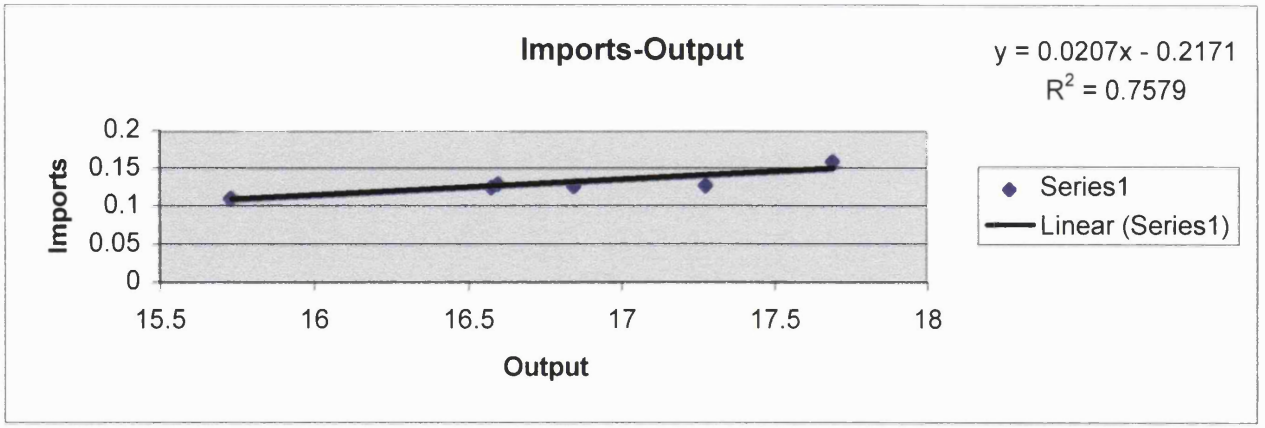


FIGURE A50


Imports-Output
y = 0.0207x - 0.2171
R2 = 0.7579
Imports
0.2
0.15
0.1
0.05
0
15.5
16
16.5
17
17.5
18
Output
Series1
Linear (Series1)

FINLAND

TABLE A41

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	-	-	-	71	-	1071	16711	344	7042	3375
73181588	-	-	-	24024	21452	22631	23904	20936	26915	25093
73089088	-	-	-	17643	14881	14832	21608	19608	23088	24810
73089051	-	-	-	2309	979	263	927	978	2331	2105
72284088	-	-	-	6031	6246	4727	5830	5554	6273	6351
69109088	-	-	-	170	364	245	155	265	278	281
68109188	-	-	-	119	221	386	673	478	953	776
49060088	-	-	-	49	88	84	141	61	54	92
Total	-	-	-	50416	44231	44239	69949	48224	66934	62883

TABLE A42

Year	Imports	Imports Bln	Output Bln	Imports/Output
1995	50416	0.050416	12.88127	0.003914
1996	44231	0.044231	13.39652	0.003302
1997	44239	0.044239	14.87014	0.002975
1998	69949	0.069949	16.72891	0.004181
1999	48224	0.048224	17.89993	0.002694
2000	66934	0.066934	19.24242	0.003478
2001	62883	0.062883	19.05	0.003301

