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GREENLAND'S ECONOMY: BUILDING A STRATEGY FOR THE FUTURE

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FOREWORD

This report presents the results of a case study of the economic situation and development prospects of Greenland, a region with special status within the Kingdom of Denmark, which was undertaken in the context of work on regional competitiveness and policies for remote rural regions.

Although in some ways an extreme example, Greenland shares many of the characteristics of isolated and sparsely populated regions in other OECD countries and highlights the most common policy challenges in such regions. The concerns of the Greenland authorities relate to un- and underemployment and decline in traditional activities, to persistent dependence on welfare payments and accompanying erosion of entrepreneurial activity, to dominance of the economy by the public sector, to still insufficient educational level. These problems are exacerbated by geographical isolation and low population density, but other remote areas have shown that these twin challenges can be overcome. The first aim of the case study is to examine ways in which a more dynamic economy can be encouraged through adjustments in macroeconomic policy and attention to the main structural impediments, on both the demand and supply side. A second objective is to explore the different economic development options for Greenland, which, as with other remote areas, may include rural tourism, niche market production, and diversification or enhancement of traditional activities.

The project was fully financed by the Greenlandic authorities and undertaken by the Rural and Regional Development Programme of the OECD's Territorial Development Service, following a standard methodology developed for similar territorial reviews of countries and regions within the OECD. This methodology included an extensive series of meetings between international experts and governmental and non-governmental actors conducted in the course of visits to Greenland in late 1998 and early 1999. The final report was prepared by Mr. Henrik Thomasen, with the assistance of MM. Mario Pezzini, Patrick Dubarle and Andrew Davies. The text was originally written in English, but is also available in French, Danish and Greenlandic.

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1. SUMMARY AND RECOMMENDATIONS

Since the middle of the century, rapid economic development has taken place and in less than 50 years, Greenland has become a modern society. In 1979, home rule government was introduced, giving Greenland the status of a distinct community with its own responsibility in most matters. At the same time, over this period an economy has developed which is characterised by significant public intervention, an underdeveloped private enterprise sector and reliance on financial transfers from Denmark.

The long-term political goal in Greenland is a sustainable and more independent economy based on its own resources and greater integration into the world economy. While extreme climatic and geographical conditions, which give rise to extra costs in areas such as energy supply and transportation, and dependence on a limited number of natural resources make these objectives challenging, they do not make them unattainable. To reach them, however, implies significant reform of the economy, including in particular development of a more competitive business sector and reduction of the dominance of the public sector.

Economic prospects

In the late 1980s, a severe financial crisis imposed considerable challenges on the newly established government and administration. A budget deficit of almost 10 per cent of GDP emerged and a big public debt was built up. The first OECD analysis of the economy in Greenland was conducted in the wake of the financial crisis, and stressed the importance of improved fiscal positions and sustainable economic development. Since then a more prudent fiscal policy has been conducted with budget surpluses and elimination of public debt. However, debt in public owned enterprises has increased markedly in recent years.

Today, the macro-economic situation in Greenland appears favourable, at least at first glance: low inflation, surplus in the public finances and high employment rate. However, the advantageous situation is not without risks. The economy has long been very dependent on fisheries (formerly cod, now prawns), making it especially exposed to external shocks, and attempts to diversify the economy and create new jobs needs to be strengthened in the medium- and long term. In the short term, a more concrete risk is materialising. Wage pressure has built up in parts of the public sector and, with signs of overheating on the private labour market, a wage spiral could emerge. Such a development would be highly unfavourable since a basic problem in Greenland is the already high wage level and any further increases would push the development of a competitive business sector further out in the future. Thus, the need for productivity gains and moderate wage increases must be emphasised and the eventual introduction of policy initiatives to contain overheating cannot be ruled out. In that case fiscal tightening and initiatives of a more structural character will be called for.

However, it is the long-term prospects that give rise to most concern. The level of real GDP in 1996 is in line with GDP ten years earlier, whereas GDP in the OECD area has grown 30 per cent over the same period. In the most important business sector, fisheries, continued productivity increases imply steadily lower employment, given that the total prawn stock cannot be expected to grow. Exploitation of minerals and oil could have a considerable economic potential in the longer term, but major deposits have

not been found yet and, in any case, the employment effects might be quite modest. Tourism is another sector with a big potential, but development will take off from a very low starting point, and it is difficult to envisage how tourism can become a driving force in the economy or generate employment on a large scale. The remaining part of the business sector, other land-based businesses, is almost exclusively directed towards the domestic market and contributes less than one per cent to total exports. A need for restructuring in the sector undoubtedly remains, but with domestic growth weak, employment will probably be stable over the coming decade. Finally, while the public sector plays a key role in the economy and is not likely to be much reduced in terms of employment levels over the coming years, it is unlikely also to provide a source of new jobs.

In sum, assuming an unchanged policy, total employment may stagnate up to 2005 creating considerable challenges for policy makers. However, the existence of unexploited potential for private and local initiatives in all business sectors is very encouraging as it leaves some room for diversification of the economy and creation of new activities in many different areas like development of new species in fisheries, exploitation of raw materials (maybe oil, probably minerals), development of various tourism activities in different geographic areas, and creation of small and medium sized enterprises in numerous land-based sectors. To obtain such a favourable outcome, however, the structure of the economy must be improved.

A wage level exceeding productivity and concentration of unemployment among the low-skilled complicate creation of new jobs. Moreover, the decrease in employment in fisheries will primarily consist of unskilled workers, whereas some of the new jobs created in mining will require skills and that may attract people already employed in Greenland. In tourism, linguistic and other competencies will be needed. Higher employment in the construction sector also requires an intensified training effort. Thus, a better-educated work force is of crucial importance in order to augment productivity and reduce mis-match problems in the labour market. Also for Greenlanders to replace Danes and foreigners in the labour market and thereby increase employment of the Greenlandic population, a better skilled work force is called for, although this kind of "job creation" by substitution has a lower economic impact than real job creation.

Exploitation of the Greenlandic subsoil is a possible, but still uncertain, future source of wealth. Both an oil adventure and discovery of minerals of less importance might have significant impact on the economy. Exploitation activity would increase government income, but, if spent immediately, the effect of these revenues would be to overheat the economy and push wages further up. Hence, it will be very important not to spend extra revenue pro-cyclically, *i.e.*, when the economy is already booming due to exploration and/or exploitation activity. A "Raw Materials fund" similar to the Norwegian "Petroleum Fund" may help to contain this risk and make it clear to policy makers that exploitation of raw materials may be only a temporary phenomena, perhaps lasting 15-25 years, and allow future generations to benefit from the wealth in the subsoil.

As a natural part of the modernisation process, people are gradually moving from the settlements to the towns and the tendency will in all likelihood continue even if public support for settlements slows down the process. This underlines the particular importance of creating new employment opportunities in the towns. The best path of development would be if the move from settlements could take place with same speed as employment and housing opportunities in the towns are created. With a greater concentration of activities (for instance hospitals and local administrations) the effects stemming from diseconomies of scale will be smaller, thereby reducing pressure on public outlays.

The need for a comprehensive reform strategy

The scope for traditional macro policies to spur economic growth is very limited. Fiscal policy is constrained by an already big public sector, and as the tax system is transparent and well functioning with low rates stimulus from this part of the economy cannot be advocated. The monetary union with Denmark furnishes low interest rates and contributes to low and stable inflation, which would be very difficult to obtain otherwise, leaving no room for manoeuvre. Consequently, structural policy is the only policy option available in Greenland. And structural reforms are imperative in Greenland if slow growth and rising unemployment are to be avoided over the coming decade. This need would become even more pressing if the block grant from Denmark were to be reduced or even disappear entirely in the future.

Increased private sector activities and reduced influence of the public sector cannot be reached from one day to another and requires implementation of reforms in a wide range of areas. As Greenland is already a well-functioning society, a "big bang" reform strategy would seem too risky since it would in all likelihood imply a chaotic development and too high adjustment costs in the short term. Instead, a coherent medium-term strategy should be set out, including reform of the uniform price system, reducing the role of the public sector, a privatisation programme, improved competitive structure, deregulation of the housing market and reform of the transfer system. It should be supplemented with regional policy initiatives like strengthening entrepreneurship and development of infrastructure (IT, use of new technology). The whole strategy should be underpinned by continuous effort to strengthen the level of education. As synergies exist between different structural reforms, the full benefits of such a strategy will only be reaped when reforms in many areas are implemented in concert.

After setting up a programme of reform, it is important that the government adheres closely to its strategy in order to maintain credibility and momentum in the process. Without this, private agents, including potential investors, will doubt the government's resolve. The successful completion of such a strategy is a demanding challenge for national politicians. Up to now, much of their time in Parliament has been taken up with discussion of projects of a narrow regional nature and/or short-term concerns. Now, the Parliament will be required to make strategic choices of a national and long-term character. The decision taken last autumn to make Greenland one single constituency, which means that Members of Parliament no longer represent a specific local community, may help to focus political debate on such broader questions.

Greater reliance on markets is necessary

Reducing the role of the public sector

The government's fiscal objective has been to bring down debt built up in the late 1980s. As this demanding strategy has now been completed, the medium-term objective is to balance the Home Rule financial account, a goal in line with the fiscal objectives in many OECD countries. However, the relatively sound budget position must not lead to fiscal complacency and it is questionable whether the objective is sufficiently ambitious. It can be justified in some transition countries to run budget deficits to finance investment projects. In Greenland, however, it should be possible to maintain sound fiscal positions as the block grants and other transfers from abroad correspond to almost half of GDP, making the starting point for any budget discussion very different from the situation elsewhere.

Steadily increasing current expenditures, especially in recent years, is a cause for concern, as it results in a permanently higher expenditure level and thereby gradually augments the size of the public sector. Various ways to reduce expenditure drift are listed in Chapter 3. One explanation of the elevated expenditure level is high turnover among the employees. As it is very costly and still necessary to attract

highly qualified employees, incentives to work in Greenland for an extended period of time by introducing higher salaries or rewards to be paid after 3, 5 or 10 years employment could be considered.

In addition, a strategy to reduce the role of the public sector over the medium term is required for several reasons:

- As the overriding objective is a more independent economy, a greater part of the public activities should gradually be financed by Greenlandic production;

- The public sector is already playing a dominant role and should be scaled down to leave more room for private activity and to obtain a more efficient use of resources;

- The block grant could be reduced or disappear at some stage in the future;

- As the economy is very vulnerable and a crisis could emerge, some fiscal leeway is desirable;

- Demographic developments will increase pressure on public budgets due to increased costs for pensions, elderly and health care, and higher costs in education. At the same time tax revenue will be squeezed by a declining labour force. The decision taken by Parliament in autumn 1998 to augment the official retirement age from 60 to 63 years taking effect from 2000 will reduce pressure on the budget and the labour market. However, the need for further measures cannot be ruled out.

- In a competitive market economy the price-system secures that resources are used in an efficient way. There is not such a mechanism in the provision of public goods and services.

Public-owned enterprises should be gradually privatised

The public sector is highly involved in business activities through ownership of traditional public companies and through several enterprises which are in the private sector domain in almost all countries. Privatisation of a range of the companies should be an integral part of a broad policy strategy. Potential investors should not be limited to people living in Greenland but should also include foreigners who might be able to provide capital, market access, management skills and other expertise. A successful privatisation will contribute to increased efficiency and greater long-term growth potential as:

- Company boards would gradually consists of more business people and become more competent. Today politicians and civil servants take up a large fraction of the seats on the boards of the big companies, and it has been included in negotiations of coalition agreements on which boards the coalition partners should have seats;

- The managers will be disciplined by the market as they have to face a discharge risk and cannot rely on financing from the Home Rule. That will be reflected in their borrowing strategy, reducing tendencies to over capacity;

- Companies will be run on efficiency criteria, avoiding over-manning due to interference with local and political interests;

- Unfair competition will be reduced because the companies have to compete on equal terms after privatisation;

– Improved public finances will result from revenues raised from privatisation. More importantly the budget will be less exposed as the government will not be liable for the debt of the enterprises.

As an integral part of the privatisation strategy the steps taken towards division of commercial and non-commercial activities in two of the biggest companies (Royal Greenland and KNI) is to be welcomed. It should be followed up by letting the "social tasks" (a requirement that public owned enterprises should take social considerations into account in their businesses) be provided through public tender. For instance, the future retailer in a settlement could be the person or company willing to provide a defined range of goods at specified/maximum prices (defined in a service contract) at the lowest costs. Another step to increase the market orientation of the public sector would be to out-source the provision of public services (*e.g.*, cleaning, day-care centres, eldercare) to private enterprises or individuals.

In the effort to obtain a more market-oriented economy, the many monopolies in the Greenlandic economy represent a point at issue. Generally, the best solution is to deregulate monopolies by abolishing concessions, possibly followed up by competition stimulating measures. Eye-catching candidates for deregulation are in areas like transport by ship, air traffic, telecommunications and a brewery. However, given the many tiny markets in Greenland some natural monopolies are and will be inevitable.

Given that many reform proposals are pointing towards a higher market orientation, it will be necessary at the same time to have a well-functioning competition council to minimise adverse effects of greater reliance on the market economy.

Reform of the uniform price system is urgent

The uniform price system is still in place in many areas (*e.g.*, electricity, heating, water supply, transport, telecommunication) implying considerable cross-subsidisation a high and distorted cost structure and a very opaque pricing system. Undoubtedly, reform of the uniform price system is pressing. Two years ago, a high-level working group presented a reform proposal to Parliament based on a principle of creating a liberalised zone and a normal zone. The liberalised zone should in the first round consist of four major towns where the uniform price system is abolished whereas the existing price regulation should persist in the normal zone to avoid excessive prices in remote areas. Gradually more and more municipalities are envisaged to join the liberalised zone on a voluntary basis, leaving the normal zone to consist of only the most remote areas in the long run. The proposal appears to be well-balanced as a method by which to enhance competitiveness in the major towns as well as the desire to maintain a reasonable standard of living in remote destinations. Maintaining the existing prices in the normal zone requires financing and the working group proposed a nation-wide increase of personal tax rates. Taking the size of the public sector and the already very high marginal effective tax rates for certain groups into account reliance on higher taxation is not a step in the right direction. Reform of the uniform price system should be financed by lower public outlays or even better go hand in hand with reform of the housing market which is already heavily regulated (see below) and acts as a brake on the expansion of economic activity. Increased demand for labour in the liberalised zone and therefore also higher demand for dwellings in these areas will be among the consequences of reforming the uniform price system. Given the necessity to increase private engagement in the housing market and a rent level more in line with the actual costs financing a uniform price reform by higher rent seems to be a unique opportunity to obtain a double structural gain in Greenland's economy.

Competition should be encouraged

With a small population spread over a huge area it is not possible even to come close to perfect competition in Greenland. But it is realisable to increase the competitive pressure in the economy which will improve the conditions for expansion of the private sector.

In addition to the reforms of the public sector and the uniform price system, a less protectionistic attitude is called for. In open economies, competitive pressure is enhanced by foreign trade, which allows the consumers to buy goods for the best price, and ensures that resources are used in the most efficient way. This mechanism is also working in Greenland but it could be strengthened:

- Abolition of preferential treatment for people born in or with special relations to Greenland when new positions are to be filled. People already living in Greenland and/or people who are accustomed to the Greenlandic language and habits already have a competitive advantage;

- The open attitude in mining and oil exploitation towards foreign capital should be expanded to include other parts of the business sector;

- Inclusion of foreign firms in competitive tendering. The (potential) presence of foreign companies on the markets will enhance competition, weaken wage pressure, improve efficiency and make the projects cheaper to the benefit of the public finances and the consumers;

- The requirement of a special license to trade and operate in Greenland should be abolished. If someone wants to start-up a new company they should not be hampered by red tape regulation;

- The uniform freight duty should be abolished as it in reality functions as an import duty;

- Government support to domestic "Buy Greenlandic" campaigns should be carefully considered.

Competition on equal terms in the business sector should be ensured

Another step towards a more competitive economy would be to reduce the huge subsidies to the business sector. Total value of the many different kinds of subsidies (direct, indirect and cross subsidies) given to several enterprises in various sectors is very high and gives rise to concern:

- It distorts the cost and price structure, leading to inefficient use of the resources;

- The subsidies are given to (some) existing enterprises, creating unfair competition and making start-up of new enterprises very difficult;

- Transparency in policy and business decisions is reduced.

Until a sustainable private sector has been developed, it is probably necessary to support job creation in Greenland to maintain a high level of employment, give time to adjust to new conditions and avoid exclusion. But it would be more efficient, and probably cheaper to the public budget, to directly support people instead of subsidising (otherwise unprofitable) enterprises without direct links to employment. The proposal should be seen together with reforms of the transfer system (cf. below).

In addition to reforming the subsidies to fisheries there is also a need to improve regulation of the sector. A system of tradable quotas was introduced in 1991 for the large vessels (an off-shore quota) and in 1996 for the medium sized vessels and boats (an in-shore quota). The quotas can be exchanged within each of the two quotas (in-shore and out-shore). The system has contributed to a sustainable development of the fishing stock and has assisted in reducing excess capacity. Based on historic catches, the ship owners receive each year a quota which they can sell and thereby make a pure profit if they so wish protecting existing ship owners from new competitors. Although it has worked well the system should be improved by selling the quotas in open auctions whereby the society as a whole would benefit from the resource and not only ship owners. Further, as the in-shore and the off-shore fleet are fishing the same stock of prawns it is difficult to justify the division of the total quota into two. It should be considered to merge the in-shore and the off-shore quotas or to allow in-shore vessels to process catches on board and thereby increase profitability in fisheries, reduce the need for subsidies, and lower the remaining excess capacity.

The housing market in need of deregulation

The public sector is also playing an important role in the housing market as owner of most of the dwellings. Further, rent is heavily subsidised, leading to excess demand for dwellings and waiting lists in many towns. On the existing rules and practices it will be very difficult to construct enough houses to meet the demand for housing within a ten-year horizon and some excess demand and waiting lists will in all likelihood have to be accepted. Moreover, the existing housing stock needs substantial renovation which will further push the demand for housing activities. The authorities should consider how to bring the housing market closer to equilibrium, not only increasing the supply of dwellings but also containing demand by lowering subsidies to bring rents closer to the actual cost level. The recent decision to reduce the subsidies to private owned one-family houses should be welcomed as a step in the right direction. Further, transfer of some public-owned houses to private hands should be considered, thereby enhancing personal responsibility for the dwellings, lowering public outlays and increasing private saving.

Another aspect to consider is whether the general standard of new houses constructed is appropriate or whether some cheaper solutions could be found. Of course only houses constructed for use in an arctic climate should be looked for, but possibilities of larger scale prefab construction, including apartment houses, should be carefully studied. Such solutions would become more interesting if the rent level is brought closer to the actual cost level.

Improving employability

Bringing productivity better in line with wages is an important challenge to achieve increased prosperity and higher employment. Obviously the best long-term solution is to increase productivity by improving the educational level of the labour force. Continuous improvement of the educational level should be supplemented with lower wage increases in Greenland than in Denmark, thereby improving competitiveness. It is a challenging exercise, since the labour market situation in Denmark has a strong influence on wage setting in Greenland. Improved education will also ease replacement of Danes on the labour market and increase employment of the Greenlandic labour force, thereby weakening the linkages to the Danish labour market. In addition to improved education, efforts to increase employment should primarily be concentrated on two areas: entrepreneurship and reforming the transfer system. Increased competition will underpin the reforms.

The educational level must be strengthened

A few generations ago it was neither customary nor easily accessible for Greenlanders to undertake education and given that education is much related to tradition, it is not surprising that a strong need to enhance the educational level persists. Considerable emphasis on education has for a long time been high on the political agenda and the average level of education is increasing. However, a recent tendency for fewer people to complete their education is worrying and somewhat surprising, especially taking the strong private incentives to undertake education into account -- students not only receive generous grants during their studies but after successful completion they will most likely earn high salaries and face low unemployment risk.

More can be done to improve the outcome and the efficiency of the education system and a range of initiatives should be considered:

- Taking the high unemployment rate among unskilled and the high drop-out ratio into account the most important issue in the education system is to strengthen the quality of basic education (primary and lower secondary education). This will contribute to improve the general level of education, ease the transition to upper secondary and tertiary education, and lower the age when students finish their education. In order to identify where geographically and at what age the pupils are beginning to lag behind it should be considered to conduct, on a regular basis, country-wide skills tests at all levels. The result of such tests would indicate where additional effort is particularly needed. Further, to increase motivation the tests could be used as a basis for performance related bonuses to the schools and/or the teachers.

- Geographical concentration of educational institutions will reduce the consequences of diseconomies of scale and thereby lower the high costs per student. Further, it will improve the professional environment to the benefit of both teachers and students.

- The students should be encouraged to undertake education in other countries and it should be carefully considered whether, it is prudent to maintain several tertiary educations in Greenland. Seen from an economic point of view it is much cheaper to let more students undertake their education abroad, especially in Denmark. And maybe more importantly, the students will probably be better educated as it is difficult to obtain and maintain a sufficiently high professional level in small institutions with very few teachers. To encourage students to return to Greenland repayment of the grants by students not coming back within some years after finishing their studies could considered by the authorities.

Concerning curricula at least Danish and preferably other foreign languages should have high priority as the society is bilingual and foreign relations (trade, minerals, tourism, etc.) are likely to play a bigger role in the future.

Reform of the transfer system

High marginal effective tax rates for people earning low annual incomes is a worrying feature. Reform of the social security system, including housing subsidies and child allowances, to reduce the very high marginal effective tax rates for the lowest paid is called for. A family with two children earning 110 000 DKK per year (close to the annual income for an unskilled worker earning the minimum wage) will face a lower disposable income net of tax, rent and transfers if the family income increases 30 000 DKK. Such poverty traps should be avoided as they are socially unviable and hamper willingness to work.

