THE ECONOMIC IMPACT OF INTERNATIONAL TOURISM IN ICELAND

by

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ABSTRACT

This thesis represents a systematic attempt to analyse the economic impact of international tourism in Iceland. While tourism has long been seen as an important source of foreign exchange and employment for the country very little detailed information is available on the role that the industry plays in the national economy

To fill this 'information gap' two questionnaires were used to gather data on tourist expenditure characteristics and the cost and revenue structures of various tourism businesses This data was then analysed using a simplified multiplier model. A series of findings are presented, including: the economic impacts associated with various 'tourist types', the ability of different tourism businesses and sectors to generate local income and employment, and, the links that exist between the industry and the rest of the economy. Each of these data bases is then used to provide an overview of future policy options facing the Icelandic government

The research reveals that international tourism plays a major role in the Icelandic economy and is potentially an important tool for regional development. The data provides an important foundation upon which future tourism development strategies and research can be based.

RÉSUMÉ

La présente thèse constitue la première tentative systématique d'analyse de l'impact économique du tourisme international en Islande. Bien que le tourisme soit depuis longtemps une importante source d'échange international et d'emploi pour le pays, il existe très peu d'information détaillée sur le rôle que joue l'industrie dans l'économie nationale.

Afin de combler cette «lacune documentaire», deux questionnaires ont permis de rassembler des données sur les caractéristiques de consommation des touristes ainsi que sur les structures de revenus et de coûts des diverses entreprises de tourisme. Ces données ont ensuite été analysées à l'aide d'un modèle de multiplicateur simplifié. Une série d'observations sont présentées, notamment : l'impact économique associé aux divers «types de touristes», l'aptitude des différents secteurs et entreprises touristiques à générer des emplois et des revenus régionaux et les liens qui existent entre l'industrie et le reste de l'économie. Chacune de ces bases de données sert ensuite à élaborer une vue d'ensemble des futures options politiques auxquelles le gouvernement islandais devra faire face.

L'étude révèle que le tourisme international joue un rôle essentiel dans l'économie de l'Islande et constitue un outil important de développement régional éventuel. Les données fournissent un important fondement sur lequel on pourra établir les futures études et stratégies de développement touristique.

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CHAPTER 1

INTRODUCTION

1.1 Objectives of the Study

Iceland is an island of volcanic origin, situated on the Mid-Atlantic Ridge (Figure 1). The country covers 103,000 km^2 and has a population of 253,000 (a density of 2.4 persons per km^2) (Stat. Bureau of Iceland, 1990a). Most people live near the coast, with 54.2% residing in Reykjavik and the five surrounding municipalities, 35% in towns and villages and the remaining 11% in rural areas (Figure 2).

The country was under Danish control until 1918, when it was recognized as a sovereign state in 'close union' with Denmark (Central Bank of Iceland 1987, 102). Iceland was formally established as a Republic on June 17, 1944.

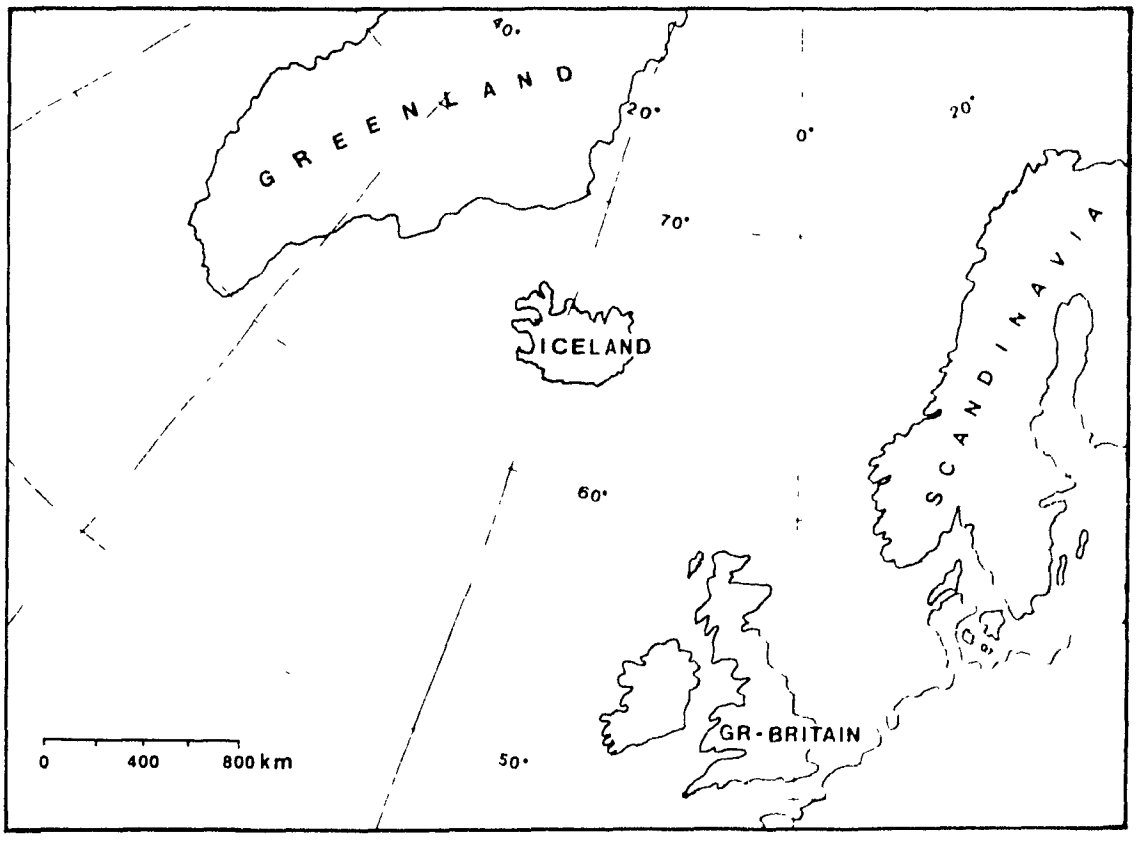


Figure 1.1 Iceland in the North-Atlantic

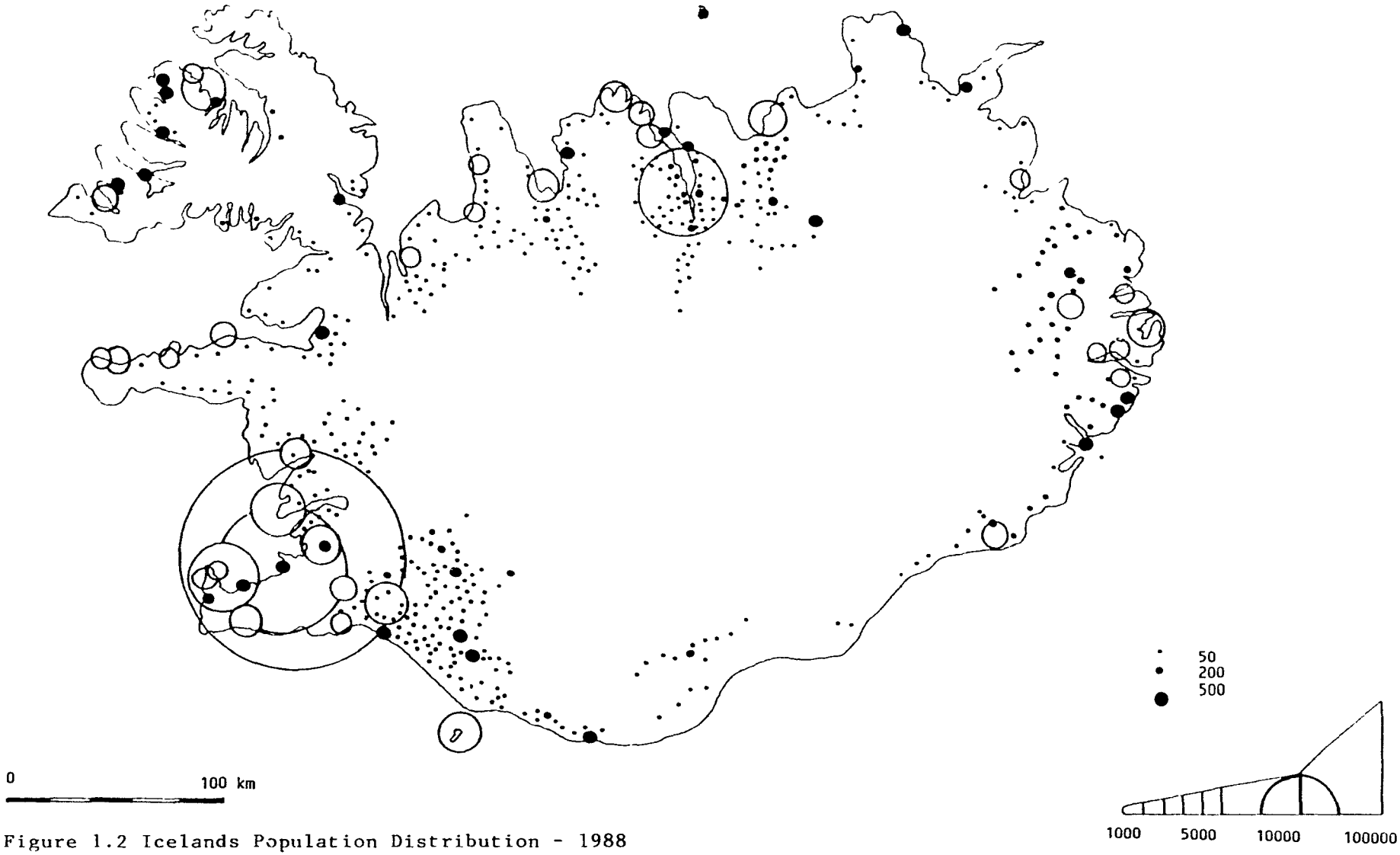


Figure 1.2 Icelands Population Distribution - 1988
Source Statistical Bureau of Iceland 1990.

Iceland's citizens enjoy the benefits of a comprehensive social welfare system and in 1989 the nation's gross domestic product stood at US $5,200m, or just over US $20,000 per capita (Central Bank of Iceland, 1991b). Thus Icelanders are blessed with one of the world's highest standards of living. Much of this prosperity stems from rich fishing grounds, with both processed and unprocessed exports providing an important source of foreign exchange (National Economic Institution, 1988). In the past two decades, however, declining fish stocks, concern over the single-product dependence of the economy and the need for new jobs in manufacturing and tertiary sectors, have forced the government to pursue a policy of economic diversification (EIU, 1991).

One industry that has grown rapidly in recent years is tourism. While Icelandic international tourism is a relatively recent phenomenon both government sources and independent economic forecasters agree that it is a major force in the national economy - providing much needed foreign exchange (EIU, 1989a). It is estimated that tourism (including domestic travel) accounted for 3.3% of GDP during the 1973-86 period and that visitor spending in 1988 was equivalent to approximately 9% of the value of goods and services exported from the country (Central Bank of Iceland, 1991b). Foreign arrivals to the country have expanded threefold since 1969, from 44,000 to over 140,000 in 1990 (Table 1.1).

Despite the obvious importance of tourism there is little information on the role that the industry plays within the national economy, in fact detailed studies of its economic impact have never been conducted. This state of affairs severely weakens the ability of both government and the private sector to plan the future development of the industry. For example, data on tourist expenditure patterns and how they vary according to visitor type are vitally important if planners are to determine which types of tourists bring the optimum economic benefits to the country. Such figures also assist in the calculation of the economy-

wide impacts of tourist expenditure.

Table 1.1: Total Foreign Arrivals and Expenditure - 1969-90

	Arrivals of foreign visitors to Iceland	Income in total million kr.[a]	% of exports of goods and services
1969	44,099	8.0	5.0
1972	68,026	14.2	5.4
1975	71,676	39.6	5.5
1978	75,700	103.6	4.2
1981	71,898	358.0	4.0
1984	85,190	2030.0	5.9
1987	129,315	5379.0	7.3
1990	141,718	11359.0	9.0

a. Includes airfare expenditure on Icelandic airlines (for more detail see table 4.16)

Source; Immigration Service of Iceland, Visitor Arrival Statistics - various; National Economic Institution, Iceland 1991, table 2.6.

At the same time little is known about the structural characteristics of the industry. Questions about the kind of demands that tourism makes on the Icelandic labour market, and how the industry is linked with other economic sectors, cannot be answered at present due to data inadequacies Those who plan, or have an interest in, tourism's development are therefore hamstrung in their attempts to 'fine-tune' the economic performance of the industry and must make important marketing and development decisions on the basis of a very limited economic data base

The primary objective of this thesis is to fill some of this 'information gap' and in so doing provide a detailed analysis of the economic impacts of international tourism on the Icelandic economy. The major aims are:

1. To identify, as far as possible, the role that tourist expenditure plays within the Icelandic economy. Information will be presented on the expenditure characteristics of different tourists and on the total foreign exchange earnings stemming from international tourism.

2. To provide information about the structure of the industry - emphasizing its linkages with the rest of the economy. In particular I will analyse the differing ability of various tourist sectors to generate downstream links with the rest of the economy

3. To combine the tourist expenditure and industry structure data through a simplified (ie direct level only) multiplier analysis. This will allows impact of the industry on the Icelandic economy to be gauged. This information also allows the economic impacts associated with different tourist 'types' to be ascertained.

4. To provide a data base of economic information that may be of use in future studies of the tourist industry in Iceland and to evaluate and discuss the planning implications of the findings. This will include an attempt to draw some links between the economic development of the tourist industry and the need to sustain the rich and varied environment upon which it depends.

1.2 The Structure of the Thesis

The remainder of this chapter deals briefly with the changing structure of the Icelandic economy. I show that altered economic circumstances have made international tourism an increasingly important economic option. A discussion of the current structure and historical development of the Icelandic international tourist industry, using secondary statistical sources, is then presented in Chapter 2. This section pays particular attention to the demand and supply side characteristics of the industry and then outlines current government tourism development policies.

In Chapter 3 I outline and critique the methodological approaches adopted in the thesis. The focus is on current techniques in economic impact analysis - in particular the use of the multiplier model. The survey approach and its coverage are also discussed.

Chapters 4 and 5 are reserved for the presentation and analysis of much of the data The former deals with the general characteristics of the incoming tourists who were surveyed and then focuses in detail on their expenditure behaviour The latter presents the findings from the industry survey - including details on the linkage and labour force demand structures of

several tourist sectors.

In Chapter 6 I combine the information on tourist expenditure patterns with the business survey in order to present the direct income and employment generation effects of international tourism In particular I study the way in which various tourist types bring very different benefits to the economy. In the concluding chapter I discuss the planning implications of the findings - relating them to current and future government planning and policy objectives for the tourism industry in particular and the national economy as a whole.

1.3 Iceland's Changing Economy

Because of its small domestic market and limited resource base Iceland has always relied heavily on overseas trade and economic cooperation (John, 1984). The country's exports mainly flow to the members of the European Free Trade Association (EFTA), the European Economic Community (EEC), the United States and Japan (Table 1.2). In 1972 Iceland reached a free trade agreement with the EEC covering manufactured goods and certain fish products It appears that further economic cooperation is imminent as EFTA builds even stronger links with its larger and more powerful counterpart. In recent years exports to the USA have declined and reliance on the European and Japanese markets has increased.

While Iceland's economy remains dependant on the exploitation of renewable natural resources - in particular its fisheries - it has undergone a major structural transformation since World War II (Sigurdsson, 1977; EIU, 1991). Prior to the war the economy was dominated by a large, but relatively unproductive, agricultural sector and the fisheries. Most secondary activity revolved around the processing of primary products while tertiary activities were largely accounted for by a growing public sector.

Table 1.2: Geographic Distribution of Iceland's Foreign Trade
(% of total value)

Export Destination	1984	1985	1986	1987	1988	1989	1990
EFTA	8 5	8 5	10.2	8 2	10 0	11 0	8 7
EC	47.3	48.9	54 2	57 4	58 8	56 5	67 7
UK	13 4	18.7	20 4	19 5	23 2	20 8	25 3
W-Germany	10.9	8.3	9.1	10 0	10 3	11 9	12 7
Portugal	4 3	5.7	6.5	9 4	8 5	4 3	3 6
Other	18.7	16.2	18 2	18. 6	16 7	19.5	26 1
East Eur.countries	9.4	7.8	5 5	4 7	5 4	5 0	2 9
USSR	7.8	6.7	4 3	3 6	3 6	3 1	2.5
Other	1.6	1 1	1.2	1.1	1.8	1.9	0 4
Oth.Eur.countries	1.1	1.2	0.7	0.8	1.1	1 6	1 9
USA	28.4	27.1	21.7	18.2	13 6	14 3	9 9
Japan	3.8	5.0	4 8	7.8	7 6	7 1	6 0
Other countries	1.5	1.5	2.9	2 8	3 1	4 3	2 7

Source; Statistical Bureau of Iceland 1985, 36-7, Table 7, 1988a, 36-7, Table 19;1991a, 33-4, Table 21.

Following the war a series of new, labour saving, technologies began to find their way into both the farm and fishery sectors. As a result productivity increased while employment fell rapidly. In 1940 nearly half of the population was employed in the primary sector, this figure now stands at less than 10% (Table 1 3). The shift away from primary activities is further exemplified by the reduction in the number of farms in the country, from 5210 in 1955 to 3448 by 1983 (Central Bank of Iceland 1987, 141)

Due to its small domestic market, its isolation from major trading partners and the scarcity of many essential raw materials Iceland does not provide the right conditions to enable many forms of secondary activity to become established As a result manufacturing, outside the fish-processing sector, remains dominated by small, relatively low productivity, enterprises. Manufacturing employment increased considerably between 1940 and 1960 but since then its relative importance has remained static. The expansion of commerce, tourism

and public sector services has led to a rapid expansion in tertiary sector employment in recent decades, and services now generate the bulk of new jobs.

Table 1.3: Sectoral Division of the Economically Active Population 1940-90

Industry Sector (%)	1940	1950	1960	1970	1980	1990
Primary Sector	**46.4**	**32.6**	**24.2**	**9.6**	**13.1**	**10.2**
Agriculture	32.3	22.2	16.0	13.3	7.8	5.1
Fishing	14.1	10.4	8 2	6.3	5 3	5.1
Secondary Sector	**21.1**	**32.7**	**35.6**	**35.8**	**36.8**	**29.3**
Fish Processing	6.8	6.5	15.4	8.0	9.5	6.7
Other Manufacturing	8.8	16.3	10.2	17.2	17.2	13.3
Construction	5.5	9.9	10.0	10.6	10.1	9.3
Tertiary Sector	**32.5**	**34.7**	**40.2**	**43.8**	**50.1**	**60.5**
Electricity, Water	0.6	1.3	1.0	1.0	1.1	0.9
Transport,Communicat.	7.8	8.4	8.2	8.4	7.3	6.6
Commerce	7.6	9.8	13.4	14.7	15.2	23.9
Services	16.5	15.2	17.6	20.5	26.5	29.1
Total	**100**	**100**	**100**	**100**	**100**	**100**
Approximate size of workfore (000)	**53**	**59**	**68**	**82**	**106**	**128**

Source, Statistical Bureau of Iceland 1984, 32-3, Table 18; 1991b, 70-1, Table 3.4.

These shifts in employment structure have been mirrored spatially. When employment was dominated by agricultural and fishing activities the population was spread relatively evenly throughout the country with the obvious exception of the environmentally inhospitable interior. While urbanisation began at the turn of the present century it was only with the rapid development of tertiary and secondary activity following World War II that rates of rural-urban shift became significant. Reykjavik continues to draw people from outlying areas of the country. The city and its surroundings account for more than half of Iceland's jobs and it's employment structure differs considerably from the rest of the country (Table 1.4). For

example nearly 60% of male employment in the urban area is in services, compared to 32% in other regions.

Another major change affecting the economy in recent decades has been the increasing role played by women in the formal sector. Participation rates have grown rapidly and by 1982 nearly three-quarters of women aged 20-60 years were in wage employment for at least 13 weeks per annum (Central Bank of Iceland, 1989). While the current unemployment rate is a relatively low 3% increasing demands from women for paid employment place added pressure on the government to create new job opportunities.

Table 1.4: The Regional Composition of Employment - 1990

Industry Sector	**Urban Capital (%)**			**Other Regions (%)**		
	Male	Female	Male& Female	Male	Female	Male& Female
Agriculture	0.6	0.5	0.5	12.6	12.9	12.8
Fishing	3.2	0.2	1.9	15.3	1.7	9.9
Fish Process	1.6	1.3	1.5	10.6	14.0	11.9
Industry/Water	18.3	9.9	14.7	14.3	8.0	11.8
Construction	14.3	2.2	9.1	14.3	2.5	9.7
Commerce	15.6	19.3	17.2	7.1	16.4	10.7
Transport	10.3	5.5	8.2	6.0	3.7	5.1
Banking etc.	10.4	13.0	11.5	2.8	5.7	3.9
Service	25.7	48.1	35.4	17.0	35.1	24.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Institute of Regional Development, 1991.

Despite these economic changes marine based products (including processed fish) still account for over 70% of Iceland's export earnings, with a further 22% derived from the manufacturing sector (Table 1.5). While the role of fish exports has declined since the early 1960's the health of the national economy remains intimately tied to the success or failure of the sector. Unfortunately the depletion of fish stocks poses a major threat to the industry and

the government has been forced to implement a strict management system revolving around catch quotas for major species such as cod (EIU, 1991). Declining catches in recent years can be linked to both stock depletion and quota restrictions.

In recent years the government has focused on developing other industries to supplement the fisheries (Central Bank of Iceland, 1989) Thus major programs are planned or underway to harness the nation's vast hydro and geothermal power resources.

Table 1.5: The Changing Importance of Main Export Categories (by value - based on F.O.B.)

Years	Marine Products %	Agricultural Products %	Manufacturing %	Other %
1960-64	91	6	1	2
1965-69	87	6	5	2
1970-74	75	3	21	1
1975-79	75	3	21	1
1980-84	70	2	26	2
1985-89	73	2	22	3

Source; National Economic Institution, 1988, 56-58, Table 4.3, 4.5; Central Bank of Iceland 1991a, 20, Table 1

Related projects include an aluminium factory, a cement works, a diatomite plant and a ferro-alloy production complex While such developments have enabled some diversification of the economic base unstable global commodity markets and the limited ability of the projects to provide long-term employment beyond the construction phase mean that they are unlikely to provide a lasting solution to the nation's economic needs (OECD, 1990). For example depressed aluminium prices and stiff overseas competition have already placed the smelter in difficulties (EIU, 1991)

Iceland is heavily dependent on imports of finished consumer goods, intermediate

goods and raw materials (Central Bank of Iceland 1987, 197). For a number of years the visible trade balance has hovered around equilibrium and in the past 5 years has in fact recorded a surplus (Central Bank of Iceland, 1991a). Five year averages do, however, hide wide annual fluctuations in fish prices and the price of key imported commodities - especially petroleum products. It is important to note that Iceland's isolation from its major trading partners forces it to spend large amounts of money on transportation services; adding considerably to invisible expenditures.

This brief overview of the Icelandic economy reveals several interesting features. While the country has one of the lowest unemployment rates and highest standards of living within the OECD this state of affairs rests on a rather precarious economic base. The economy is heavily dependent on a very limited range of exports - derived mostly from the fisheries sector. Much of the nation's manufacturing activity also depends upon the fisheries. Recent government efforts to diversify the economy have met with only limited success.