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A51

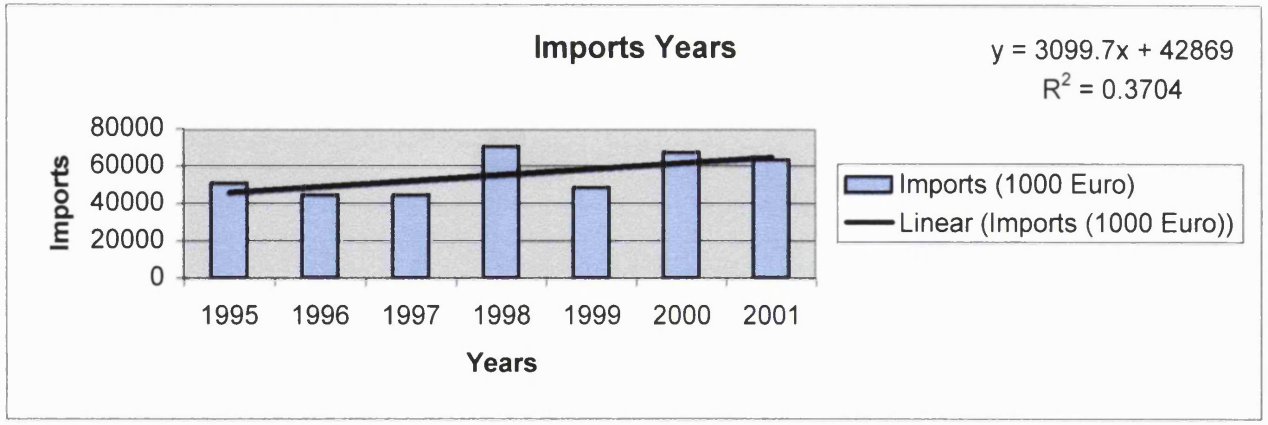


FIGURE A52

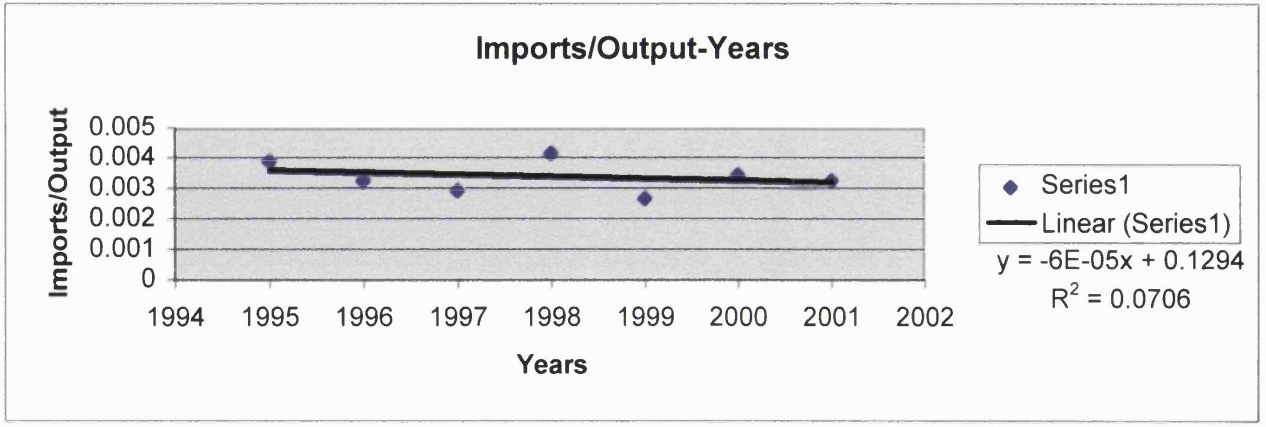
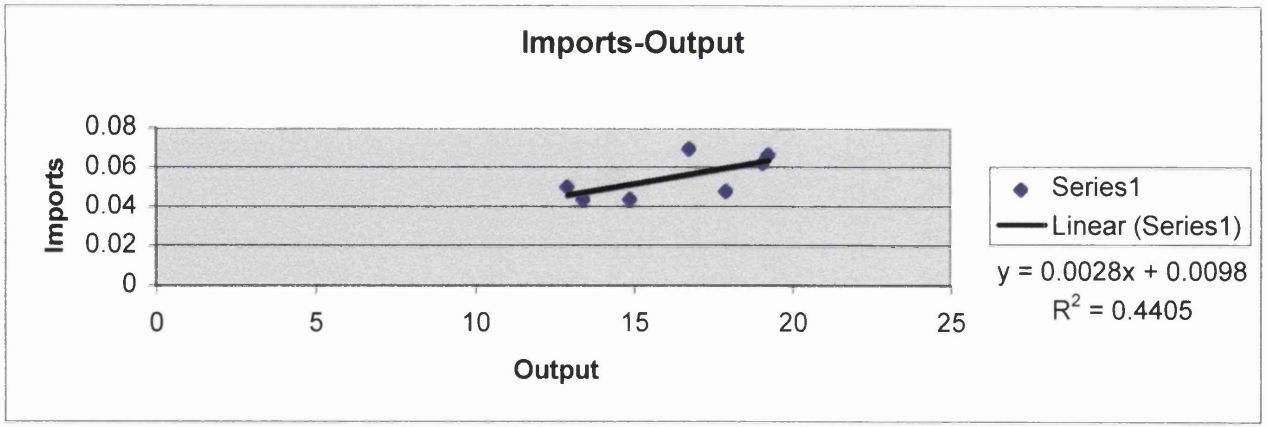