Employment-conditional benefits and tax credits have attracted increased attention in recent years and several OECD countries have introduced different kinds of favourable treatment to targeted groups, *e.g.*, low income families and families with children. Given the significant effort used and resources spend in Greenland on various projects to maintain and create employment (cf. the high subsidies) and given the high unemployment among the unskilled a system of in-work benefits or wage subsidies targeted to the lowest paid as a way to increase their employability could provide a workable alternative to the present system. Such an initiative should lower wage costs, contributing to narrowing the gap between productivity and wages. As in-work benefits must be withdrawn from earnings, the marginal effective tax rates will be affected. Therefore, such a scheme should be carefully designed and examined in conjunction with the social benefit system to avoid creation of new poverty traps. As more people move up the income ladder as a result of an increasing educational level and extended on-the-job training, the use of the wage subsidy should gradually diminish.

Further, to ease administration and increase transparency a reform of the social benefit system, including a unified benefit system based on objective criteria, not favouring members of selected trade unions, should be considered. It has been discussed whether an unemployment insurance system should be introduced in Greenland but until now no decisions going in this direction have been taken. That appears to be a prudent decision for (at least) two reasons: First, it would be very costly to launch such a system. In addition to those registered as unemployed for the time being it would create an incentive for low productive persons to apply for unemployment benefits increasing the total number of potential recipients. Second, there is a big risk that it would impede the traditional way of living in the settlements without generating alternative employment opportunities. Moreover, reform of the social system should include a change of the financing of early retirement, leaving a larger part in the financing of the system to the municipalities, thereby reducing the economic incentive for the municipalities to allot early retirement.

Entrepreneurship should be encouraged

The main focus in future job creation in Greenland should be evolution of small and medium-sized enterprises. First, Greenland is a very small economy with small markets leaving little room for large-scale projects. Second, big (state-owned) companies are already prevalent in the economy. Third, Greenland is in a transition process with people moving from settlements to towns, increasing the need for creation of job opportunities in many new locations.

The development of small and medium sized enterprises has so far been insufficient. The reforms suggested above (improved competition and less public involvement in the economy, strengthened education effort and a reduced gap between wage costs and productivity) will spur entrepreneurial activity. Further, the authorities should consider:

- Publicly commending entrepreneurial efforts through awards such as “most successful business of the year”, which make role models more visible and could help to reduce the perception of personal failure if a business start up is not successful;

- Introduce programmes such as business competition in schools, training centres and in the public owned enterprises, which can help students to get experience and give encouragement;

- Introduce micro-enterprise development programmes.

2. KEY FEATURES OF THE GREENLAND ECONOMY

This chapter contains a general description of some main features in the Greenlandic economy. To address a broader audience a more general introduction is presented and many of the aspects touched upon, especially in the first sections, might be well-known to Greenlanders and others familiar with the economy.

Economics in Greenland

Compared to most other countries Greenland is a very special case due to the climatic conditions, geography and low population density (see Box 1). And these factors can to a certain extent explain some of the uncommon features in Greenland's economy. In the following chapters these special factors are, as much as possible, separated from the peculiarities that result of or are affected by political decisions and can accordingly be modified by appropriate policy actions. Given the overriding political objective in both Greenland and Denmark is that Greenland should become a more independent economy based on its own resources it has been chosen to see Greenland as a country although it is not correct in a juridical sense as Greenland is part of the Kingdom of Denmark. Also for analytical purposes it is convenient to perceive Greenland as a country since it is a distinct community with its own legislation and statistics in several areas. Many comparisons are made to the situation in Denmark as the relations between Greenland and Denmark are very strong and as most relevant comparative studies include the two countries.

The extreme climatic and geographical conditions in Greenland and the fact that the business sector has been dependent on only one resource (fisheries) have necessitated public dominance in the economy which has been made possible as Denmark has financed activities in Greenland. Today, Denmark still finances some activities in Greenland and Greenland receives an annual block grant. The total value of these transfers is 3 billions DKK or almost ½ billion $ (cf. Chapter 3). For analytical purposes the block grant creates complications because it blurs data and the national accounts figures normally used for economic analysis and information on national account data should consequently be carefully interpreted. Further, when analysing and discussing the economy in Greenland it is important to be aware of a range of issues distinguishing the structure and the functioning of the economy from the situation in most other countries. Some of these issues are summarised in Box 2. The issues concerning national accounting and prices are dealt with in more details in the following sections. The other points are integrated in the analysis in the following chapters.

Box 1. Generally about the country

Geography and Climate

Greenland is the worlds largest island covering an area of 2.2 millions km², of which 400 000 km² is ice-free. Eighty per cent of the population lives along the 1 200 km coast at the south-west side of the huge island. The remaining area of 1.8 millions km² is covered by an ice cap. The ice cap rises to a height of 3 200 m in its central part and is more than 3 500 m thick in its thickest parts. The northernmost point, Cape Morris Jesup, is only 740 km from the North Pole and is thus the most northern area of land in the world. The southernmost point is Cape Farewell, and the distance between the northernmost and the southernmost points is 2 670 km. At its widest point from east to west, Greenland is 1 050 km wide.

The climate in the whole of Greenland is Arctic due to the area covered by the icecap. The mean temperature does not exceed 10 degrees centigrade, even during the warmest month of the year. Due to the large size of the country, there is considerable climatic variation between North and South Greenland. Large variations can also be found between the coastal areas, especially in the areas where the sea is ice-free during the winter months, and inland localities. The Arctic Circle cuts the West Coast just south of Sisimiut, 900 km from the southernmost point. At the Arctic Circle there are a few days each year with midnight sun and polar night, and the further north one moves, the longer the two periods become.

Population and History

The population in Greenland is 56 000, distributed throughout almost 100 inhabited locations -- 18 larger towns, 59 small settlements and some inhabited bases. With a population of 13 000, Nuuk is Greenland's largest town as well as being the political and administrative centre. Fourteen of the towns have a population of over 1 000 and these towns account for around three-quarters of the population. The majority of the settlements have a population of less than 100. The indigenous population of Greenland are Eskimos or Inuit, related by culture and language to the Inuit people in Canada and Alaska. Due to Greenland being a Danish colony from 1721 and the continued close political and economic relations with Denmark, the population also consists of a large Danish element which is made up of expatriate workers as well as Danes who have taken up more permanent residence. Of the 56 000 inhabitants, approximately 7 000 were born in Denmark. Similarly, around 11 500 persons born in Greenland are living in Denmark. The Greenlandic language is a polysynthetic language. Even though Greenlandic is the main language, a large proportion of the population speaks Danish, and Danish is a compulsory subject in the schools.

Until World War II Greenland was a very isolated community with the economy almost entirely based on living resources. In 1953 Greenland ceased to be a Danish colony and became an integral part of Denmark. In the following years significant efforts was made to modernise the country and the Greenland economy has developed rapidly over the past 50 years. Funding by the Danish Government was channelled into construction and social services, including health, education, communications and transport. Much attention was paid to the development of the fishing industry. A policy of gradual urbanisation was strongly encouraged and many small outposts were abandoned as people moved to larger settlements and towns. Since the 1970s it has been a main principle that people should have the opportunity to live in the settlements while maintaining a reasonable standard of living.

Box 1 (continued)

Administrative Structure

In 1979 a Home Rule system was introduced, giving Greenland the status of a distinct community within the Kingdom of Denmark. The fundamental principle of home rule is that the administration of local matters and matters of local interest is the responsibility of the Greenland Authorities, while matters of more general nature come within the province of the central administration in Denmark. Since 1979 many areas have been transferred to home rule, implying only a few areas such as defence, international relations, juridical matters and monetary and exchange rate policies are still under the responsibility of the Danish Government. Theses activities are still financed by the Danish government, who also provide an annual block grant to the home rule government. The Greenland Home Rule Authority consists of a representative body elected in Greenland, the Parliament (*Landstinget*) and an administrative body, which is headed by a cabinet of ministers (*Landsstyret*). The Parliament is the supreme political authority for areas which have been transferred to home rule, and as such it lays down rules for the areas subject to home rule. The Parliament also has the economic responsibility for areas subject to the Home Rule. Administratively Greenland is divided into 18 municipalities with population figures ranging from less than 200 inhabitants in Ivittuut to 13 000 in Nuuk. The municipalities are responsible for the running of elementary schools, most social affairs, roads, town planning, fire brigades and to some extent residential construction. In addition, in almost all settlements there is an elected settlement council which is in charge of the administration of the tasks that the municipal council has passed on to them. Further, Greenland has two of the 179 seats in the Danish Parliament.

International Relations

The power to make decisions in matters relating to foreign affairs lies with the Danish Government, but Greenland shall be consulted on foreign policy matters of significance to Greenland. The Home Rule Government may take part in international negotiations on matters of importance to Greenland and may also be authorised to negotiate on its own right. The Kingdom of Denmark, including Faeroe Islands and Greenland, is a member of various international organisations like the UN, WTO, the Nordic Council and the OECD.

When Denmark joined the European Community Greenland also became a member of the Community. After a referendum, Greenland decided to secede from the Community taking effect from 1 February 1985. In connection with the secession Greenland obtained OCT status – status as one of the overseas countries and territories attached to the EU. This gave Greenland access to the Common Market without quotas and customs restrictions, subject to the EU continuing to get satisfactory access to Greenland's fishery zone within the framework of a fisheries agreement.

Greenland participates in several international fisheries organisations and the Inuit Circumpolar Conference (ICC) which represents Inuit in Greenland, Canada, Alaska and Russia. Moreover, for decades the United States have had military installations in Greenland and the US military still remains at the Thule Airbase.

Box 2. Some characteristics of Greenland's economy

- GDP per capita was 21 400 $ in 1996.
- Gross national disposable income is 40 per cent higher than GDP due to the block grants.
- The block grant allows the public sector to play a dominant role in the economy, implying that GDP is much higher than it would have been without the transfers.
- Public expenditures account for 84 per cent of GDP.
- The economy suffers from (some kind of) Dutch Disease similar to that in oil-producing countries. The block grant has pushed up the wage, cost and price level. Among the consequences are that wages are much higher than productivity, implying very poor competitiveness.
- It is very difficult to start up new business in an economy where wages are too high compared to labour productivity and where the government is involved in most economic activity.
- A uniform price system curbs competition and the functioning of the economy.
- The share of private employment of overall employment is very low and there is a considerable hidden unemployment.
- Greenland does not have a balance of payments constraint in a traditional sense since the block grants can finance a corresponding trade deficit.
- More than 90 per cent of the export is fish and fish products (prawns) making the economy very vulnerable to external shocks.

The most important relation in the Greenlandic national account is sketched out in Table 1. The total absorption, equal to gross disposable national income, includes both public and private consumption and investments. The difference between the absorption and the production will in "conventional" countries show up as a deficit on the current account. This is not the case in Greenland as the block grant allow an absorption greater than production. What is called the country's own production is not a standard national account concept. It comprises what the production in Greenland would have been without the block grant, which finances a significant production of public goods and services. In Paldam (1994) Greenland's own production is estimated to be 45 per cent of GDP. This estimate is not very precise (and probably too low), but it gives an idea of the proportions involved.

Table 1. Production and income levels

	Million DKK	Index
Gross disposable national income	9 769	141
Gross domestic product	6 946	100
Own production	3 126	45

Source: Statistics Greenland and OECD Secretariat.

The implications of these figures are quite far reaching. It illustrates that gross disposable national income might be more than three times higher than Greenland's own production, and with that underlining the importance of the block grant in the economy. Further, as the block grants are spent by the public sector it is also clear that the public sector is able to play a dominant role in the economy.

The high price and cost level

Goods and services are very expensive in Greenland and the competitiveness is poor, which is often seen as a hindrance for economic growth. Given Greenland's geographical and natural conditions, higher cost and price levels than in other countries are probably unavoidable, as freight costs (although there is a potential for lowering the freight rates) and inventory costs in remote regions where the sea is covered by winter ice can not be avoided. There are however other factors at play:

1. Diseconomies of scale

Diseconomies of scale or maybe more precisely costs due to lack of agglomeration is an important factor in a small country of only 56 000 inhabitants where the population is spread over a huge area creating a structure of many tiny markets. Hence, in Greenland there are two levels of diseconomies of scale: the small population and the numerous individual markets. It is very difficult to quantify the magnitude of diseconomies of scale, but it has very roughly been estimated to be in the order of 10-15 per cent of GDP (Paldam, 1994).

2. Structure of the economy

The structure of the economy also affects the price and cost level. One example is the uniform price system. Other aspects are the lack of competition from domestic as well as foreign companies leading to higher costs than in a more competitive market, and the dominant role played by public sector in the economy, leaving very little room for private sector activities. Further, local monopolies are prevalent in many areas, whereby prices are determined by the costs of producing the goods and the cost level is not determined by the price.

3. Dutch Disease

The annual block grants from the Danish government is a non-produced source of income which has some of the same consequences on the economy in Greenland as incomes from for instance oil and gas production have had on some other countries. The most prominent example is the Dutch experience from the late 1950s when booming gas production led to a strong real appreciation of the currency and crowding out of the sectors producing tradable goods. In Greenland the Dutch disease expresses itself in the following way: The block grants make it possible to have a wage level above productivity, raising with constant mark-ups the price level. In turn, this lowers real incomes and erodes competitiveness with (an incipient) current account deficit as a result. A deficit on the current account is not problematic per se as it is financed by the block grants. However, the long term structural consequences are important: Production is switched away from tradable goods towards non-tradable goods, including goods and services produced by the public sector, making it increasingly difficult to start up new businesses in the exposed sectors, thereby reducing the possibilities of diversification.

Productivity

The lack of statistical coverage makes it difficult to assess productivity developments. However, assuming a very simple production function, aggregate labour productivity can be calculated on the basis

of aggregate production and total employment. In the Greenlandic context this can be made in different ways, as aggregate production is a less exact concept than in most other countries. If GDP is used as the basis for the calculation labour productivity in Greenland is 69 per cent of the productivity in Denmark but only 34 per cent if Greenland's own production is used[1] (Table 2). Though such figures should be interpreted with great caution, the broad conclusion remains that average productivity is much lower in Greenland than in Denmark. Furthermore, the Danish workforce in Greenland is among the highest paid and thereby contributes much to GDP. Thus, GDP per employee, *i.e.*, productivity, among the Greenlandic workforce is even lower.

Table 2. Labour productivity, 1996

	Greenland	Denmark
Employment, 1 000 persons	25	2 649
GDP, mil. DKK	6 946	1 065 880
Own production	3 126	1 065 880
Productivity, GDP per employee	276	402
Index	*69*	*100*
Productivity, own production per employee	124	402
Index	*31*	*100*

Source: Statistisk Årbog (1998).

The wage level

The labour markets in Denmark and Greenland are highly integrated, as there are normally no linguistic barriers. Previously, there was a strong economic incentive for Danes to work in Greenland. Since the early 1990s an "equal work, equal pay principle" has applied in Greenland, implying people born in Greenland earn the same salary as people born in Denmark for identical jobs. Consequently, the financial incentives for Danes to work in Greenland are now relatively modest (the income taxation and rent are lower, but the price level is higher than in Denmark).

The labour market in Greenland is heavily, nevertheless, influenced by developments in the Danish labour market. When the labour market is tight in Denmark it becomes more difficult to attract and maintain Danish employees. Anecdotal evidence suggests that the strong job creation in Denmark since the mid-1990s has significantly reduced the potential labour supply in Greenland and hence heightened the present risk of overheating in Greenland (see below). Integration of the labour markets is not without difficulties (see Chapter 5). In principle, wages in a country should be determined by economic developments in the country. However, this is not entirely the case in Greenland. For persons with tertiary education (*e.g.*, teachers, doctors, lawyers and economists) the wage levels are broadly in line with the levels in Denmark. It is somewhat lower for workers as the minimum wage[2] in Denmark is 78 DKK/hour and 59.3 DKK/hour in Greenland. Still, the minimum wage is high in Greenland compared to productivity and to the minimum wage in other countries.

1. As absorption is a not a production concept it is not relevant to calculate absorption per employee.

2. The minimum wage is a result of wage bargaining.

The price level

A study (Statistisk Årbog, 1998) has shown that the average price level of a basket of goods and services was 25 per cent higher in Greenland than in Denmark (Table 3), already among the highest in the OECD countries (OECD, 1998d). For example, food, beverages and tobacco cost 53 per cent more in Greenland than in Denmark. The heavy indirect taxation on beverages and tobacco can explain part of the difference, but food is still much more expensive in Greenland. And as could be expected the costs of transportation and communication are much higher in Greenland. There is no VAT in Greenland, while the VAT is 25 per cent in Denmark. Thus, the underlying difference between average price levels or the difference between the price levels net of VAT is rather more than 50 per cent. With a slightly lower inflation in Greenland than in Denmark in recent years the price gap is likely to have diminished somewhat.

Table 3. Consumer price level in Greenland compared to Denmark, 1994

Price in Denmark = 100

	Greenland
Private consumption	**125**
Food, beverage and tobacco	153
Clothing	105
Housing, fuel, etc.	104
Furniture, housing equipment	114
Medical and pharmaceuticals	96
Transport and communication	139
Entertainment and leisure equipment	116
Other goods and services	117
Tourists balance	100
Private organisations	105

Source: Statistisk Årbog (1998).

The cost level

An attempt has been made to compare the cost structure in Greenland and a few other countries based on very detailed accounts from the retail and production sectors (Andersen *et al*., 1998). While conclusions from such a micro-approach are not generally applicable economy-wide, they can give some indication of the proportions of the cost structure.

As can be seen from Table 4 the costs in a standard company in the retail sector in Greenland are 5 per cent higher than in Denmark and 10 per cent higher than in Iceland. In particular travelling costs, telecommunication and rent are higher in Greenland. Given the huge difference in the price level, it could be expected a priori that the differences in costs would have turned out to be somewhat bigger. However, the production process in the retail sector is rather uncomplicated and it is difficult to envisage that potential differences in productivity can be very big.

Table 4. Comparison of cost levels for a retail company in Greenland, Denmark and Iceland

(Thousand DKK)

	Greenland	Denmark	Iceland
Automobile	88	108	94
Buying and marketing	162	126	138
Administration	375	289	276
Rent	625	531	513
Wage related costs	1 500	1 604	1 477
Directors	500	444	442
Total costs	3 250	3 102	2 940
Index	100	95	90

Source: Andersen *et al.* (1998).

The cost structure in a production enterprise in Greenland and Denmark was also compared showing total costs in the Danish enterprise is only 63 per cent of the cost level in the Greenlandic enterprise (Table 5). Especially the wage costs (including travelling costs and other employee related costs) were much higher in Greenland. Further, telecommunication and rent/capital costs were notably higher.

Table 5. Comparison of cost levels for a production company in Greenland and Denmark

(% of total turnover)

	Greenland	Denmark
Input	41	36
Variable wage related cost	49	23
Other variable costs	5	7
Fixed wage related costs	18	14
Other fixed costs	18	11
Capital cost	22	6
Total cost	153	97
Index	100	63

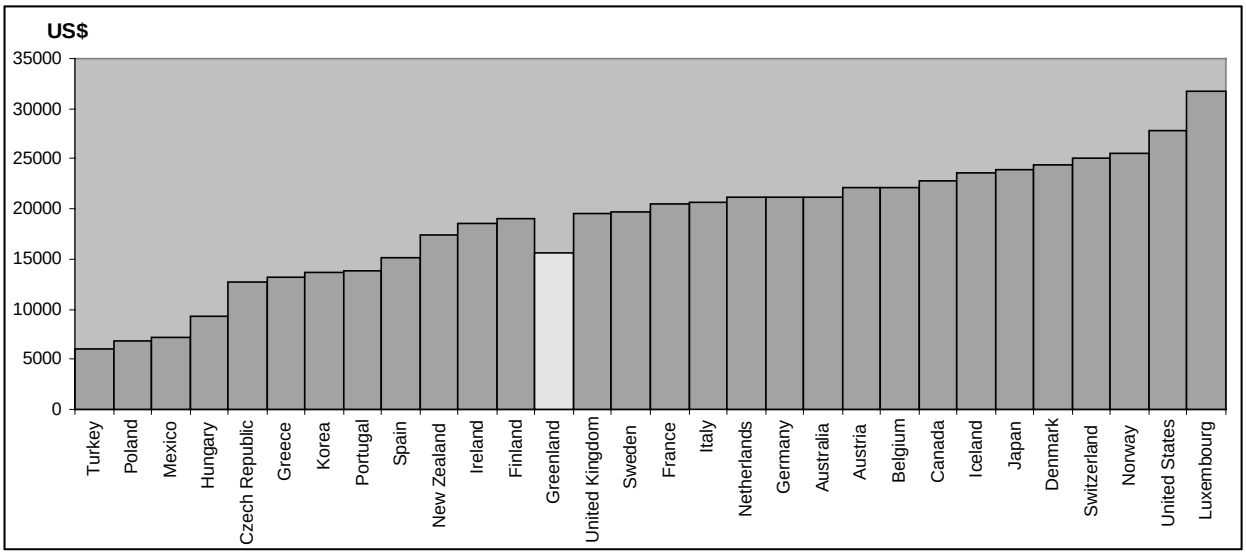
Source: Andersen *et al.* (1998).

These results should be interpreted with great caution and the figures can not be taken as precise indications of the relative cost positions. Nevertheless, they give an indication of where latent problems might be and they confirm the general conclusion that prices are much higher and productivity much lower than in Denmark. The comparisons made above are particularly interesting when analysing entrepreneurship in Greenland where one of the striking factors is that there are not many small production companies whereas some private retail enterprises actually exist.

The standard of living

Living standard in a country is often illustrated by GDP per capita (Figure 1), though there are many shortcomings of such a measure. GDP per capita in Greenland is close to the level in many OECD countries (Figure 1).

Figure 1. GDP per capita in Greenland and OECD countries, 1996



Source: OECD Secretariat.