Thus despite the fact that its economy is highly developed, and that its historical development has never been characterised by an exploitative 'colonial' period, the problems of small size affect Iceland in much the same way as 'less developed' countries of a similar size. Shand (1980: 12-19) provides a useful framework within which to view the impacts of small size on the economic viability of island states (see also Demas, 1965 and Connell, 1989) (Table 1.6).

Smaller physical size will tend to lead to a greater dependence on a more limited range of export goods and a reliance on a reduced range of markets. Concomitantly a smaller population means that both the labour force and domestic market are limited in size, hindering attempts at economic expansion and forcing public service provision to rest on a very small tax base. Clearly this type of framework has considerable relevance to the Icelandic case.

Table 1.6: Some Economic Implications of Small Island Size

A. The smaller island size...

1. The narrower the range of production conditions and thus the range of primary commodities produced.
2. The lower the volume of total output. At low it costs of processing, transport and marketing are markedly higher for export commodities, and weaken the competitive position of these exports in world markets.
3. The greater the concentration of exports in particular overseas markets - due to few export categories and low output.
4. The greater the market vulnerability.

B. The smaller the population...

1. The lower the volume of total output because of limited size of the labour market (consequences-see A2)
2. The greater the pressure for the government to operate private services that are unprofitable because of the small market (doctors,dentists...)
3. Increasing labour market limitations on the provision of government services.

C. The smaller the economy...

1. The smaller the internal market - making it more difficult to set up indigenous import substitution industry.
2. The more difficult it is to provide the level of service provision expected by the indigenous population.
3. The heavier the reliance on imported goods. This is due in part to the fact that economic smallness greatly limits the scope for raising internal revenues.

Source: Shand 1980, 12-19: Milne 1991.

1.4 The Potential Role of Tourism

In response to the special pressures associated with small size many island nations have decided to turn to the tourist industry as a possible means for future development. Tourism is assumed to bring many benefits to nations characterised by relatively limited

resource bases and isolation from major trading partners (Cleverdon, 1979; Rajotte 1980, Wilkinson, 1987, 1989; Butler, 1990; Milne, 1992). Problems of isolation are overcome to some degree by the fact that the consumer travels to the 'product' At the same time the resources sought by tourists (natural scenery etc) are often 'renewable' and inexpensive to provide (Milne, 1990).

More importantly many governments feel that tourism can bring a range of economic benefits to their countries (Table 1.7). The foreign exchange generated by tourism will be a major contributor to the balance of payments and will have a beneficial impact (both direct and indirect) on the local economy Tourism can also create higher levels of intermediate demand - the multiplier effect. The tourist sector, being essentially labour intensive, is also assumed to create many employment opportunities. At the same time the industry can aid in diversifying the structure of the economy, assist in balancing out regional disparities in income and employment, and contribute substantially to government coffers (taxes, duties, licenses etc).

It is important to note, however, that tourism also brings with it a series of economic costs (Table 1.7). The typical tourist will require certain goods and services which cannot be provided locally, thus a proportion of tourist expenditure will leak from the economy (Bryden, 1973, National Economic Institution, 1989) As a consequence the local income generated from tourism may only be a proportion of the total initial spending (Archer, 1982, Ministry of Transport, 1990b).

The benefits of job creation can be also reduced by the fact that managerial positions are often filled by expatriate staff (Milne 1990). In the case of Iceland, however, this factor is less important as the high level of education in the local labour market means that residents have a good opportunity to participate in the management of tourist sector operations In

Iceland's case a bigger handicap to local ownership is the large amounts of money and expertise required to establish large scale tourist facilities, this means that much of the industry is largely controlled by a small number of locally run conglomerates often with close links to foreign concerns.

Table 1.7: The Potential Economic Benefits and Costs of Tourism

Potential Economic Benefits	Potential Economic Costs
1. Foreign exchange generation. 2. Improves balance of payments. 3. Job creation. 4. Benefits at direct/indirect level (multiplier effect). 5. Government Revenue. 6. Diversification of employment structure.	1. 'Leakages' in the form of imports. 2. Government costs stemming from the industry's infrastructure. 3. Tourism will compete for labour, capital and land resources. 4. 'Unequal' employment - locals participate as employees not owners.

Source: Milne 1990, 17.

Nations are often also dependant on the flight scheduling whims of international airlines (Britton 1982, 1987). Even if a national airline is established it may have difficulty competing in a world airline industry that is increasingly characterised by 'mega-carriers' and centralised computer reservation systems (Tourist Board of Iceland, 1988b; EIU, 1990). At the same time, of course, tourism often brings with it the potential to cause environmental and socio-cultural disruption (Pearce, 1989, chapt. 6).

Despite these potential costs international tourism offers one of the few viable alternatives for small isolated island nations attempting to diversify their economic structures. It is therefore no surprise to find that the Icelandic government has been encouraging the development of the industry for many years.

CHAPTER 2

ICELAND'S INTERNATIONAL TOURISM INDUSTRY

2.1 The Tourism Product

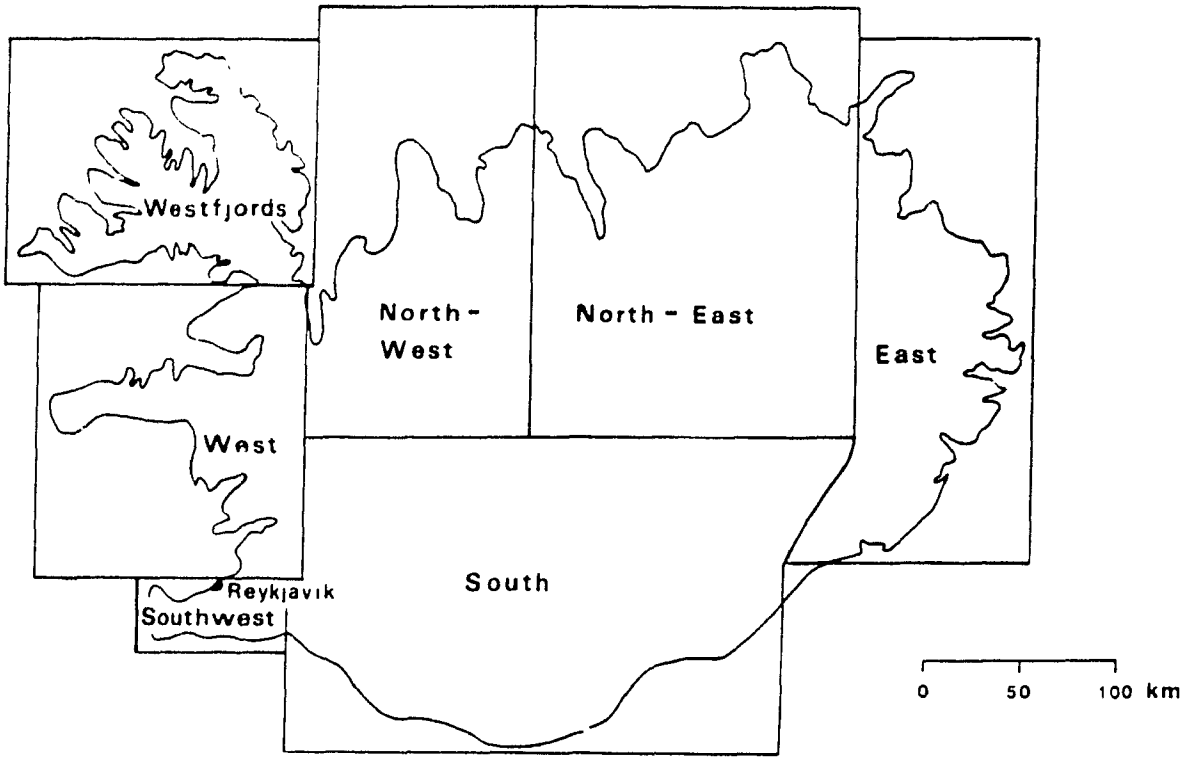
Iceland has, to a large extent, built a tourist industry on scenery alone (Mill and Morrison 1985, 188). Tourists to the country are not searching for beaches and a pleasant climate, but are, rather, attracted by the unspoiled nature and unique characteristics of the country. In the few surveys that have been administered to tourists in Iceland, natural phenomena such as volcanoes, geysers, glaciers and mountains have been mentioned as a major reason for visiting the country (Hagvangur 1978) The Icelandic Tourist Board focuses on these attractions in its promotion of the country (Tourist Board, 1990)

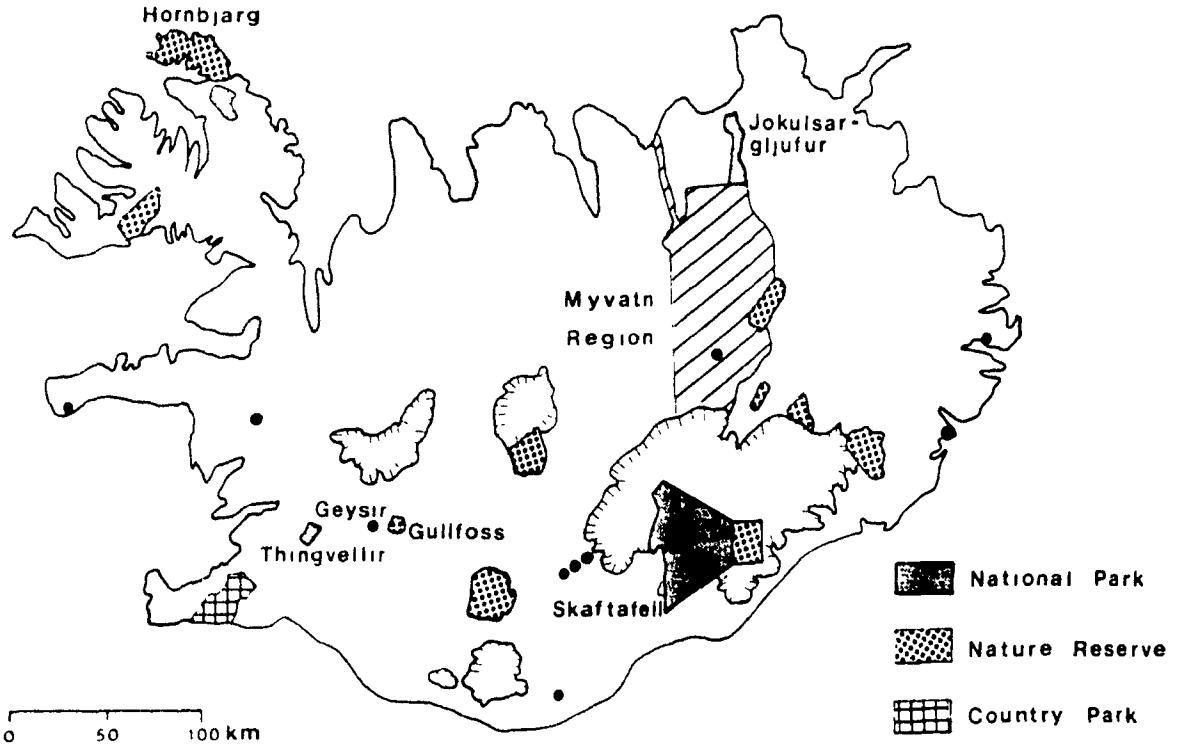
The special character of the Icelandic tourist product can best be seen from a regional perspective (Figure 2.1). The Southwest region features vast lava fields stretching out to distant mountain ridges. Geothermal activity is very much evident and a major attraction is the 'Blue Lagoon' formed by excess water from the Svartsengi geothermal power station The coast is rugged, with jagged crags and cliffs. As most international visitors arrive at the Keflavik international airport their first experience of Iceland is in this region

The West region offers recreational activities for a variety of speciality interest groups including: ornithologists, hikers, anglers and ponytrekkers Many of the country's best salmon rivers are found here along with glaciers, hot springs, rock formations, lava fields and mountains. The West Fjords are geographically isolated from the rest of Iceland Most of the landscape here is composed of cliffs and mountains. Some of the largest seabird colonies in the world are in the area; including the Hornbjarg nature reserve The region is also well known for its seals, arctic foxes and eider ducks (Tourist Board 1991, 2)

Figure 2.1 Iceland's Regions and Major Natural Attractions

Source: Nature Conservation Council, 1991





The Myvatn region is the main tourist attraction of the North-West and North-East regions (Figure 2.1). The area is protected by law and covers an area of 440,000 ha. (Nature Conservation Council 1991, 31). Lake Myvatn and it's surroundings are renowned for their natural beauty. Nearby is the Jokulsargljufur National Park (established in 1973).

The prominent feature of the East region is a coastline carved with fjords and bays sheltered by steep mountains. One of the fjords, Seydisfjordur, is an entry point for the Norrona ferry which sails weekly to the Faroe Islands and Scandinavia. The region attracts geologists, hikers and nature lovers.

The South is best known for its vast sand coast and Skaftafell national park which was established in 1967. This is a region of contrasts with high mountains, glacial rivers, black sands and colourful vegetation. Other attractions include the active volcano Hekla.

The outstanding scenery and relatively untouched natural environment of Iceland provide an excellent opportunity for wilderness travel, sightseeing, photography and natural study (Jackson 1984, 393). This natural beauty has attracted more and more nature or 'eco' tourists in recent years. The theme of nature based tourism is one that I shall return to later in the chapter.

2.2 Tourism - The Demand Side

It was not until 1970 that foreign tourists began to arrive in Iceland in significant numbers (Figure 2.2). A slight downturn in 1973-74 was linked to the oil shock and resultant air fare increases. An increase of international tourist arrivals occurred again in the period 1976-79, with an average annual increase of 3.1%. The number of tourists totalled 77,000 by 1979.

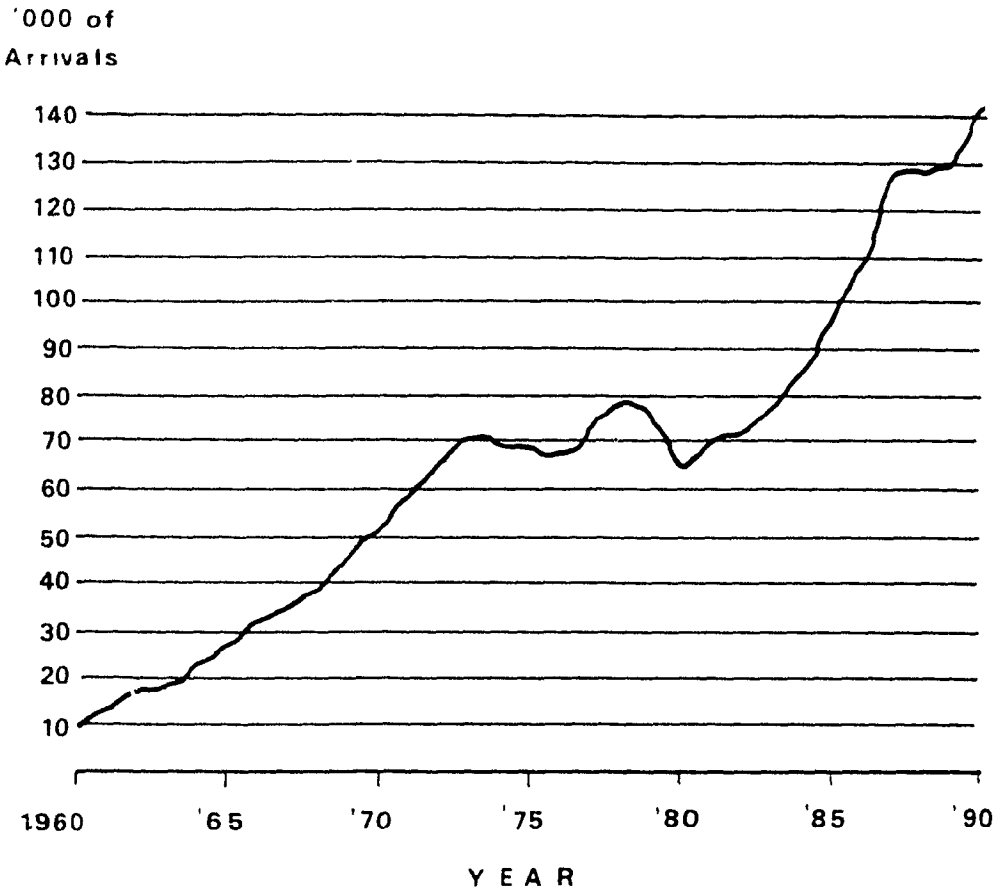


Figure 2.2 Foreign Visitors Arriving to Iceland 1960-90
Source: National Economic Institution, 1991

Oil price related airfare increases again caused an absolute decrease in 1980 with arrivals falling by 11,000. These trends show how dependent the tourist industry is on international fluctuations in airfares The unstable exchange rate of the krona has also created fluctuating competitive conditions. High inflation in the 1970's and early 1980's led to constant adjustment by the Icelandic Central Bank to maintain competitiveness in key export and import-substitution sectors. While the Government placed a greater emphasis on exchange

rate stability during the mid-1980s a recent decline in export prices has again made devaluation necessary to correct the situation (Table 2.1).

Table 2.1: Exchange Rate Fluctuations 1985-90

	1985	1986	1987	1988	1989	1990
Kronur per $US	41.47	41.04	38.06	43.09	57.29	58.39

Source; Central Bank of Iceland 1991b, 26, Table 14.

The number of foreign visitors to Iceland has increased rapidly in recent years. The average annual increase was 8% in the last decade, far exceeding the world average of 3.8% (National Economic Institution, Iceland 1989). This enhanced interest in trips to Iceland can be linked to extensive promotion and marketing campaigns by the Icelandic Tourist Board in conjunction with export companies, airlines and shipping lines and a rising demand for nature tourism (see below). For example the Tourist Board in New York started a USA marketing campaign in 1980 and it is estimated that the project yielded an average annual market growth rate of 13% between 1980 and 1987 (EIU, 1989a; Tourist Board of Iceland, 1988a).

Over 95% of foreign visitors arrive by air at the only international airport, located 40 km west of Reykjavik. The remainder travel on the Norrona ferry, which has a scheduled route between Iceland, the Faroe Islands, Scotland, Norway and Denmark during the summer-months.

For most of the last two decades the USA was the largest tourist market (Figure 2.3). However, in recent years its relative importance has declined and visitors from the Nordic nations have become the major visitor grouping. The recent decrease in tourist arrivals from the USA can be explained by the following factors (Tourist Board of Iceland 1988b, 11-12):

Icelandair has had difficulties competing with bigger airlines on the route over the Atlantic Ocean. The difficult financial status of the company has been rectified by reducing services on the North Atlantic route;

There has been a decline in the number of US citizens travelling to Europe and especially Scandinavia;

Inflation and high costs have deterred tourists from visiting Iceland;

Fluctuations in foreign currency rates have led to some uncertainty on the part of travellers;

Marketing has been made difficult by the reduction of the Icelandic Tourist Board budget.

Tourist arrivals from Nordic nations have more than trebled in the last two decades, rising from 10,600 in 1970 to over 48,000 in 1990. Extensive promotion and marketing has assisted this growth. The region is an important conference and business market for Iceland - a reflection of the close cultural, business and government connections between the Nordic Countries (EIU 1989a, 33). Nordic visitors constituted 34.4% of all arrivals in 1990 (Table 2.3).

Table 2.2: Foreign Visitors to Iceland 1980-90 (% of arrivals)

Year	USA	Nordic Nation	UK	Continent (Europe)*	Other Europe**	Other
1980	23.1	29.8	10.4	27.8	4.9	4.0
1981	24.8	29.0	10.9	26.7	4.6	4.0
1982	28.7	26.9	10.0	25.3	4.4	4.7
1983	32.1	25.0	11.4	23.2	4.4	3.8
1984	32.0	26.4	11.0	23.7	3.4	3.5
1985	32.4	29.1	10.0	21.1	3.6	3.8
1986	28.8	30.4	9.0	23.6	4.6	3.6
1987	27.6	34.8	8.2	21.0	4.8	3.6
1988	22.3	36.6	8.2	23.9	5.5	3.5
1989	17.7	35.4	9.2	28.1	5.7	3.8
1990	16.0	34.4	9.7	30.3	6.2	3.4

* Includes Germany, Austria, Switzerland, France and the Netherlands

** Includes other countries in Europe

Source, Immigration Service of Iceland, Visitor Arrival Statistics - Various.

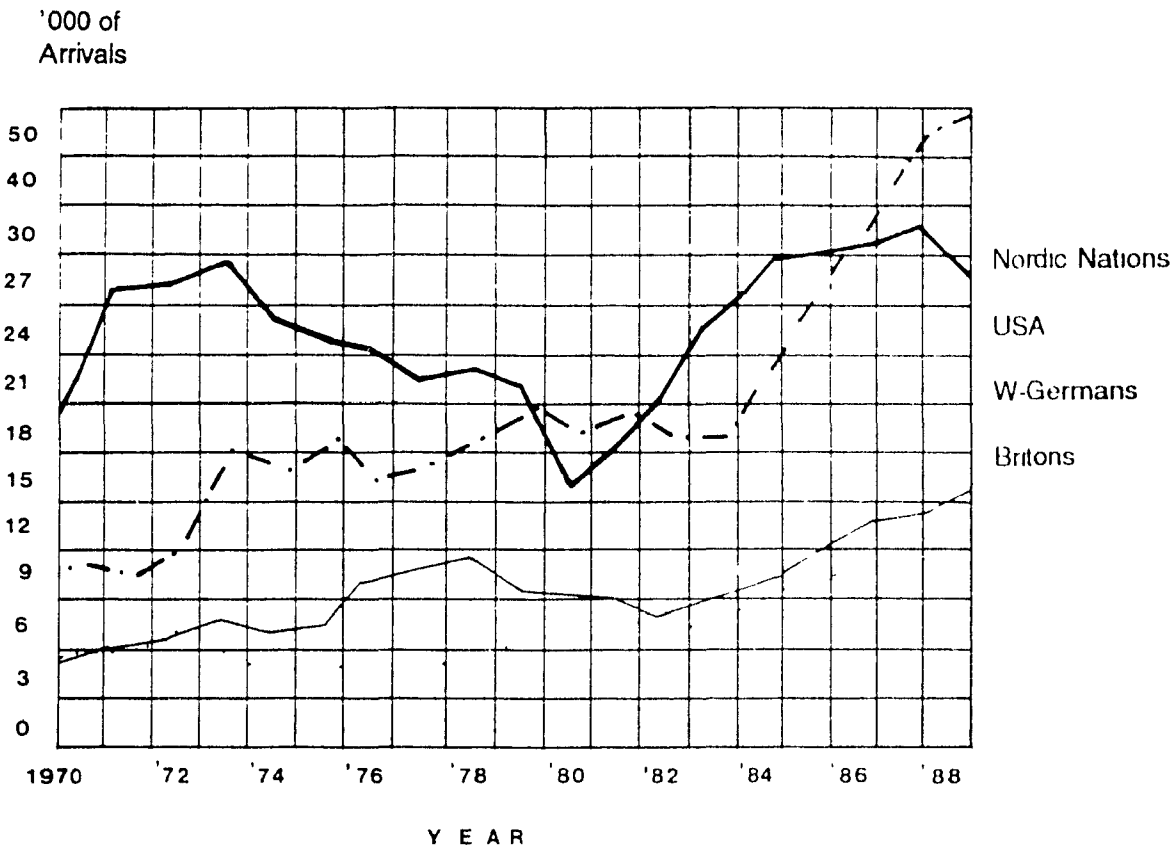


Figure 2.3 Tourist Arrivals from Key Markets 1970-89
Source: National Economic Institution, 1991; Immigration Service Statistics, various

The continent of Europe, including Germany, the Netherlands, France, Switzerland and Austria, is the third largest market. Continuous growth in visitor arrivals has been experienced from this area for the last two decades. Germans are the largest grouping (more than 50% of the continental market). British visitors normally account for 10% of total arrivals

The demand for tourism is markedly seasonal in character with numbers considerably lower during the long cool winter months. In Reykjavik the demand for accommodation is fairly high throughout the year, with occupancy rates above 50% for seven months (Statistical Bureau, 1988b; survey data) In July and August the capital operates with rates of nearly 70% (Figure 1.6). Occupancy rates do not exceed 20% for much of the year in the other regions of the country and it is here that the July/August peak is most noticeable (Figure 2.4).