FIGURE A53


Imports-Output
Imports
0.08
0.06
0.04
0.02
0
0
5
10
15
20
25
Output
Series1
Linear (Series1)
y = 0.0028x + 0.0098
R2 = 0.4405

AUSTRIA

TABLE A43

Imports (1000 Euro)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
86040088	-	-	-	5611	6696	1974	2262	1390	1986	5124
73181588	-	-	-	80376	76333	78316	93726	87336	92285	93982
73089088	-	-	-	88584	105166	99457	96848	110579	112164	127087
73089051	-	-	-	4967	4631	5301	6283	6333	7408	9897
72284088	-	-	-	20108	11129	9148	16094	13433	11619	14369
69109088	-	-	-	5623	9585	11120	9465	14467	15403	17511
68109188	-	-	-	4215	4254	4866	3856	5009	7936	10378
49060088	-	-	-	2645	1532	3542	2133	1749	1326	1345
Total				212129	219326	213724	230667	240296	250127	279693

TABLE A44

Year	Imports	Imports Bl	Output Bln	Imports/Output
1995	212129	0.212129	23.84474	0.008896
1996	219326	0.219326	24.20241	0.009062
1997	213724	0.213724	23.71836	0.009011
1998	230667	0.230667	23.93183	0.009639
1999	240296	0.240296	24.45833	0.009825
2000	250127	0.250127	24.77629	0.010095
2001	279693	0.279693	24.033	0.011638