To get a more precise illustration of the living standard in Greenland it is necessary to take the effects of the block grants into account and to correct for the differences in the price levels to arrive at comparable real income per capita. Measured in this way real disposable national income per capita in Greenland is 13 per cent higher than real GDP per capita, not changing the overall ranking much. Nevertheless, real own production per capita is much lower than GDP per capita.

Living standards are also affected by the distribution of income. Income inequalities can be calculated and measured in many different ways. In Table 6, income distribution is shown using deciles and the maximum equalisation coefficient. Deciles indicate the proportion of the aggregate income which falls to each tenth of the population when income earners are ranked according to their income. The maximum equalisation coefficient is the percentage of the aggregate income, which must be redistributed from those who earn more than the average income to those earning less than the average in order that the aggregate income is equally distributed. The income distribution has become more equal in the period 1979 to 1993[3]. Nonetheless, it is more unequal in Greenland than in the Nordic countries[4], although it seems sensible to presume that disparities are smaller if the informal economy is taken into account.

3. A recent study (Tjørnlund, 1999) suggests the income distribution has been stable in the last decade.

4. Due to differences in the underlying data comparisons of income distribution statistics between countries should be interpreted with great caution and only used to give indications.

Table 6. Income shares in decile groups and maximum equalisation percentage

	Greenland			Denmark	Finland	Iceland	Norway	Sweden
	1979	1983	1993	1992	1992	1992	1992	1992
1. decile	-0.1	0.0	-0.1	0.5	1.5	1.3	0.2	1.1
2. decile	0.0	1.4	0.9	3.3	3.6	3.3	2.2	3.9
3. decile	0.8	2.4	2.6	4.3	4.8	4.8	4.2	5.6
4. decile	2.5	3.7	4.3	6.1	6.2	6.0	5.8	7.4
5. decile	4.4	5.5	5.8	8.2	8.2	7.2	7.6	8.8
6. decile	6.8	7.6	7.8	9.8	10.0	8.6	9.7	10.0
7. decile	9.8	10.0	10.2	11.5	11.4	10.5	11.7	11.2
8. decile	14.0	13.8	13.8	13.3	13.2	13.0	13.8	12.7
9. decile	21.2	19.5	19.5	15.9	16.7	16.8	16.6	15.0
10. decile	40.7	36.1	35.2	27.3	24.4	28.6	27.8	24.3
I alt	100	100	100	100	100	100	100	100
Maximum equalisation percentage	**46.2**	**37.0**	**36.5**	**28.0**	**26.2**	**28.8**	**30.2**	**23.4**

Source: Poppel (1997).

As economic indicators do not provide a complete picture of living standards in a country, it is relevant to include some broader measures. Despite the fact that many resources are spent on health in Greenland life expectancy at birth is lower in Greenland than in the OECD countries, especially for men (Table 7). High infant mortality, many accidents and suicides (in particular among young men) can explain some of these differences.

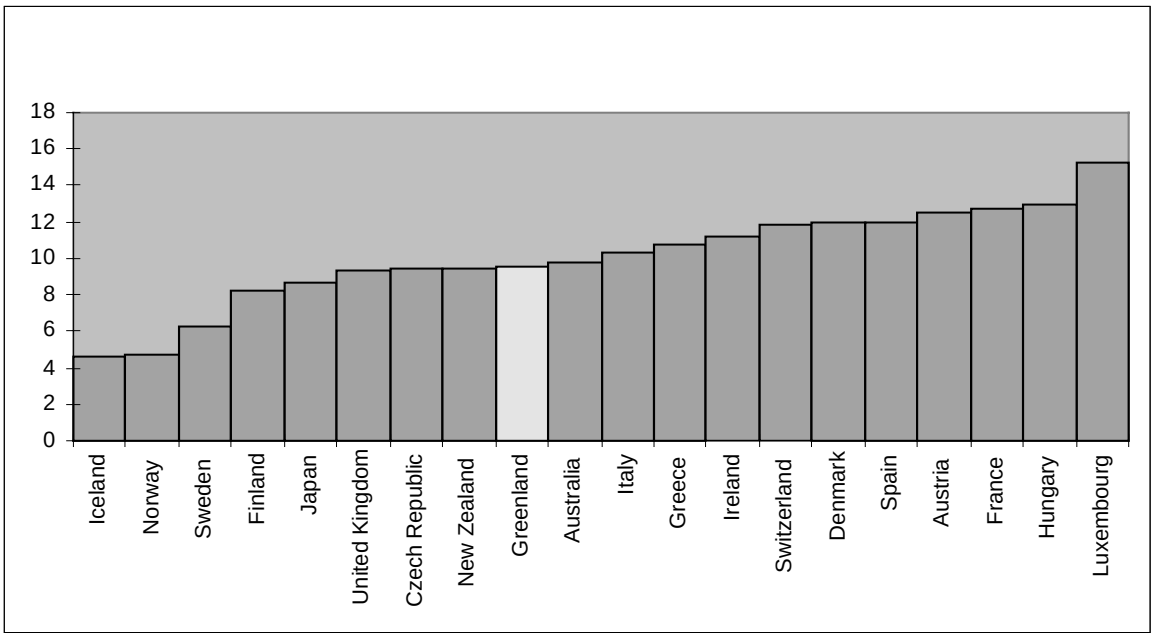
Some years ago excessive alcohol consumption was seen as a major problem in the Greenlandic society. Considerable progress has been achieved in this area and the annual consumption per capita above 14 years has decreased from 18.3 litres in 1985 to 12.8 litres in 1997. Alcohol consumption is now in line with the consumption level in many OECD countries (Figure 2), although this level may still be too high.

Table 7. Life expectancy at birth, 1996

	Females	Males
Australia	81.1	75.2
Austria	80.2	73.9
Belgium	81	74.3
Canada	81.5	75.4
Czech Republic	77.2	70.5
Denmark	78	72.8
Finland	80.5	73
France	82	74.1
Germany	79.9	73.6
Greece	80.4	75.1
Hungary	74.7	66.6
Iceland	80.6	76.2
Ireland	78.5	73.2
Italy	81.3	74.9
Japan	83.6	77
Luxembourg	80	73
Mexico	76.5	70.1
Netherlands	80.4	74.7
New Zealand	79.8	74.3
Norway	81.1	75.4
Poland	76.8	67.8
Portugal	78.5	71.2
Spain	81.6	74.4
Sweden	81.5	76.5
Switzerland	81.9	75.7
Turkey	70.5	65.9
United Kingdom	79.3	74.4
United States	79.4	72.7
OECD average	**79.6**	**73.3**
Greenland	67.8	61

Source: OECD (1998*e*) and *Statistical Yearbook* (1999).

Figure 2. Alcohol consumption, litres per capita, 1994



Source: OECD (1998*e*) and *Statistical Yearbook* (1999).

Informal economy

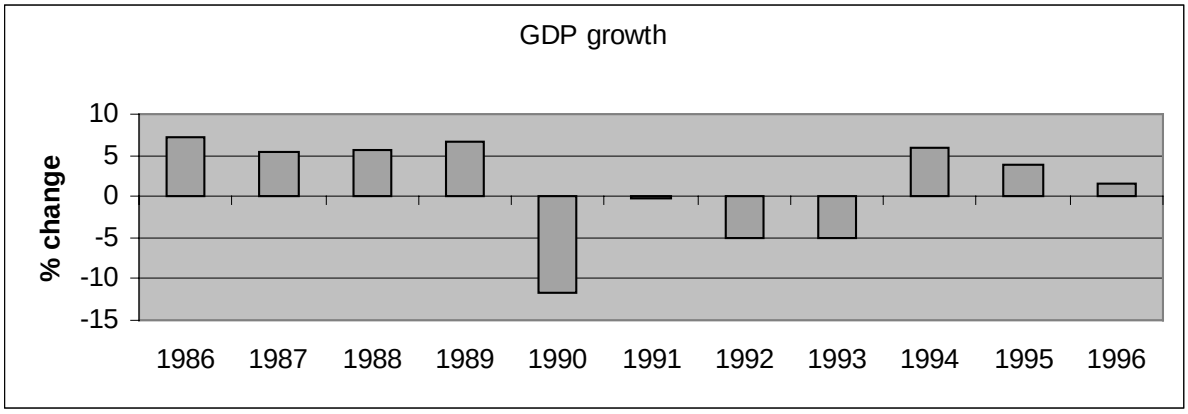
The informal economy is by definition not registered and any estimate of the size of this part of the economy is very uncertain. An interview-based study (Grønlands Statistik, 1994*a*) suggests that sale to individuals and consumption of personal catches amounts to 13 per cent of fishing and hunting families total income. However, this study only covers a small part of the whole economy. Regardless of what the correct figure is, it seems reasonable to assume that the informal economy is a quite important element in the Greenlandic economy, especially in the settlements and remote areas.

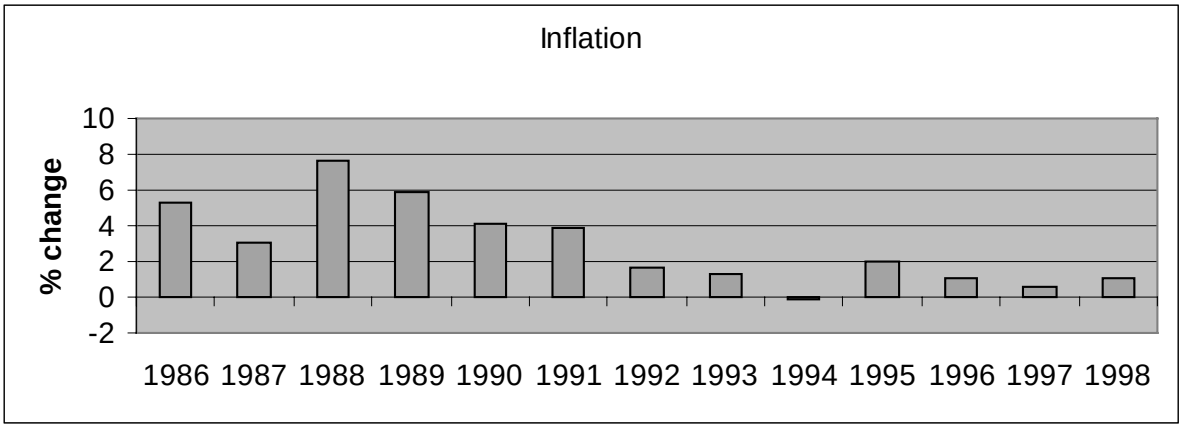
In many OECD countries the informal economy is seen as a problem as it is often accompanied by tax evasion and fraud of social benefits. This fraud aspect is much less prevalent in Greenland than elsewhere since low incomes are not subject to taxation, unemployment benefits and social benefits are very modest and there is no value-added tax. The low benefit levels should be seen against the background of easy access to natural resources, and it could be argued that the informal sector represents a kind of safety net, alleviating poverty in remote regions.

The current economic situation

Measured in terms of macro economic variables the economic situation in Greenland appears to be favourable with positive growth rates in the last couple of years, and low and stable inflation (Figure 3). Compared to many OECD countries Greenland is performing quite well, and Greenland can for instance easily meet the Maastricht criteria.

Figure 3. GDP growth and inflation





Source: Grønlands Statistik.

Box 3. On the coverage and quality of statistical information

Although major improvements have been made the last decade, the quantity and quality of statistical data available is smaller in Greenland than in most OECD countries. Consequently, the analysis made in the following chapters is less supported by data than is normally the case in OECD publications and it has prevented the construction of a range of standard tables and figures.

Seen from an analytical point of view this makes things more complicated. But seen from a cost point of view, it makes financial sense not to produce all the kinds of statistics in Greenland that are developed in other countries, given that production of statistical data is an area characterised by economies of scale. However, given the attention paid in Greenland to the labour market, both measured in political importance and measured as money spent on various projects to maintain and create employment, better statistical coverage of this area would be desirable. In addition, balance of payments data and thereby a complete national account would be beneficial for economic decision making from a political, administrative and private sector point of view.

Without complete balance of payments statistics it is not possible to make precise evaluations of savings-investment balances, but private saving seems to be very low in Greenland. Anecdotal evidence suggests that most saving is made by Danes saving in Denmark and saving by Greenlanders is very modest. Time deposits and special categories of deposits over 3 months in the only bank in Greenland are low (The Bank of Greenland, 1998) supporting this impression. Further, labour market pensions contributions for several occupations, negotiated in the wage bargaining process, are only in the range 1½ - 4½ per cent of the wage bill (employer's and employees' contributions).

Short term prospects

The national account statistics are made annually based on income data, whereas national account statistics based on production data exist only for 1992. Thus, it is not possible to get a complete picture of the macro economic situation. Given the lack of time series of macro economic variables, forecasting the economic development in Greenland is very complicated. Instead of a traditional econometric approach, the forecasts have to be solely based on indicators. The most recent data are somewhat mixed with some indicators suggesting stagnation of the economy and some others pointing to a fair growth.

The price index for prawns has increased 9 per cent in 1998 and the quotas have been augmented, indicating a satisfactory growth in this sector, and fiscal policy has stimulated domestic activity. Increasing activity is also supported by the income tax statistics showing an increase from 1997 to 1998 of 5 per cent. On the other hand, total imports have been somewhat erratic but if corrected for extraordinary factors imports in the first half of the years have been roughly constant since 1995. The unemployment rate has also been stable since 1994 also suggesting a stagnation of the economy.

For 1999 the prawn quotas have been augmented further. With the weak prospects for renewed growth of the world economy additional price increase on prawns are hard to envisage. According to the 1999 budget fiscal policy is planned to be moderately contractionary. However, if the tendency from recent years to loosen fiscal policy during the year (cf. Chapter 3) is continued some growth stimulus will appear, and a slow or moderate growth might be the outcome in 1999.

Possible Risks

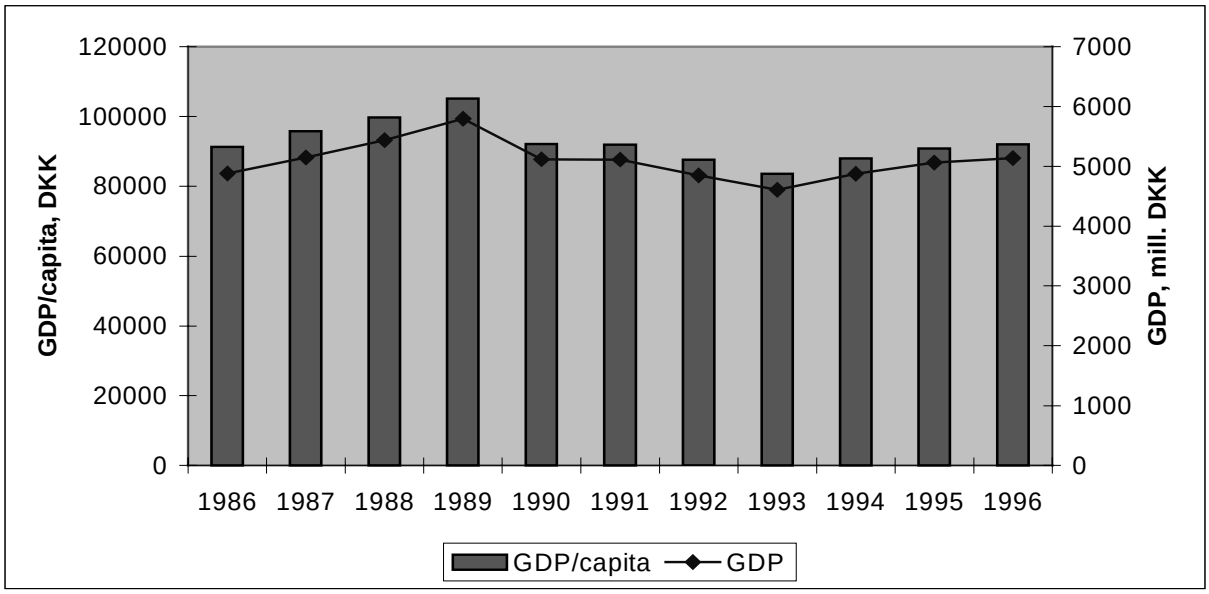
The main risks in the short term concern the labour market. In late 1998 a new wage agreement was reached for school teachers implying a cumulative wage increase of 7 per cent (plus allowances) over 3 years and wage pressure has build up in other parts of the public sector. With the dominance of the public sector in the economy this development gives raise to serious concern as a wage spiral could pick up and overheating of the economy can not be ruled out. The consequences would be increasing budget deficit and aggravation of the symptoms of Dutch disease (higher wage, price and cost levels) and with that pushing the development of a competitive business sector further out in the future.

Given the difficulties with wage contagion and attracting and maintaining specialists and key staff it is not easy to circumvent the risk of overheating. The need for moderate wage increases must be emphasised and the wage development should be closely watched. If signs of accelerating wage increases occur, policy initiatives to contain overheating have to be taken. Fiscal tightening and initiatives of a more structural character to enhance competition should be seriously considered.

Growth in a longer-term perspective

Taking a longer-term view of the development of the economy in Greenland shows that real GDP as well as real GDP per capita[5] were at the same level in 1996 as in 1986 (Figure 4). During the same period average-GDP in the OECD area has grown 30 per cent.

Figure 4. GDP and GDP/capita in real terms



Source: Grønlands Statistik.

The weak performance of the Greenlandic economy over the last 15 years can to a large extent be explained by the following factors:

- The cod has disappeared and prawn prices have been on a falling trend, and total exports declined by one-third between 1989 and 1992;
- Over investment in the fishing fleet in the mid-1980s led to considerable excess capacity and decommissioning arrangements were introduced to reduce the excess capacity;
- The production of zinc in Maarmorilik was terminated in 1990;
- A process of fiscal consolidation was initiated in 1989 as a reaction to the borrowing crises in the late 1980s[6];
- In the late 1980s the construction sector showed clear signs of overheating.

5. Disposable gross national income has developed similarily.

6. See Westerlund (1988) for an analysis of the crises.

These trends give raise to several concerns. First, it demonstrates once again how vulnerable the Greenlandic economy is being primarily based on fisheries and public activities. Second, it illustrates the structural problems of the economy, as there is little evidence of creation of new activities in other sectors of the economy. In a sufficiently flexible economy the freeing of resources in one sector would have created new activities in other sectors.

The scope for traditional macro policies to enhance economic growth is very limited in Greenland (as they are elsewhere). Fiscal policy is constrained by an already very big public sector and the potential for improving the tax system is limited. The monetary union with Denmark secures low interest rates and contributes to low and stable inflation. Without such an anchor the nominal side of the economy would risk being highly volatile with erratic exchange rate movements and high and unstable inflation. Consequently, education and structural policy, including reforms of the public sector, are the only policy options available in Greenland.

3. MODERNISING THE PUBLIC SECTOR

Public finance

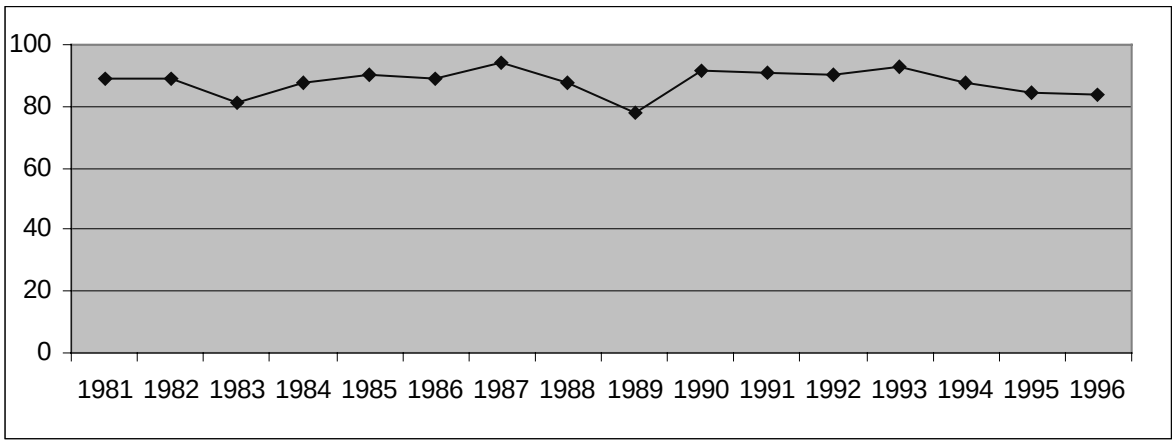
Based on the block grant from Denmark the public sector has become the dominant sector in the economy and it is present in many kinds of activities that are in the domain of the private sector in most other countries.

The Government has achieved its objective to bring down the debt built up in the late 1980s. Now the medium term objective is to balance the Home Rule government's financial account. This goal is in line with the fiscal objectives in many OECD countries. As Greenland receives the ample annual block grant the level of ambition should be high and it is questionable whether the surpluses obtained in the late 1990s are sufficiently high if a serious economic crisis were to occur. Given the long term objective of a more independent based on Greenland's own resources and as Greenland still faces important economic challenges, the relatively sound budget position must not lead to complacency with respect to fiscal restraint. Further, bearing in mind the risk of accelerating wage increases, fiscal restraint is also very important as a short-term measure to contain overheating in the economy.

The size of the public sector

A striking feature of Greenland's economy is the large public sector. In the early 1980s, government expenditures made up 90 per cent of GDP. Due to increased economic activity (primarily fisheries) the ratio has since then been on a slightly decreasing trend and is now 84 per cent of GDP (Figure 5), which still means that the public sector plays a much more important role in Greenland than in the OECD countries, where total public outlays in most countries are in the range 40-50 per cent of GDP.