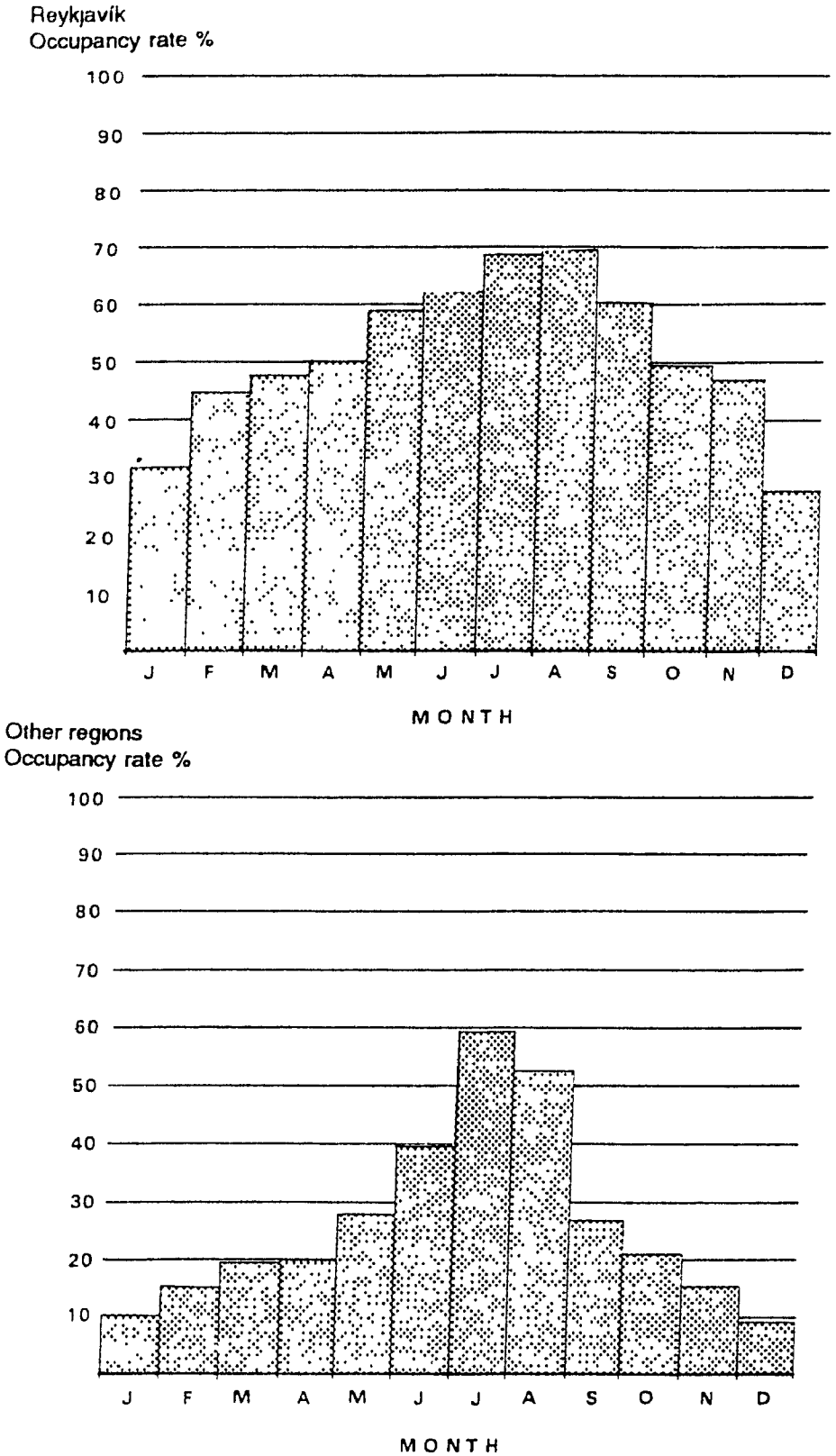


Figure 2.4 Regional Variations in Occupancy Rates (1985-7)
Source Statistical Bureau of Iceland, 1988b

A distinct seasonal arrival peak (Figure 2.5) is not perceptible among US visitors: this can be explained by the large number of stopover passengers flying across the Atlantic with Icelandair throughout the year. Nearly half of the visitors from the Nordic countries, however, arrive during the short summer months. Seasonal variations are most marked among visitors from continental Europe and Great Britain, with 70% arriving during the summer months

In 1987 over 357,000 hotel and guesthouse bednights were spent in Iceland by international travellers (Table 2.3). The stay of foreign tourists is heavily concentrated in Reykjavik. Over 68% of hotel/guesthouse bednights are spent in the capital with only two other parts of the country - the South and the Northeast - receiving more than 8% of total bednights. Only a fraction of foreign travellers overnight in the West, Westfjords, Northwest and the Eastern regions (Table 2.3).

Time spent in the country varies according to nationality. Nordic visitors spend on average 3-4 nights, US visitors spend 2 nights and Britons and travellers from the continent of Europe 6 to 7 nights (Ministry of Transport 1987, 42). Tourists from the continent and Great Britain are more likely to travel around the country than North Americans and visitors

Table 2.3: Regional Variations in Bednight Demand (1987)

	Summer-bednights		**Winter-bednights**		**Total-bednights**	
	no.,	**%**	**no.**	**%**	**no.**	**%**
Reykjavik	106,880	29.9	138,051	38.7	244,931	68.6
West	12,757	3.6	821	0.2	13,578	3.8
Westfjords	2,430	0.7	755	0.2	3,185	0.9
Northwest	4,175	1.2	469	0.1	4,644	1.3
Northeast	27,875	7.8	3,914	1.1	31,789	8.9
East	13,624	3.8	865	0.2	14,489	4.0
South	27,163	7.6	4,321	1.2	31,484	8.8
Southwest	5,107	1.5	7,978	2.2	13,085	3.7
Total	**200,011**	**56.1**	**157,174**	**43.9**	**357,185**	**100.0**

Source; Statistical Bureau of Iceland 1988b.

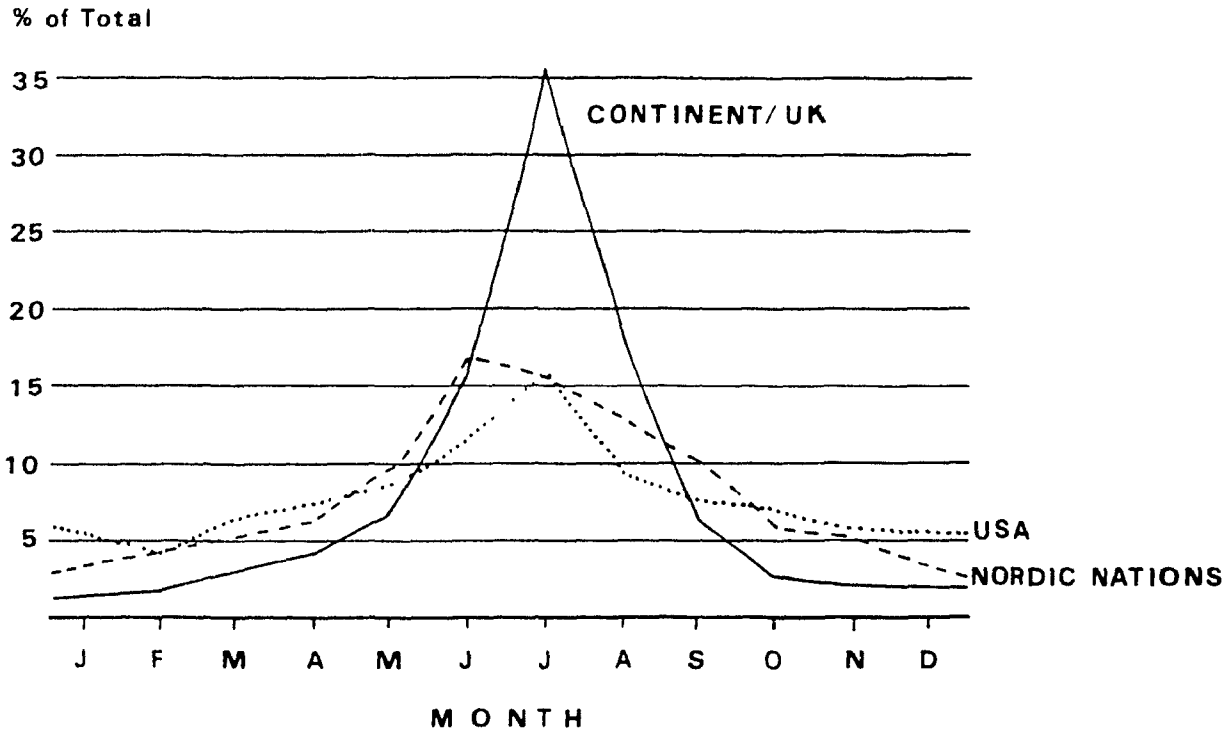


Figure 2.5 Seasonal Arrival Variations by Key Markets (1989-90)
Source: Immigration Service of Iceland

from the Nordic nations (Figure 2.6). North Americans and Scandinavians spend more than 70% of their nights in Reykjavik, which is consistent with their short stay in the country. As these figures are determined on the basis of registration cards in hotels and guesthouses some underestimation can be expected

It must be borne in mind that many tourists do not use commercial accommodation. The Icelandic Statistical Bureau does not register the number of overnight stays in facilities such as farms, campsites, and the homes of friends and relatives.

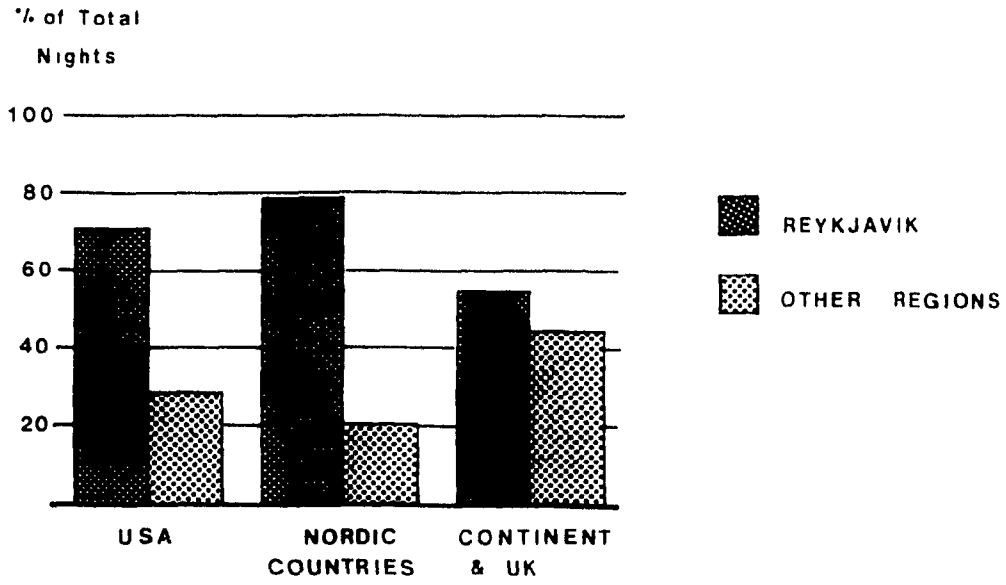


Figure 2.6 Regional Variations in Bednights (Reykjavik and other regions)

Source; Statistical Bureau of Iceland 1988b.

2.2.1 The Significance of 'New' Forms of Demand

One less quantifiable influence on international demand for the Icelandic tourism product has been the recent growth of what may be described as 'new' forms of tourism demand. Many commentators argue that there is a growing demand for 'more individual' forms of travel (Goodall, 1988; Poon, 1989; Likorish, 1990) In its overview of the major trends affecting tourism during the next decade the World Tourism Organisation stresses that tourists are demanding more imaginative and varied tourism products and that tailor made travel arrangements will grow at a faster pace than traditional packaged 'sea, sun and sand' holidays (WTO, 1990, 10).

At the same time it appears that the holiday experience desired is also changing - with less emphasis on rest and relaxation and a greater emphasis on education and 'personal development' (Martin and Mason, 1987; Krippendorf, 1987). As McDougall (1990, 5) notes: "today's traveller is not simply satisfied with a holiday at the beach but rather an active and more involved holiday experience".

One key market that has emerged from this shift in demand is that of nature or 'eco' tourism (Edington and Edington, 1986; Grotta and Grotta, 1992). While there has always been a small group of travellers interested in experiencing unspoilt natural surroundings and taking part in more sustainable forms of travel recent years have witnessed a rapid 'greening' of the tourist trade (WTO, 1990, 13; Ziffer, 1990; Lindberg, 1991).

This growing niche market opens up important new opportunities for 'unspoilt' natural beauty spots such as Iceland (Elkington and Hailes, 1992). While it is not possible to gain accurate data on the number of such tourists coming to the country my inquiries revealed a large and growing number of packages that cater for 'greener' forms of travel. In addition the rapid growth of farm holidays and countryside stays reflects this growth.

The growing importance of ecotourism has several important implications for Iceland. First it means that the conservation of the nation's fragile environment takes on an important and growing economic dimension. Second it is important to know just what types of economic benefits this type of tourism brings and how it compares to more conventional business or holiday travel. While this thesis is not designed to answer these questions directly I will address some of these issues in later discussions.

2.3 Tourism - The Supply Side

The tourist industry in Iceland has expanded to meet this increased demand. The number of beds in hotels and guesthouses in the summer (May-Aug) has increased by 25% since 1984, while the number of beds available during the period September to December has expanded by 38% (Table 2.4).

Accommodation capacity increases greatly during the summer months in all regions. Reykjavik is responsible for one third of bed capacity in hotels and guesthouses during the summer. During the high season the range of lodging is increased by turning publicly owned boarding schools into summer hotels; this expands countryside room capacity by some 40% (Skjoldelev 1989, 200). In terms of capacity during the low season (spring/autumn), Reykjavik provides nearly 52% of beds in hotels and guesthouses.

Noticeable growth in farm tourism has also occurred in recent years (Figure 2.7). Accommodation is offered on 115 farms throughout the country. Tourism is a welcome economic supplement in these rural areas, offering job opportunities, particularly

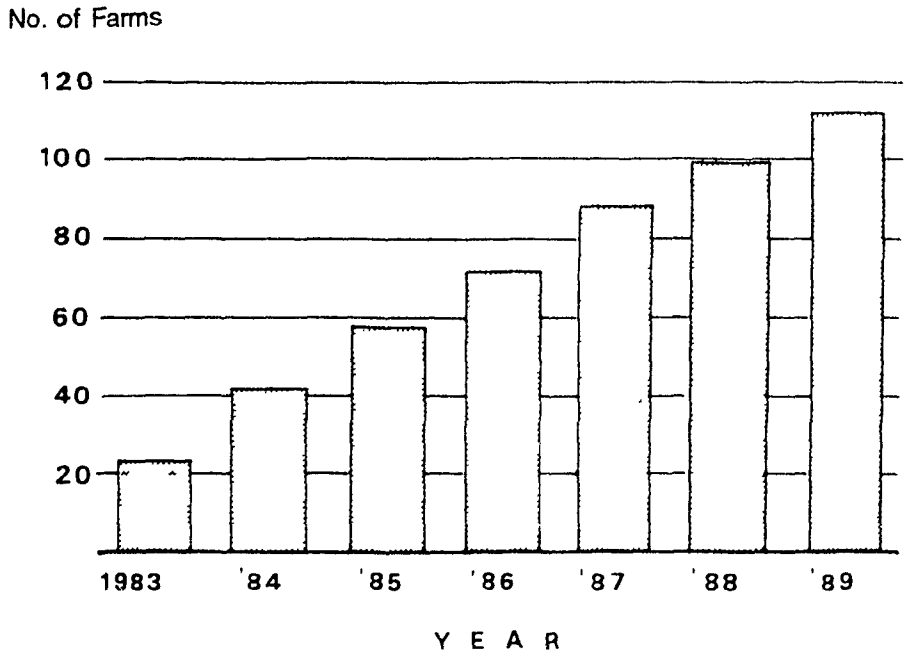


Figure 2.7 Farm Accommodation
Source; Farm Holiday Association, Iceland 1990.

Table 2.4: Hotels and Guesthouses 1984-89 (every four months)

	Number of Hotels and Guesthouses	Number of Bed
1984: Summer (May-Aug)	86	4782
Summerhotels only	40	2256
Autumn (Sept-Dec)	46	2364
1985: Spring (Jan-Apr)	47	2362
Summer (May-Aug)	88	4869
Summerhotels only	37	2113
Autumn (Sept-Dec)	51	2517
1986: Spring (Jan-Apr)	55	2564
Summer (May-Aug)	108	5581
Summerhotels only	40	2159
Autumn (Sept-Dec)	65	3142
1987: Spring (Jan-Apr)	62	3053
Summer (May-Aug)	121	6310
Summerhotels only	51	2459
Autumn (Sept-Dec)	69	3547
1988: Spring (Jan-Apr)	70	3553
Summer (May-Aug)	120	6315
Summerhotels only	43	2342
Autumn (Sept-Dec)	72	3797
1989: Spring (Jan-Apr)	71	3723
Summer (May-Aug)	119	6401
Summerhotels only	47	2302
Autumn (Sept-Dec)	71	3824

Source; Statistical Bureau of Iceland 1991b, Table VIa.

to women. It is important to note that the classification of accommodation in Iceland is lacking in that it does not specify clearly which accommodation complexes are hotels, guesthouses or bed and breakfast operations. A large amount of family, farmhouse accommodation and camping facilities are unrecorded. A recent study states, for example, that this unrecorded grouping represents approximately 30% of the country's total accommodation stock (Larusson, 1988).

Two locally owned airlines; Icelandair and Eagle Air, maintained international services to and from the country until 1990, when the latter ceased operations due to financial difficulties (Figure 2.8). Services are also offered by SAS, Lufthansa, Odin Air and Greenland Air.

Icelandair was established in 1973 with the merger of two air companies, and has since accounted for about 80% of traffic to the country. It's route network consists of three US gateway cities, New York, Baltimore and Orlando, six Scandinavian cities, as well as Glasgow, London, Paris, Luxemburg, and Frankfurt. With the establishment of Eagle Air in 1982, new European markets became accessible. The latter operated scheduled services to Amsterdam and Hamburg during the winter, adding Cologne, Munich, Milan and Zurich during the summer season (Table 2.5). This airline was responsible for 15% of the total air traffic until August 1990, when Icelandair took over some of its routes and discontinued others (Min. of Transport, 1990b). As noted earlier Icelandair is now also facing financial difficulties - especially on its trans-Atlantic services. There is concern that the airline may be unable to maintain current levels of international services in the wake of the current rationalisation of the global airline industry (EIU, 1990) Indeed some commentators argue that Icelandair may have to look toward forming a far-reaching alliance (perhaps with a minority ownership stake) with a major European carrier (Tourist Board of Iceland, 1988b)

In defining tourism industry employment levels the National Economic Institution (1990b, 1991) includes all employment in the accommodation sector, airport management and travel bureaus, and 50% in restaurants and public transportation sectors. If this definition is used, 1.6% of the labour force was directly dependant on the tourist sector in 1960 Employment grew steadily in the 1960s and has been fluctuating around the 3% level for the last two decades (Table 2.6).

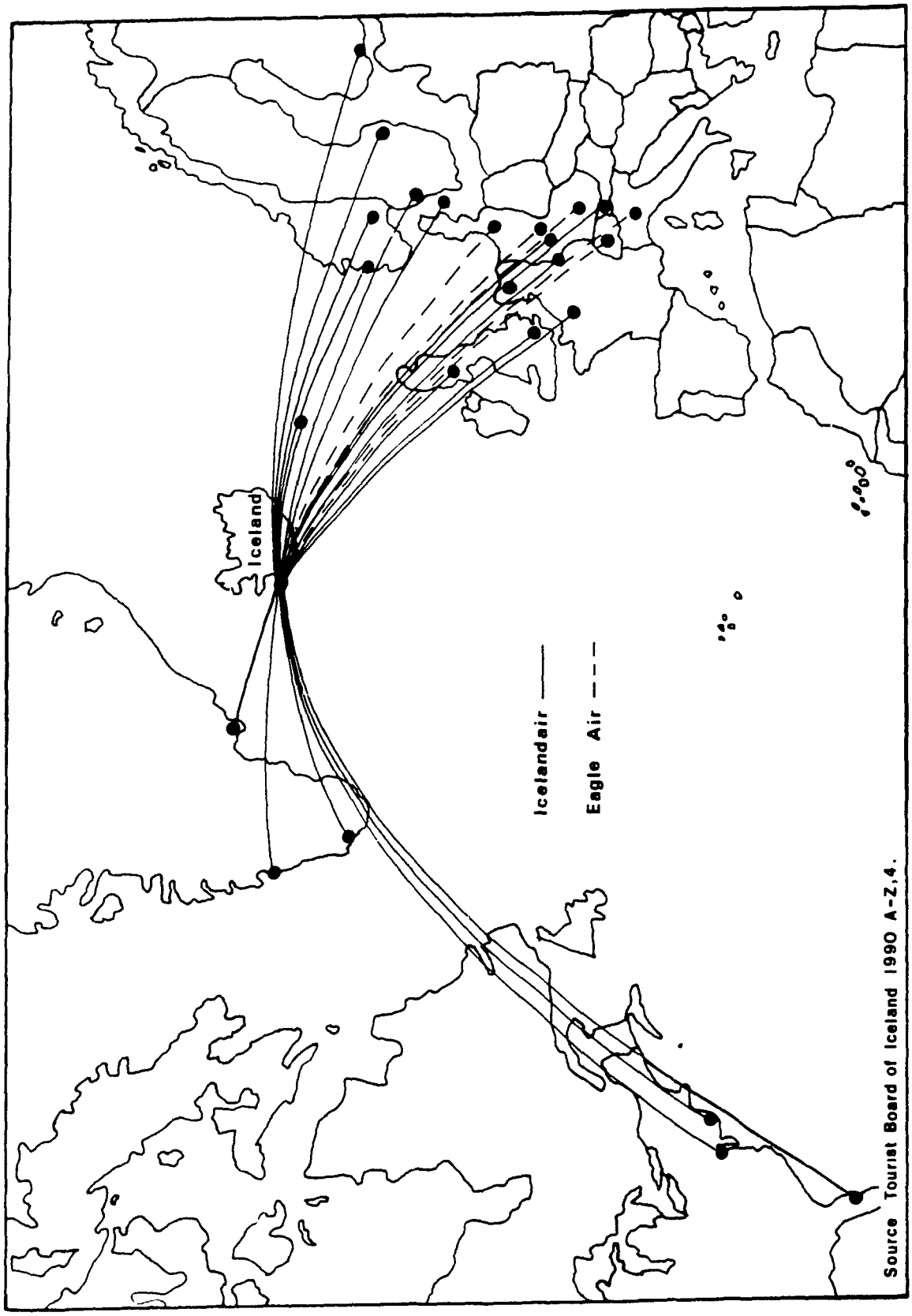


Figure 2.8 International Flight Paths to Iceland - 1990
Source: Tourist Board of Iceland, 1990

Table 2.5: Direct Flights to Iceland in 1990 (January-July)

By Icelandair from:	Frequency	By Eagle Air from:	Frequency
Europe;		**Europe;**	
London	5- 7	Amsterdam	4-5
Glasgow	2	Hamburg	4-5
Copenhagen	7-10	Koln*	1
Stockholm	6- 7	Munchen*	1
Gothenburg	4	Milan*	1
Oslo	6- 7	Zurich*	1
Helsinki*	1		
Faroe Islands	2		
Frankfurt*	3		
Salzburg	1		
Luxembourg	7- 9		
Paris*	5		
Narsarsuaq	2		
Kulusuk*	5		
Wien	1		
USA;			
New York	6- 7		
Baltimore	3- 5		
Orlando	2		
By Scandinavian Airline System (SAS) from;	**Frequency**	**By Lufthansa from;**	**Frequency**
Europe;		**Europe;**	
Copenhagen	3	Frankfurt	1
By Odin Air from;	**Frequency**	**By Greenland Air from;**	**Frequency**
Greenland;		**Greenland;**	
Kulusuk	2	Nuuk	
		Narsarsuaq	In cooperation with Icelandair

*summer only

Source: Tourist Board of Iceland 1990, A-Z 4.