Output Source: EUROCONSTRUCT
Imports Source: EUROSTAT

FIGURE A54

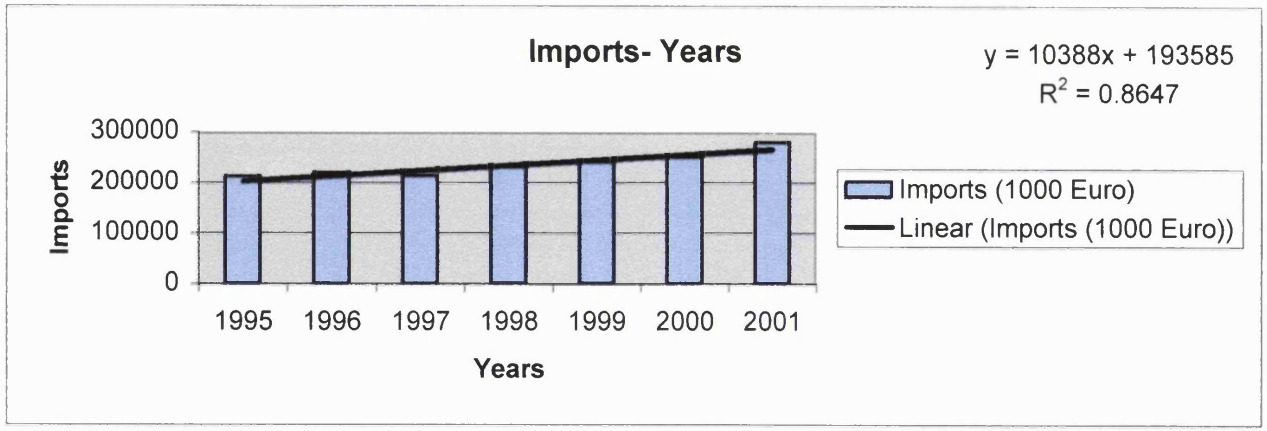


FIGURE A55

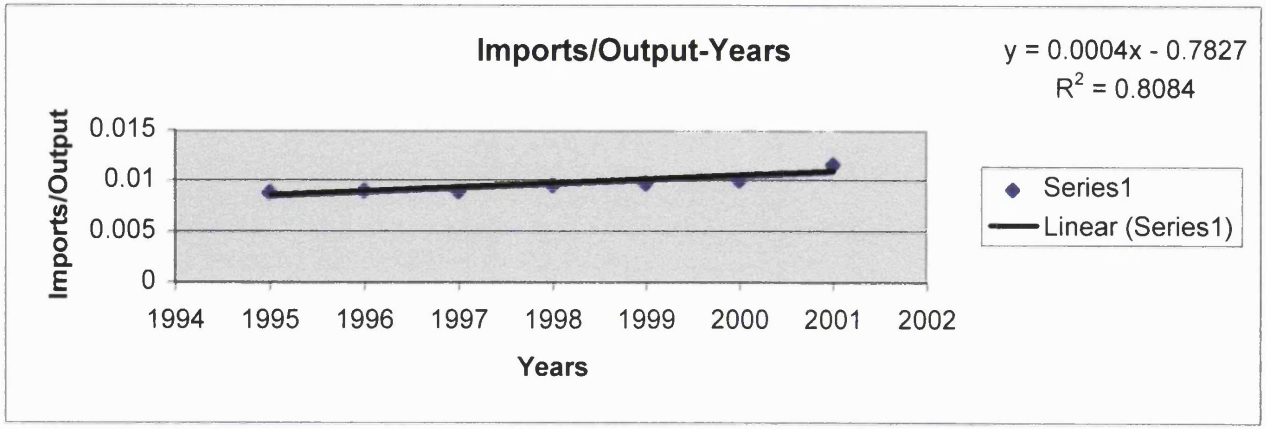
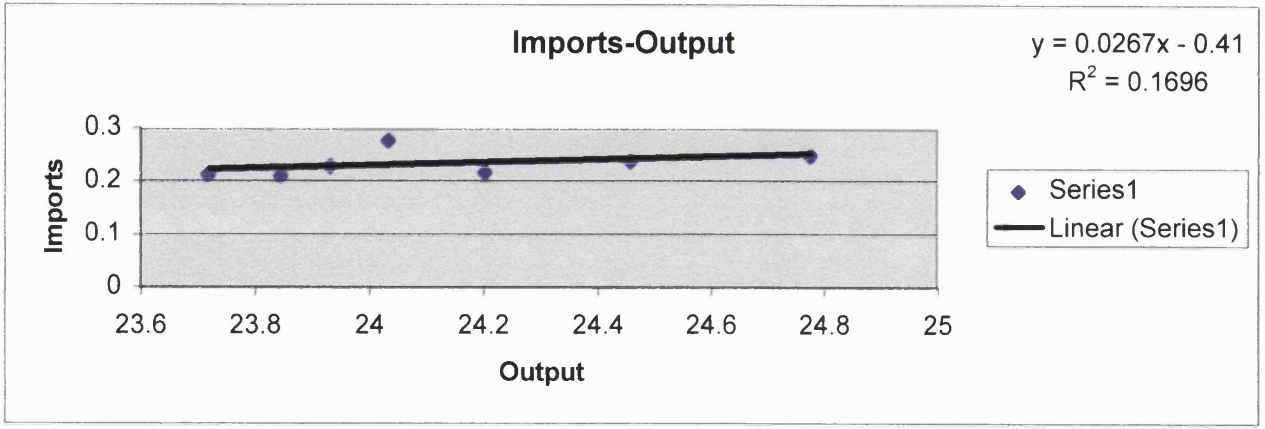


FIGURE A56


Imports-Output
y = 0.0267x - 0.41
R2 = 0.1696
Imports
0.3
0.2
0.1
0
23.6
23.8
24
24.2
24.4
24.6
24.8
25
Output
Series1
Linear (Series1)