Figure 5. Public expenditures in per cent of GDP

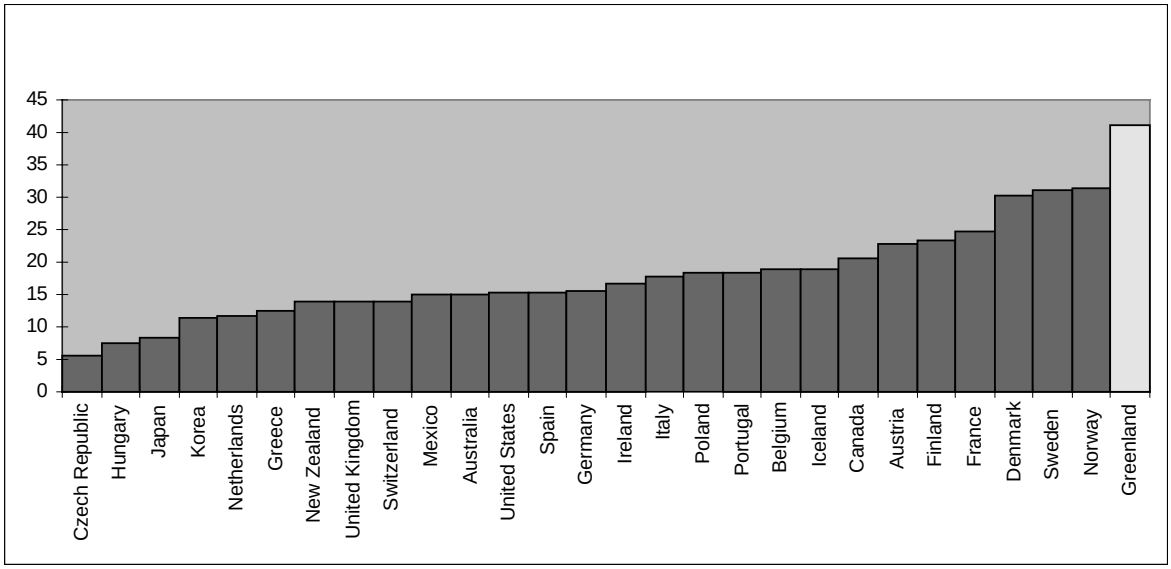


Note: Databreak in 1985 and 1993.

Source: Grønlands Statistik.

Public employment in per cent of total employment is another way to measure the importance of the public sector and as can be seen from Figure 6 Greenland stands out in this respect.

Figure 6. Public employment in per cent of total employment, 1996



Source: OECD Secretariat and Grønlands Statistik.

In addition, the public sector is involved in the business sector through ownership of public enterprises (cf. Chapter 4). Employment in these enterprises is more than 8 000, implying total employment in the public sector and public owned enterprises is 18 500 persons or almost three quarters of total employment. On top of this, many private enterprises are directly dependent on the public sector as a buyer of goods and services. In the construction sector 84 per cent of total sale is directed to the public sector (Grønlands Baseselskab A/S *et al*., 1996).

Table 8. Total public employment

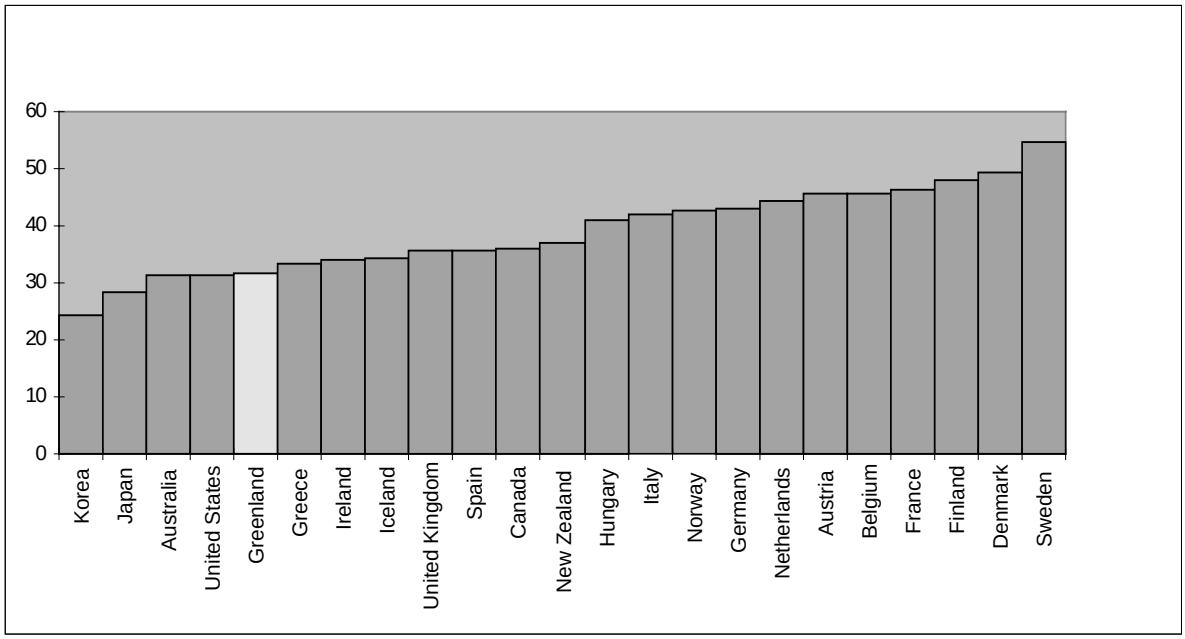
Public sector	7 950
Public infrastructure	2 370
Fisheries	2 488
Raw materials	20
Tourism	60
Other land based business	5 613
Total public employment	18 501
In per cent of total employment	*73.5*

Source: Andersen *et al.* (1998).

The tax system

With the block grant financing a considerable part of public spending the tax burden has remained very low in Greenland (Figure 7). A low tax burden creates less distortions and is supportive for economic development.

Figure 7. Tax burden in OECD countries and Greenland, 1996



Source: OECD Secretariat and Statistical Yearbook (1998).

The tax system is simple and highly transparent. The personal income tax is a flat rate tax of around 40 per cent, varying from 35 to 44 per cent depending on the municipal tax rate. Since the first 40 000 DKK are not subject to taxation (the first 80 000 DKK for married couples) and there is a standard allowance of 6 000 DKK (12 000 DKK for married couples), a moderate progressivety is incorporated in the system. Social contributions are also very low with an employer-financed contribution earmarked for training and education of 0.8 per cent of the wage bill.

The corporate tax rate is 35 per cent, which is in line with levels in the OECD countries. Direct comparison of corporate tax rates should be treated with caution, however, due to large differences in for instance depreciation rules. In Greenland depreciation rules are very "generous" allowing all expenses to be deducted immediately. Further, dividends paid to the shareholders as a share of the profit earned in the previous year are deductible (*i.e.*, no double taxation of dividends) which in turn makes corporate taxation very competitive.

There is no VAT in Greenland and indirect taxation consists primarily of import duties levied on a wide range of consumer goods, with duties on tobacco and alcohol being the most important. In addition, a so-called uniform freight duty is levied on all ocean transportation of goods, and in that way it functions

as an import tax. The revenue from this duty is used to support domestic transportation of passengers and goods to outlying districts.

Public finances

The lack of appropriate spending controls in the first decade of the Home Rule was the main reason behind the sharp increase in the budget deficits (to almost 10 per cent of GDP in 1987) and from a situation without debt in 1986 public long term debt increased to 1.6 billion DKK in 1990. The lax fiscal policy was mainly due to excessive investments in Proeks (later Royal Greenland). On top of this, prawn prices collapsed, forcing the Home Rule government into the international bond market. Each year from 1989 to 1997 the accounts have shown surpluses and the debt has been eliminated. Although a deficit is expected in 1998, this performance is quite remarkable and exceeds the results obtained in most OECD countries, which are still running deficits and have high debt.

Table 9 illustrates on a national account basis the composition of the revenue and expenditures of the general government finances (Home Rule government, municipalities and the Danish State). Recently data have undergone drastic revisions to comply with the European National Account System and are consequently not comparable to data for preceding years. One of the changes is handling of capital expenditures, with some expenditures now seen as financial transactions. One result of this technical change is big public surpluses in the national account.

Table 9. General government revenue and expenditure, 1994-1997

Million DKK	1994	1995	1996	1997
Indirect taxes	609	544	603	604
Direct taxes	1 529	1 601	1 696	1 827
Block grant	2 426	2 398	2 480	2 571
Financing from the Danish state	533	566	574	600
Payments from the EU	274	282	274	287
Non tax revenue (interest payments, etc.)	784	770	691	648
Total revenue	**6 155**	**6 161**	**6 318**	**6 537**
Public consumption	3 547	3 646	3 740	3 907
Subsidies	500	532	549	584
Transfers	1 051	1 007	1 030	1 037
Interest payments	107	138	86	56
Capital expenditure	392	377	413	403
Total expenditure	**5 597**	**5 700**	**5 818**	**5 987**
Public sector budget surplus	**558**	**461**	**500**	**550**

Source: Grønlands Statistik (1999).

From a policy point of view the Home Rule treasury (*Landskassen*) is more interesting, as discretionary measures primarily are taken by the home rule government and it can borrow on the international financial markets, if needed. Further, in the treasury accounts all expenditures are included, as they have to be financed. The lower treasury surpluses (Table 10) than general government surpluses are due to surpluses in the municipalities and another treatment of capital expenditures. The budget for 1999 was approved in November 1998. Accordingly the Home Rule budget is expected to balance in 1999, although such an outcome will require additional measures. In nominal terms current expenditures have increased much more than other budget items, including revenues, in the

period 1993-1999, and with a nominal increase of almost 10 per cent (or real increase of 6 per cent) the tendency towards higher current expenditures has accelerated in 1998. This development gives rise to concern: the long-term pay-off of current expenditures is normally very low and any increase of current expenditures tends to be permanent, adding to public influence on the economy. On the other hand, in 1993-1999 investment expenditures are broadly unchanged in nominal terms (decreasing in real terms). As new investments increase the potential of the economy, reinvestments maintain the existing capital stock and, investment activities are relatively easy to scale down if necessary, investments should generally have higher priority than current expenditures.

Table 10. Treasury results, 1993-1999

	1993	1994	1995	1996	1997	1998	1999	Nominal increase 1993-1999 %
Revenue	4 041	4 015	3 953	4 063	4 178	4 325	4 423	9.5
Current expenditure	3 165	3 251	3 316	3 380	3 492	3 784	3 853	21.7
Investment	629	584	595	545	637	698	627	-0.3
Lending	54	-139	-6	-390	-40	16	-57	-205.6
Extraordinary items				26				
Current, investment and lending result	193	319	48	502	89	-173	0	

Note: 1998-1999 figures are budget estimates.

Source: Home rule government accounts and budgets.

Like in most OECD countries an ageing population will increase pressure on public budgets. In 2008 the total population will be only slightly bigger than today but the age distribution is expected to change. The number of young people (17-24) and the number of elderly (60+) will increase by 25 per cent and 31 per cent respectively while the working age population (25-59) will decrease by 6 per cent (Table 11). The pressure on expenditures will stem from increased costs to pensions, elderly and health care and from higher costs in education. Tax revenue will be squeezed by a decline in the labour force. The decision taken by Parliament in autumn 1998 to augment the official retirement age from 60 to 63 years taking effect from 2000 should be seen against this background. It is to be warmly welcomed as it will reduce pressure on the budget and the labour market stemming form ageing of the population. However, it is questionable whether the action is sufficient to counteract all consequences of ageing and additional measures might be needed. Already today a significant expenditure pressure is present in the health sector. A recent study (Grønlands Hjemmestyre, 1999) estimated a doubling of health expenditures might be required if the health standard is to reach the level in Denmark (health expenditures in Greenland are 9 per cent of GDP compared to an OECD average of 8 per cent).

Table 11. Demographic development 1998-2008

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Increase %
0-5	6 420	6 384	6 336	6 315	6 306	6 329	6 297	6 186	6 091	6 023	5 983	-6.8
6-16	10 688	10 822	10 929	11 056	11 105	11 034	11 049	11 113	11 051	10 963	10 843	1.5
17-24	5 243	5 379	5 575	5 643	5 724	5 856	5 975	6 037	6 298	6 426	6 561	25.1
25-59	29 409	29 312	29 165	28 943	28 807	28 588	28 391	28 222	27 973	27 825	27 745	-5.7
60+	4 316	4 382	4 438	4 608	4 714	4 920	5 056	5 232	5 393	5 560	5 663	31.2
Total	56 076	56 279	56 443	56 565	56 656	56 727	56 768	56 790	56 806	56 797	56 795	1.3

Source: Statistical Yearbook (1999).

The need for medium term orientation of fiscal policy

If Greenland at some point in time shall be able to finance the public sector out of its own resources, it will be necessary to both increase its own production and to reduce the role of the public sector. These twin objectives cannot be reached from one day to another and require a coherent medium-term strategy to be set out. Such a strategy should not be restricted to fiscal policy per se but comprise the whole structure of the economy. Such a policy orientation would be in line with the tendencies in many OECD countries where medium term considerations are playing a still more important role.

The size of the public sector is by its very nature a political choice. However, seen from an economic point of view, a big public sector implies there is a risk that public activities crowd out private activities, including enterprise start-ups, and a great risk of unfair competition as the public owned enterprises face a softer budget constraint. Another fundamental problem in an economy dominated by the public sector is weak competitive pressure leading to inefficient use of resources. In addition, as the economy is small in itself the dominance of the public sector reinforces the diseconomies of scale in the private sector. Thereby the role of the private sector has become very limited and there might be a risk that the private sector becomes too small to reach a "critical mass" necessary for longer term expansion. In many countries in processes of transition it can be justified to run budget deficits to finance investment projects and thereby increase the longer-term potential of the economies. However, as the Home Rule Authority receive a huge annual block grant the situation is very different in Greenland where it should be possible to maintain sound fiscal positions even while "forcing" economic development.

The importance of greater emphasis on political decisions of a long-term character is well understood in Greenland. For instance, medium term projections are presented together with the budget. Nevertheless, projects of a narrow regional nature and/or issues of short-term character often take up much of the time of debate in Parliament. The decision taken last autumn to make Greenland one single constituency, which means that Members of Parliament no longer represent a specific local community, may help to enhance the long-term orientation of the political debate.

In addition to improving the budget balance in the short term, a medium-term strategy to reduce the role of the public sector in the economy appears imperative for several reasons:

- Debts have to be repaid at some later point in time, and it is a very risky strategy to build up debt based on the expectation that future growth will make it easy to repay the bill. Greenland's own experience from the late 1980s and early 1990s clearly demonstrates how difficult it is to control an emerging debt spiral and how much effort is needed in the following years to meet the interest payments.

- The public sector in Greenland is already much bigger than in other countries and there is a big risk that public activity crowds out private activity.

- The block grant could be reduced at some stage in the future or even disappear entirely.

- As long as Greenland is dependent on few resources and sectors the economy is vulnerable and it is very important to have some fiscal room to alleviate some of the negative effects of unexpected external shocks.

- In a competitive market economy the price-system secures that resources are used in an efficient way. There is not such a mechanism in the provision of public goods and services, suggesting that resources are not exploited efficiently.

- Like most countries Greenland has an ageing population and these changes should be prepared for.

Improving the budget position

As a supplement to having a longer term orientation of the policy, an efficient budget procedure to hold the budget and expenditures on track is an important tool to avoid expenditure drift and continuous growth of the public sector. Several OECD countries have recognised that their annual budget processes suffer from piecemeal and ad hoc decision making and inadequate decision structures may cause authorities to lose sight of the long-term implications of fiscal decisions. Multi-year planning and forecasting is used to assist decision-making and has become an important management tool in the budget process. Its main objective is generally to increase the fiscal discipline in a more strategic way by setting overall fiscal policy objectives, showing the minimum costs of continuing existing policies, and illuminating the full year budget implications of decisions in the following budgets.

In Greenland the budget year follows the calendar year and the annual budget is presented to the Home Rule Parliament in September with approval before 1 November. During the year the budget is adjusted in light of the outcome of two supplementary budgets in the spring and autumn. In addition, the Parliament's Budget Committee continually discusses budget proposals coming up during the year as an element of their day-to-day work. As can be seen from Table 12, current expenditures have increased after each round of discussions, especially in recent years, illustrating that there is a systemic problem in the procedure. With each supplementary budget new expenditure proposals (and new financing measures) are discussed. One consequence of this procedure is individual ministries have incentives to put forward proposals of lower priority at an early stage of the process. During the year items of higher priority and general political interest might then be presented and possibly be approved without scaling down expenditure items already decided upon. At a late stage in the budget year it is more difficult to find compensating budget cuts or other ways to finance new expenditures.

Table 12. Current expenditures

(Million DKK)

	Budget proposal	Budget	Supplementary budget I	Supplementary budget II	Account	Increase %
1993	3 110	3 135	3 177	3 188	3 165	1.8
1994	3 214	3 227	3 226	3294	3 251	1.2
1995	3 307	3 303	3 302	3 315	3 316	0.3
1996	3 307	3 305	3 321	3 350	3 380	2.2
1997	3 364	3 409	3 435	3 465	3 492	3.8
1998	3 672	3 667	3 718	3 784		3.1

Source: Budget proposals and accounts.

There are several ways to improve the budget procedure and to strengthen long term policy orientation:

- Only one supplementary budget to be approved after expiration of the budget year would make it necessary for all involved ministries to put forward all their proposals at an early stage in the budget process. Further, it would make room for broad political discussion of the priorities where longer-term considerations can play a more important role.

- Given the very high level of public expenditures, an across-the-budget cut to motivate productivity increases could be considered. It should have a time horizon of for instance 2-4 years to allow the changes to be accommodated and to allow for some flexibility. Such an initiative would enhance the pressure on all ministries and make it clear that greater budget discipline is high on the agenda and at the same time assure the possibility for political prioritisation of the liberated funds. With a pressing need for making new priorities, such an initiative could create room for manoeuvre. Moreover, each ministry's budget account should be analysed and it should be carefully considered whether the order of priorities could be changed over the medium term.

- The budget system is based on expenditure ceilings, implying any new expenditure proposal should be fully financed by lower expenditures on other budget items, either within the ministry's own budget or within the general expenditure ceiling. However, in order to make such a system function in an efficient way it is necessary that the ceilings are decided upon after profound political discussion and are underpinned by a strong political commitment and effectively supported by high-level civil servants. Further, budget over-runs should not be accepted, and it should have consequences if they nevertheless occur.

- To leave more time in the Parliament for discussions of matters of principal and long-term character it is worth considering increasing the responsibility of the Parliament's Budget Committee, allowing it to be more accountable for decisions of short term or narrow character.

- To strengthen long term priorities the parliament should consider to have a political discussion of how the block grant should be spent (for instance education, infrastructure and other items of long term use), and what kind of public activities should be financed by taxes.

- The opinion of the Ministry of Finance should be presented with each new budget item together with the new proposals. In addition, the long-term financial consequences for the budget of each new proposal should be expressed.

- When a new budget is presented it should be supplemented with evaluations of how objectives set out in former budgets are achieved and spending reviews should be made on a regular basis. Examples could be analysis of productivity objectives in the health sector and of the effects of subsidies to the state owned enterprises.

- To increase the transparency and consistency of the budget proposal the Ministry of Finance should consider to publish the underlying assumptions behind the budget when it is presented, and to base the budget and the medium term projections on a simple macro-economic model. Such a model does not have to be a sophisticated econometric model but could be constructed in an uncomplicated way in a spreadsheet based on national account identities and a few economic "rules of thumb". Introduction of such a model would also enhance the credibility and usefulness of the medium-term projections, and it would ease the identification of fiscal risks.

- In order to keep the policy discussion as focused as possible, existing commitments and new policies should be clearly distinguished.

Selected budget items

In the following sections some budget items having a somewhat different character than in other countries are discussed in more detail.

Subsidies

In order to maintain employment, mainly in remote areas, the Home Rule government gives direct subsidies to the business sector. The subsidies can be either direct payments or financial aid to the enterprises or it can show up as deficits in public owned enterprises. In most OECD countries subsidies account for 1-3 per cent of GDP, whereas subsidies in Greenland are almost 8 per cent of GDP, involving payments to various activities.

In addition to the direct support included explicitly in the Budget, the price and cost structure is distorted by several indirect subsidies and favourable treatment of selected enterprises:

- The uniform price system implies a cross subsidisation of the order of 135 million DKK (*Rapport til Landdstyret om reform af ensprissystemet*, 1997).

- Some sectors (notably fisheries) pay significantly lower prices on electricity and water than other sectors and households. The value of this indirect subsidy is approximately 75 million DKK. Furthermore, fisheries is exempted from paying social contribution (AEB).

- The Home Rule Government provides loan guarantees to a range of enterprises in order to lower the borrowing costs for these companies. By the end of 1998 total loan guarantees added up to 883 million DKK or around 11 per cent of GDP.

- The public owned enterprises benefit from a possible expectation on the financial markets that the home rule government will bail-out the companies if a crisis emerges. Consequently, the companies borrowing costs are lower than they would have been otherwise and lower than the borrowing costs for potential competitors.

- Deficits or returns below the market rate for the home rule owned enterprises are common phenomena.

- The individual transferable fish quotas are allocated to existing fishermen and/or existing companies. In economic terms it gives free access to a public resource to a selected group of individuals and enterprises even though a special duty is imposed prawns not processed on land (cf. Chapter 6).

While it is difficult to assess with any accuracy the total value of some of the elements mentioned above, it can hardly be disguised that important parts of the economy receive massive direct and indirect subsidies. The total costs to the society of subsidising many activities in the economy does not only include direct and indirect costs stated above but also includes costs caused by the distortions generated in the economy more broadly, for instance, excess capacity in the subsidised sectors and lack of development of new enterprises.