Table 2.6: Annual Employment in the Tourist Sector 1975-89

Year	Restaurants and Accommodation	Air-Service	Other	Total	% of Total Employment in Iceland
1975	1144	928	1500	3572	3.77
1980	1307	754	1517	3578	3.38
1985	1804	947	1831	4582	3.79
1989	1816	977	1869	4662	3.70

Source; National Economic Institution, Iceland 1991, Table 2.1.

Thus tourism's role as an employer is estimated to be similar to the banking sector (3.4%), food industry (3.3%) and aluminum processing, iron alloy, metal working, mechanical repair and ship building sectors (3.1%) (Institute of Regional Development 1991). Because of its seasonality the tourism industry provides large numbers of part time jobs. Over 60% of annual employment in the accommodation and restaurant sector is contributed by female labour. In the 'countryside' women account for nearly 70% of annual employment (Table 2.7).

Table 2.7: Regional and Sexual Variations in Accommodation and Restaurant Employment - 1990

	Urban Center		Other Areas		Iceland	
	No.	%	No.	%	No.	%
Female	1108	58.7	825	68.5	1933	62.6
Male	778	41.3	379	31.5	1157	37.4
Total	**1886**	**100.0**	**1204**	**100.0**	**3090**	**100.0**

Source: Institute of Regional Development 1991.

2.4 Policy and Planning

The Icelandic Tourist Board (ITB), operating under the aegis of the Ministry of Transport, coordinates the national planning of the tourist sector (Ministry of Transport 1990a, 2). One of the ITB's first projects in 1973 was to plan the future of tourism in Iceland and a US consulting firm was chosen to conduct the study (Checci and Company 1973)

Few of the ideas embodied in this early report were pursued and the government did not attempt to clearly define the economic role of the tourist industry or its future development trajectories until autumn 1990. The resultant parliamentary resolution states that any government tourism policy should include the following key objectives (Ministry of Transport 1990b, 1):

- to recognise and develop the tourist industry as an important and profitable economic sector;

- to minimize any disturbances to the Icelandic environment and way of life that may be caused by tourism development;

- to recognise and increase the positive influence that the tourism industry has on the nation's balance of trade in goods and services;

- to create a fiscal environment that is positive to the industry's growth and will strengthen the linkages between the sector and the rest of the economy,

- to utilise tourism to support regional development initiatives in the countryside, and,

- to develop tourism infrastructure for the benefits of all people.

Two main benefits are seen to stem from tourism development. First it is a means to secure much needed foreign exchange for the economy; helping the country's balance of trade and financing economic growth (Ministry of Transport, 1987) In this respect it is argued that tourism can no longer be ignored in macro-economic planning matters such as the regulation of exchange rates. Second tourism is a major employer. In this sense, the industry is seen as

a means of strengthening regional development, creating jobs in communities where industrial diversity is limited, and providing much needed employment for the increasing number of women entering the labour market.

While the parliamentary resolution does not discuss a 'ceiling' for tourism development it does state that large scale rapid expansion of the sector would be counter-productive at the moment due to infrastructural inadequacies and potential social and environmental disruption. It is clearly stated that future developments must be meshed with broader economic development strategies and environmental issues.

Until a few years ago relatively little attention was paid to the environmental impacts of tourism development. It was assumed that maximizing the number of foreign visitors would bring greater economic benefits to the country. However, because of environmental side effects it is now realized that tourist expansion cannot continue in an unplanned fashion. Deterioration of the environment can already be seen in some popular areas and it is clearly realised that such damage will destroy the natural resource base upon which so much of the industry depends (Min. of Justice, 1991a; 1991b). Indeed a recent conference dedicated to tourism in Iceland resolved to look more closely at the link between economic planning and environmental sustainability and to foster closer cooperation between the requisite government bodies (Nature Conservation Council 1990).

The number and type of visits must be regulated in accordance with 'environmental carrying capacity' (EIU 1989b, 83; OECD, 1985). The current official approach is to target market groups such as 'eco-tourists' who are assumed to be high spenders and environmentally aware. More importantly these are people who may be willing to pay a premium for environmental protection. The attraction of a smaller number of tourists with special interests such as bird watching may also offer opportunities to expand the 'shoulder

seasons' of the short summer.

2.5 Summary

While the international tourism industry in Iceland is small by international standards it has been growing rapidly. The role of the industry within the national economy has also been expanding - although estimates of its true economic significance are hampered by a lack of data on tourist expenditure and business structure.

As the demand for tourism has increased and suppliers of tourism related goods and services have grown in number so the need for new approaches to policy and planning has been recognised. The largely ad hoc approaches of the 1970s and early 1980s have now given way to a desire to better 'tune' the industry's performance so that it can meet both economic demands and the need for environmental sustainability. The research presented here is, therefore, timely as it will enable the government to study issues of economic and regional development from a stronger empirical base than has been possible in the past.

CHAPTER 3

THE ECONOMIC IMPACT OF TOURISM: A MODE OF ANALYSIS

There is no doubt that international tourism's role within the Icelandic economy has increased significantly in recent years. Unfortunately little is known about the economic impacts that the industry leaves in its wake. Perhaps more importantly very little is known about the ways in which tourism is linked to other sectors of the economy. I now critically evaluate the multiplier approach used to conduct the economic impact analysis presented in later chapters

3.1 The Multiplier in Tourism Research

While the multiplier technique has only been used in tourism research in the last three decades the concept itself can be traced back to the late nineteenth century when Bagehot (1873, 126) described how a depression in a given form of trade would have a cumulative effect on the economy as a whole, since "under a system in which everyone is dependent on the labour of everyone else, the loss of one spreads and multiplies through all". The widespread popularisation of the multiplier is credited to John Maynard Keynes (Wright, 1956; Wilton and Prescott 1982). In the development of his theories of government economic intervention Keynes expressed the multiplier in the now familiar form of:

$$k = \frac{1}{1-b}$$

where

b= marginal propensity to consume.

By combining this multiplier concept with his comparative-static economic analysis Keynes offered governments a means by which fluctuations in economic activity, especially

unemployment levels, could be countered by deficit spending (Shackle, 1951; Hegeland 1966, 252).

In simple terms the multiplier in tourism research defines the amount that an initial sum of tourist expenditure is 'multiplied' in order to obtain the total cumulative income effect for a specified time period (Mathieson and Wall 1989, 64). In other words the initial amount spent by tourists is not a sufficient indicator of the true economic impact of tourism development. Further income is generated through the circulation of money around the local economy. This process does not continue indefinitely because the original 'injection' of money is gradually diminished as it 'leaks' in the form of imported goods and services and through profit repatriation (Milne, 1987b).

There are several stages in the multiplier mechanism. The tourist's initial expenditure is on goods and services provided by hotels, restaurants and other enterprises that deal directly with tourism (Figure 3.1). The revenue received from tourists by these enterprises is then re-spent on wages, salaries and the purchase of supplies such as food, electricity, laundry and advertising (direct impact). Where these goods and services are purchased locally there is a 'downstream' economic impact. Thus the revenue of suppliers to tourist sector businesses (e.g manufacturers and wholesalers) increases. A new round of economic impacts is generated when these businesses in turn spend their money on wages, salaries and supplies (indirect impact). The increased wages and salaries generated at both the direct and indirect levels will, in turn, lead to a rise in household consumption (induced impact).

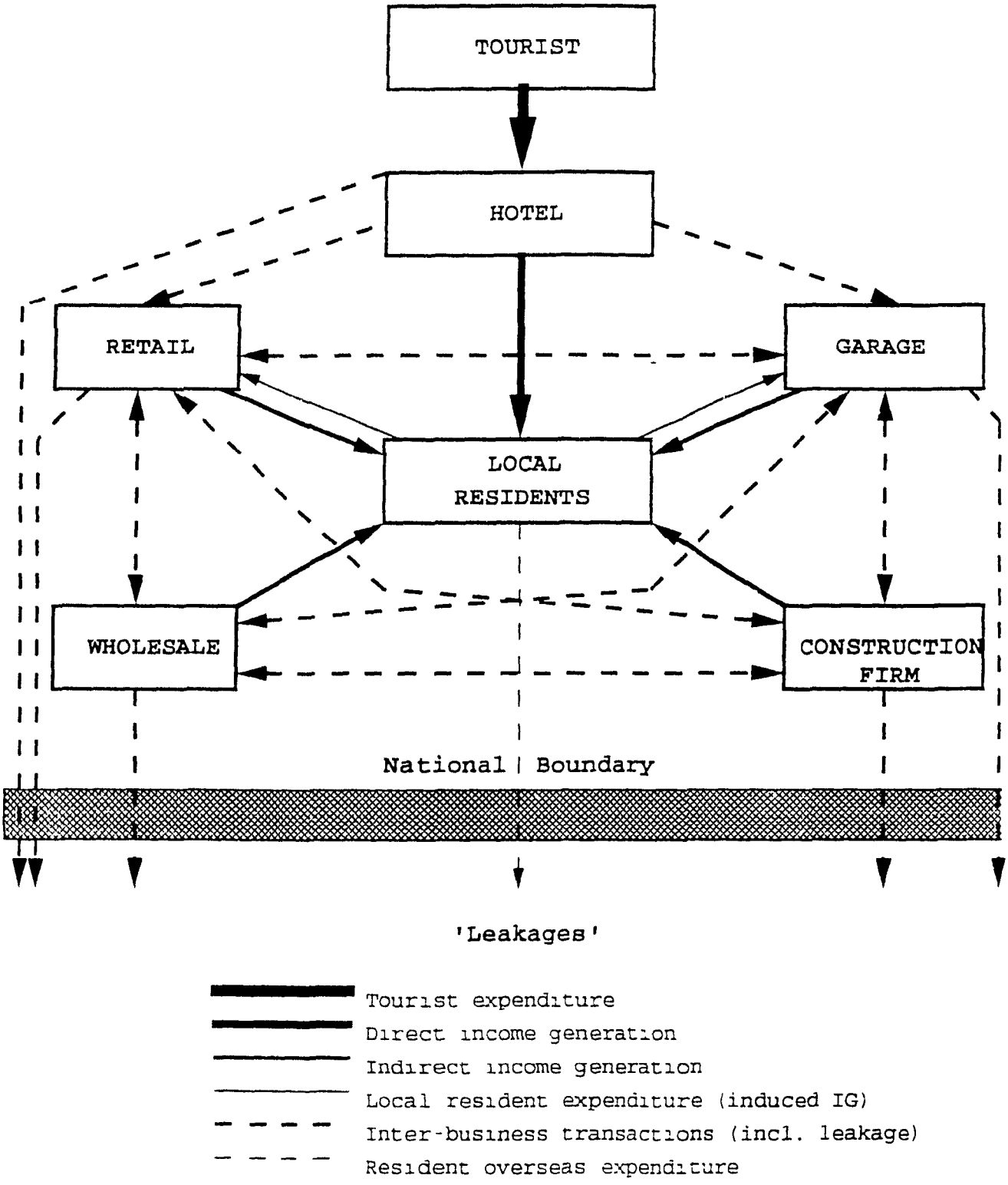


Figure 3.1 The Multiplier Process - Example of Tourist Expenditure in a Hotel
Source: Henderson and Cousins, 175, 1.

The multiplier process may be simply expressed as follows:

$$K_r = a+b+c$$

where:

$\mathbf{K_r}$ = regional multiplier

a = direct income generation per unit of tourist expenditure i.e. factor incomes generated within businesses that directly receive tourist expenditure

b = indirect income generation per unit of tourist expenditure i.e. factor incomes generated within businesses whose turnover is indirectly augmented with purchases made by tourism businesses

c = induced income generation per unit of tourist expenditure i.e. factor incomes generated as a result of expenditure by residents of the region whose income has previously been increased through processes a & b outlined above.

At each of these stages some of the revenue leaks out of the economy. Thus lower multiplier estimates are associated with regions that exhibit high import dependence and, in some cases, low local value added ratios (Liu and Var 1982, 178). The extent of the leakages determines the economic benefits accruing locally. Sooner or later all the original sum spent by tourists will have leaked out of the region. The size of the multiplier depends upon the extent to which the various sectors of the economy are linked to one another (Mill and Morrison 1985, 227). In general, the smaller the economy the fewer the linkages that exist between firms and the greater the likelihood that companies will rely on imported goods and services (Archer 1977, 2).

The main reason for the differences between tourist multipliers in various countries and regions is the leakage caused by expenditure on imports (McIntosh and Goeldner 1977, 186). Hence, it is important to realize that significant gains can be obtained by minimizing the use of imports to meet the demands imposed by the growth of tourism. Of course it may be difficult to estimate the level of imports that occur as a result of tourism alone. It may be

even more difficult to stimulate the types of local economic development required to allow for import substitution (Mathieson and Wall 1989, 61).

Multipliers used in tourism research have generally been divided into four categories (Archer 1982, 237-38). First there are sales (or transactions) multipliers which relate the effect of a unit change in expenditure to the change in business turnover that is associated with it. Closely related is the output multiplier which includes real changes in inventories within the economy as well as the level of sales arising from a injection of exogenous expenditure.

The income and the employment multiplier can take two forms; the normal and the ratio. The normal income multiplier shows the relationship between changes in total income brought on by a unit change in exogenous expenditure (Var and Quayson 1985, 502). At the same time the normal employment multiplier describes the amount of money created by specified unit of tourist spending (e.g. number of jobs created per 1,000,000 kr).

Type I ratio income multipliers represent the sum of the direct and indirect income changes divided by the change in direct income (Hewings 1977, 42). A Type II ratio income multiplier is calculated by incorporating the induced income effects into the numerator. Employment multipliers can also be calculated in these forms. It should be noted, however, that ratio multipliers are of little value to policymakers and planners, since they give no indication per se of the volume of exogenous sales which are required to generate an initial unit of direct income. To provide meaningful guidance to planners it is essential that information concerning the amount of exogenous expenditure required to bring about a specified increase in a given sector's direct income be provided (Archer 1977, 9).

A brief example can serve to illustrate these differences. If a Canadian tourist spends 1000 kr on an Icelandic-made woollen sweater in a Reykjavik gift shop this may generate 300 kr in direct income, 200 kr in indirect income and a further 100 kr in induced income. A type

II ratio income multiplier would then be 2.0 (600 kr divided by 300 kr) while a normal income multiplier would be 0.6 (600 kr divided by 1000 kr)

While a number of methods have been used to estimate the economic impacts of tourism, neo-Keynesian multiplier models and input-output (IO) analysis have been the most widely used (Henderson & Cousins 1975, Brownrigg and Greig, 1975; Hanna 1976, Varley 1978; Archer 1982; Hollander, 1982; Hughes 1982)

Input-output analysis is the most sophisticated approach In essence an IO model is a matrix based representation of an economy's internal interactions. Economic activity within the nation (or region) is disaggregated on a sectoral basis, with purchases made by each sector being shown in columns while sales are recorded in rows. The most useful characteristic of this technique is that it can relatively accurately describe transactions between various sectors of the economy, as well as transactions between that economy and others Thus IO techniques can illustrate the effects that an exogenous injection of tourist dollars will have on individual sectors of the economy. Using a Leontief inversion income multipliers are calculated by incorporating the household sector into the intraregional transactions matrix (Henderson and Cousins 1975, 150)

While IO modelling is the preferred approach by tourism researchers its use has been hindered by a number of problems and deficiencies Perhaps the most important constraint to its use is the fact that it requires a large amount of contemporaneous data to construct an effective matrix. The unavailability and/or extreme cost of the data gathering process can preclude the use of the technique, especially in LDCs (Milne 1987a, 500)

It is also important to remember that subjectivity enters the IO approach in a number of ways. The definition of sectors, the degree of disaggregation in inter-industry transactions and a range of other decisions are based on the judgement of those who construct the tables,

and not on some internationally applied set of standards. The study of tourism's impacts is particularly susceptible to this problem because of the difficulties encountered when attempting to determine the domestic and tourist related shares of certain cells in the matrix (Hughes 1982, 175).

A further concern relates to the static nature of IO approaches. While techniques such as linear and quadratic programming have been used in attempts to update IO tables inaccuracies inevitably develop (Paelinck and Nijkamp 1975, 272). Both static and dynamic IO models only have a usable lifetime of approximately 5 years because the base data upon which the matrix was developed cannot be assumed to remain stable for any greater period of time (Archer 1977, 37).

Because of these problems many tourism researchers have adopted an alternative approach based around an adapted Keynesian multiplier, or what Archer (1976a,b) calls 'ad hoc' multipliers. The fundamental tenet of the Keynesian model is that the impact of any expenditure on the local economy extends far beyond the initial recipient (Duffield 1982, 249-50). In simple terms if the tourist expenditure injected into a economy is E, the local income can be shown as k E, where k represents the multiplier effect (Archer 1976a, 71) (see Appendix B for detailed presentation of the model used in this thesis). In other words 1-k represents the proportion of leakages which occur per unit of expenditure (Hollander 1982, 8). It is these leakages which limit the size of the multiplier; the larger the proportion of financial flows which leave the region, the less the benefits to the region and hence the lower the multiplier (Hollander 1982, 7).

Several researchers such as Archer, Henderson and Cousins (1975), Cleverdon (1979), Lui and Var (1982) and Milne (1987a) have refined the Keynesian model for use at the regional and national levels of economic planning. One of the earliest approaches was

developed by Archer and Owen (1971) in their study of the economic impacts of tourism in the Anglesea region of North Wales. Archer and Owen were able to separate the total multiplier effect of a given amount of tourist expenditure into three components the direct and indirect income effects and the induced effects Henderson and Cousins (1975) incorporated a number of refinements into their study of the impacts of tourism in Greater Tayside, Scotland. One of these was a further disaggregation of the income generated by different types of tourists according to mode of travel, length of stay and so on Furthermore they employed a 'tiered-region approach' which analyzed the multiplier effects at the local, regional and national (Scotland) scales.

The attraction of this type of model and the variants that have been derived from it, can be accounted for on a number of fronts. First the data requirements of the method are relatively simple when compared to the input-output technique Sample surveys can be adopted to furnish the information required, in other words the researcher constructs the relevant components of a IO matrix without having to develop a working model for the entire economy. The approach is therefore well suited to small economies where the data required for an input-output based study are not available (Archer, 1973).

A further strength of these ad hoc multipliers is their flexibility Due to their relatively simple construction these models can be specifically tailored to meet the needs of the researcher. Thus Milne (1987a,b) used a variant of the model to ascertain the government revenue generation impacts of tourism expenditure At the same time tourist types can be broken down as required, as long as expenditure data allows this to be done From a policy making perspective such disaggregation allows a more flexible and informative set of results than can be obtained through the use of more rigid IO approaches (Mathieson and Wall 1989, 71).

The ad hoc approach is, of course, not without its own set of limitations with perhaps the greatest lying in the model's implicit assumption that every injection of exogenous expenditure will have an identical effect on the economy. It is, for example, taken for granted that linearity will hold for purchases between enterprises both inside and outside the region, so that the marginal propensity to import does not alter over time (Henderson and Cousins 1975, 126) Although it has been recognized that increases in the disposable income of households is often accompanied by a greater prosperity to consume imported goods (Wilton and Prescott 1982, 138), linearity in domestic consumption is also assumed. A further assumption is that the ratios with which income and employment are generated from turnover remain constant (Henderson and Cousins 1975, 126). Also it is assumed that the expenditure pattern of tourists does not change over time.

Multiplier analysis also assumes that supply is elastic throughout the economy, i.e. that increases in demand for services can be met by purchases from the previous suppliers. Under this condition the method cannot measure the induced investment, occurring from continuous tourist expenditure. The model also assumes that all resources have an opportunity cost of zero, which is unlikely since the sector can generally be said to bring high opportunity costs, especially in developing countries (Bryden 1973, 76).

Finally, the multiplier analysis can clearly not cover the social, cultural and environmental impacts of tourism development (Varley 1978) although its ability to disaggregate the impacts of tourist expenditure can be used as an effective aid to understand inequalities in industry ownership structure and monetary flows (Milne, 1987c).

Despite these criticisms of Keynesian regional multiplier models, tourist boards, nations and international development agencies continue to use them extensively. Regional multipliers have reached a high level of sophistication and they can be used to identify weak

linkages within an economy and to simulate the effects of proposed new developments (Archer 1977, 64; Pearce, 1989).

Although multiplier analysis is subject to certain limitations it is fair to say that no better or more cost-effective alternative has been developed to measure the economic impacts caused by tourist expenditure. The flexible neo-Keynesian model has advantages that outweigh the disadvantages mentioned above and forms the basis of the model used in this thesis (see Apendix B). Of particular interest is its ability to identify the contribution made by different types of tourists and businesses to regional economic development.

3.2 Survey Sample and Multiplier Analysis

The tourist survey used in this research was designed to analyze the size and pattern of expenditure of the different types of tourists who visit Iceland. Tourist groups were distinguished by: length of stay; country of residence; mode of travel; purpose of visit and type of accommodation.

The research was conducted between June and August 1990; as 93% of tourists arrive by air, the main survey was carried out at the international airport. Once during the summer a sample was taken in Seydisfjordur, an entry/exit point for the Norrona ferry. A total of 802 tourists filled out the questionnaire (82.8% arrived by plane, 17.2% by ferry). In the figures presented in chapters 4 and 5 I have weighted the ratio of ferry to air passengers to mirror real arrival trends (6.9% of total arrivals).

Respondents were presented with a questionnaire consisting of 10 questions (see Appendix A). Information on socio-economic characteristics (nationality, occupational status, age and party composition) was gathered. Trip characteristics gathered included purpose of visit; trip duration; mode of transport; type of accommodation and expenditure on selected

categories. As the composition of tourist arrivals are recorded by month and country of nationality in Iceland it was relatively straight-forward to draw a representative sample.

Tourists were interviewed at the airport as they were about to leave the country. Exit surveys have the advantage of contacting visitors as they have just completed their spending in the study area. Thus tourists are not required to keep long term expenditure diaries - an approach that brings many problems in terms of tourist cooperation and regular data entry (Pearce 1981, 245) There are, of course, problems with this type of approach. Travellers do not keep accurate records of all of their expenditures nor do they tend to calculate total expenditures in the categories that tourism researchers often like to use (Smith 1989, 29).