The high turnover rate

Engaging new employees is costly due to hiring costs, learning costs and lack of continuity. This applies to varying extent to administrations and enterprises in all countries and is a normal facet of a market economy. In Greenland, however, these costs appear to be particularly large:

- Hiring costs are high because it is necessary for the Home Rule government to provide housing facilities until a permanent apartment is found. It can either take the form of a vacant dwelling or a stay in a hotel. Some people stay in hotels for several months, which is very costly, bearing the high price level in mind. In addition, the authorities have to pay moving expenses.

- Given that the Greenland labour market is marginal in relation to the Danish labour market it is difficult to attract people with working experience, especially when the situation on the labour market in Denmark is tight. Instead, young people without or with very little professional experience are engaged. This mechanism pushes up learning costs and lowers continuity of the work[7].

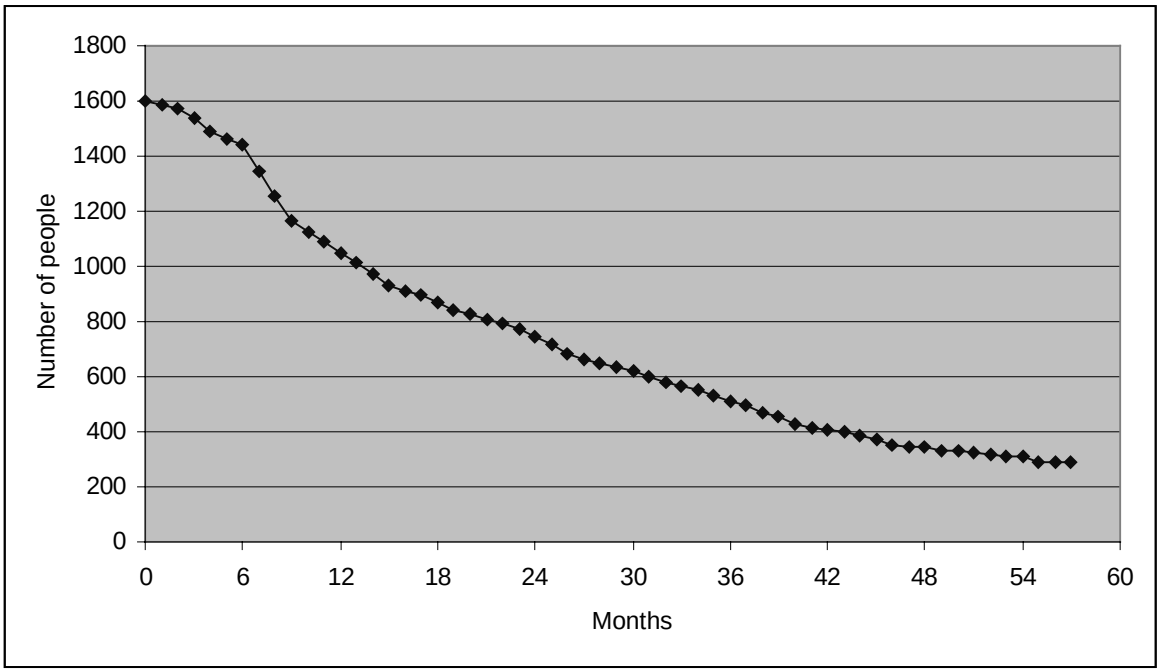
- These costs are exacerbated by a high turnover rate.

Figure 8 shows the emigration of people who moved to Greenland in 1993. It can be seen that after 2 years less than half and after 3 years less than one third of the cohort still live in Greenland, indicating a very high turnover. It has been estimated that the total annual costs stemming from the high turnover might be of the order of 5 per cent of GDP (Paldam,1994). This estimate is uncertain and might be on the high side but gives an idea of the magnitude of the problem[8].

7. One important factor behind the large number of civil servants in the Home Rule administration could be that increased staffing is a way to compensate lack of experience.

8. Private enterprises have the possibility to pay high wages to attract highly qualified people.

Figure 8. Emigration of people who immigrated to Greenland in 1993



Source: Grønlands Statistik.

The long-term solution to the problem is to have a well educated work force that resides (almost permanently) in Greenland. In the short term it might be necessary to give a premium to attract highly qualified employees and to crate incentives to work in the administration for an extended period of time. Such a premium could take the form of a reward to be paid after 3, 5 or 10 years of employment or a higher salary after being working in Greenland for some years[9]. However, many different models can be envisaged, and the potential saving for the public finances from a successful implementation is of such a huge magnitude that it outweights possible designation problems. Another possibility is to rely on consultants recruited to solve precisely defined tasks of shorter duration. To make such a strategy rewarding a very precise planing and management is indispensable.

Administration costs

Administration costs is a rather large budget item in Greenland and the Home Rule Government has been unsuccessful in keeping them low, taking into account that the country, for instance, does not have its own military and foreign service. Several reasons or explanations can be cited:

1. Diseconomies of scale

Administrative systems are by nature created to administer large quantities of almost identical matters. Therefore the costs per produced unit in the administration will be high in small countries.

9. To a limited extent such a system is already in place within some occupations.

2. Overly fragmented administrative structure.

With 18 municipalities the number of inhabitants per municipality is very small, which reinforces the diseconomies of scale and adds to the total administrative costs.

3. Many politicians

In small democratic countries there is an tendency to have a relatively large number of politicians compared to large countries. And with many politicians there will be a tendency to have a high number of civil servants and increased administrative costs. In Greenland the number of politicians (here defined as politicians elected to Parliaments and municipal councils) is 3.6 per 1 000 inhabitants whereas it is 1.0 in Denmark. It is a pure political matter to determine the number of politicians (some might argue that many politicians and a high level of representation of different interests are of utmost value to a democratic society), but it can to some extent explain the high administrative expenditures

4. High turnover among civil servants

See section above on the high turnover rate.

5. Housing costs

The administration of the large number of public owned dwellings is a cost, which is not seen on the Budget in many other countries where the housing market is dominated by the private sector.

6. Travelling expenditures

The huge distances within Greenland and between Greenland and Denmark (and the expensive airline charges) cause high travelling expenditures. Anecdotal evidence suggests a vast majority of Greenland Air's passengers are civil servants or business people not having paid personally for their tickets.

7. Two languages

Two languages in both administration and Parliament create additional costs (translation, interpreters, slower work processes).

Some of the explanations of the high administrative costs mentioned above are not possible to mitigate (*e.g.*, the geographical location and the size of the country), while the political structure of the society is a very delicate political question. Still, some of the reforms discussed will have beneficial effects on administrative costs: A reform of the uniform price system for example is expected to lower travelling costs, reform of the housing market and a lower turnover among Danish temporary workers will reduce the costs for temporary housing of public new employees.

The block grant

Traditionally the Danish government has financed a broad range of activities in Greenland. As more and more areas have been transferred to home rule the financing of activities in Greenland has decreased. Instead, the home rule government receives a block grant corresponding to the value of the activities at the time they were transferred to home rule. The block grant is not earmarked for specific purposes but granted as a lump sum. Thus, the Home Rule authority has virtually freedom to determine the order of priority for expenditure of the funds. The block grants are fixed for three-year periods. In 1998 the annual block grant was 2.6 billion DKK. In addition, the Danish State finances some activities in Greenland amounting to 0.5 billion DKK, making the total transfer 3.1 billion DKK or

0.5 billion US $[10]. In per capita terms, the total transfer is equivalent to 55 000 DKK or almost 8 500 $. In recent years the block grants have been constant in real terms.

The annual block grant influences Greenland's economy through many channels. Some of the most important are:

- It ensures a gross national disposable income much higher than the country's own production, and consequently a higher standard of living than would have been possible otherwise.

- The block grant is a stabilising factor in the economy. Without the block grant cyclical fluctuations would be much more prevalent.

- The block grant allows the public sector to play a dominant role in the economy.

- The economy is affected by a kind of Dutch disease.

It is very difficult to estimate how the economy would have evolved without the block grants. But it can it be stated with certainty that the level of economic development and the living standards would have been much lower. It should be borne in mind that the economic development of Greenland began less than 50 years ago whereas Greenland today is a highly developed country in many respects, although large disparities persist.

The long-term political objective in both Greenland and Denmark is that Greenland should become a more independent economy based on its own resources. To realise this objective the private sector must be developed which should be possible, taking the big potentials for economic development into account. However, to reap the benefits of these potentials it is necessary to improve the structure of the economy and to ameliorate the framework conditions in the business sector. To obtain this a comprehensive reform strategy strengthening the role of the private sector combined with a smaller public sector is needed. A well-educated work force, greater market orientation, an improved entrepreneurial climate and a wage formation system reflecting the economic conditions in Greenland are some more concrete elements of such a strategy. These issues are elaborated in more details in the following chapters.

10. In addition to the block grant from Denmark, Greenland sells fishing rights to the EU of 300 million DKK per year (cf. Chapter 6). In economic sense this another non-produced income.

4. A BETTER FUNCTIONING ECONOMY

Neither total employment nor aggregate production in a country are exogenously given or determined by nature. Rather, they are shaped by the structure of the economy and how it is organised. Achieving higher prosperity and increased employment therefore involves continuous efforts to improve the functioning of the economy.

Generally about structural reforms

Structural reforms raise the potential of the economy and may over the medium term increase employment and output in the area concerned. They can also have broader economic effects: Higher employment levels, for example, can increase private-sector incomes, raise the tax base and reduce the need for public involvement in the economy. In turn, these gains can be expected to raise output potential, and boost employment, still further. The need for structural reforms has been high on the agenda in the OECD for many years. Some of the main messages can be summarised as follows:

> *Across OECD regions, structural reform has become increasingly important for meeting the challenges posed by slow output and productivity growth and unacceptable high unemployment rates. Macroeconomic policies have been able to respond only imperfectly to these problems and, in many cases, the freedom of manoeuvre has been constrained by past excesses or political considerations. Well-designed and implemented structural reforms across a wide range of areas could have significant positive effects on growth and jobs.*
>
> *Economic Outlook No. 59* (OECD, 1996*a*).

However, implementing structural reform involves a number of inherent short-term disadvantages or costs which go a long way to explaining why progress in implementing reforms is often slow. These points are very important to bear in mind when discussing a reform agenda, in Greenland as elsewhere:

- Adjustment costs are often borne by narrow and homogenous groups in the society that are already organised and that have a strong incentive to resist structural reforms.

- Benefits are often spread widely but thinly, reducing the incentive to push for reforms.

- The gains will partly result in the creation of businesses and jobs not yet in existence and hence not forming a constituency prior to the reform.

- There is often less uncertainty concerning sizeable adjustment costs on the part of the losers than concerning the gains accruing to beneficiaries from reform.

- Adjustment costs are often borne up front, whereas the timing of benefits is more uncertain but usually involves a delay relative to the costs.

- Pressure for reforms are rarely acute, tending to delay action implying that action is taken only at times of economic crisis.

On the other hand, positive spill-over effects between reforms in different areas often exist and these spill-overs can reduce transition costs and resistance to reform. For example, a product market reform will allow a more rapid reallocation of labour released through a labour market reform.

The relatively slow implementation of structural reforms in Greenland can undoubtedly be explained to a large degree by these factors. The groups bearing the adjustment costs are easily identified in Greenland and the politicians often know the individuals concerned personally. The informal structure of the Greenlandic society means that politicians are easily accessible, allowing those bearing the adjustment costs to make themselves heard easily.

Difficulties in implementing structural reforms does not reduce the need for reforms. On the contrary. For example, most of the labour market problems in Greenland are of a structural character (cf. Chapter 5) and in order to eliminate the costs to the society that they imply, it is necessary to adapt the structure of the economy in a variety of different ways, including but not limited to labour market policies. Some of the areas where the need for reforms is especially pressing are discussed below.

The uniform price system

Origins and basic principles

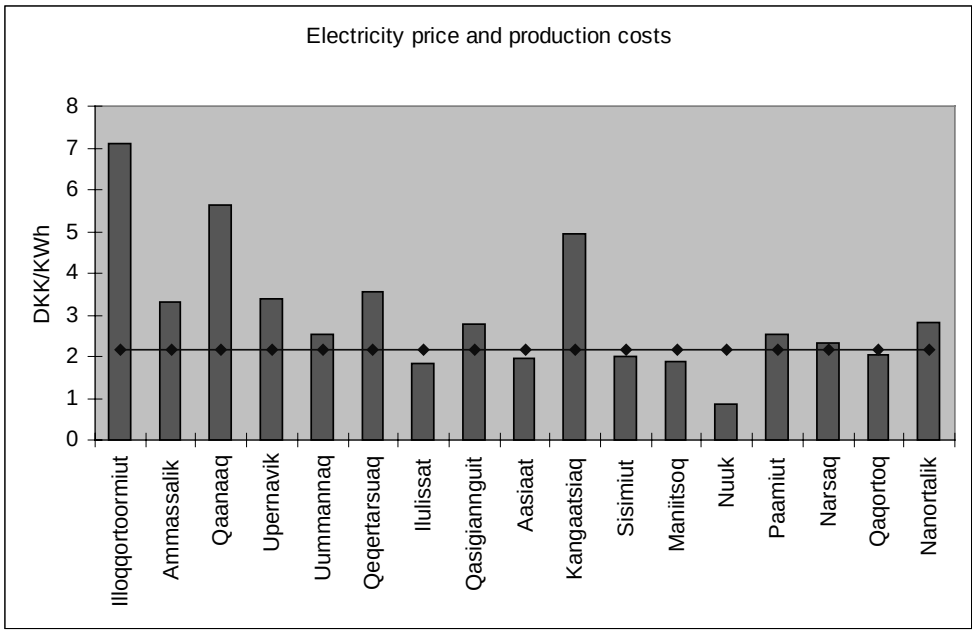
From 1724 to 1950 Royal Greenland Commerce (KGH), a Danish state-owned enterprise, had a monopoly on all trade and transport to and within Greenland, which secured stable delivery of goods all over Greenland and through which a regulated price system evolved. The basic principle was that prices on basic goods should be low and the same all over the country. Gradually coverage of the price regulation expanded to include prices on telecommunication, electricity, heating, etc. The system was primarily financed by internal cross subsidisation.

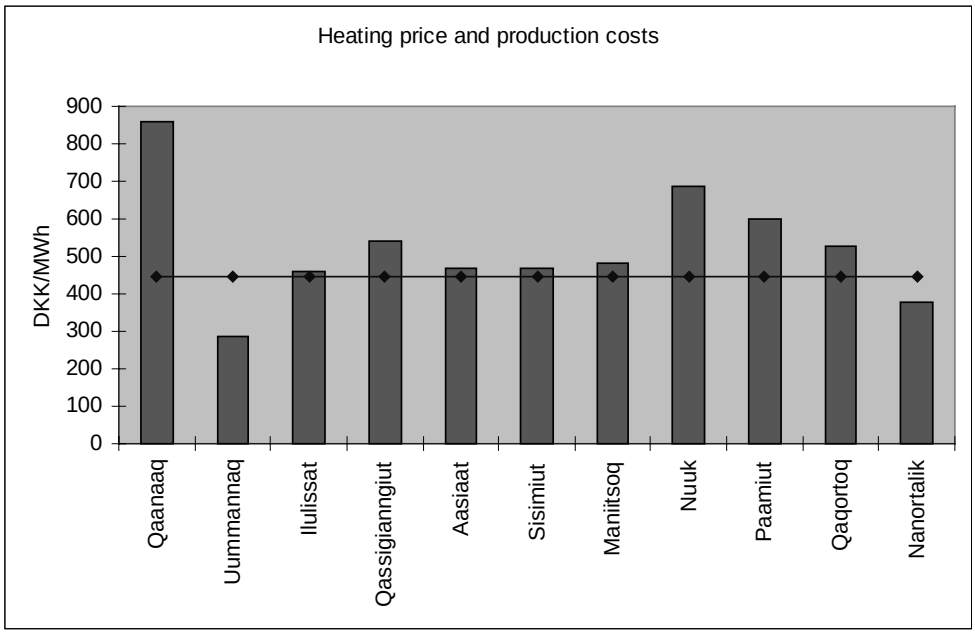
A piecemeal liberalisation of the business sector was introduced in 1950 and some competition in the retail sector in the biggest towns was allowed. Today the retail sector consists of many private companies and a state owned enterprises KNI, which has been divided into KNI Pissifik and KNI Pilersuisoq. In the ten major towns (competition towns) the private retailers are competing with KNI Pissifik, while KNI Pilersuisoq secures area-wide supply and deliver goods to remote locations. The prices of the goods in remote regions are determined on basis of the prices in KNI Pissifik, although some price differences exist. In addition, KNI Pilersuisoq is responsible for providing passenger transport by boat, supplying oil products and maintaining postal services in remote areas. The sale of goods in remote regions at low prices is not done on a commercial basis and KNI Pilersuisoq runs deficits which are financed by subsidies from the home rule government and by profits from the sale of oil products.

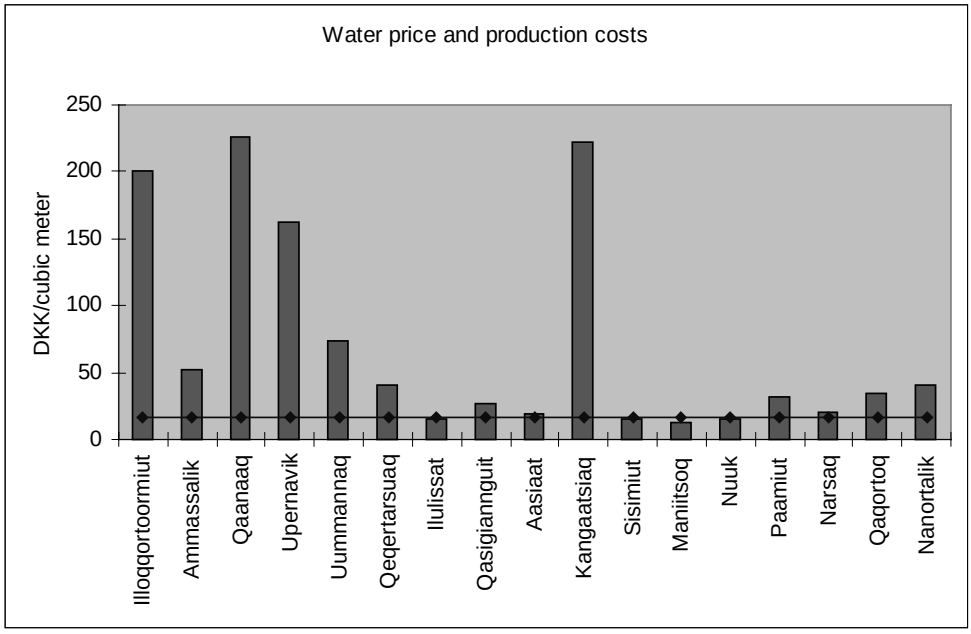
The uniform price system still operates in many domains. The prices on electricity, heating and water are the same in all towns and settlements despite considerable differences in production costs (Figure 9). In air transport, the main rule is that the price per kilometre is the same for all destinations regardless of variations in profitability of different destinations (though there is price differentiation between transport by helicopter and aeroplane. In addition to cross subsidies from internal air traffic and air transport to/from Denmark Greenland Air also receives subsidies from the government. Freight rates

are identical between all towns in Greenland and between Denmark and ten major towns. The system is financed by cross subsidisation and by a uniform freight duty of 18.13 per cent on all freight crossing the Atlantic. The prices on telecommunication are alike internally in Greenland implying cross subsidisation from regions with low production costs to areas with high costs. In addition, charges for telecommunications between Denmark and Greenland are higher than the market price, providing additional cross subsidisation to internal communications.

Figure 9. Production costs and price on electricity, heating and water







Source: Economics Directorate, NUUK.

Consequences of the uniform price system

In addition to its original purpose of simplifying the management of supplies to Greenland, the uniform price system has played a key role in ensuring a standard of living in the settlements close to (or at least not out of line with) that enjoyed in the bigger towns. Thus, it has been an important instrument in the government's settlement policy which emphasises the maintenance of small towns and settlements, as well as protection of traditional Greenlandic culture and lifestyle. Undoubtedly, the distribution of welfare, both socially and geographically, would have been much more uneven without the uniform price system, unless people living in the remote areas had been compensated in other ways.

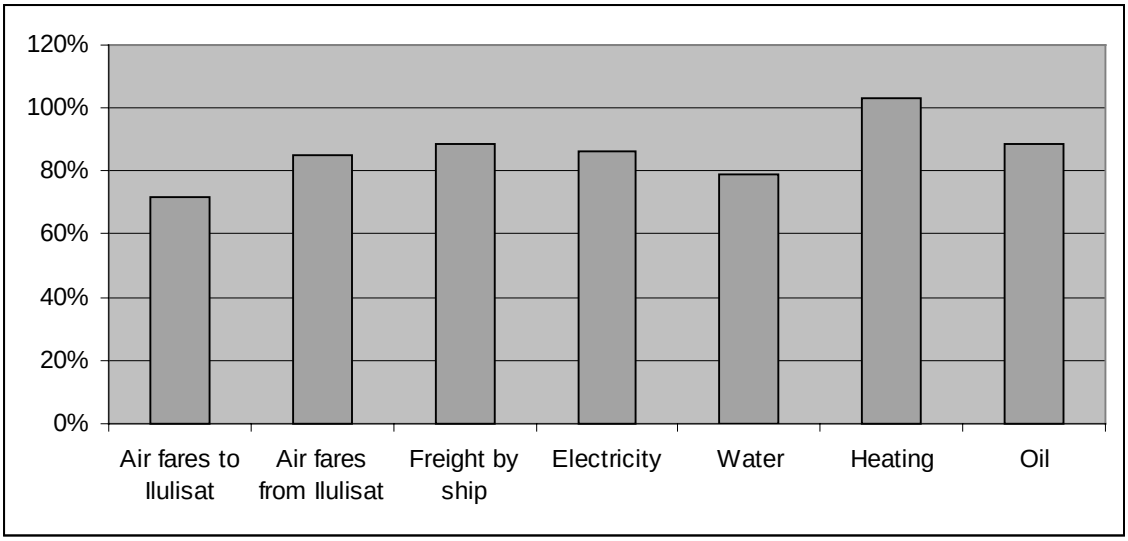
A main side-effect of the uniform price system is the pervasive cross price subsidisation within the different companies and across regions in Greenland, which generates a mismatch between the "true" costs of goods and the prices actually paid. This in turn affects almost all economic decisions taken by enterprises and households and entails a welfare loss for the society as a whole. It is not possible to quantify this loss, but the effects attributed to this pricing system include excessive cost levels for existing as well as potential enterprises and hence constrained enterprise growth and job creation. Cross subsidisation also leads to a lack of transparency by blurring the justification for, and the implications of, political decision-making in numerous areas of the economy. Fundamentally, in order to create a more competitive Greenlandic economy, companies must compete on equal terms, which is impossible if some companies have to cross subsidise while other enterprises can concentrate efforts in the most profitable markets.