Another problem facing any kind of destination-based tourism expenditure survey is the fact that package tours are often pre-paid and tourists have little idea how much money is actually flowing to local businesses. Due to the relatively large number of passengers travelling on packages (26.5%) travel bureaus and wholesalers were asked to break-down the basic package costs into different categories. These breakdowns are taken into consideration when estimating expenditure patterns.

In the study a tourist is defined as anyone who stays overnight in the country, they may be travelling for leisure or business purposes or visiting friends and relatives. Visitors staying permanently as residents or in paid employment are on the other hand not included in the sample. Cruiseship passengers were not included in the sample simply because their numbers are limited and they are not 'overnighting' in the country (see WTO, 1985).

The original target sample was designed to be consistent with the composition of tourist arrivals in the summer months (June-August). However, as would be expected, there are some differences between the sample obtained and the actual composition of tourist arrivals (Table 3.1) The reasons for this relate largely to the ease with which I was able to

obtain information from the various groupings. For example respondents from Great Britain are over-represented because of their over-abundance on some flights and their general willingness to participate in the survey. On the other hand the relatively low percentage of respondents from the USA was linked to difficulties encountered in separating bone fide visitors from the large number of US employees at the naval base station in Keflavik.

Those travelling in non-family groups were asked to determine their individual expenditure, not that of the group they travelled with. In this way inaccurate individual estimates of group expenditure were avoided. Those travelling with family were reminded to indicate how many people the expenditure estimates covered.

During the months of June, July and August 79,016 visitors arrived (55.8% of total annual arrivals). Thus the sample represents approximately 1% of total visitor arrivals during the summer period. In spite of its fairly small size the sample appears to be relatively representative: the random nature of the sample, the relatively close correlation between the national characteristics of the survey sample and total arrivals, and the weightings attached to account for differences in ferry/airline visitor numbers, all serve to add confidence in the sample. Unfortunately further tests of the samples representativeness are not possible due to the limited data on tourist characteristics collected by the Icelandic authorities.

Table 3.1: Survey Sample Compared to Actual Tourist Arrivals

	Number of Respondents	%	Summer Visitors	%
Nordic Nations	178	22.2	21,748	27.5
Great Britain	151	18.8	7,328	9.3
Germany	153	19.1	15,048	19.0
Continent (Europe)	190	23.7	17,475	22.1
Europe Other	33	4.1	5,502	7.0
USA	61	7.6	9,453	12.0
Canada	21	2.6	754	0.9
Other	15	1.9	1,708	2.2
Total	**802**	**100.0**	**79,016**	**100.0**

Source, Survey Data 1990; Immigration Service of Iceland 1991, Visitor Arrival Statistics.

The second stage of the data collection consisted of a survey of revenue and expenditure structures for the tourist industry in Iceland. The survey was designed to give a representative sample for each major tourist sector and was, for logistical reasons, largely concentrated in Reykjavik although samples were drawn from the countryside. A personal interview approach was adopted.

The business questionnaire (see Appendix A) was designed to collect data on the following broad areas:

Expenditure patterns - how much revenue is transformed into wages, salaries and purchases of goods and services?, and what are the propensities to import on the first round of expenditure?

Revenue sources - what proportion of revenue comes from international tourism?.

Employment generation - what kind of employment opportunities does the tourist sector provide?

Government revenue - how much government revenue is generated (taxation, utility payments etc)?.

Because of the highly sensitive and confidential nature of the questionnaire, an

introductory letter was sent to selected businesses to briefly explain the purpose of the study. The Icelandic Tourist Board also provided an introductory letter stressing the confidentiality and importance of the work. The total numbers of responses to the business survey and their sectoral breakdown are presented in Table 3.2.

The final component of the study involves using the multiplier model to combine the expenditure with the results of the business survey order to reveal the economic impacts associated with different types of tourists visiting the nation. This approach also allows factors such as the labour market requirements of new tourism development and the links between certain types of tourism development (for example farm holidays vs. hotels) and economic growth to be ascertained.

Table 3.2: Business Survey Returns (audited accounts)

Accommodation	48
Restaurants	9
Transport Services	6
Handicraft/Souvenir	6
Other	7
Total	**76**

A broad outline of the various steps involved in operationalising the multiplier analysis will now be presented (see Appendix B for full details). First the total number of visitors and their average length of stay is calculated to provide a total number of tourist nights. Information on the average daily total expenditure for each type of tourist is then added to provide an overall tourist expenditure figure.

Equally important is the way in which this money is spent. It is tourist expenditure patterns, linked to the cost structures of tourism related businesses, that influence the relative direct (and indirect/induced) income and employment generation performance of different

tourist groups. It is for this reason that evaluation of the income and employment generation characteristics of businesses is a basic feature of the multiplier. The capabilities of different enterprises to generate local economic benefits will depend on factors such as variations in import propensities and the labour intensity of operations. The following formula is used to calculate the income generation coefficient for any business:

$$Y_a = \frac{W(1 - h - t_w) + P(1 - t_p) + F(1 - t_w) + \sum_{i=1}^{I} S_{ai} Y_i}{D_a}$$

where

Y_a = regional income generation coefficient for an average business (i.e., dependent upon tourism)

W = gross wages and salaries to residents in the region

h = deduction rate on wages and salaries (national insurance, graduated pensions etc.)

t_w = tax rate on wages and salaries

P = profit to residents in the region

t_p = tax rate on profits

F = rent to residents in the region

S_{ai}= cost payment from an average business to the ith type of business

Y_i = regional income generation co-efficient for the ith type of business

D_a = total turnover in the average business

Once a relationship has been established between turnover and employment, it is possible to translate a regional income multiplier into a regional employment multiplier. This will accumulate the employment which is created at successive rounds as the flow of tourist-

originated expenditure circulates. As with the income multiplier there are three elements in this type of multiplier; direct employment created in firms that directly receive tourist spending; indirect employment created in other firms whose turnover is augmented with purchases by the original businesses; and induced employment created from the effects of tourism expenditure as local residents use the additional money they have earned from tourism.

In order to conduct a full multiplier analysis extensive economy-wide research would have been required. Because of the large number of firms and enterprises in the tourist sector, the need to carry out a detailed tourist expenditure survey, and the limited time available to the researcher, it was only possible to survey those businesses directly serving tourists (hotels, restaurants, tour operators, etc). As a result this study focuses only on the direct impact of tourist spending on the Icelandic economy.

While a 'full-blown' multiplier analysis was not logistically possible coverage of the direct effects is still extremely useful to those desiring information on the economic role and structure of Iceland's tourist industry. In small islands with limited economic bases the direct portions of total multipliers tend to outweigh the importance of the indirect and induced components described above (usually accounting for between 50 and 75% of total figures) (Milne 1992). As a result they provide an important insight into the economic impacts of tourism expenditure on business turnover, incomes, employment, and public sector revenue

A survey such as the one used here also reveals the links of various tourist sectors to the rest of the economy (through the business cost structure survey) This then allows broad estimates to be made of how indirect impacts may vary from sector to sector.

By combining data on tourist expenditure and the business survey information it is finally possible to ascertain which types of tourists generate the most direct income and

employment for the local economy. For example, while a hotel guest may spend more money per day (in absolute terms) than a farm-stay visitor the latter may spend his/her money in businesses that are more labour intensive and have lower import propensities and hence exhibit larger income and employment generation coefficients. As a result the farm-stay guest will, in relative terms, generate more income and employment per krona spent than the hotel guest.

CHAPTER 4

TOURIST CHARACTERISTICS AND EXPENDITURE PATTERNS

In this chapter I provide an overview of some of the major characteristics of international tourists to Iceland. The early sections deal with basic factors such as age, occupation, nationality and choice of accommodation. These are all variables that will have an influence upon the tourist expenditure characteristics outlined in the second part of the discussion.

4.1 Occupation, Purpose of Visit and Length of Stay

The majority (47.9%) of visitors were professional employees (educators, nurses etc). The second largest occupation group was managerial (12%), followed by students (8.0%) and retired people (6.5). Clerical, sales, service/recreation and processing occupations also featured relatively strongly (Table 4.1).

Over three-quarters (76.9%) of those surveyed were visiting Iceland for vacation purposes; 13.7% for business purposes, with a further 2.7% combining business and vacation. Those visiting friends and relatives accounted for 6.7%. A cross tabulation of purpose of visit by nationality shows that vacation travel is dominant for all market areas except for the 'Nordic' and 'other' groupings where business and conference visits are important (Table 4.2). The relatively high ratio of Canadians staying with friends and relatives may be linked to the fact that many of those travelling were of Icelandic origin.

Most respondents were travelling with family (43.9%), 27.2% travelled with friends with a further 10.8% travelling alone. Those travelling as part of business delegations and other categories accounted for the remaining 16.2% of visitors.

The survey data show that plane passengers stay an average of 10.8 nights, while ferry visitors spend 17.1 nights in the country (Table 4.3). The majority of visitors stay less than two weeks (68.9%). Estimates of total tourist days were reached by combining average length of stay data (survey) and the actual visitor arrival figures to the country in the summer of 1990.

Table 4.1: Occupational Status

Occupation	Number of Respondents	%
Managerial	96	12.0
Professional	384	47.9
Clerical	35	4.3
Sales	40	5.0
Service, Recreation	39	4.9
Farming	5	0.6
Processing, Production	16	2.0
Construction	5	0.6
Student	64	8.0
Retired	52	6.5
Housewife	6	0.7
Other	27	3.4
Missing	33	4.1
Total	**802**	**100.0**

Source: Survey Data 1990.

Table 4.2: Purpose of Visit by Nationality

	Holi-day	Business, Conference	Friends, Relatives	Holiday, Business	Total
Nordic Nations	49.4	34.8	7.9	7.9	100
Gr. Britain	84.9	9.4	5.0	0.7	100
Germany	87.1	5.8	5.2	1.9	100
Continent(Eur)*	86.9	8.9	3.7	0.5	100
Other (Eur)**	94.0	6.0	-	-	100
USA	83.0	3.4	8.5	5.1	100
Canada	61.1	-	38.9	-	100
Other	42.9	28.6	28.5	-	100
Average	**76.9**	**13.7**	**6.7**	**2.7**	**100**

*Includes the Netherlands, France, Switzerland and Austria
**Includes other countries in Europe, not specified by Nationality
Source; Survey Data 1990.

Although no regular length of stay statistics are collected in Iceland, estimates by the Icelandic Tourist Board show similar characteristics to the sample data, with short staying visitors from the Nordic Nations and USA and longer staying tourists from Germany and the Continent. The ITB estimates do, however, reveal a longer mean length of stay for most market areas. For example, it is generally thought that European summer visitors stay an average of eleven days (EIU 1989a, 43), 3 nights longer than the sample data. Because of the limited data base upon which official length of stay records are based my own survey data is used throughout the thesis.

While visitors from the Nordic Countries represent the largest group of tourists (27.5%) their relatively short average length of stay (a consequence of the high proportion of business and conference travel) means that they comprise only 17.4% of total tourist days (Table 4.3). The US market is also characterised by short stays - accounting for 7.8% of total tourist days. Visitors from Germany and the continent of Europe have an average length of stay which is twice as long as those from the Nordic markets, and as a result account for

make up more than half the tourist days in the country (53.6%). Great Britain and other European visitors are also characterized by relatively long stays. Although ferry tourists comprised only 6.9% of total tourist arrivals to Iceland during the summer 1990, they accounted 10.4% of all visitor days (Appendix C).

The marked peaks that can be seen at 7 days among visitors from the Nordic Countries and Great-Britain and at 12 and 14 days among other Europeans can be linked to pre-booked package holidays (Figure 4.1). The relatively high ratio of US visitors staying 1-3 nights stems from the large number of stopover passengers travelling with Icelandair between the US and Europe.

Table 4.3: Mean Length of Stay and Total Tourist Days

Visitors by Major Market Areas	Total Visitors No.	%	Mean Length of Stay	Total Tourist Days No.	%
Nordic Nations	21,748	27.5	7.1	154,411	17.4
Great Britain	7,328	9.3	10.5	76,944	8.7
Germany	15,048	19.0	14.7	221,206	25.0
Continent (Europe)	17,475	22.1	14.5	253,387	28.6
Other (Europe)	5,502	7.0	14.5	79,779	9.0
USA	9,453	12.0	7.3	69,007	7.8
Canada	754	0.9	18.4	13,874	1.6
Other	1,708	2.2	10.1	17,251	1.9
Total	**79,016**	**100.0**	**11.2**	**885,859**	**100.0**

Source; Survey Data 1990. Immigration Service of Iceland, Visitor Arrival Statistics 1990.

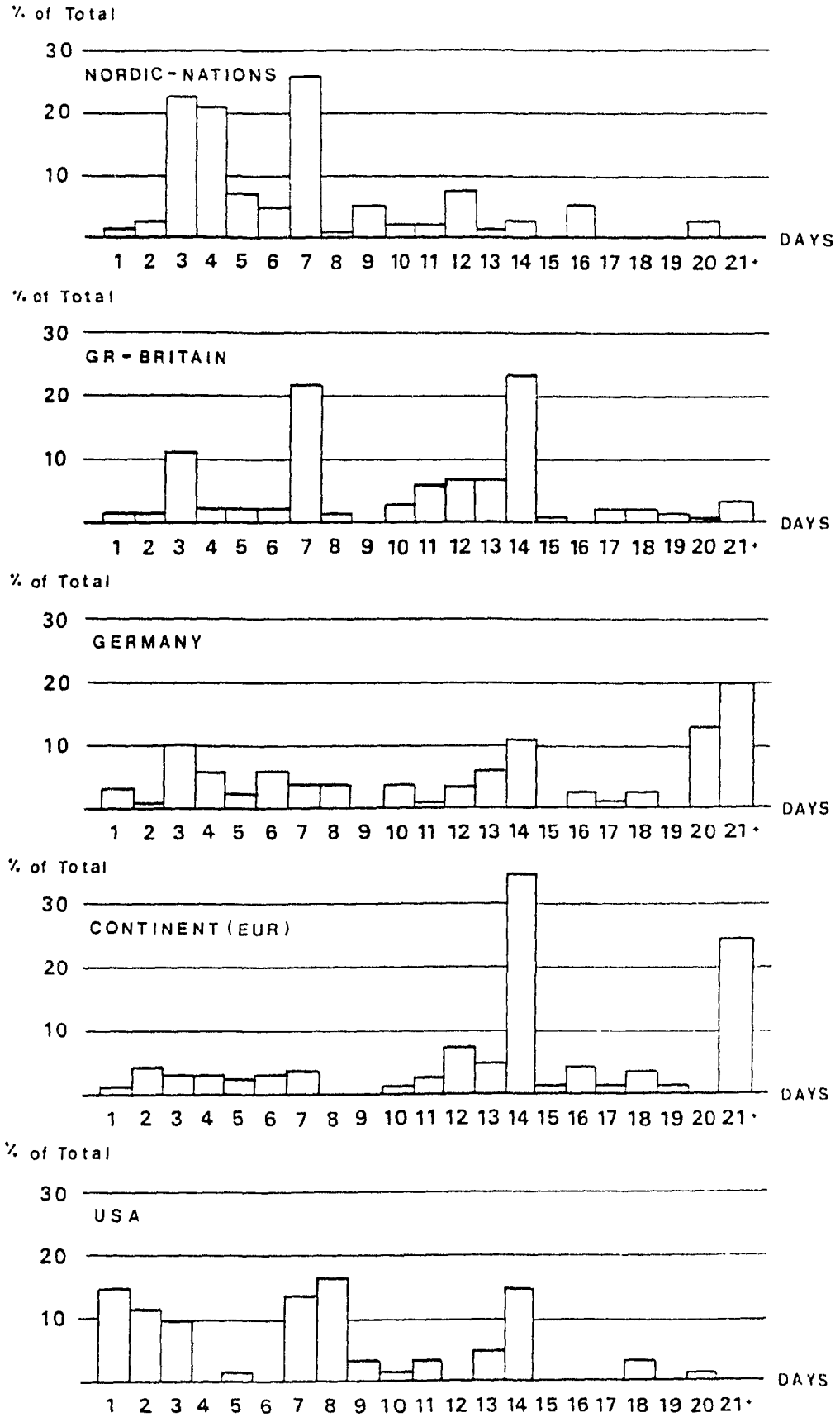


Figure 4.1 Length of Stay by Nationality (air travellers)
Source; Survey Data 1990.

Average length of stay varies considerably by purpose of visit and by accommodation type. Tourists visiting friends and relatives stayed the longest (17 nights), while holiday makers stayed an average of 13.4 nights. Business or conference visitors typically stayed 4.7 nights, with those combining business and vacation staying 9.4. Hotel guests stayed an average of 5 nights - less than half that spent by those staying in 'guesthouse' complexes (12 nights). Campers on package trips stayed an average of 14 nights, four less than their individually organized counterparts. Those residing with friends and relatives stayed nearly 18 nights.

4.2 Age and Choice of Accommodation

Although no detailed statistics exist on the age structure of tourists to Iceland some general assumptions can be made from the sample data. In general Iceland seems to appeal primarily to middle aged professionals, although younger groups such as students also make up a considerable proportion of total visitor numbers. Most plane passengers fall within the 36-65 category while those travelling by ferry exhibit a more youthful age structure (59% aged 16-35) (Table 4.4).

Differences in age structure also vary considerably according to market area (Table 4.5). Visitors from the Nordic Countries, Great Britain, USA and other visitors tend to be older than those from continental Europe. For years Iceland has attracted young backpack tourists during the tourist high season; travellers from the continent (incl. Germany) have been the mainstay of this group.

Table 4.4: Age Structure by Mode of Travel (%)

	0-15	16-25	26-35	36-65	66 >	Total
Plane	1.2	10.9	27.7	54.4	5 8	**100**
Ferry	2.2	24.1	35.0	37.2	1 5	**100**

Source; Survey Data 1990.

Table 4.5: Age Structure of Tourists from Major Market Areas (%)

Market Area	0-15	16-25	26-35	36-65	66 >	Total
Nordic Nations	2.3	6.8	24.8	63.3	2.8	100
Gr-Britain	0.7	12.5	25.8	51.7	9.3	100
Germany	3.6	21.7	32.3	41.1	1.3	100
Continent(Eur)	0.5	14.8	35.4	45.1	4 2	100
Other Europe		31.3	40.6	28.1		100
USA	1.6	3.3	26.2	57 4	11 5	100
Canada		4.8	9.5	71.4	14 3	100
Other			7.1	85.7	7 2	100
Average	**1.6**	**13.1**	**28.8**	**51.5**	**5.0**	**100**

Source; Survey Data 1990.

As one would expect age structure also varies considerably by choice of accommodation. Those markets with older age structures tend to rely on hotel and 'guesthouse' complexes, while those with a younger age structure rely heavily on camping Ferry passengers almost exclusively camp or use caravans which are transported on the ferry (Appendix C). As Iceland offers a wide range of accommodation at similar prices (summerhotels in boarding schools, farmhouse accommodation and guesthouses) these were combined into one category for this section of the analysis.

Hotels are popular among visitors from the Nordic nations and 'Other' countries (Table 4.6). This is clearly linked to the large ratio of business and conference visitors within these groupings.

Table 4.6: Accommodation Type Used by Major Market Areas

	Hotel	Guest House	Camping Package	Camping, Caravans	Friends Relativ.	Total
Nordic Nat	58.4	23.6	4.2	6.0	7.8	100
Gr-Britain	32.7	36.1	18.4	8.4	4.4	100
Germany	24.0	19.6	17.3	35.8	3.3	100
Continent (Eur)	17.0	24.1	40.4	14.2	4.3	100
Other Eur	9.4	43 0	33.0	14.6		100
USA	37.7	41.0	8.2	4.9	8.2	100
Canada	19.0	47.7	4.8	4.8	23.7	100
Other	45.3	30.3	7.6	9.2	7.6	100
Average	**33.8**	**28.0**	**18.6**	**14.2**	**5.4**	100

Source; Survey Data 1990.

4.3 Regional Travel

By using data on where tourists overnighted during their visit it is possible to estimate the mobility of visitors (Table 4.7). Nearly all visitors (94%) stayed at least one night in Reykjavik. As would be expected a large number of visitors travel to the countryside during the summer. In general, the South and N-East regions receive the largest flows, followed by the West and East regions. The low number of visitors overnighting in the Westfjords may be linked to the geographical isolation of the region. Germans and visitors from the continent are more likely to travel around the country than other market areas. Due to their short length of stay, visitors from the Nordic Countries and USA, who do travel outside the capital are more likely to make short trips to the South and West regions.

Table 4.7: Overnight Stay by Region by Major Market Areas (% staying at least one night in area)

	Nord	Brit	Germ	Cont Euro	Oth Euro	USA	Can	Oth	Aver
Reyk	95.5	93.4	88.9	87.9	100	100	100	100	**94.3**
West	26.4	21.8	66.7	58.4	75 7	21.3	26 9	35 7	**42.6**
W-Fj	6.7	3.3	33.3	22.5	21 2	3.3	19 2	28.6	**19.4**
N-We	18.0	19.2	47.1	58.9	66 7	18 0	42 9	35 7	**35.8**
N-Ea	28.1	55.0	62.1	83 7	87 9	28 3	61.9	42 9	**56.4**
East	21.3	27.8	58.2	71.6	63.9	19 7	19 0	14.3	**42.9**
Sout	36.5	62.3	75.2	85.8	75.2	42.6	61.9	42 9	**63.2**
S-We	8.4	5.3	6.9	8.4	3.4	4.9	4.8	7 1	**6.8**

Source: Survey Data 1990.

Table 4.8: Accommodation Facilities Used by Region (%)

	Hotel	Guesthouse	Camping	Friends/Relatives	Total
Reykjavik	46.4	26.6	20.8	6.2	**100**
West	27.7	17.8	53.6	0.9	**100**
Westfjords	12.7	23.8	61.9	1.6	**100**
N-West	12.7	23.6	60.0	3.7	**100**
N-East	18.1	22.0	56.9	3.0	**100**
East	13.7	18.6	67.2	0.5	**100**
South	22.0	21.6	54.5	1.9	**100**
S-West	15.0	17.7	59.6	7.7	**100**

Source: Survey Data 1990.

While most tourists use catered facilities (hotels/ guesthouses) in the capital, they tend toward self catered types (camping/caravans) in the countryside (Table 4 8) This is largely a reflection of the relatively limited development of hotel complexes outside Reykjavik.

4.4 Tourist Expenditure

A detailed understanding of the expenditure characteristics of tourists is essential if the economic impacts of tourism are to be analyzed. I focus on total daily expenditure and its distribution between the various sectors that cater to tourists. Information on daily expenditure is then multiplied by the total tourist days to reveal the total 'injection' of tourist expenditure into the Icelandic economy in 1990.

The income that tourism brings to a destination will vary according to the types of visitors attracted and their length of stay (Murphy 1985, 89). In this analysis tourists are categorised by major market areas, mode of travel, accommodation type and purpose of visit. Previous studies have shown that these are some of the most important variables in determining expenditure (Henderson and Cousins 1975, Archer and Jones 1977, Milne 1987b, 1992)

The average daily expenditure of summer-visitors to Iceland (excl. airfare) was 5232 kr (Table 4.9,. Accommodation and food (including restaurants and groceries) accounted for nearly 59% of all tourist spending. This figure is consistent with similar studies, which show the same categories comprising between 60 and 80% of total expenditure (Archer and Jones 1977, Milne 1992) The relatively high transport/tour figure (20 5% - includes car rental cars, buses and tours) is a result of the large numbers of leisure visitors who travel to natural phenomena around the country Spending on shopping and entertainment is relatively limited.