Reforming the uniform price system

Reforms of the uniform price system have been discussed intensively in recent years. In spring 1997, a high-level working group presented a report on ways to reform the price system to the home rule parliament (*Rapport til Landsstyret vedrørende reform af ensprissystemet, 1997*). The basic principle

of the reform proposal is to create a liberalised zone in the first instance consisting of four towns, Ilulisaat, Qaqortoq, Nuuk and Sisimiut, where all price regulation is abolished and a normal zone where the existing uniform price system, including maximum prices, is maintained. Reforming the uniform price system will create a big potential for costs savings in the liberalised zone. For instance in Ilulissat transport, electricity and water prices might decrease markedly whereas the heating price might increase slightly (Figure 10). An important consideration has been to ensure continued supplies to remote municipalities and hence avoid extremely high prices. Following a test period, more and more municipalities should gradually join the liberalised zone (on a fully voluntary basis) leaving in the long run the normal zone to consist of only the most remote regions.

Figure 10. Cost in per cent of prices in Ilulissat



Source: Economics Directorate, NUUK.

With a liberalised zone consisting of the four towns, "geographic" cross subsidies can be reduced by 135 million DKK (2 per cent of GDP). In order to avoid price increases in the normal zone, a subsidy of similar magnitude will be required. This amount needs to be transferred to the normal zone. The working group has proposed to finance this subsidy by higher personal tax rates. This would require an increase of the income tax rate of 4 percentage points if involving all municipalities and 6 percentage points if only the four liberalised municipalities are considered. The working group prefers a general tax increase for all municipalities in order to maintain the simplicity of the tax system and to create an incentive for municipalities to join the liberalised zone. Settlements in the liberated zone will be faced with an extra cost for remoteness, as they will be imposed higher taxes without benefiting from lower prices. To compensate this unfavourable development, the working group has proposed to establish a special "Solidarity Fund" financed by the budget.

Public owned enterprises

Before the introduction of the Home Rule Authority, public management played an even more prevalent role in the economy than it does today. From the mid-1980s onwards, and in particular

after 1990, greater economic market orientation has been high on the political agenda with the concrete results being creation of new enterprises and reconstruction of existing enterprises into incorporated companies.

In addition to such traditionally public areas as energy-supply and airports, the home rule government is involved in several economic activities which in other countries are in the domain of the private sector. Some prominent examples are fishing and fish-processing (Royal Greenland), retail trade (KNI Pissifik and KNI Pilersuisoq), shipyards (Amutsiviit), fur production (Great Greenland) and a brewery (Nuuk Imeq). Most of the publicly owned enterprises are organised as incorporated companies while others are organised as more traditional public enterprises and are an integrated part of the public sector.

The main advantages of organising public enterprises as incorporated companies are:

- The companies should become less dependent of political control as the managers are appointed by and responsible to the board.

- The Home Rule government is not (directly) liable for the debt.

- New investments are not constrained by public finances and can be initiated when the company finds it most profitable without being delayed by legislative processes.

- Investment activities can be financed on the international financial markets.

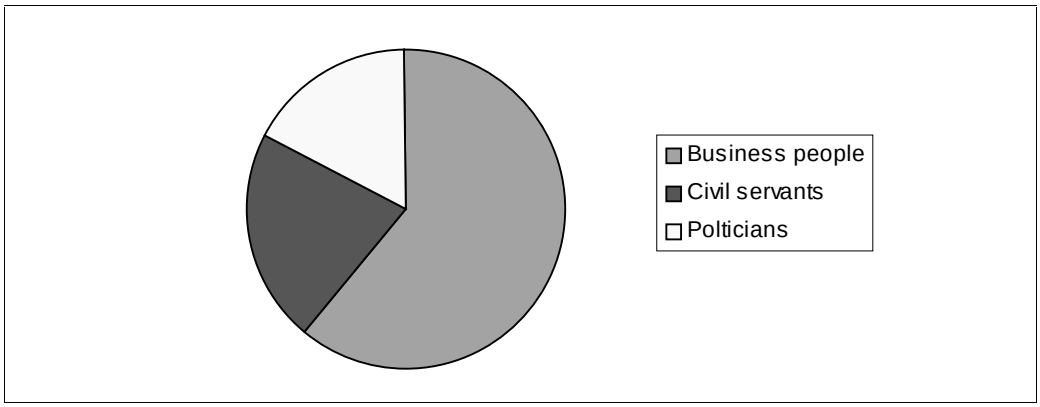
- The room for manoeuvre in wage policy is greater, making it easier to attract specialists and top level managers.

- The organisational form also has a political dimension, signalling to potential investors that a liberalisation process is underway, and that enterprises have come closer to a organisational/legal status where they can be privatised.

In practice, however, not all these advantages are fully realised, as there are some shortcomings in present structures.

Companies have become more independent of the political system, but not entirely so. Although political representation on the boards has diminished in recent years, many politicians and civil servants are still board members. For instance, the former government's coalition agreement from 1997 stipulated in which boards the coalition partners should have seats. In total, politicians (active and former) and civil servants take up 39 per cent of the seats in the five biggest companies (Figure 11). With the high public involvement in the business sector it is legitimate to have public representatives in the boards of directors. However, in Greenland, political representation and the share of civil servants appears to be excessive, especially taking into account that many of the enterprises are operating on markets dominated by the private sector in other countries and it is not evident that politicians and civil servants have comparative advantages or special knowledge of how to run businesses across such a broad range of sectors. Another problematic aspect regarding the composition of the boards is that many board members and top-level managers are also members of the boards in other companies. This phenomenon is common in other countries as well but seems particularly pronounced in Greenland. It is to some extent related to the small population in Greenland which limits the pool of potential, qualified board members – at least as long as foreigners only to a limited extent are encouraged to take up the positions.

Figure 11. Composition of the boards in the five biggest public owned companies



The home rule government is not formally liable for the debt in the enterprises, but it cannot be ruled out that financial markets expect the home rule government to bail-out enterprises in crisis. Indeed the home rule government has supported companies several times in the recent past and the companies have often run deficits, despite being financially supported by the Home Rule government (Table 13). This tends to soften the budget constraint under which the companies are operating and acts as a drain on public finances. It also raises another important dilemma: in the enterprises organised as incorporated companies the government cannot control borrowing activities and at the same time the obligation to bail out implicitly remains. This could distort the companies' financing decisions. The massive build up of debt in the public owned enterprises in recent years (Table 14) is thus a matter of concern both from a pure resource allocation and a public finance point of view.

Table 13. Financial results in the five biggest public owned companies

	1993	1994	1995	1996	1997
Royal Greenland	-17	21	49	-94	-157
KNI Pilersuisoq	-4	-68	-10	13	46
KNI Pissifik	-3	-67	-38	1	20
Royal Arctic Line	-1	-10	-1	28	20
Tele Greenland	*	-39	44	29	29
Total	-25	-85	44	-23	-42

Source: Det Rådgivende Udvalg vedrørende Grønlands Økonomi (1997).

Table 14. Home rule government debt and gross debt in the 5 biggest public owned companies

(Million DKK)

	1993	1994	1995	1996	1997
Royal Greenland	982	1 012	1 546	1 883	2 069
KNI Pilersuisoq	-54	34	4	147	57
KNI Pissifik	21	40	45	135	142
Royal Arctic Line	96	437	531	473	469
Tele Greenland	*	-76	-112	56	27
Debt in public owned enterprises	1 045	1 447	2 014	2 694	2 764
Home rule government debt	769	630	279	-311	-266
Total debt	**1 814**	**2 077**	**2 293**	**2 383**	**2 498**

Source: Det Rådgivende Udvalg vedrørende Grønlands Økonomi (1998).

Privatisation

It can be problematic for the public sector to be the owner of enterprises:

- The efficiency of public enterprises is generally lower than in private owned enterprises due to lower market exposure, softer budget constraints and absence of profitability requirement.

- The authorities can only control borrowing to a limited extent and have imperfect access to information, yet exposure to bail-out responsibility cannot be ruled out (often for political reasons);

- The presence of public enterprises prevents start-up of private firms who fear unfair competition from companies with easy access to government funds;

- Given the public nature of some of the enterprises and their openness to political influence, restructuring and reduction of excess capacity can be difficult.

These shortcomings can be removed by privatisation when the necessary conditions have been established. In fact, this process has already been started in some sectors. In addition to the transformation of some enterprises into incorporated companies, other important steps towards more market orientation have been taken by the division of KNI and of Royal Greenland. KNI has been split into KNI Pissifik and KNI Pilersuisoq while Royal Greenland has been separated into Royal Greenland and Nuka. In both cases the aim of the division has been to isolate the commercial part of the companies (KNI Pissifik and Royal Greenland) from the non-commercial activities (KNI Pilersuisoq and Nuka). Thus privatisation of KNI Pissifik and Royal Greenland is now in principle possible.

Social tasks

A special political constraint on public enterprises is the (often vague) notion of "social tasks". According to this the public enterprises should take certain social considerations into account in their businesses (for instance, maintain a certain level of employment in small remote towns). The extra costs entailed by these activities are financed by the Home Rule Authorities. However, in practice it is very difficult to disentangle to what extent it is financing of extra costs and to what extent it is a subsidy, thereby blurring the distinction between politics and business.

In sparsely populated areas where there is little basis for competitive markets, public tender may be the best way of ensuring efficient resource allocation. For instance, it should be possible to introduce such a system in the retail sector in the settlements. More concretely, this could take form of a bidding process where a future retailer would be the person or company willing and able to supply a defined range of goods at specified/maximal prices (*i.e.*, defined in a service contract) at the lowest costs. Such a system would introduce an element of competition and it would probably be cheaper for the public purse. In addition, it would make a clearer separation between market activities and social undertakings and thereby increase transparency more generally, without at the same time distorting price and cost structures. The non-commercial activities of KNI (KNI Pilersuisoq) and of Royal Greenland (Nuka) would probably be able to obtain some of the contracts, in which case these companies would cease to receive non-transparent subsidies. Instead, they would have to compete with other interested parties in selling a defined product (providing goods and services to remote areas) to the Home Rule government.

Non-commercial public companies

As described above, public companies running commercial activities have been transformed into incorporated companies and new incorporated companies have been created in sectors previously under public administration, *e.g.*, A/S Boligselskabet INI (administration of the public housing stock) and Greenland Tourism A/S. However, under normal circumstances corporate enterprises operate in a competitive market in which political involvement is neither necessary nor warranted. Only if enterprises become monopolies should public regulation be needed. But it can be questioned whether companies solely conducting non-commercial activities for the public sector should be organised as incorporated companies. As they are not subject to any market pressures, incentives to contain costs and increase efficiency are weak, as are effective political controls.

The housing market in need of deregulation

Public involvement in the housing market in Greenland is also very high (Table 15). Since it has a big influence on the functioning of the economy, *e.g.*, through its effects on mobility, investments and the labour market it deserves special attention[11].

Table 15. Ownership of the housing stock

	Total number	Per cent
Home rule government	7 700	38.6
Municipalities	4 416	22.1
Private	5 194	26.0
Danish state	183	0.9
Unknown	2 447	12.3
Total	19 940	100.0

Source: Det Rådgivende Udvalg vedrørende Grønlands økonomi (1998).

11. The information, including various estimates, referred to in the following section are primarily based on *"Det Rådgivende Udvalg vedrørende Grønlands økonomi (1998)* where a very detailed analysis of the housing situation is presented, including the assumptions lying behind the estimates.

Excess demand for dwellings

Initiated by the Danish State the housing stock has increased dramatically since the middle of the century as an integral part of the urbanisation process. Since 1965, the number of dwellings has increased from 7 500 to close to 20 000 in 1998, an increase of almost 170 per cent. During the same period the population increased by a little more than 40 per cent and the number of persons per dwelling decreased from more than 5 to less than 3.

Still, there is excess demand for housing, currently estimated at around 2 700 dwellings, leading to waiting lists in many towns, especially in Nuuk. Moreover, another 2 500 dwellings might be needed by 2008, primarily due to demographic factors. In other words, in order to meet the housing demand to 2008 (assuming the present levels of subsidies), 5 200 dwellings will have to be constructed, which represents an increase of more than 25 per cent in the housing stock. The total cost of such an expansion is estimated to be 4.5 billion DKK or 0.5 billion DKK per year (7 per cent of GDP). Given the existing legislation for providing housing subsidies, this will also imply a significant increase of public transfers.

As in other sectors subsidisation of the housing market is very extensive, including both financing subsidies and rent support. As a general principle in Greenland the rent should cover actual housing costs. However, in recent years rent increases have been limited for social reasons and to maintain low inflation. The total subsidy for different types of dwellings is estimated at between 53 and 96 per cent of construction costs[12], leading unsurprisingly to excess demand. A first step to curb the subsidies has been taken with the adoption in autumn 1998 of a new programme for private owned one-family houses. The new plan involves subsides of "only" 33 per cent of construction costs.

Capacity in the construction sector

Capacity in the construction sector appears currently to be fully utilised. Less than 3 per cent of total unemployed in the first half of 1998 were construction workers and when some construction projects were put out to competitive tendering in 1998 no bids were offered or only at very high prices.

In the period 1993-97, 1 400 new dwellings were constructed corresponding to an annual average of 280 dwellings. To meet the demand for another 5 200 dwellings by 2008, an average of 520 dwellings have to be built per year. Thus, construction activity would need to be almost doubled in order to meet excess demand over the next decade. Moreover, this figure does not take into account the fact that significant maintenance of the housing stock is called for, amounting to approximately 1.5 billion DKK. With no (or very little) spare capacity in the sector such a huge increase in total construction activity represents an enormous challenge.

Total construction sector employment is around 2 000 persons (8 per cent of total employment). To double the construction capacity, total employment in the sector will have to increase dramatically[13]. However, due partly to the many drop outs in the education system (cf. Chapter 5), only 80 persons have become skilled construction workers in the last four years. Although not all people working in the construction sector are skilled, it implies that a significant effort to train people in construction will be needed. It also shows that the involvement of foreign construction companies and foreign construction workers will be inevitable and should be encouraged if housing demand is be met, and perhaps more importantly, met in a manner that increases competition and avoids overheating the economy.

12. If total costs exceed a ceiling, the subsidies are reduced.

13. New capital investments are necessary as well.

Strengthening economic mechanisms

To reap the full benefits of reforming the uniform price system and of privatising the public owned enterprises, reforms of other parts of the economy are needed, allowing synergies between the different segments to develop. Moreover, the more competitive environment should not be limited to the business sector but should be supplemented with efforts to increase awareness and understanding of economic mechanisms more generally among the population.

It should be considered whether it is possible to out source provision of public services to private individuals or enterprises to a greater extent. Services will still be financed by the public sector but the work would be executed by self-employed individuals or small enterprises thereby making it more normal and accepted to start up a new business and encouraging entrepreneurial spirit (the need for entrepreneurship is dealt with in more detail in Chapter 5). In addition, it could be a more cost efficient solution.

Payment for public services could be another way to encourage consumer awareness of economic relations and thereby contribute to more efficient public spending. In situations where a good has a zero price, demand will be "unlimited" and since supply is limited, quantitative regulation is necessary. This leads to insufficient coverage and (often) excessive costs. User charges would contain demand andcontribute to finance provision of services. The revenue generated by user charges might not be significant but should be seen together with the saved costs. Moreover, it would increase the general understanding among the population of the necessity of having prices that better reflect the costs actually involved in providing the goods; in turn this would contribute to more efficient use of the resources.

Competition council

A competition council should be an integral part of a comprehensive strategy towards more competition and market orientation and it must be independent of political engagement. It should have the authority to take action in the case of unfair competition, creation of cartels or monopolies and discriminatory business practices. Such bodies have proven quite useful in many countries as an instrument to ensure that competition is as fair as possible and to counteract possible negative consequences of free markets.

While a competition council already exists in Greenland, it has only met a few times in the last couple of years and it does not seem to have played any role. Admittedly, with such wide public involvement in the economy, the role of the competition council has not been manifest so far, although the potential/unfair competition from the public owned enterprises has been an issue. As the process towards greater market orientation gets underway, the need and usefulness of a competition council will increase, and it should be assured an appropriate legislative foundation.

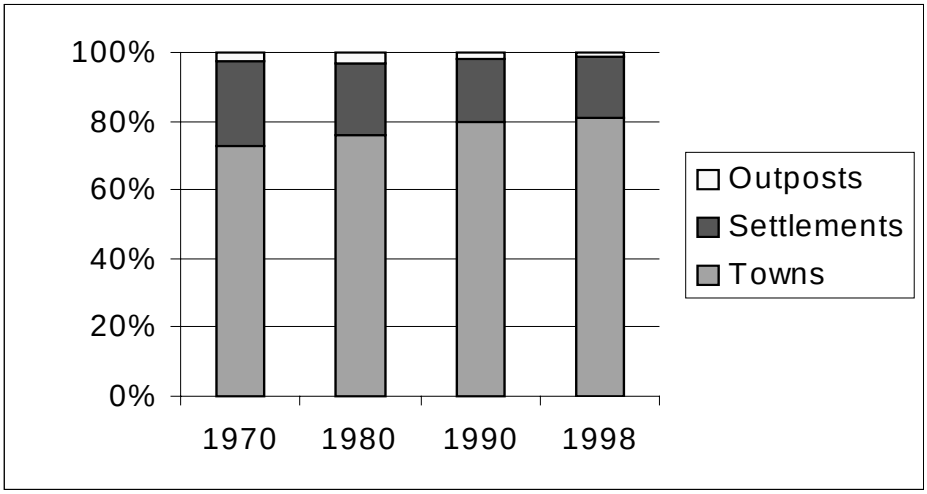
Regional policy

In the 1960s, the Danish government made attempts to advance a process of urbanisation and abandoned some settlements and inhabitants of remote settlements were strongly encouraged to move to larger settlements and towns. Since then, considerable political awareness have developed around the importance of maintaining settlements as a key factor in preserving the traditional Greenlandic way of living and maintaining the country's unique culture. The main principle in current settlement policy is that people should have the opportunity to live in the settlements while maintaining a reasonable standard of living.

In addition to costs incurred through the uniform price system, the settlement policy imposes a number of other costs, in particular direct subsidies from the government, cross subsidies within the publicly owned enterprises and public investments in the settlements.

Rapid economic development has been accompanied elsewhere in the OECD by a migration from the land to towns. Such a development is also underway in Greenland (Figure 12), though it is combined with population growth in some settlements with promising employment opportunities (Poppel, 1997).

Figure 12. People living in settlements and towns



Source: Statistisk Årbog (1998).

The total costs of the settlement policy have been debated in Greenland for decades without any precise estimates of the costs having been made. One study (Grønlands Statistik, 1996) suggests that the transfers per capita are almost the same in towns and settlements. In towns transfers are primarily social transfers while for the most part they take form of business support in the settlements (though the study does not take other costs such as cross-subsidies into account). Because income levels in the settlements are lower, the relative importance of the transfers is bigger in the settlements. -In addition, there are huge costs stemming from lack of agglomeration, very small production units (and thereby often excesses capacity in the capital stock), local monopolies and lack of competition. Furthermore, people in the remote regions often sustain their living standard by hunting and/or fishing, not contributing much to total production. That being said, it is not at all clear that it would be cheaper for the society, at least not in the short run, if many people in settlements were to move to the major cities. Such a change would increase the pressure on the housing market and it would probably add to the social problems in these towns as the employment opportunities over the next few years are likely to be modest, at least until a more market orientated and entrepreneur friendly environment has been created[14].

14. Bearing in mind the housing situation in the bigger towns the circumstances are somewhat paradoxical: It is a political priority that it should be possible for people to live in and move to the settlements if they so wish. At the same time, it is rather complicated for people, even if they have a job on hand, to move to the towns, especially Nuuk, due to the shortage of dwellings.

To further reduce income disparities between regions there is a system of redistribution of revenues between municipalities consisting of three main mechanisms:

- Redistribution of personal income tax from municipalities having a revenue per capita above 120 per cent of the national average to municipalities having a revenue per capita below 90 per cent of the national average.

- An inter-municipality income tax, currently at 4 per cent, fixed by the home rule government and distributed to the municipalities.

- Company tax revenue redistributed 100 per cent according to population in each municipality.

As stated in Chapter 3 the structure of the local administration is very detailed with a small number of inhabitants in many municipalities. It has been proposed to merge some of the municipalities which would generate efficiency gains by reducing the number of mayors, high level civil servants, etc. The proposal is a controversial political issue as it would increase the distance between politicians and their voters, not only mentally but in a huge country like Greenland but also physically, and it would also tend to concentrate the social and economic activities in a few towns.

Physical infrastructure

Greenland is relatively well endowed with landing strips and heliports. However, there is still a need to alleviate bottlenecks in some cities and to reduce high freight and passenger service costs. Air transportation infrastructure programmes are presently behind schedule, suggesting the need for better prioritisation mechanisms within public investment selection processes.