Table 4.9: Average Daily Expenditure per Tourist

Industry Sector	Kronur	%
Accommodation	1,654	31.6
Transport	736	14.1
Tour	337	6.4
Restaurants	920	17.6
Groceries	506	9.7
Shopping	430	8.2
Entertainment	186	3.6
Duty-free	206	3.9
Other	257	4.9
Total	**5,232**	**100.0**

Source; Survey Data 1990.

Important differences in total expenditure and spending patterns exist between the major market areas (Table 4.10). Average daily expenditure is highest among visitors from the Nordic Countries (8374 kr) and the US (7237), Britons and those from 'Other Countries' follow with 5578 kr and 5500 kr respectively. Visitors from Canada and Germany are the lowest daily spenders.

The high figures for the Nordic and US markets are linked to several factors. A relatively large proportion of these groups are middle-aged and are visiting Iceland for business or conference purposes. As a result they are more likely to use expensive accommodation such as hotels and 'guesthouses' and to travel on expense accounts. Those on vacation tend to travel on packages that include serviced accommodation.

The relatively high spending of the British can be linked to the fairly old age structure of this market. The survey also revealed a high ratio of Britons travelling on package trips - many of which included relatively expensive serviced accommodation.

Table 4.10: Daily Expenditure by Major Market Areas

Industry Sector	kronur	%	kronur	%
	Nordic Nations		**Britons**	
Accommodation	3129	37 4	1726	31 0
Transport	991	11 8	967	17 3
Tours	523	6 3	403	7 2
Restaurants	1920	22.9	1100	19 7
Groceries	162	1 9	396	7 1
Shopping	461	5 5	425	7 6
Entertainment	347	4 1	95	1 7
Duty-free	601	7 2	193	3 5
Other	240	2 9	273	4 9
Total	**8374**	**100.0**	**5578**	**100.0**
	Germany		**Continent (Europe)**	
Accommodation	1114	29 1	1162	27 7
Transport	393	10 3	773	18 4
Tours	232	6 1	193	4 6
Restaurants	410	10 7	583	13 9
Groceries	706	18 5	688	16 4
Shopping	322	8 4	375	8 9
Entertainment	245	6 4	102	2 4
Duty-free	91	2 4	107	2 5
Other	312	8 1	220	5 2
Total	**3825**	**100.0**	**4203**	**100.0**
	Other Europe		**USA**	
Accommodation	1281	29 1	2205	30.5
Transport	713	16 2	936	12 9
Tours	361	8 2	568	7 9
Restaurants	692	15 7	1678	23 2
Groceries	562	12 8	137	1 9
Shopping	340	7 7	979	13 5
Entertainment	91	2 0	197	2 7
Duty-free	141	3 2	204	2 8
Other	225	5 1	333	4 6
Total	**4406**	**100.0**	**7237**	**100.0**
	Canada		**Other**	
Accommodation	1087	29 9	2177	39 6
Transport	778	21 4	488	8 9
Tours	462	12 7	710	12 9
Restaurants	374	10.3	1096	19 9
Groceries	309	8 5	184	3 4
Shopping	481	13 2	514	9 3
Entertainment	51	1 4	71	1 3
Duty-free	-	-	101	1 8
Other	97	2 6	159	2 9
Total	**3639**	**100.0**	**5500**	**100.0**

Source: Survey Data 1990.

Those market areas exhibiting long average lengths of stay such as the continent of Europe (including Germany) tend to comprise low daily spenders. These visitors are more likely to travel on camping packages or on self organized tours. They have a relatively young age structure and tend to camp or use cheap accommodation facilities such as dormitories. They also tend to opt for less expensive ways of travelling around the countryside such as cycles and public transport.

Because of its importance in overall expenditure patterns the type of accommodation chosen will be a major influence on tourist expenditure and related patterns (Table 4.11). As would be expected people who stay in hotel and 'guesthouse' complexes spend a fairly high ratio of their daily outlays on accommodation and eating out. Hotel tourists are the highest spenders - a reflection of the expensive nature of this type of accommodation.

Tourists in 'guesthouse' complexes (guesthouses, farm holidays) also exhibit relatively high spending figures, although they only spend about half of what hotel guests spend. Self catering types of accommodation were broken down into two categories: package camping trips (usually including 2-3 nights in a hotel or guesthouse in Reykjavik), and individually organised camping or caravans trips. Ferry tourists travelling in their own caravans or as campers were an important component (48.2%) of the latter grouping. Visitors travelling on self organized tours spend only half the amount of their package based counterparts. This is due to the fact that ferry tourists and backpackers usually bring their own food and means of transport into the country. Both groups tend to spend their largest sums on groceries.

Table 4.11: Expenditure by Accommodation Type

	Hotel		Guesthouse		Camping A (package)		Caravans Camping B		Friends, Relatives	
	kr	%	kr	%	kr	%	kr	%	kr	%
Acco	4957	44 0	1876	34 0	387	16.6	150	12.6	338	11.0
Trans	1216	10 8	770	13 9	995	21.3	621	23.9	1039	33 8
Tour	561	5 0	503	9 1	550	11.7	132	5.1	128	4 2
Rest	2310	20 5	1149	20.8	312	6 7	250	9.6	458	14 9
Groc	74	0.6	353	6 4	1190	25.4	539	20.8	236	7 7
Shop	733	6 5	407	7.4	379	8.1	250	9.6	370	12.0
Enter	550	4 9	110	2.0	62	1.3	61	2.3	153	5 0
Duty	459	4 1	81	1.5	101	2.2	151	5.8	212	6.9
Oth	401	3 6	272	4 9	316	6 7	268	10.3	138	4.5
Tot	**11261**	**100**	**5521**	**100**	**4292**	**100**	**2422**	**100**	**3072**	**100**

Source, Survey Sample 1990.

While a stay with friends and relatives eliminates a great deal of expenditure on accommodation and food the large number of these visitors who travel around the island means that their daily expenditure r hes approximately 3000 kr per day.

Variations in expenditure also occur according to the type of transport used in travelling to Iceland (Table 4 12). The average plane passenger spends twice as much per day (5,433 kr) as those who use the ferry Due to the high ratio of campers and caravanners among ferry visitors their expenditure on accommodation amounts to only 495 kr per day - less than one third that of plane travellers. Daily expenditure by plane passengers was generally higher on all items with the exception of groceries, duty-free goods and 'other' items

The fact that ferry tourists spend little on transport and tours arises from their use of their own means of transport. It is of no surprise that a high ratio of their total spending is on 'other' items (including petrol).

Table 4.12: Spending per Day by Mode of Travel

	Plane Passengers		Ferry Passengers	
	kr	%	kr	%
Accommodation	1,766	32.5	495	19.6
Transport	815	15.0	45	1.8
Tours	364	6.7	68	2.7
Restaurants	978	18.0	295	11.7
Groceries	473	8.7	608	24.1
Shopping	434	8.0	266	10.5
Entertainment	201	3.7	57	2.2
Duty-free	190	3.5	240	9.5
Other	212	3.9	451	17.9
Total	**5,433**	**100.0**	**2,525**	**100.0**

Source; Survey Data 1990.

Expenditure patterns also vary by purpose of visit (Table 4.13) and package type (Table 4.14). Business and conference visitors spend the most per day, which reflects the fact that they usually stay in international standard hotels and often have access to expense accounts. This group also exhibits the highest spending on restaurants, shopping and entertainment.

Although no statistics are available it is estimated that a relatively high percentage of leisure trips to Iceland are packages (the survey average was over 26%). A large variety of holiday packages are offered by Icelandair and Icelandic Tourist bureaus. Weekend and stopover packages are offered all year around. To incorporate package visitors into the analysis information on a range of packages was converted into daily cost figures and then formed into a series of basic categories. The first includes serviced accommodation only. The second type is all inclusive and covers accommodation in catered accommodation, food (full

board or half board), island trips and activities.

Although those on all inclusive packages spent less per day than those whose package only included accommodation their length of stay was, on average, four nights longer (10 days vs. 6). The larger amount paid by the latter group can be linked to higher transportation costs and spending on other items (including museums). Among the all-inclusive packages both campers and hotel tourists have high transportation costs, but low spending on entertainment and duty-free goods. It was of no surprise that spending on food categories differed by package type. The typical hotel tours include full board in restaurants, cafeterias or in farm holidays that are allowed to sell food. On the other hand the camping packager prepares food in a special kitchen van.

Table 4.13: Daily Expenditure by Purpose of Visit

	Holiday		**Business, Conference**		**Holiday, Business**		**Friends, Relatives**	
	kr	**%**	**kr**	**%**	**kr**	**%**	**kr**	**%**
Accommodation	924	22.0	6151	47.5	2239	28.5	457	16.5
Transport	814	19 7	1149	8.9	780	9.9	445	16.0
Tours	397	12.0	328	2.5	719	9.2	288	10.4
Restaurants	701	18.9	2729	21 1	1578	20.1	427	15.4
Groceries	494	11.0	19	0.1	129	1.6	392	14.1
Shopping	358	6.7	743	5.8	813	10.4	270	9.7
Entertainment	272	3.0	623	4.8	527	1.8	112	4.0
Duty-free	172	1.5	665	5.2	520	16.4	222	8.0
Other	220	5 2	529	4.1	550	2.1	164	5.9
Total	**4352**	**100.0**	**12936**	**100.0**	**7855**	**100.0**	**2777**	**100.0**

Source: Survey Data 1990.

Table 4.14: Spending Per Day on Package Trip

	Accommodation only		All inclusive serviced accommodation		All inclusive camping trip	
	kr	%	kr	%	kr	%
Accommodation	2650	38.4	1920	29.7	766	16.4
Transport	504	7.3	1583	24.5	1351	28.9
Tours	763	11.1	232	3.6	13	0.3
Restaurants	1429	20.7	1370	21.2	180	3.9
Other Food	339	4.9	328	5.1	1515	32.4
Shopping	636	9.2	410	6.3	395	8.5
Entertainment	71	1.0	42	0.6	40	0.8
Duty-free	298	4.3	50	0.7	66	1.4
Other	211	3.1	535	8.3	346	7.4
Total	**6901**	**100.0**	**6470**	**100.0**	**4672**	**100.0**

Source: Survey Data 1990.

a) Package holiday that includes accommodation only

b) Package holiday that includes accommodation, meals, island tour, activities

c) Package holiday that includes tents, meals, island tour, activities

4.5 Total Tourist Expenditure in 1990

The average summer tourist to Iceland in 1990 spent 5,232 kr. per day This is about 6000 kr less than the average hotel visitor spends and slightly less than 'guesthouse' tourists The average is clearly reduced by the low expenditure of campers. The estimated total gross revenue flowing to the Icelandic economy from tourist expenditure in the summer of 1990 was 4630m kr (Table 4.15).

Nearly 32% of all tourist expenditure flows to the accommodation sector with a further

27% spent on food either from stores or restaurants. The next highest category of expenditure was transportation (14,1%) followed by spending on tours (6.4%) totalling over 20%. Other expenditure comprised nearly 21% and was distributed between general shopping, entertainment, duty free goods and miscellaneous categories.

About 95% out of the total summer income was generated by travellers arriving by air. Visitors on vacation accounted for 77% of this income, those on business trips 14%, those combining business and vacation 5.5% and those staying with friends and relatives 5.5%.

Table 4.15: Iceland's Gross Revenue Derived from Summer Tourism in 1990

Industry Sector	Isk kr.	%
Accommodation	1463,792,381	31.6
*Transport	650,672,804	14.1
Tours	298,499,827	6.4
Restaurants	814,180,864	17.6
Groceries	447,799,475	9.7
Shopping	380,541,056	8.2
Entertainment	164,600,131	3.6
Duty free	182,305,715	3.9
Other	227,439,654	4.9
Total	**4,629,831,907**	**100.0**
	(+ 3,543,014,131)	
	= 8,172,846,038 (all year)	

* Excludes income by Icelandic Airlines and Norrona ferry

Source: Survey Data 1990.

The summer arrival data can also be extrapolated to give an annual expenditure figure (Table 4.15). If the figures are boosted by the requisite ratio (44% of travellers in 1990 arrived outside the three summer months) we see that the estimated annual expenditure figure

is about 1000m (12%) above current Bank of Iceland estimates (7324m kr) (compare to Table 4.16). It must be born in mind however that the survey data covers only summer tourism, when lower spending camping tourists play a significant role. Thus it is highly possible that overall tourist expenditure could be even higher than the figure provided here. If estimates of airfare and ferry incomes accruing to Iceland are incorporated into the analysis the total income figure would rise to close to 12.5m kr compared to the government estimate of 11.35m kr (Table 4.16).

Table 4.16: Icelandic Government Estimates of Foreign Currency Earnings from International Tourism

	Expenditure in Iceland* m.kr	Estimated airfare income of Icelandic airlines from foreign tourists m.kr	Total income m.kr	% of exports of goods and services	% of Gross National Product
1970	4.4	5.8	10.2	4.8	2.3
1975	18.1	21.5	39.6	5.5	2.0
1980	112.0	119.0	231.0	4.0	1.5
1985	1761.0	1340.0	3101.0	6.2	2.6
1990	7324.0	4035.0	11359.0	9.0	3.3

Source; The National Economic Institution, Iceland 1991b, Table 2.7.

4.6 Possibilities for Future Research

Further research is required in the area of tourist expenditure and the variables that influence it. In this thesis I have adopted the standard approach to analysing the tourist expenditure component of the multiplier model - namely studying tourist expenditure patterns in terms of one associated variable at a time (accommodation type, nationality, etc). This approach allows us to study variables that are known to influence tourist expenditure and

may, in turn, be used to influence government marketing policies and market segmentation strategies. Unfortunately, however, such an approach is weakened by the very fact that a correlation may exist between associated variables such as age and accommodation type.

In order to gain a better understanding of which tourist characteristics exert the greatest influence on tourist expenditure future studies of this kind could turn to multiple regression (Montgomery and Peck, 1982; Wonnacott and Wonnacott, 1981). Such an approach would allow the researcher to look at the relationship between expenditure and each of the possibly associated variables while controlling for the 'influence' of other associated variables. The fact that the independent variables are mostly categorical would not necessarily be a problem in this case as software packages are now available that can handle categorical independent variables in the context of a multiple regression model.

4.7 Summary

This chapter has revealed which tourist groupings are likely to spend the most money during their visit to Iceland and how this relates to a number of factors such as choice of accommodation, purpose of visit and market. US and Nordic visitors are the largest spenders and this is in large part due to the fact that they are heavily represented in the business travel area. More youthful markets, especially those from Germany are the lowest spenders on a daily basis. It appears that government estimates of total tourist expenditure are somewhat low. The total expenditure figures reveal a difference of approximately 1000mkr. However if summer tourism characteristics are taken into account the underestimation could conservatively be assumed to be closer to 1500-2000m kr.

CHATPER 5

THE ECONOMIC IMPACTS OF TOURISM: THE BUSINESS SURVEY

Data on total tourist expenditure only provide the first step towards evaluating of the economic impact of tourism in Iceland In order to measure the 'downstream' effects of tourist expenditure it is necessary to gain some measure of how revenue received from tourists by local businesses will produce local income and employment opportunities (WTO, 1981). At the centre of this analysis lies the calculation of direct income, employment and government revenue coefficients (IG's, EG's and GRG's) for tourist related establishments (see Appendix B)

IG coefficients indicate how turnover from tourists is transformed into local income (for example an IG of 0.1 means that 1 kr of local income is generated for every 10 kr of tourist revenue). EG coefficients indicate how the same turnover is transformed into employment (EG's are expressed as the number of jobs created per 1m kr) Because tourism is very seasonal, it is important to estimate how many persons are employed on a person years basis within the industry if we are to get a real feel for its role as an employer When evaluating the impact of tourist expenditure on employment generation the following weightings were assumed: full time permanent 1; part-time permanent 0.4, full time seasonal 0.25 and part time seasonal 0.1

Government revenue generation figures simply reveal the amount of money paid to the government in the form of taxes and licenses by different components of the tourist industry (for example a GRG of 0.1 means that 1 kr of government revenue is generated for every 10 kr of tourist revenue).

5.1 Sectoral Income and Employment Generation (Direct)

The ability of various sectors to generate income, employment and government revenue at the direct level varies markedly across the various tourist industry sectors (Table 5.1).

Direct IG coefficients ranged from 0.17 for the souvenir stores to 0.43 for guesthouses. Labour intensive sectors such as accommodation and restaurants tend to have wage payments as a major cost component, and therefore exhibit relatively high IG and EG values. Further investigations show that non-hotel enterprises such as guesthouses and farm holidays tend to be more labour intensive than service-intensive types of accommodation (hotels), they therefore generate relatively more local income. The transport trades and souvenir stores have a relatively low propensity to generate direct income and employment from tourist turnover - neither being particularly labour intensive. Restaurants and car rental generate, in relative terms, the largest governmental revenue; the 24.5% value added tax on service is an important factor here.

So far we have only referred to the direct income generation which arises from the first round of expenditure. One must also consider the secondary effects. In a small island state such as Iceland indirect IG and EG figures are likely to be low due to the limited ability of the nation to provide all of the goods, services and capital goods required by the tourism industry and tourists (Milne, 1992; Connell, 1989). Likewise induced coefficients will be lowered due to the fact that much consumer expenditure will be directed toward imported goods and services.

Table 5.1: Income, Employment and Government Revenue Co-Efficients by Tourist Sector

Industry Sector	EG*	IG	GRG
Hotels	0.40	0.33	0.14
Guesthouses	0.78	0.43	0.04
Farm Holidays	0.65	0.43	0.06
Restaurants	0.27	0.23	0.21
Handicraft Stores	0.12	0.17	0.13
Car Rentals	0.15	0.19	0.28
Coaches	0.22	0.30	0.08
Charterflight	0.15	0.25	0.06

* Employment generated by 1,000,000 kr turnover from tourism
Source; Survey Data 1990.

While a 'full-blown' multiplier analysis is required to gain an accurate assessment of these downstream impacts and leakages some indication of the ability of sectors to generate indirect income and employment opportunities can be gained by studying variations in the propensity to import on the first round of expenditure (Table 5.2). The propensity to import ranges from 5.6% to 40% across the main tourism sectors. The transport sectors have the highest first round import propensities and therefore exhibit the weakest links with the local economy. Smaller accommodation complexes and souvenir stores tend to purchase the bulk of their supplies and services locally. Larger, service intensive types of accommodation, and many restaurants, on the other hand tend to have a fairly high ratio of import costs - amounting to more than 25%. The figures for the Icelandic tourist industry as a whole (weighted for the relative significance of different sectors) suggest 21% of every 100 kr of tourist expenditure is spent on imports in the first round of expenditure.

Table 5.2: First Round Import Propensities by Establishment Type

Type of Business Establishment	Import Propensities
Hotels	
Hotel A (large)	27.2
Hotel B (middle)	10.2
Hotel C (small)	5.6
Summerhotels	9.5
Guesthouses	6.4
Farm Holiday	8.4
Restaurants	26.2
Car-Rentals	40.0
Stores	10.2
Charter Flight	17.5

Source: Survey Data 1990.

I now move on to discuss sectoral variations in income and employment generation performance for a series of important tourist sectors.

5.2 The Accommodation Sector

A comparison of different hotel types reveals a certain degree of variation in their relative ability to generate local income (Table 5.3). Considerable differences exist in REGs with large operations and seasonally based businesses generating the fewest jobs. Guesthouses and farm holidays tend to generate considerably more employment and income from the money spent by tourists than hotel complexes

Therefore expenditure in guesthouses and farm holidays will create more local income and employment than other forms of accommodation It is also important to note that these are the operations with the lowest first round import propensities; thus they are highly likely to have the highest indirect coefficients. Another factor to consider is that these are predominantly rural businesses - providing much needed economic opportunities in the

Table 5.3: Regional Income and Employment Generation for the Icelandic Accommodation Sector

Industry Sector	EG*	IG	GRG
Hotels			
Large Hotels	0.28	0.32	0.12
Medium Hotels	0.44	0.34	0.14
Small Hotels	0.39	0.30	0.15
Summerhotels	0.26	0.35	0.15
Guesthouses	0.78	0.43	0.04
Farm Holidays	0.65	0.43	0.06

* Employment generated by 1,000,000 kr turnover from tourism
Source; Survey Data 1990.

country's peripheral regions.

An analysis of the cost structures of various accommodation establishments also provides an interesting insight into their ability to generate income, employment and government revenue. Labour costs are a higher proportion of overall expenses in summerhotels (35%), guesthouses (38%) and farm holidays (36%). The percentage spent on food/beverages varies according to the type of service offered. Thus in hotels offering meals and alcoholic beverages the average expenditure was 24.2% of total costs. The percentage of food that was estimated to be imported (not necessarily at the first round) ranged from 10-30%. The majority of alcoholic beverages are imported.

One of the major determinants of variations in the ability to generate local income and create linkages with the local economy is the size of a firm (Liu and Var, 1982; Milne, 1992). The bulk of accommodation and restaurant operations in the country fall into the 'small-firm' category (Table 5.4). Small scale enterprises tend to generate more local income than their larger counterparts due to their greater labour intensity and lower first round import

propensities (Milne 1987b, 56-7). This is supported in the Icelandic case where higher standard hotels depend more on imported goods. For example 27% of the operating expenses in one of the largest 'international-standard' hotels in Reykjavik are spent on imported goods and services compared to 10.2% for medium sized hotels and 5.6% for small. Guesthouses and farm holiday operations rely almost entirely on locally supplied goods and services.

Table 5.4: Firm Size: Accommodation and Restaurant Sectors 1989

Size (employed)	Restaurants	Accommodation	Total
0-1	155	89	244
1-2	88	27	115
2-5	87	21	108
5-10	45	8	53
10-12	30	12	42
20-30	13	4	17
30-40	2	2	4
40-60	4	1	5
>60	3	3	6

Source; National Economic Institution, Iceland 1990b, Table 1.2.

5.2.1 Farm Holidays

As the demand for nature oriented tourism has grown and the regions of Iceland have become more popular for tourist travel so there has been an upswing in the farm holiday sector in recent years (Farm Holiday Assoc., 1990). A growth in farm-stay holidays has been seen in both Europe and the US (Pizam and Pokela, 1980; Vogeler, 1977, Frater, 1983, Dernoi, 1983), although Icelandic farm holidays tend to most closely match models in continental Europe.

Farm tourism is seen by the government as an important area of growth as it offers potential for regional development from a number of angles. First it provides struggling

farmers with supplemental income, and can also provide seasonal employment for people in peripheral regions. Second it has been assumed that farm operations tend to rely heavily on local produce and services - thus the links between tourism and the regional economy are strengthened.

The 16 farmers interviewed were all in different stages of constructing their farm holiday accommodation with 11 having begun operations since 1980. While it was widely felt that farm holidays do not provide a quick profit the interviewees all felt that the diversification of their business had made it easier to survive the continual decline in the agriculture sector Many felt that a growth in farm holidays would be one way of preventing migration to the Rekjavik region.

The survey revealed that farm holiday operations are not as dependent on imported goods as other accommodation facilities. For example the food provided to visitors is mainly traditional Icelandic cuisine with lamb, fish and dairy products dominating It also seemed to be a prevailing opinion among farmers that necessary goods and services should, where possible, be purchased from the surrounding area As one farmer noted 'it is my principle to trade with people in the countryside'

Foreign tourists made up over 60% of total visitors in ten farms. In two farms they were about 50%, and in four 40% or less. According to the farmers the operation in these 16 farms provided 26 seasonal full-time jobs and 15 part-time seasonal jobs Females accounted for 29 of these positions

In an attempt to strengthen their tourist offerings farms have formed joint marketing approaches. A separate package company, Icelandic Farm Holidays Ltd (1990), also offers a variety of additional services such as pony trekking, fishing, boat trips, hunting, glacier trips to accompany farmstays These components are not always operated by the farmers

5.3 Restaurants

Although the turnover of many restaurants is not greatly influenced by tourism the sector as a whole depends relatively heavily on the industry (both international and domestic). Restaurant enterprises are labour intensive, although they create less income than the accommodation sector. Their contribution to the government is fairly high compared to other industry sectors. This can be linked to the 24.5% value added tax (replaced by the 24.5% sales tax in 1990) The tax is the highest in EFTA and the EEC and when it is added to already high food prices it means that Icelandic restaurants are among the most expensive in Europe

The largest expense item of restaurants is food and beverages, which account for 41.5% of average operating expenses (Table 5.5) Local production including meat, fish and dairy products provides 75 to 90% of these food supplies. Trade restrictions and custom duties largely prevent further imports Alcoholic beverages and tobacco comprise the largest portion of imported goods, raising the overall import factor of food and beverages to an average of 42.7%

Many restaurant owners claimed that it was not worth appealing to foreign visitors (with the exception of business travellers) in their advertisements as they are often forewarned of the high price levels in the country Aside from the taxes many owners also pointed to trade barriers as being a major factor in driving up prices. Some estimate that overall food prices could be reduced by 50% if they had access to cheaper meat and dairy products from Europe For example lamb typically costs 1100-1700 kr per kilo - two to three times the cost in most European nations

Table 5.5: Operating Expenses in Restaurants

Operating Expenses	Average figures %
Staff Cost	31.2
Food and Bevs	41.5
Other Operating Expenses	12.9
Rent	7.1
Taxes	2.5
Depreciation	3.8
Gross Capital Expenditure	1.0
Total	**100.0**

Source: Survey Data 1990.

The establishment of a restaurant, as is the case for most Icelandic businesses, is heavily dependent on imports. All instruments and tools are imported, and the same can be said for furniture, electrical fittings and most construction materials. Two restaurant proprietors who had recently renovated their operations estimated that approximately 75-80% of the materials used were imported.

5.4 Souvenir and Gift Stores

The bulk of foreign visitors to Iceland do most of their shopping in souvenir and gift stores. While traditional woollen garments are top of the purchase list, ceramics, jewellery and books are also popular. In the six souvenir stores visited international tourism accounted for an average of 50% of revenue. This rose to over 70% during the summer months.

On average labour costs accounted for 18.4% of total costs (Table 5.6). Among all the stores the largest expense item was 'goods purchased for resale' (from 54-72%). These goods are mainly locally produced, including batch and mass produced knitwear. In all cases the proportion of imported goods sold was less than 15%. This figure stands in stark contrast to

the duty-free sector, based largely at the airport, where imported goods make up the majority of sales (80%).

Interestingly changes in flight routes have affected sales of woollen goods While stopover passengers from Chicago spent substantial sums of money on woollen garments Icelandair's changed flight routes, especially to warmer areas such as Orlando, have caused sales to stopover passengers to fall.

Table 5.6: Operating Expenses in Handicraft Stores

Operating Expenses	Average Figures %
Staff Cost	18.4
Goods purchased for resale	61.4
Other Operating Cost	9.4
Rent	7.6
Taxes	2.0
Depreciation	1.2
Total	**100.0**

Source; Survey Data 1990.

5.5 Transportation (car rental, coach tours, charter flights)

The transportation sector (car-rentals, coaches, charter flights) has a high propensity to use imported goods - especially vehicles, auto-parts and petroleum products. The survey revealed that about 40% of total operating expenses go on imported goods (Table 5.7) About 6% of operating expenses go to the government mainly as income tax and tax on business expenses In addition car rentals have to impose a 24.5% value added tax on their service, which makes the price for rented cars in Iceland among the highest in Europe The remaining operating expenses are split equally between wages, depreciation and other operating costs (mainly repairs and insurance) The operation of car rentals in Iceland is restricted to the short

tourist season and the ratio of foreign customers varies from 27-65%

For the coach business imports such as motor vehicles, spare parts and fuel make up 42.5% of gross capital expenditure and general operating costs (Table 5.8). Staff costs account for about 36% with the remainder divided between depreciation and taxes. Although coach firms are exempted from the value added tax proprietors complained about little governmental support.

Table 5.7: Operating Expenses in Car Rentals

Operating Expenses	Average Figures %
Staff Cost	14.4
Rent	1.2
Other Operating Cost	19.7
Taxes	6.2
Depreciation	12.8
Gross Capital Expenditure	45.7
Total	**100.0**

Source; Survey Data 1990.

Table 5.8: Operating Expenses in Coach Establishments

Operating Expenses	Average Figures %
Staff Cost	36.1
Goods sold in same condition as bought	1.1
Rent	1.8
Other Operating Cost	13.0
Taxes	9.8
Depreciation	15.3
Gross Capital Expenditure	22.9
Total	**100.0**

Source; Survey Data 1990.

Charter flight services primarily appeal to high spending tourists, with business and conference visitors being the main market. The operation cost of charter flight businesses is high and each airline hour is expensive. A breakdown of operating expenses shows that about 60% of costs are running expenses, the bulk of which are imported items such as fuel and parts (Table 5.9). The remainder is spent on wages, rent (27.8%), taxes (6.4%) and depreciation (5.1%).

Table 5.9: Operating Expenses in a Charter Flight Firm

Operating Expenses	%
Staff Cost	25.8
Rent	2.0
Running Costs	60.7
Taxes	6.4
Depreciation	5.1
Total	**100.0**

Source, Survey Data 1990.

5.6 Industry Ownership Structure

Information gathered for the multiplier analysis can also provide background on the ownership structure of the tourist industry. For the industry as a whole local ownership has dominated from the beginning. The strong position of Icelandair has influenced the internal structure of the tourist industry. The company owns several tourist related businesses (travel wholesalers, hotels, car-rental) with a shareholding in others and it appears that its strong position will continue. The company is primarily owned by the Icelandic Steamship Company and Icelandair employees, the government also has a 20% shareholding (EIU 1989a, 36).

Icelandair owns two hotels, which represent 30% of the hotel capacity in the city (EIU 1989a, 36). Most other hotel and guesthouse complexes in Reykjavik are privately owned. Many regional summer hotels are owned by the largest tour operator 'The Icelandic Tourist Bureau', which was privatised in 1989, with the state as the largest (minority) shareholder (EIU 1989a, 41). Other hotels and guesthouses in the countryside are mainly privately owned.

Although local tour operators clearly dominate the tourist industry in Iceland, there is no legislation limiting the role played by foreign parties. In recent years the ratio of package holidays organized by German and Austrian tour operators has increased, due to the fact that they can sell cheaper trips to Iceland. This was, in part, caused by a regulation allowing each foreign visitor to bring 10 kg of food into the country (Min. of Transport, 1988). Icelandic operators are not competitive as a high ratio of their package cost is locally produced food, which is among the most expensive in the world. A reduction in the amount from 10 to 3 kg in the fall of 1990 is however likely to diminish the competitive advantage enjoyed by overseas operators (Min. of Transport, 1990c).

5.7 Summary

The data drawn from the business survey reveals that different tourist sectors have varying abilities to generate income, employment and government revenue out of tourist expenditure. In keeping with the findings of other literature dealing with the economic impact of tourism in small islands I have found that small, labour intensive operations are the best performers, in terms of income and employment generation, at the direct level. Although the analysis does not extend to indirect and induced components it is interesting to note that these same operations are characterised by the lowest first round import propensities. Thus it seems likely that their indirect generational capabilities will also be relatively high. In the important

accommodation sector we see that hotels have lower generational capabilities than guesthouses and farmstay operations - they also exhibit higher import propensities.

These findings are vital because, in conjunction with the tourist expenditure data presented in Chapter 4, we are now able to analyse the ability of different tourist types to generate economic benefits for the Icelandic economy - and potentially achieve government development objectives.

CHAPTER 6

THE ECONOMIC SIGNIFICANCE OF TOURISM

This chapter presents the direct multiplier effects of tourist expenditure. The calculation of income and employment generation coefficients enables comparisons to be made of the regional economic impacts associated with different types of visitors. Estimates of the 'average tourist multiplier' also allow us to identify further the total direct income and employment effects of international tourist expenditure on the Icelandic economy. The previous analysis of the relative contribution of certain firms to public sector coffers also allows us to identify the ability of various tourist groups to generate government revenue.

6.1 The Tourist Multiplier - Direct Level

The average direct income multiplier is 0.263 (Table 6.1). This means that for every 100 kr of expenditure an average of 26 kr is generated in the form of local wages and salaries. The average tourist also created 0.267 jobs for every 1,000,000 kr of tourist expenditure. The direct income and employment multipliers were highest in the accommodation sector and lowest in stores (grocery and souvenirs). Over 70% of total employment was generated within the accommodation and restaurant sector. Less than one third was created in transport, stores and other industry sectors affected directly by tourist expenditure. It must be borne in mind however, that jobs in connection with international airline transport and ferry operations are not included in these estimates.

Table 6.1: Direct Income, Employment and Governmental Revenue Multiplier Co-Efficients by Type of Tourist

Type of Visitor	IG	EG	GRG
Average Tourist	0.263	0.267	0.133
By Nationality			
Nordic Nations	0.281	0.274	0.137
Britons	0.267	0.268	0.131
Germans	0.245	0.232	0.130
Continent (Europe)	0.245	0.251	0.131
Other Europe	0.258	0.264	0.128
USA	0.276	0.269	0.132
Canada	0.281	0.262	0.114
Other	0.282	0.281	0.126
By Mode of Travel			
Plane	0.266	0.269	0.132
Ferry	0.209	0.206	0.150
By Accommodation			
Hotel	0.281	0.263	0.143
'Guesthouse'	0.291	0.322	0.126
Camping A	0.240	0.194	0.130
Camping B	0.219	0.172	0.134
Friends/Relatives	0.252	0.205	0.127
By Purpose of Visit			
Holiday	0.258	0.224	0.131
Business/Conference	0.282	0.271	0.142
Holiday/Business	0.269	0.247	0.136
Friends/Relatives	0.254	0.227	0.132
By Package Type			
Accommodation only	0.268	0.278	0.139
All inclusive serviced accommodation	0.267	0.262	0.135
Camping Package	0.221	0.184	0.133

Source: Survey Data 1990.

Although there are large sectoral variations in government revenue generation (GRG) there is very little difference in GRG by visitor type. The average multiplier of 0.133 means that for the average tourist expenditure of 100 kr of tourist expenditure 13 kr flows to the government in the form of taxation revenue.

Differential coefficients are clearly dependent on the varying expenditure patterns of tourists and the range of income and employment generation capabilities of the sectors that receive this money. Multiplier coefficients are, for example, above average for visitors in serviced forms of accommodation (hotels), while figures for campers and caravanners are below average. The explanation for these differences lies in the fact that the latter grouping spend a relatively high proportion of their budget on items, such as groceries, which are supplied by businesses such as supermarkets and local shops which exhibit low IG and EG coefficients. Such figures also reflect the greater labour intensity of hotel and 'guesthouse' complexes compared to camping activities.

Income and employment multiplier coefficients also vary by mode of travel. Visitors arriving by plane exhibit relatively high multipliers compared to ferry passengers. Plane passengers spent relatively more on accommodation and restaurants and less on groceries and miscellaneous (including gasoline). On the other hand ferry tourists spent more on groceries but less on hotels, tourism transport and restaurants - which are characterised by high direct IG and EG coefficients.

Income and employment multiplier coefficients also vary by country of residence. Germans and other visitors from the continent have a slightly lower multiplier effect than visitors from the Nordic Countries, USA and other market areas. This is again because they spend less on industry categories with high RIG and REG coefficients such as accommodation and restaurants.

Those travelling on business exhibit higher direct employment multipliers than visitors on holiday or those visiting friends and relatives. Again this can be explained by this group's higher expenditure in labour intensive sectors, especially restaurants.

Visitors in higher class accommodation (hotels) generate the highest GRG coefficients

(Table 6.1), which may be linked to their relatively high spending on highly taxed items such as restaurants and car-rentals. Hotels also tend to generate more government revenue in the form of taxes than 'guesthouse' complexes.

A distinction in GRG by mode of travel is also evident with higher multipliers of ferry passengers compared to plane passengers. The relatively high spending of the ferry tourist on groceries and miscellaneous (incl. gasoline) lead to this difference as these items are taxed heavily.

There are also differences in GRG according to market area. The Nordic nations exhibit the highest multiplier - a reflection of their higher spending on hotel accommodation, restaurants, and highly taxed transportation such as car-rentals. For similar reasons business and conference tend to generate higher government revenue than holiday visitors and those visiting friends and relatives.

6.2 Daily Income, Employment and Government Revenue Generation

The direct components of income, government revenue and employment generation are presented in Tables 6.2 and 6.3. The average tourist generates nearly 1400 kronur of direct income per day. The most obvious feature of Table 6.2 is that hotel dwellers have a greater impact than those using other types of accommodation: this is more a reflection of their high daily expenditure than their actual multiplier impact. Business travellers and visitors from the Nordic nations and the USA, who are more likely to use expensive hotels and eat in restaurants, generate a higher than average amount of income. Campers and those staying with friends and relatives on the other hand generate the lowest amount per day largely because their daily expenditure is relatively limited.

The average visitor generates about 40% of their income in the accommodation sector

Hotel tourists generate a higher amount to the accommodation sector than those using other types of accommodation (50% of direct income).

The average visitor generated nearly 700 kr in the form of government taxation. Visitors in high class hotels contribute most to the government, again this is more a reflection of their high daily expenditure rather than their overall multiplier effect

Job creation in the tourist sector varies considerably by visitor type (Table 6.3) Clearly visitors with high daily expenditure (hotel visitors) generate more employment opportunities than those with low daily totals (campers). The accommodation sector accounts for about 58% of all employment generated by visitors staying in self catering accommodation (hotels and 'guesthouse' complexes) The daily impact of campers and those staying with friends and relatives is, on the other hand, minimal as a result of their low spending on accommodation.

The survey results reveal that the industry depends heavily on part-time and particularly seasonal labour (Table 6.4) Seasonal employment reaches a peak during the summer high season and relies heavily on the student population - such work tends to be in lower skill areas of activity A sectoral breakdown of male and female employment shows that direct employment is of particular importance to women. Summer hotels and farm holidays generate a significantly higher proportion of female jobs than male jobs (71-83%), an indication of the important role of tourism as an employer of women in rural areas Hotels open all year and guesthouses also generate more full time job opportunities for females than males The transport sector (including car-rental, coaches and charter flight) is dominated by male employment The handicraft stores employ a relatively large proportion of women, over a third of whom work on a seasonal basis.

Table 6.2: Direct Income and Governmental Revenue Generation Per Day by Visitor Type (kr)

Type of Visitor	Total Industry		Accommodation only	
	IG	GG	IG	GG
Average Tourist	1386	696	562	182
By Nationality				
Nordic Nations	2353	1147	1095	375
Britons	1489	731	587	190
Germans	937	497	368	100
Continent (Europe)	1030	551	372	116
Other (Europe)	1137	564	436	128
USA	1997	955	816	243
Canada	1023	415	413	109
Other	1551	693	762	239
By Mode of Travel				
Plane	1445	724	605	203
Ferry	528	379	163	45
By Accommodation				
Hotel	3164	1610	1636	694
'Guesthouse'	1607	696	750	190
Camping A	1030	562	135	34
Camping B	530	325	75	7
Friends/Relatives	774	390	169	34
By Purpose of Visit				
Holiday	1123	570	323	102
Business/Conference	3648	1837	2030	799
Holiday/Business/Conference	2113	1068	784	269
Friends/Relatives	705	367	160	41
By Package Type				
Accommodation only	1849	959	959	345
All Inclusive Serviced acc	1727	873	873	250
Camping Package	1033	621	621	69

Source: Survey Data 1990

Table 6.3: Direct Employment Generated Per 1000 Days

Employment Generation	Total Industry	Accommodation only
Average Tourist	1.40	0 73
By Nationality		
Nordic Nations	2.29	1.28
Britons	1.49	0.77
Germans	0.89	0.41
Continent (Europe)	1.05	0.52
Other (Europe)	1.17	0.61
USA	1.94	0.99
Canada	0.09	0.05
Other	1.57	0.93
By Mode of Travel		
Plane	1.46	0.80
Ferry	0.52	0.15
By Accommodation Type		
Hotel	2.96	1.73
'Guesthouse'	1.72	0.99
Package A	0.83	0.19
Package B	0.42	0.03
Friends/Relatives	0.63	0.17
By Purpose of Visit		
Holiday	0.98	0 37
Business/Conference	3.50	2.15
Holiday/Business Conference	1.95	0.90
Friends/Relatives	0.63	0.22

Source; Survey Data 1990.equivalents)

Table 6.4: The Male/Female and Temporal Composition of the Tourism Labour Force

	Male		Female		Total
	Full time %	Part time %	Full time %	Part time %	
Hotels:					
Open all year	30.9	14.0	41.1	14.0	**100**
Summerhotels		16.8		83.2	**100**
Guesthouses	23.1	5.1	43.6	28.2	**100**
Farm Holiday;					
Accommodation		29.2		70.8	**100**
Other		55.6		44.4	**100**
Restaurants	27.8	12.1	29.5	30.6	**100**
Handicraft Stores	13.8	3.4	48.3	34.5	**100**
Transport	52.6	32.9	6.6	7.9	**100**

Source; Survey Data 1990.

An examination of the skill requirements and training needs of a variety of industry sectors revealed that the majority of male labour force in hotels and restaurants were employed as managers, chefs, waiters and porters. Women on the other hand were mainly employed in waitressing and unskilled cleaning positions.

6.3 The Overall Impact of Tourist Expenditure

By combining the total number of tourists, the total number of tourist days, the size and pattern of visitor expenditure, and the tourist income and employment multiplier coefficients, it is possible to evaluate the overall income and employment generation stemming from tourist expenditure in Iceland

Initial calculations were made to determine the overall direct impact of visitors to Iceland during the summer 1990. We may conclude that approximately 1200 direct jobs (full-

time) were created from foreign tourist expenditure during the summer. This figure rises to over 2200 jobs when the analysis is broadened to calculate job opportunities on an annual basis (based on the annual expenditure extrapolations described in Chapter 4) (Table 6.5). This represents approximately 45-50% of government estimates of direct tourist employment (approx 5000 in 1990). It must be remembered that government estimates are based on arbitrary estimates of the percentage of employees in different sectors that are tourism related and include all workers in the air sector and customs services and also include the effects of domestic tourism. My figures reveal that this total estimate is reasonable but that it may overestimate the significance of tourism - especially in sectors such as restaurants.

The figures also reveal that 26% (1214m) of total tourist expenditure becomes direct income for the Icelandic people. If the analysis is expanded to the whole year it is estimated that 2171m kr of direct local income was generated in 1990.

Tourist expenditure also led to generation of 615m kr in government revenue during summer 1990, which rises to 1098m kr if the analysis is spread to the whole year. For every 100 kr of tourist expenditure at the direct level 26% goes to household income, 13% to government revenue, 21% on imported goods and services and 40% on local transactions.

Table 6.5: The Economic Impact of Tourism in Iceland in 1990

	Summer Tourism	**Annual Tourism**
Gross Revenue	4,630,484,370	8,258,065,235
Direct Income Generated	1,214,392,146	2,171,871,157
Direct Employment Generated	1236	2204
Direct Governmental Revenue Generation	615,767,644	1,098,322,676

Source, Survey Data 1990

It is estimated that 71% of the jobs created were in the accommodation and restaurant sectors (Table 6.6). Of the 1236 directly generated jobs, a high ratio tended to be taken by women. Job creation in the accommodation, restaurant and handicraft sectors tends to rely on female labour while the transport sector is comprised mainly of male workers. The largest proportion of GRG was contributed by the accommodation and restaurant sectors (Table 6.7).

Table 6.6: Direct Income and Employment Generation by Various Tourist Sectors

Tourist Sector	IG		EG	
	kr.	%	No.	%
Accommodation	499,717,116	41.2	656	53.2
Transport	195,106,283	16.1	98	7.9
Tours	89,334,379	7.4	45	3.6
Restaurants	187,244,858	15.4	220	17.8
Groceries	49,312,577	4.0	67	5.4
Shopping	64,320,753	5.3	46	3.7
Entertainment	49,312,577	4.0	25	2.0
Duty Free	34,304,401	2.8	22	1.8
Other	45,739,202	3.8	57	4.6
Total	**1214,392,146**	**100.0**	**1236**	**100.0**

Source; Survey Data 1990.

Table 6.7: Direct Governmental Revenue Generation by Various Tourist Sectors

Tourist Sector	GG	
	kr.	%
Accommodation	161,018.963	26.1
Transport	52.073 058	8.5
Tours	17 918.555	2.9
Restaurants	162.924 519	26.4
Groceries	85.070.022	13.8
Shopping	49.445 642	8.0
Entertainment	21.399.218	3.5
Duty Free	32 752.889	5.3
Other	34.175.896	5.5
Total	**616.778.762**	**100.0**

Source; Survey Data 1990.

Of the 1214m of local income generated directly from tourist spending almost 30% is generated by travellers from Nordic nations, 21.5% from the Continent and 17% from Germany (Table 6 9)

It is clear that different tourist types will bring very different economic impacts to Iceland. Both in terms of absolute expenditure and income and employment generated Nordic and US markets dominate on a daily basis. This is clearly a reflection of the high ratio of business/older travellers in these categories and the overall propensity of these groups to stay in serviced accommodation (hotels) The question remains however whether it is these groups and the type of high spending tourism they represent that will allow the tourist industry to fulfil many of the objectives that the government has set for it. It is these issues and their policy implications that I address in the concluding chapter.

Table 6.8: Income Generation by Nationality

	Accommodation		NonAccommodation		Total	
	kr	%	kr	%	No.	%
Nordic Nat.	169,102,987	6 5	194,372,315	53 5	363,475,302	100
Britons	45,153,817	39 4	69,354,859	60 6	114,508,676	100
Germany	81,319,603	39 6	124,221,165	60.4	205,540 768	100
Cont.(Eur)	94,219,608	36 0	167,209,651	64 0	261,429,259	100
Oth. Eur.	34,746,946	38 4	55,845,300	61 6	90,592,246	100
USA	56,299,279	40 8	81,602,039	59 2	137,901,318	100
Canadians	5,730,629	40.5	8,426,492	59 5	14,157 121	100
Other	13,144,247	49 1	13,643,209	50 9	26,787 456	100
Total	**499,717,116**	**41.2**	**714,675,030**	**58.8**	**1214,392,146**	**100**

Source; Survey Data 1990.

CHAPTER 7

CONCLUSIONS: THE PLANNING AND POLICY IMPLICATIONS

In this concluding chapter I briefly outline the economic impact findings presented earlier and then go on to look at their implications for certain key areas of government tourism policy. I finish with a brief look toward the future research that needs to be conducted on the economic impact of international tourism in Iceland.

7.1 The Overall Economic Impact of Tourism

International tourism has become increasingly important for the economy of Iceland in recent years. It generated approximately 4630m kr in the summer of 1990, which rises to 8260m kr for the whole year (based on the spending pattern of summer tourists). Only fish products and aluminium generated more foreign exchange revenue for the economy.