The development of information technology is another area of particular relevance for the economy, given its capacity to reduce distance and to enhance the job creation potential of remote settlements. Greenland has a fully digitalised telecommunication system, but so far the opportunities linked with IT developments have been under-exploited. To accelerate the diffusion of these techniques, the Home Rule government has an important role to play especially in terms of facilitating access of people to networks and to the Internet and in enhancing municipal council awareness of IT potential. It could:

- Encourage Tele Greenland to continue its effort to lower telecommunication charges and provide integrated services (the number of telephone subscribers per 100 inhabitants is 42 at the end of 1997 while it in Denmark is about 62).

- Initiate pilot projects in municipalities combining the provision of equipment in locations where citizens could use them (telecottaging) and delivery of training services. So far the share of households equipped with computers is 3 times higher in towns than in settlements.

- Aim to ensure that every school and secondary education institution is endowed with appropriate terminals and PCs. Teacher training programmes could also be developed, *e.g.*, drawing upon the experience of Northern Finland.

Electronic commerce has a big potential, especially in south and central settlements, where the sea is normally not covered by winter ice thus making continuous delivery of goods possible. Tele-medicine and tele-education could also have a great future in Greenland. However the benefits and

efficiency gains will only be reaped if sufficient focus is given to user-friendly systems and to demand side supports.

Finally, if public investment in transport and telecommunications is a critical element in a Greenland competitiveness strategy, other infrastructural issues should not be under-emphasised. It should be ensured that water management and sewerage infrastructure receive adequate attention and money in order to bridge the present gap between demand and supply and help supporting diversification strategies, *e.g.*, towards tourism.

What should be done?

Given that implementation of structural reforms is the only practical policy option available to enhance long-term growth, a comprehensive reform strategy should be set up. Synergies between different structural reforms exist and the full benefits of such a strategy will only be felt if concerted reforms are implemented[15]. As a "big bang" liberalisation of Greenland would probably imply excessive adjustment costs in the short term, the strategy should be implemented gradually but resolutely. In addition to reforms of the public sector (Chapter 3) and the labour market (Chapter 5), the strategy should include elements like reform of the uniform price system, privatisation of publicly owned enterprises and reform of the housing market.

Undoubtedly, reform of the uniform price system is urgent given its distortive effect on the economy. Prices more in line with costs will improve the allocation of resources and create better framework conditions for both enterprises and households. The high-level working group's reform proposal seem to be well balanced in terms of maintaining a reasonable standard of living in remote areas and enhancing competitiveness in the major towns where most of the production is taking place today and where more production should take place in the future. The reform will imply lower prices and thereby higher real incomes, which in spite of higher taxation should leave households better off as economic activity expands. A reform must be fully financed. Taking the already big public sector and very high effective marginal tax rates for certain groups into account, reliance on higher taxation is not a step in the right direction. A reform of the uniform price system should be financed by lower public outlays or even better it go hand in hand with a reform of the housing market which is already heavily regulated and acts as a brake on the expansion of economic activity. A reform of the uniform price system is expected to increase demand for labour in the liberalised zone and consequently also the demand for dwellings in these areas. Given the necessity to increase private engagement in the housing market and the need for a rent level more in line with actual costs there seems to be a unique opportunity to obtain a double gain on the structure of Greenland's economy. Moreover, it would not be necessary to create the Solidarity Fund, as proposed by the working group

Privatisation is another area where initiatives are clearly needed. A gradual approach could be considered, implying that not all shares (or the majority) necessarily have to be put up for sale immediately. In such a strategy it is important that the government shows its resolution by setting up a medium term privatisation strategy and that it adheres very closely to the strategy so as to maintain credibility. Otherwise the privatisation process could lose momentum and potential investors might have increasing doubt about the government's intentions/perseverance. Potential investors should include foreign investors who, besides private capital, might also provide management skills, market access, distribution systems, etc. The potential for strategic investors as well as the risk for hostile take-overs should be carefully examined.

15. The unsuccessful experience in the early 1990s when Royal Arctic Line tried a strategic partnership with J. Lauritzen took place at a time when the economy was still heavily regulated.

A successful privatisation strategy would significantly contribute to increasing efficiency and greater long-term growth potential because:

- The boards would gradually consist of more business people. Today politicians and civil servants take up too large a fraction of the seats in the boards of the big companies.

- Managers will be disciplined by the market as they will have to face a discharge risk and can no longer rely on financing from the Home Rule government. This will be reflected in their borrowing strategy, reducing tendencies to over capacity.

- Companies will be run on the basis of efficiency criteria, avoiding over-manning due to interference with local and political interests.

- Unfair competition will be reduced as the companies will have to compete on equal terms after privatisation.

- Public finances will be boosted by the revenue from privatisation. More importantly, the budget will be less exposed because the government will not be liable for debt in the enterprises.

As an integral part of the privatisation strategy, the steps taken towards division of commercial and non-commercial activities should be followed up by letting the "social tasks" be allocated through public tender. In general, public tender should be used as a mean to create competition (through the bidding process) in small markets where one or a few companies otherwise might be dominant. Another step to increase the market orientation of the public sector would be to out-source the provision of public services (*e.g.*, cleaning, day-care centres, eldercare) to private enterprises or individuals.

In the effort to obtain a more market-oriented economy the many monopolies in the Greenlandic economy represents a point at issue. Generally, the best solution is to deregulate the monopolies by abolishing concessions, possibly followed up by competition-stimulating measures. Eye-catching candidates for deregulation are in areas like transport by ship, air traffic, telecommunications and the brewery. However, given the many tiny markets in Greenland some natural monopolies are and will be unavoidable.

The housing market is another important area that should be reformed. It will be very difficult to construct enough houses to meet demand, assuming existing rules and practices, over the next ten year period and some excess demand and waiting lists[16] will in all likelihood have to be accepted. Further, the existing housing stock is in need of substantial renovation, which will further push demand for housing while constraining supply. However, other options than a dramatic increase in the supply of houses are at hand and should be considered as a means of bringing the housing market closer to equilibrium. A reduction of other housing and rent subsidies, for instance in line with the recent decision to reduce subsidies to one-family houses, should be considered as a way of aligning rents closer to the actual cost level. This, supplemented with a programme of transferring some of the public owned house to private hands, enhancing personal responsibility for the dwellings and providing incentives to maintenance of houses. A strategy like this would lower public outlays and would increase private savings.

Another aspect to be considered is whether the general standard of new houses constructed today is appropriate or whether some cheaper solutions could be found. Of course, only houses constructed for use in arctic climate should be looked for, but the possibilities of larger scale prefab construction, including

16. It should be noted that waiting lists might overestimate actual demand

apartment houses, should be carefully studied. These solutions will become more relevant if the rent level is brought closer to the actual cost level[17].

As the reform proposals are pointing towards a higher market orientation, it will be necessary at the same time to have a well functioning competition council to minimise any adverse effects of greater reliance on a market economy.

With 18 municipalities in a country with 55 000 inhabitants, the administrative structure is very detailed and merging some of the municipalities should be considered. If such a proposal is too controversial, it should at least be possible to strengthen co-operation between the local administrations. One way to do this could be to locate the tax administration in one town, social administration in another, and business affairs in a third town. Such a construction would save resources insofar as it will only be necessary with one social administration instead of three, one tax administration, etc. Further, such an organisation would enhance professional expertise in each administrative unit. In the present system, with for instance very few tax administrators in each municipality, it is difficult for employees to obtain and maintain the necessary expertise in all relevant fields. In a more consolidated tax administration the possibilities for co-operation, sharing of expertise and experience will be much greater. Concentration of other public activities is a way to reduce the costs stemming from diseconomies of scale and to contribute to a more efficient system, for instance in areas like health services and educational institutions.

The tendency of people moving from the settlements to the towns will in all likelihood continue, and this development is probably unavoidable and a natural part of the development process. Thus, there will be a need to create new employment opportunities in the towns. The best development path would be if the movement from settlements to towns could take place at the same speed that employment opportunities in the towns are created. In other words, if an insufficient number of jobs are created in the towns, the hidden unemployment in the remote regions will become visible in the bigger towns. Thus, the reform proposals presented above should be supplemented with improvements in the functioning of the labour market.

17. The estimates above are based on the assumption that average number of persons per dwelling is brought down to 2.14 which is line with the situation in Denmark, although the housing standard is high in Denmark (OECD, 1999).

5. IMPROVING THE LABOUR MARKET, HUMAN CAPITAL AND ENTREPRENEURSHIP

Introduction

In 1994, the first results of ongoing work within the OECD on how to enhance employment and reduce unemployment were presented in the *OECD Jobs Study* (OECD, 1994). The *Jobs Study* reviewed the labour-market experiences of OECD Member countries during the past quarter-century and the policy recommendations arising from this process can be grouped under ten headings (Box 4), covering macroeconomic policies; policies to improve the ability of the economies to adapt; policies to enhance living standards and employment opportunities through increasing and upgrading human capital, and fostering entrepreneurship, and strengthening innovative capacity. One of the main *Jobs Study* conclusions is that broad-based reform is likely to be more effective than reform focused in particular areas. This is in line with findings regarding structural reforms presented in Chapter 4 where a broad based policy approach was recommended.

Box 4. The OECD Jobs Strategy

- Set macroeconomic policies to both encourage growth and, in conjunction with good structural policies, make it sustainable.
- Enhance the creation and diffusion of technological know-how by improving frameworks for its development.
- Increase flexibility of working-time (both short-term and life-time) voluntarily sought by workers and employees.
- Nurture an entrepreneurial climate by eliminating impediments to, and restrictions on, the creation and expansion of enterprises
- Make wage and labour costs more flexible by removing restrictions that prevent wages from reflecting local conditions and individual skill levels, in particular of younger workers.
- Reform unemployment security provisions that inhibit the expansion of employment in the private sector.
- Strengthen the emphasis on active labour market policies and reinforce their effectiveness.
- Improve labour force skills and competencies through wide-ranging changes in education and training systems.
- Reform unemployment and related benefit systems –- and their interactions with the tax system –– such that impinge far less on the efficient functioning of the labour markets.
- Enhance product market competition so as to reduce monopolistic tendencies and weaken insider-outsider mechanisms while also contributing to a more innovative and dynamic economy.

Source: OECD (1997*a*).

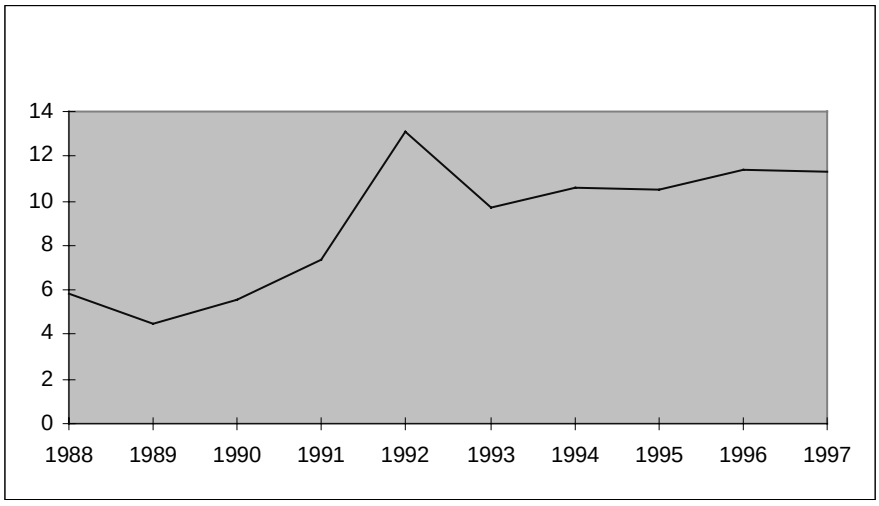
This chapter draws on the general structural policy recommendations of the *OECD Jobs Study* adapted to a Greenlandic context. Such an open approach has previously been utilised for the analysis of new OECD Member countries. The weight which countries choose to put on the different priority areas, or on specific reforms within each of these areas, differs depending on their specific labour and product market characteristics and problems.

Labour market and employment performance

Unemployment

As in most OECD countries unemployment has been on an upward trend the last decade (Figure 13), reflecting the relatively poor growth performance of the Greenlandic economy. However, because unemployment is measured in a different way than in other countries, the level of unemployment is not directly comparable to standard OECD data [18].

Figure 13. Unemployment rate, 1988-1997



Source: Grønlands Statistik.

In most OECD countries unemployment is primarily concentrated on three groups: unskilled, young people and women. This is not entirely the case in Greenland as the distribution of unemployment is uniform across age groups and between genders (actually the unemployment rate is slightly higher among males). The eye-catching feature in Greenland is significantly higher unemployment rate among unskilled people than among other groups. Almost 80 per cent of the unemployed are concentrated in this group (Grønlands Statistik, 1998*a*).

18. The registration of unemployment in Greenland is uncertain as there is no unemployment insurance and it does not include unemployed in the settlements. Although the figures thereby underestimate the level of unemployment there is reason to believe that the trend extracted from theses figures is reliable.

Employment

Total employment was 25 170 persons in 1996 or 73 per cent of the working age population and 71 per cent among people born in Greenland (Table 16).

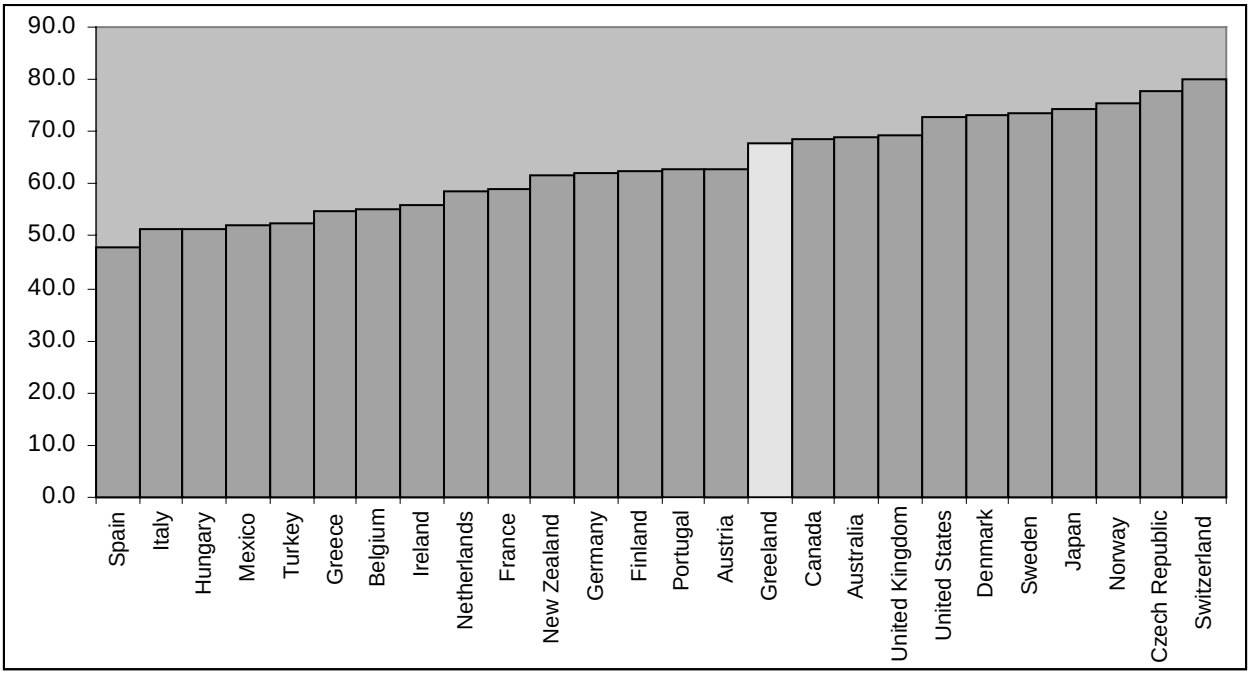
Table 16. Labour force and employment, 1996

	Born in Greenland	Born outside Greenland	Total
Working age population	28 540	5 730	34 270
Estimated labour force	23 970	5 160	29 130
Employed	20 250	4 920	25 170
Employment, % of working age population	*71*	*86*	*73*

Source: Andersen *et al.* (1998).

The relatively high employment rate should be seen against the background that the labour force in Greenland consists of people in the age group 18 to 59 years, while normally in OECD statistics the labour force includes persons in the age group 16 to 64 years. Assuming nobody in the cohorts 16 to 18 years and 60 to 64 are working (probably some people in these cohorts are actually working, thus underestimating the level) gives an employment/population rate of 68 per cent which is above the level in most OECD countries (Figure 14).

Figure 14. Employment in per cent of total working age population, 1996



Source: OECD Secretariat and Grønlands Statistik.

However, some people employed in the traditional sector, persons in highly subsidised otherwise unprofitable enterprises, and in the public sector might be characterised as hidden unemployed, *i.e.*, they are registered as employed but their productivity is very low (cf. the low total labour productivity in Greenland). However, the magnitude of this hidden unemployment can not be determined with any precision.

As can be seen from Table 17, total employment has increased by almost 3 000 persons or 12 per cent since 1974. Of this increase, the business sector and the public sector each account for half of the increase. Employment for people born in Greenland has increased from 16 120 to 20 220 or almost 25 per cent from 1974 to 1996.

Table 17. Employment 1974 and 1996

1 000 persons	1974	1996	Increase
Fisheries	6 970	6 380	-590
Raw materials	270	40	-230
Tourism	40	210	170
Other land based business	6 300	8 220	1 920
Public infrastructure and military bases	3 530	2 370	-1 160
Public administration, etc.	5 320	7 950	2 630
Total employment	**22 430**	**25 170**	**2 740**

Source: Andersen *et al.* (1998).

A closer look at how the employment structure has evolved over the last 25 years reveals some interesting trends: employment in fisheries has decreased, while employment in other land based businesses and public employment have both increased markedly in absolute as well as in relative terms. Employment in tourism has increased but from a very low level and employment in mining has decreased, but also from a low level. These trends and future prospects are analysed in more details in Chapter 6.

The analysis above suggests that Greenland faces two major challenges with respect to the labour market:

- The unemployment rate is particular high for the unskilled and efforts to generate new opportunities for this group are particularly important.

- Although the employment rate is relatively high a large number of jobs need to be created in the years to come if a further rise in unemployment is to be avoided.

How do the ten OECD Jobs Study recommendations apply in Greenland?

To create new jobs and improve the employability of the low skilled, the policy effort should be concentrated on five, partly related, recommendations with the largest scope for improvement: Training and education, entrepreneurship, product market competition, narrowing the gap between productivity and wages, and improving the structure of the transfer system.

1. Upgrading skills and competencies

Skills and competencies of the labour force should be improved by offering a wide-ranging education and training programme. There is indeed growing evidence that productivity levels, and hence living standards, are closely linked to educational attainment. At the level of the individual, better education is a means to lower the risk of unemployment. At the national level, higher education may augment the aggregate employment rate provided that it succeeds in reducing skills mismatches. Technological progress and increased international integration also call for a continued upgrading of the educational qualifications of the workforce, given the low productivity and high unemployment among unskilled workers. In addition, better education is the only way to replace Danes taking up key positions in Greenland, making investments in education almost without risk. In sum, raising the educational level of the population should continue to be a top priority.

Structure of the education system

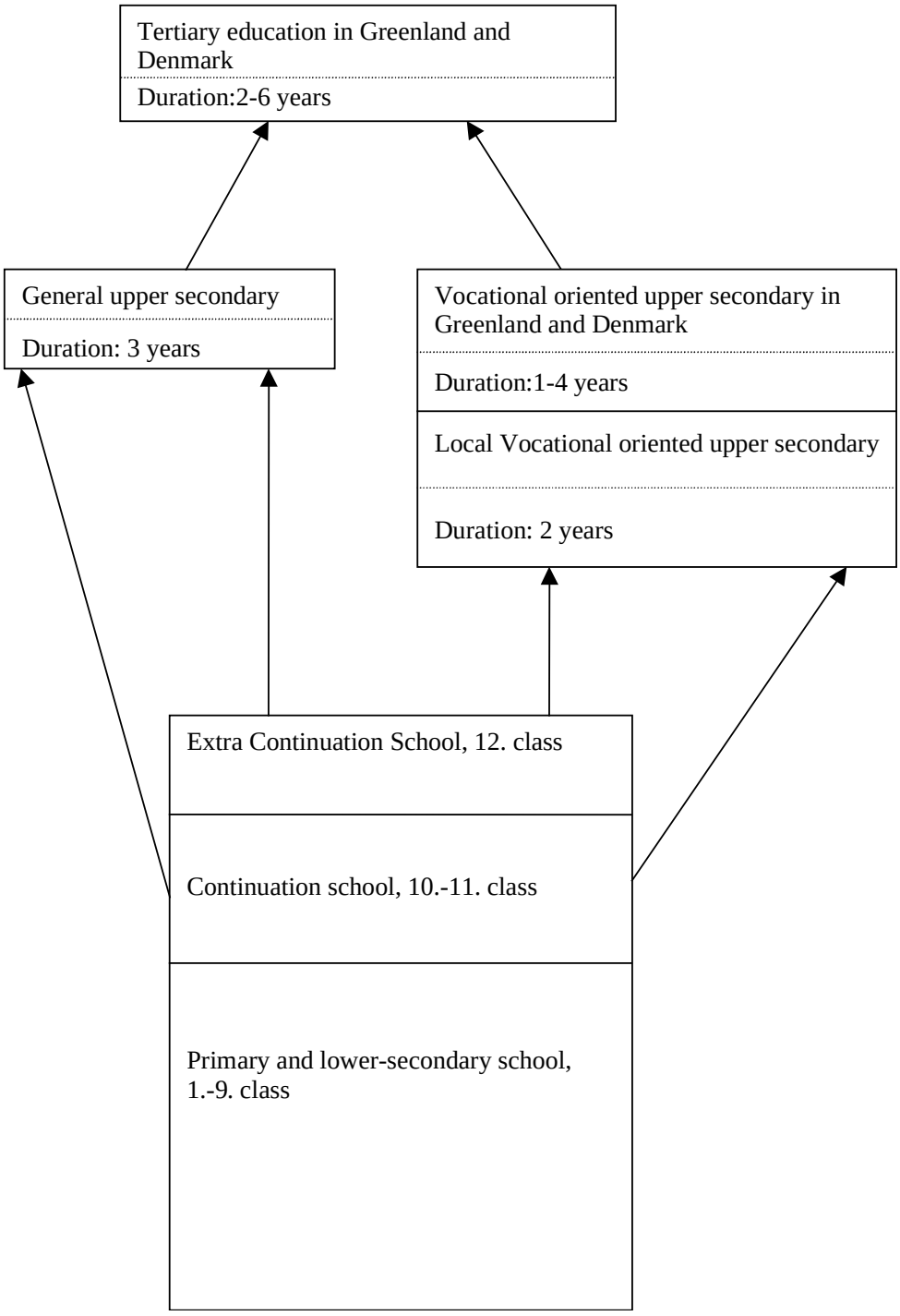
Since the education system was transferred to home rule in 1981, a goal has been to have as many students as possible to undertake their education in Greenland. As a result, the Greenlandic education system is well developed with 90 primary schools, 24 vocational training centres, 3 high schools, 2 colleges of education, 1 school of journalism, 1 health education centre and 1 university *Det Rådgivende Udvalg vedrørende Grønlands økonomi (1996)*

The education system has three layers (Figure 15). Nine years of primary and lower secondary education are compulsory, followed by two to three years optional education where many students spend one of the years in continuation school in Denmark. After the ninth to twelfth year, pupils can continue their education for three years at the general upper secondary level to prepare and qualify for studies at the tertiary level, or enter vocational education for two to four years. Tertiary education, undertaken at universities, business schools and teacher training and other colleges, is divided into short, medium and long programmes. The Greenlandic education system is compatible with the Danish system and Greenlandic students have free access to the education system in Denmark (provided they have the sufficient qualifications). Just under 20 per cent of the students are undertaking upper secondary and tertiary education abroad, primarily in Denmark. All education in Greenland is free of charge and financed for the most part by the Home Rule government[19]. If Greenlanders undertake education in Denmark, costs are paid by the Danish government and the Home Rule government only have to provide maintenance grants to the students.