The multiplier analysis has shown that of the initial tourist expenditure some 26% becomes direct income to local people in the form of wages, salaries and profits while 13% becomes government revenue (taxes, licenses etc). Business travellers and conference participants had the maximum direct impact per day, while those visiting friends and relatives had the least.

Some 1236 direct jobs (excluding air traffic, customs, etc) were created out of international tourist expenditure during the summer 1990, which rises to 2217 jobs if the data are weighted for the whole year. The job opportunities created directly from tourist expenditure tend to be mainly for females (over 60% in accommodation/restaurant sectors). Seasonal employment is an important feature of the industry - especially in the rural areas.

Tourism is also important as a generator of government revenue. The multiplier analysis showed that the government sector received approximately 615m kr in the form of taxation. The accommodation and restaurant sectors generated more than half of the total revenue.

7.2 Policy Implications

In attempting to guide the future development of the tourist industry government planners have been provided with a clear set of objectives (see chapter 2). These tend to revolve around themes of maximising economic benefits, improving the economic strength of peripheral regions and the economic linkages of the industry, and minimizing negative social and environmental impacts. Although this thesis has not presented a full multiplier analysis of the industry it has provided a data set that can assist the government to fine tune its policies in each of these areas. I will now focus on a number of important policy issues, including: which types of tourists should be attracted if revenue is to be maximized, the future role of small firms in the industry; the possibilities for tourism to be used as a tool for regional development; and the industry's potential as a source of jobs for the growing number of women entering the work force. Finally I briefly address the link between future tourism development and the environmental resource base.

7.2.1 Maximizing Tourist Revenue

It is clear that certain types of tourists spend far more money in Iceland than others. Business people, those staying in hotels and Nordic/US visitors are some of the highest spending groups and of course there is a great deal of overlap between these categories. Younger visitors from Europe, those who camp or use caravans (ferry travellers) and those

who visit friends and relatives tend to spend the least. In simple terms hotel guests spend twice the amount that 'guesthouse' visitors spend per day. In spite of their lower multiplier coefficients hotel guests will generate about 50% more income and 42% more employment per day than their guesthouse based counterparts.

Thus it seems that the objective of maximizing revenue will be best served by focusing on high spending 'hotel type' tourists. However this approach may conflict with other government objectives.

7.2.2 Regional Development and Economic Linkages

The question of regional inequality is an important one for Iceland - with the economic demise of several peripheral regions already well advanced. If tourism is to be a tool for regional development it is again essential that the 'right' type of tourists be attracted. In this case, however, a conflict with attempts to maximize overall expenditure emerges.

Even though 'guesthouse' users and campers spend a lower amount per day than hotel visitors, they tend to travel more widely throughout the country and therefore provide more economic benefit to local people in the countryside. At the same time their money tends to flow to a wider range of small, locally owned, firms. For example a typical Nordic business traveller will stay in a large hotel in Reykjavik, eat mostly in the hotel, will perhaps buy some souvenirs or dutyfree goods, but is unlikely to do a great deal of travel around the country. Thus the money being spent flows to a limited number of businesses - mostly concentrated in the capital region.

Even non-hotel guests vary in terms of their contribution to regional development. Guesthouse and farmstay visitors appear to bring the strongest benefits as they are usually staying in locally owned accommodation and are eating and buying goods from the local area.

While campers (both package and non-package) also bring benefits these are reduced by the fact that their expenditure on accommodation is limited, by the fact that many of them (ferry passengers especially) bring their own transport, and because they often also carry large quantities of food purchased overseas.

Regional summer hotels are a separate category. A large number of these establishments are operated by travel companies situated in Reykjavik and as a result they bring fewer economic ownership benefits for local people. These hotels also offer all-inclusive service to tourists, and therefore make limited use of other local enterprises, such as restaurants. Nevertheless such hotels are important if peripheral regions wish to also attract older, higher spending tourists wanting certain comforts. At the same time such operations do provide local employment - although it is often of an unskilled nature. My survey revealed that 78% of direct jobs in these establishments were taken by local people. Outside employees (22%) on the other hand tended to fill higher-skilled positions such as managers and chefs.

The results demonstrate that if the goal is to maximize income and employment in rural areas then small locally owned establishments such as guesthouses and farm holidays should be supported along with the types of travellers that frequent them. While it is unlikely that tourism will ever prove to be as big a generator of wealth for these regions as agriculture once was it has far better potential to stimulate development than any other option currently available - especially manufacturing. As Getz (1986, 124-5) comments with regard to the Spey valley in Scotland "jobs created by a single manufacturing industry might very well be suited to attracting and holding families, but tourism is less susceptible to total collapse".

The fact that tourism is also an important generator of female jobs should also not be forgotten. While the issue of increased female participation in the workforce has gained attention throughout the country it is only in Reykjavik that women have been largely

successful in gaining employment (partly because of tourism). In the regions however there are fewer service oriented jobs available to women - thus tourism represents one of the only ways for rural women to gain access to seasonal incomes and gain a larger degree of economic independence (see also Duffield and Long, 1981).

There is also obviously a close link between regional development and the creation of linkages between the tourism industry and the regional economy. Clearly an industry which purchases more local goods and services will foster economic growth wherever suppliers are located In the case of foodstuffs these benefits will be most evident in rural areas. It is clear from the import propensity analysis presented earlier that small local businesses are linked more strongly to the local economy than their larger counterparts. Thus while daily expenditure figures may be lower for guesthouse visitors or campers their money is less likely to be used to purchase imported goods - at least on the first round of expenditure. In other words higher spending tourists such as hotel guests often tend to demand goods and services that involve a high import component

7.2.3 The Role of Small Firms

Conflicts also exist between attempts to maximize income generation and the support of small locally owned businesses I have shown previously that most Icelandic tourist businesses are small-scale. In the accommodation and restaurant sectors for example, 77% of companies employ fewer than 5 people.

Unfortunately a tourism development strategy that pushed high spending travellers of the 'hotel type' would be likely to adversely affect small locally owned operators. A move toward hotel based tourism would reduce the amount of use made of smaller businesses by tourists simply because inclusive hotels internalise so many tourist activities (restaurants,

of tourism in Iceland on quality natural resources makes it essential for the government to put in place long-term strategies which will ensure a minimum cost for the local environment (see Pearce, 1985; Romeril, 1989).

One central element of such a policy will obviously relate to the types of tourists attracted. First it makes sense to attract those people who, while interested in the environment, are also interested in its sustainability and protection. It is here that the growing ecotourism market can clearly play a role (Ceballos-Lascurain, 1987, Boo, 1990). While it is obviously difficult to identify an ecotourist it is clear from my survey that farm tourists and those who travel around the island are more likely to fit this description than businessmen.

The promotion of selected ecotourist groups would be more likely to support regional development because of the peripheral location of most outstanding attractions. In particular high spending farm stay or guesthouse based travellers are more likely to leave substantial sums of money in local communities. Another benefit of attracting higher spending nature tourists is that they would be willing to perhaps pay higher fees to be able to enjoy such attractions. Such fees, that assist in environmental protection, are becoming more common in many nature oriented destinations (Lindberg, 1991, 22) and have been discussed recently during debates over Iceland's future tourism development (Nature Cons. Council, 1990). The emphasis on higher spending ecotourist niche markets would also help to ensure that absolute numbers were kept in check - simply because fewer tourists would be needed to generate a given amount of income and employment.

The problem with this approach is that it may be counter-productive impact on 'price-sensitive' ecotourists who may decide to either stay in Reykjavik or not travel to Iceland at all. In this instance a case may be made for the use of 'incentives' to encourage certain forms of sustainable travel that also meets government regional development objectives. Thus it may

shopping). At the same time this type of tourism is likely to be catered for by large vertically integrated companies - such as Icelandair. While Icelandair controls most international transport we have also seen that it owns a large percentage of Reykjavik's international standard hotels and is also expanding its control over local tour wholesalers.

The increasing ratio of all-inclusive package holidays organized by these large companies has made it difficult for small local operations to compete against larger concerns, which are able to offer sizable commissions to the tour wholesalers. It has been especially difficult for small local enterprises in the countryside to reach the market.

Smaller accommodation complexes are also finding it difficult to market their services. Their small size makes it increasingly difficult to link into packages (either locally or overseas developed) and more importantly to have their services represented on international computer reservation systems which are increasingly dominating global tourist flows. In recent years however small operators have attempted to overcome these problems by creating marketing 'networks' (especially for farm holidays and guesthouses) (Farm Holiday Assoc, 1990). Thus small companies pool their resources in order to improve their consumer profile. Cooperation has also increased between the Iceland Tourist Board and small operators - especially with the establishment of a new booking system run by the ITB's Tourist Information Center.

7.2.4 The Environmental Dimension

A final policy area which should be addressed is the link between tourism development and the environment. Clearly much of Iceland's holiday tourism is based around the country's unique and relatively unspoilt natural resource base. The obvious dependence

be possible to provide tax rebates for travellers that visit certain areas of the country and for those that participate in tours that are given some form of environmental 'stamp of approval'

Clearly the links between environmentally oriented and sustainable tourism and regional development is an important one. At the same time however it should not be forgotten that the promotion of such ecotourism may also raise local awareness of important environmental issues (Milne, 1990).

7.2.5 Summary of Policy Issues

This overview reveals that while the objective of maximizing tourism revenue generation could be obtained by attracting high spending business and hotel based travellers such a strategy could have negative impacts on important concerns such as regional development, small business growth and the ability to tap into the growing ecotourism market

I would suggest that the path forward for the Icelandic government as it attempts to plan the industry's future should be one of caution and balance Any attempt to push toward higher spending hotel based tourism should be balanced by the promotion of high quality eco tourism and travel that will involve outlying areas as well as Reykjavik It is essential that small locally owned businesses be able to tap into tourism markets with assistance from the government or there is a very real risk that the nation's regions will simply become more dependent on the capital region.

While I am not advocating direct government involvement in the market place it seems sensible that an industry that is already so heavily dependent on government investment and ownership, and plays such an important role in the economy, be developed in such a way that its benefits are spread beyond the capital region. Such an approach also has the potential to allow Iceland to tap into the growing ecotourism market - especially higher spending niches

where tourists will be willing to pay a premium to stay in local guest and farm houses and also provide some money to protect the environment they have come to see.

It should also be noted that the infrastructural costs involved in pursuing higher spending 'hotel-type' tourism may be high and that these businesses tend to exhibit the lowest linkages with the national economy

7.3 Future Research Requirements

International tourism in Iceland remains a much understudied phenomenon. While this thesis has moved some way toward providing an analysis of the industry's economic impacts much remains to be done. It is essential that further attempts be made to understand the links between the tourism industry and the rest of the Icelandic economy. In this respect the data presented here could form the basis for a detailed analysis of the indirect and induced components of regional income and employment generation. It is clear that a 'full-blown' multiplier analysis would provide further information on the potential for different tourist types and industry sectors to support government objectives to improve the distribution and value of tourism's economic benefits.

At the same time it is important that any future economic analysis be conducted within the context of national macro-economic strategy and that it be dovetailed with studies of important sectors such as agriculture and fisheries. It is only through such approaches that linkages between the industry and the rest of the economy can be improved.

Future research must also embody factors which I have, for reasons of time and space, been able to address only briefly in this thesis. Greater attention must be paid to analysing the environmental impacts of tourism development and how these may affect the economic viability of the tourist industry. In a similar way social and cultural impacts stemming from

tourism development have received little attention. There is also a need for more notice to be paid to Iceland's ability to link into international tourist flows through the use of computer reservation systems and new technologies. The impact of these factors on the industry's ownership structure urgently requires study.

It is clear that much research needs to be undertaken on the phenomenon of Icelandic international tourism. It is vital that research studies, such as this thesis, be conducted on a range of tourism related issues and on a regular basis. Such an approach will allow the future of the industry to be planned in a comprehensive and effective manner and will enable future generations of Icelanders to enjoy the economic benefits that international tourism brings without having to bear unduly heavy costs or suffer irreparable damage to the environment

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APPENDICES

APPENDIX A - SURVEYS

McGill University/Icelandic Tourist Board

VISITOR SURVEY

1. Nationality_____ 2. Occupation_____
3. Purpose of visit a) holiday
   b) business, conference, working
   c) visiting friends and relatives
   d) other (please specify)_____

4. Where did you come from?_____ Day of arrival? _____
   Where are you going? _____ Day of departure?_____
   Total length of stay in the country (nr. of nights)_____

5. With whom are you travelling_____ Group size_____
   Ages 0-15_____ 16-25_____ 26-35_____ 36-65_____ 66<_____

6. Where did you stay overnight? (please indicate number of nights in the categories below)

	Hotel	Guesthouse	Farm Holiday	Hostel	Camping	Friends/Relatives
Reykjavik						
West						
Westfjords						
North-West						
North-East						
East						
South						
Southwest						

7. If you travelled on a package trip
   How much did the package cost? (including airfare)_____
   What was the package called?_____ What did the package include?_____

8. What has been the total expenditure on this trip to Iceland? including airfare_____

9.Please specify the money spent on the following categories; (excluding your package expenditure.

	Total ISK.kr	Other Currency
Accommodation		
Transport -Internal air		
-Bus		
-Ferry		
-Car rental		
Tours		
Meals -Hotel		
-Restaurant		
Groceries		
Shopping		
Entertainment*		
Duty Free		
Other		
Total		

*pubs, fishing, pony trekking etc.

McGill University/Icelandic Tourist Board

SURVEY OF THE ECONOMIC IMPACT OF TOURISM IN ICELAND

Confidential
(Please give me all information for the most recent financial year)

I Employment

-Number of employees _____
-Permanent residence of employees a)inside the region _____
b)outside the region_____

Category	Male		Female		Total
	Full-time	Part-time	Full-time	Part-time	

How many employees are in the following categories?
Managers (administration,budgeting, accounting)_____Managers (general) _____

II STAFF COST

Wages and Salaries ____
Staff Benefits (Insurance, Pension Fund etc.) ____
Total ____
TOTAL ____

III TAXES AND LICENCES

Import Duties ____
Ad Valorem Tax ____
Property Tax ____
Licences ____
All Other Taxes and Licences and Fees ____
TOTAL ____

IV CHARGES ON PROFITS

Depreciation ____
Dividends Paid ____
Interest Paid ____
Capital Expenditure ____
TOTAL ____

V DETAILS OF GOODS AND SERVICES BOUGHT

	Bought in Iceland A	Imported B	Estimate % of A imported
GOODS; -Goods Purchased for Resale in Same Condition as Bought			
-Food and Beverages			
-Electricity and Water			
-Fuels			
-Building Materials (Purchased)			
-Repair & Maintenance (charged as current expenditure)			
-Other Goods			
TOTAL			
SERVICE; -Communications (Telephone, Telex, Postage etc.)			
-Insurance			
-Bank charges			
-Rent (not for own building)			
-Commission			
-Entertainers (not included on staff cost)			
-Advertising and Promotion			
-Business Services			
-Other Services			
TOTAL			

VI GROSS CAPITAL EXPENDITURE

	Bought in Iceland	Imported
-Repairs and Maintenance (recorded as capital assets)		
-New Buildings and Extensions		
-Capital Equipment-Vehicles		
-Capital Equipment-Furniture & Fittings		
_Capital Equipment-Other Equipment		
TOTAL		

VII INCOME

		Estimate what % comes from international tourism
Sales (main activity)	____	____
Sales (secondary activity)	____	____
Other Income	____	____
TOTAL	____	____

VII GENERAL PROBLEMS/PROSPECTS OF TOURISM DEVELOPMENT

APPENDIX B - MULTIPLIER MODEL

Income Generation Model

The following discussion describes the model used as a base in this study. It should be born in mind however that the Icelandic case study focuses on one stage in the multiplier mechanism; the direct impact. The multiplier process may be expressed formally as follows;

(a) Direct Income Generation

$$a = \sum_{j=1}^{J} \sum_{i=1}^{I} K_{ji}\, Yd_i$$

where

K_{ji} = the proportion of 100 kr expenditure by the jth type of tourist in the ith sector

Yd_i = the increase in factor incomes in the ith sector per 100 kr revenue in the ith sector derived from direct tourist expenditure in that sector

(b) Indirect Income Generation

$$b = \sum_{j=1}^{J} \sum_{i=1}^{I} K_{ji}\, (Y_i - Yd_i)$$

where

Y_i = the increase in factor incomes in the ith sector per 100 kr revenue in the ith sector plus the increase in factor incomes (per 100 kr revenue in these sectors) in the jth sectors supplying inputs to the ith sector

(c) Induced Income Generation

$$c = (a + b) \times \frac{1}{1 - L\sum_{i=1}^{I} X_i Z_i Y_i}$$

where

L = average propensity to consume with disposable income

X_i = the proportion of total consumer spending which is spent directly within the region

Z_i = the proportion of total consumer spending by residents in the ith type of business within the region

The complete model to measure income generation can therefore be expressed as follows:

$$G_r = \sum_{j=1}^{J} \sum_{i=1}^{I} N_j Q_j K_{ji} Y_i \left(\frac{1}{1 - L \sum_{i=1}^{I} X_i Z_i Y_i} \right)$$

where

G_r = total annual income generation within the region from tourism

N_j = the number of days in the region spent by the jth type of tourist

Q_j = the total daily expenditure by the jth type of tourist

The (Nj and Qj) terms represent the multiplicand, while the remainder of the expression demonstrates the multiplier mechanism. The following discussion demonstrates the separated elements of the model;

1.Total Number of Tourists (N)

First the total number of visitors (N) has to be known and their average length of stay. Knowledge of the size and pattern of tourist expenditure by different tourist type is essential before a true multiplier can be estimated. It is therefore necessary to know the total number of tourist nights.

2. The Total Daily Tourist Expenditure

In order to derive the second element of the multiplicand, information on the average daily total expenditure (Q) for each type of tourist must be known

3. Income Generation Co-efficient (Y)

Evaluation of the income generation (I.G.) by businesses is a basic feature of the multiplier. This figure will vary from business to business, which is determined by factors such as import propensities and the extent to which tourist expenditure is converted into employment opportunities

The following formula is used to calculate I.G. for any business

$$Y_a = \frac{W (1 - h - t_w) + P (1 - t_p) + F (1 - t_w) + \sum_{i=1}^{I} S_{ai} Y_i}{D_a}$$

where

Y_a = income generation coefficient for an average business (i.e., dependent upon tourism)

W = gross wages and salaries to residents in the region

h = deduction rate on wages and salaries (national insurance, graduated pensions etc.)

t_w = tax rate on wages and salaries

P = profit to residents in the region

t_p = tax rate on profits

F = rent to residents in the region

S_{ai}= cost payment from an average business to the ith type of business

Y_i = income generation co-efficient for the ith type of business

D_a = total turnover in the average business

Employment Generation Model

A supplementary feature of this income multiplier is that it permits estimates to be made of the likely effect of tourist expenditure upon the level of employment in the region. Once a relationship has been established between turnover and employment, it is possible to translate a income multiplier into an employment multiplier. This will accumulate the employment which is created at successive rounds as the flow of tourist-originated expenditure circulates.

The assumption that a marginal increment of turnover will always produce a proportionate increase in employment, will not always be true, as different firms will have different marginal propensities to employ following an increase in turnover. However, when averaged over all firms of a certain business type, this becomes a reasonable assumption. There are three elements in this type of employment multiplier as in the income multiplier; direct employment created in firms that directly receive tourist spending; indirect employment created in other firms whose turnover is augmented with purchases by the original businesses; and induced employment created from the effects of tourism expenditure as local residents respond the additional money they have earned from tourism.

A) Direct Employment Generation

$$A = \sum_{j=1}^{J} \sum_{i=1}^{I} K_{ji} \, Ed_i$$

where

Ed_i = increase in employment in the region per 1,000,000 m kr of turnover to the ith type of business generated exclusively within that business which directly receives tourist expenditure.

B) Indirect Employment Generation

$$B = \sum_{j=1}^{J} \sum_{i=1}^{I} K_{ji} \, (E_i - Ed_i)$$

where

E_i = increase in employment in the region per 1,000,000 m kr of turnover to the ith type of business generated within that type of business and in all other types which participate in the subsequent flow of transactions.

C) Induced Employment Generation

$$V = (a + b + c) \sum_{i=1}^{I} X_i E_i$$

where

a= direct I.G. per 100 kr of tourist expenditure

b= indirect I.G. per 100 kr of tourist expenditure

c= induced I.G. per 100 kr of tourist expenditure

These three stages must be summed in the employment multiplier:

$$k_e = A + B + V$$

where

k_e = employment multiplier

a = direct employment generated per 1,000,000 m kr of tourist expenditure

B = indirect employment generated per 1,000,000 m kr of tourist expenditure

V = induced employment generated per 1,000,000 of tourist expenditure

The complete employment generation model may be expressed as follows

$$J_r = \sum_{j-1}^{J} \sum_{i=1}^{I} N_j Q_j K_{ji} E_i + \sum_{j=1}^{J} \sum_{i=1}^{I} N_j Q_j K_{ji} Y_i \frac{1}{1 - L\sum_{i=1}^{I} X_i Z_i Y_i} \sum_{i=1}^{I} X_i E_i$$

where

J_r = total employment generated within the region from tourism

APPENDIX C - MISCELLANEOUS TABLES

Table 1: Tourist Arrivals to Iceland by Plane in the summer (June-August) in 1990: Mean Length of Stay and Total Tourist Days

Visitors by major market areas	Total Visitor	Mean Length of stay	Total tourist days
Nordic Nations	20,407	6,7	136,727
Great-Britain	7,128	10,5	74,844
Germany	12,658	13,6	172,149
Continent (Eur)	16,371	14,4	235,742
Other (Eur)	5,185	14,4	74,664
USA	9,421	7,3	68,773
Canada	745	18,4	13,708
Other	1,680	10,0	16,800
Total	**73,595**	**10,8**	**793,407**

Source; Survey Data 1990.

Table 2: Tourist Arrivals to Iceland by Ferry in the Summer (June-August) in 1990: Mean Length of Stay and Total Tourist Days

Visitor by major market areas	Total Visitor	Mean Length of stay	Total tourist days
Nordic Nations	1341	14,0	18,774
Great-Britain	200	13,8	2,760
Germany	2390	19,0	45,410
Continent (Eur)	1104	17,5	19,320
Other (Eur)	317	17,0	5,389
USA	32	(7,3)	234
Canada	9	(18,4)	166
Other	28	14,2	399
Total	**5421**	**17,1**	**92,452**

Source; Survey Data 1990.

Table 3: Accommodation Type Used By Major Market Areas - Plane Passengers

	Hotel	Non Hotel	Camping Package	Camping	Friends Relatives
Nordic Nations	61.3	25.2	4.5	1 3	7 7
Great-Britain	33.6	37.1	18.9	6.9	3 5
Germany	28.5	22.5	20.6	24.5	3.9
Continent-Europe	18.0	25.7	43.1	9.0	4.2
Other Europe	10.0	45.0	35.0	10.0	
USA	37.7	41.0	8.2	4.9	8.2
Canada	19.0	47.6	4.8	4.8	23 8
Other	46.2	30 8	7.7	7.7	7 7
Average	**33.8**	**28.0**	**18.6**	**14.2**	**5.5**

Source; Survey Data 1990.

Table 4: Accommodation Type Used by Major Market Areas - Ferry Passengers

	Hotel	Non Hotel	Camping, Caravans	Friends, Relatives	Total
Nordic Nations	13.6		77.3	9.1	100
Great-Britain			62.5	37 5	100
Germany		4.1	95.9		100
Continent Europe	2.3		91.1	6.6	100
Europe		10.0	90.0		100
Other			100.0		100

Source; Survey Data 1990.