The optional education after lower-secondary school and the fact that many people work some years between different levels of education tend to increase the age when students complete their studies. Since 1987, he average age of all students (vocational upper secondary and tertiary) has increased from 22.6 to 26 years, which to some extent reflects more older students entering the education system. The individual as well as the social return from education would be much higher if the students could finish their education at a lower age.

19. The business sector pays a social contribution 0.8 per cent of the wage bill to primarily to finance apprentices. Moreover some of the state owned enterprises have special training programmes.

Figure 15. Structure of the education system



General level of education

As the development of Greenland into a modern society began less than 50 years ago, it is not surprising that the general level of education is quite low. The share of people born in Greenland with only compulsory education or less is almost 84 per cent, whereas the general level of education of people born in Denmark is much higher (Table 18). This difference does not reflect the underlying discrepancy in the education level between Greenland and Denmark as Danes living in Greenland are better educated than the average Danish population. But it underlines the need for higher educational attainment if Greenlanders are to replace Danes on the labour market.

Table 18. Educational attainments of the work force

	People born in	
Level of general education	Greenland	Denmark
Less than 7 years	25.1	3.1
Lower secondary	58.7	26.2
Lower secondary, extended	8.2	29.2
General upper secondary	2.6	33.1
Still in school	3	3.8
Unspecified	2.4	4.6
Total	100	100

Source: Grønlands Statistik (1994*b*).

As the share of people with less than 7 years education is highest among the elderly and educational attainment is higher among the younger generations there is reason to believe that the average level of education will increase over the coming decades (Table 19). An indication of this development is given by the almost doubling of the number of students undertaking general upper secondary education since the early 1980s.

Table 19. Age distribution of educational attainments for people born in Greenland

	Age				
Level of general education	18-29	30-39	40-49	50-59	60+
Less than 7 years	7.1	20	26.9	49.5	55.2
Lower secondary	68.6	62.8	57.9	48.4	36.2
Lower secondary, extended	8	11.4	9.7	1.1	3.8
General upper secondary	5.8	2.1	2.1	0	1
Still in school	9.3	1	0	0	0
Unspecified	1.3	2.8	3.4	1.1	3.8
Total	100	100	100	100	100

Source: Grønlands Statistik (1994*b*).

Although the average education level is likely to grow, it is essential to continue efforts to increase the outcomes from the education system given that the level of education is lagging dramatically at all levels (Table 20).

Table 20. Educational attainments in Greenland and Denmark per 55 000 inhabitants

	Greenland	Denmark
Tertiary	100	1 500
Vocational upper secondary	2 200	4 400
Local vocational oriented upper secondary	5 400	12 000

Source: Baseselskab *et al.* (1997).

Despite the overall upward trend, there are less promising signs in certain areas. The high and increasing number of drop-outs in the 1990s gives rise to particular concern, as does the fact that the number of people completing their education has decreased and that the total number of people undertaking qualification bearing vocational education has declined (Grønlands Statistik, 1998*b*). The finding that the number of drop-outs is of the same magnitude as the number of students completing their education is in line with a study showing that of the cohort of age 17 in 1985, more than half have not obtained a vocational qualification (Det Rådgivende Udvalg vedrørende Grønlands Økonomi, 1996).

The high drop out rates could indicate that the students' educational standards are insufficient when they start upper secondary education. One study (Grønlands Hjemmestyre, 1995) concluded that primary and secondary education do not provide sufficient basic qualifications to prepare students for continuation of tertiary education either in Greenland or in Denmark. Shortage of teachers has been a serious problem for years, especially in remote regions, and is undoubtedly one of the explanations of this problem. In 1994 a country-wide reading test covering almost all pupils in grades 4-8 was conducted (Inerisaavik, 1994) and concluded that there are large disparities in reading ability and that 1/3 of all pupils had a level of reading attainment insufficient for acquiring required knowledge in other fields. Further, the study showed large regional disparities between and within the municipalities.

The main language in the schools is Greenlandic with Danish as the first foreign language. The whole society is influenced by the Danish language and in many respects the society is bilingual (although almost no Danes, including many Danish school teachers, speak Greenlandic) and it is necessary to speak Danish to qualify for many jobs. Also students must master Danish to undertake most higher education. As can be seen from Table 21 there is a close link between educational attainment and the ability to speak Danish, emphasising the importance of being bilingual. As Greenland undoubtedly will take part in the ongoing globalisation (IT, tourism, presence of foreign companies, etc.) it is inevitable for future generations to be capable to speak other languages as well.

Table 21. Language-education relation, 1994

Main language	Education			
	< 7 years	Lower secondary school	General Upper secondary	Total population
Greenlandic, speaks a little Danish	70	38	0	42
Greenlandic, speaks Danish well	27	45	35	41
Bilingual	3	15	44	14
Danish, speaks Greenlandic well	0	1	17	2
Danish, speaks a little Greenlandic	0	1	4	1
Total	100	100	100	100

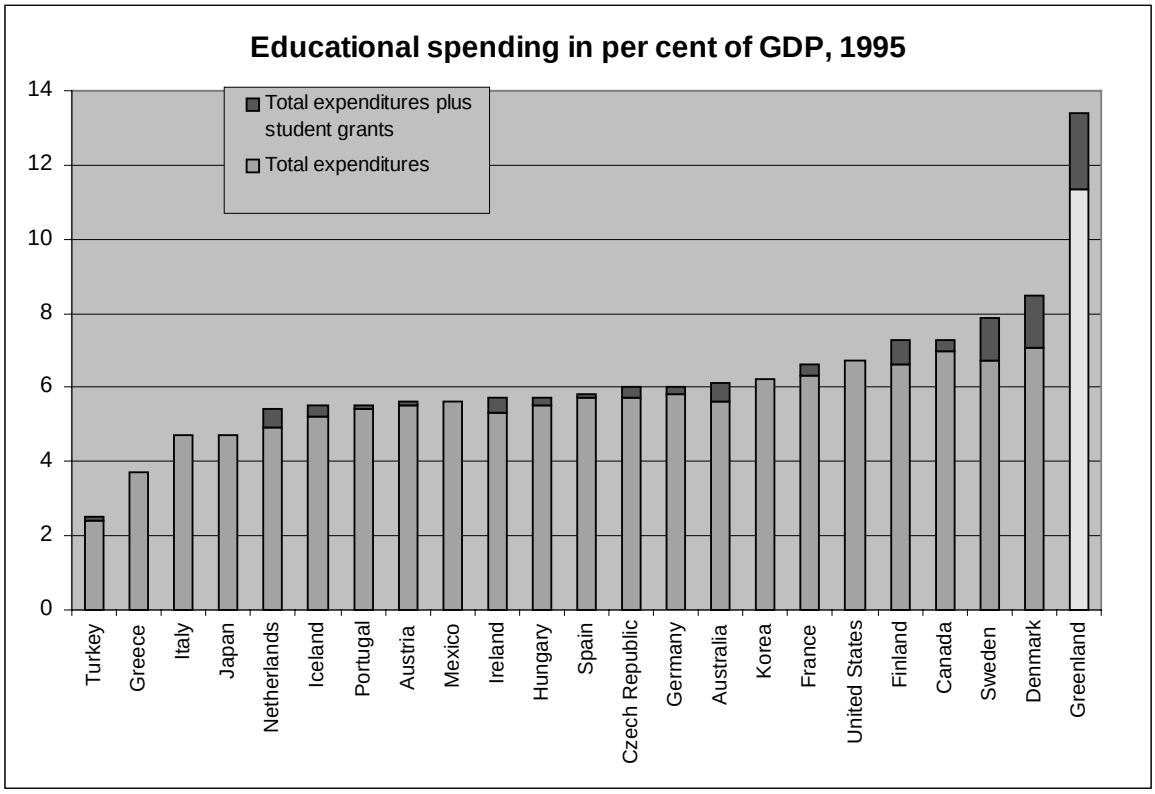
Source: Det Rådgivende Udvalg vedrørende Grønlands økonomi (1996).

The costs of the education system

At 11 per cent of GDP, the total resources devoted to education in Greenland is higher than in the OECD countries (Figure 16). If grants to students are included, the share is 13 per cent. A relatively large number of people in the cohort 6-16 years, diseconomies of scale and the huge number of individual schools and institutions for the size of the population[20] are among the explanations of the high cost level.

Figure 16. Educational spending

(in % of GDP)



Source: OECD (1998*c)* and Grønlands Statistik.

The high cost level is reflected in much higher production costs per person educated in Greenland than in Denmark. Depending on the specific education the costs per unit can be more than 4 times higher in Greenland (Table 22). Although the figures might need some updating they demonstrates it is very costly to educate people in Greenland.

20. At the vocational training centers there is less than 8 students in one third of the classes (1993 data).

Table 22. Costs per person educated in Greenland and Denmark.

	Greenland (1992)	Denmark (1994)
General upper secondary	450	203
Clerk	230	56
Metalworker	410	151
Technical assistant	580	145
School teacher	580	397
Administrator/economist	970	378
Engineer	a)	579
Dentist	a)	961

a) The educations are taking place in Denmark. The home rule government only pays grants

Source: Det Rådgivende Udvalg vedrørende Grønlands økonomi (1996).

A special feature in Greenland is the system of student grants. Students not living with their parents receive 4 000 DKK and students living with their parents receive 2 000 DKK per month to cover living expenses. For students studying abroad the grants are even higher. Overall, the system of maintenance for students is more generous even than the Danish system which already stands out as the most generous in the OECD area.

2. Entrepreneurship

The impressive job-creation record of new and small firms in many OECD countries suggests that a strong entrepreneurial environment can improve labour market performance by ensuring that small and medium-size enterprises (SMEs) take full advantage of new products and processes. The transition to market based economies in Central and Eastern European countries provides a striking illustration of the importance of the interrelationship between framework conditions and culture. The establishment of basic market legislation unleashed pent-up entrepreneurial drive, even in countries where entrepreneurship had been absent for decades. Even though the starting point is very different in Greenland, the example shows that development of a range of new activities is possible if the appropriate conditions are present. Entrepreneurship is the result of three dimensions working together: conducive framework conditions, well designed government programmes and supportive cultural attitudes. Achieving proper framework conditions, including well-functioning markets, should be the foundation of policy. Well-designed and well-targeted government programmes and supportive cultural attitudes complement framework conditions. The following section is based on OECD (1998*a*) where entrepreneurship is analysed in detail.

Although no statistics on enterprise structure and enterprise creation are available, it seems clear that the main focus of future job creation policies in Greenland should be development of SMEs. First, Greenland is a very small economy with small markets leaving little room for many large-scale projects. Second, big (State owned) companies are already dominant in the economy. Third, Greenland is in a transition process with people moving from settlements to towns and between settlements, increasing the need for creation of job opportunities in many new locations, but also suggesting new business opportunities particularly in the service sector.

Macroeconomic framework

While sound macroeconomic performance on its own is insufficient to foster entrepreneurship, it can certainly help. Entrepreneurial activity is easier in a low-inflation environment where sound

government budget positions reduce the need for increasing tax rates. However, as economic growth has been very modest since the mid-1980s overall macroeconomic development in Greenland has not been very conducive to the development of new enterprises in recent years.

Flexible labour market

A flexible labour market is important to entrepreneurship insofar as it enables firms to respond quickly and easily to changed competitive environments and markets. The labour market analysis in this chapter shows that the labour market in Greenland in many respects is resilient, except the wage formation system. The combination of low productivity and high wages discourages employment, especially for SMEs which are already taking risks and might find it difficult to provide the necessary training. Further, the relatively high wage level gives a strong incentive to become an employee instead of starting up a new business. When potential entrepreneurs have to decide whether to launch an enterprise they often have to choose either to maintain a well-paid job (often in the public sector) or accept a low and uncertain income during the start up phase.

Risk capital

All firms need finance but new firms generally face extra difficulties in finding finance since by definition they have no track record. Anecdotal evidence suggests that the only bank in Greenland, Grønlandsbanken, is reluctant to provide risk capital, although it is not clear whether any reluctance is more or less pronounced than in other countries. As in other countries, the quality of the proposed new projects might not be sufficiently high. Nonetheless, it is problematic that local competition on the capital market is non-existant and one or two more private banks in Greenland would be desirable. To support the creation of new enterprises, several public financed schemes have been created, including schemes to provide capital to certain sectors (fisheries and tourism). Further, in 1993 the state owned company SULISA was created. One of the company's objectives is to provide risk capital to new businesses, but so far only a few enterprises have benefited from it, in part due to the low quality of the proposed projects. In other countries, a start-up does often not involve much finance, often using own savings, borrowing from family or friends. However, with the low saving rate in Greenland this is not usually the case, and the low private ownership of the housing stock implies that basic collateral is often lacking. Micro-enterprise development programmes (access to small amounts of credit and training to those traditionally bypassed such as women, poor and those in areas of economic downturn) have proved successful in, for instance, the United States, Northern part of Norway and Bangladesh. It might be possible to establish similar programmes in Greenland[21].

Competition

Sound structural policies are essential to produce well-functioning markets for goods, services and labour. Competition allows consumers to indicate clearly what they want and ensures that the entrepreneur receives clear feedback on how well he or she is performing and spurs entrepreneurs to try harder. In Chapter 4 the need for and measures to enhance competition were discussed in detail, including public tender, privatisation and out-sourcing. Until such time as the public owned companies are privatised, the authorities might consider formulating guidelines for the activities of these companies in order to avoid unfair competition with small private enterprises.

21. See (OECD, 1996b) for an elaboration of the ideas.

Burden of government

The burden of government should also be reduced on the administrative level by cutting down red tape and regulations. Starting a business is complex and time consuming in itself and the paperwork involved in setting up a company should be reduced to a minimum. Also the ongoing costs of complying with government administrative, regulative and reporting requirements may discourage some entrepreneurs. The government should consider reviewing the existing regulatory requirements to see where they can be streamlined or even abolished. In general comparatively little paper work appears to be required when setting up a new enterprise in Greenland. However, a special license to trade and operate must be obtained before it is possible to start up an enterprise. One precondition to obtain such a license is the applicant must have lived in Greenland the preceding 2 years. Although exceptions can be made to this rule, it seems very hard to justify. Taxation and the tax system is another burden often complained about by entrepreneurs; however, with low tax rates and the possibility of immediate depreciation, the system of taxation is relatively "generous" and transparent, making it supportive to entrepreneurs.

The housing situation

The shortage of dwellings is an impediment to job creation, particularly for new businesses, as it is often necessary for the employer to provide accommodation in order to attract new staff. The problem is most pronounced in Nuuk where the waiting lists are very long.

Firm closure and bankruptcy

The closure of firms is a necessary part of the entrepreneurial process which allows resources to move to more productive uses. Policies that restrict the scope for enterprises to restructure or close down reduce the ability to adjust quickly and can discourage entrepreneurs from starting up[22]. Also for the individual entrepreneur, bankruptcy legislation is very important, and an appropriate balance between the rights and obligations of owners and creditors of firms needs to be found. Excessive personal bankruptcy costs will discourage potential entrepreneurs, but costs that are too low do not encourage entrepreneurs to be financially disciplined, undermining the protection of creditors.

Social norms

Risk taking is often discouraged by social norms. In some countries business failure is seen as a reasonable outcome of a "good try", whereas in other countries it is viewed more as a personal failure with social stigma attached. Although fishermen and hunters in Greenland can be seen as entrepreneurs, entrepreneurial activity does not have a strong tradition in Greenland. And with the country divided into many small communities where it is impossible to be anonymous, it seems plausible to assume that Greenland belongs to the latter group of countries. Also, co-operative attitudes among entrepreneurs and the development of clusters of small firms might be enhanced by increased acknowledgement of successful entrepreneurial activity.

22. In the typical OECD country about half of the new businesses are likely to close down again within the first five years. Only a small proportion of closing firms are bankrupt, and most firm closures do not involve losses to creditors.

Programmes to foster entrepreneurship

Policies aimed at fostering entrepreneurship cannot substitute for well-functioning markets and proper framework conditions. However, government programmes can complement and support appropriate framework conditions.

Such programmes can be inexpensive as they merely provide access to information and try to change the attitude and raise awareness. Programmes of this sort have the added virtue of not interfering with market incentives. Some examples could be:

- Information dissemination on procedures for establishing a business and support in the form of advisory and training assistance to reduce the disadvantages of small firms due to lack of adequate management, marketing and organisational skills. SULISA is already making an effort in these areas.

- Publicly commending entrepreneurial efforts through awards such as "most successful business of the year", which make role models more visible.

- Support for programmes such as business competition in schools and training centres which can help students to get experience and give encouragement.

Studies of entrepreneurship in the Netherlands and the United States show that the typical new entrepreneur has worked for two to three well-established enterprises and then decides to establish a business, often drawing directly on the skills and experience acquired in previous employment. This idea has already been adopted in Greenland as KNI and Royal Arctic Line have introduced initiatives where employees are taught how to run a business. This kind of strategy could be extended by including educational requirements in service contracts negotiated with the public owned enterprises.

3. The wage formation system

A successful wage formation system will provide both aggregate wage flexibility, ensuring that real wages are sufficiently sensitive to changes in the unemployment rate, and relative wage flexibility, ensuring wages appropriately reflect underlying productivity. Aggregate wage flexibility is crucial to the ability of an economy to adjust to shocks.

In the public sector, centralised wage bargaining takes place between the public employers and trade unions every second or third year. The most important trade union, SIK (National Workers Union), represents unskilled workers and to some extent skilled workers, while other trade unions represents their members according to occupation. Danes and people educated in Denmark are typically represented by Danish trade unions. In the private sector, wage bargaining is a combination of collective agreements (primarily in the construction sector between SIK and the employers organisation) and individual contracts bargained at enterprise level which in theory should ensure relative wage flexibility.

In principle, the wage formation system in the private sector should not necessarily lead to unsuitable outcomes. In praxis, however, the result has been a high wage level, and the strong link between wages in Greenland and Denmark, reduces aggregate wage flexibility in Greenland. More concretely, the mechanism seems to derive from the public sector where negotiations take place with both trade unions based in Greenland and Danish trade unions. Afterwards, contagion effects or a kind administrative extension is spread from the dominant public sector to the private sector. This is in accordance with anecdotal evidence suggesting the wage level is very uniform in all towns, except Nuuk

where it is higher, indicating a de facto extension of the wage agreements is taking place despite individual bargaining at the enterprises. As a consequence, neither aggregate wage flexibility nor relative wage flexibility in Greenland is sufficient to prevent low private employment and high unemployment among unskilled. Only when Greenlanders have replaced most of the Danes in the labour market may the link between the labour markets in the two countries be weakened.

4. Product market competition

Since job creation is closely related to the growth of new and small enterprises, product market imperfections can hamper employment growth by shielding existing firms or discouraging new business activities. Lack of competition will generally entail higher prices and lower employment in the short run, while in the long run reducing economic growth by allocating resources in an inefficient way. Moreover, sectors reaping economic rent due to weak competition are more likely to offer above average wages. In the absence of sufficient relative wage flexibility, this tends to push up the general wage level in the economy, thus curbing aggregate labour demand. These common mechanisms are working not only in the OECD countries but also in Greenland.

Ways to improve the functioning of the economy were discussed in more detail in Chapter 4. These initiatives should be supplemented with a less protectionistic attitude in Greenland. Competitive pressure is enhanced by foreign trade, which allows the consumers to buy the goods at the best price, and ensures that resources are used in the most efficient way. However, in Greenland, competition is hampered by the existence of monopolies in the domestic market, the uniform fright duty, special taxes on some goods and the existence of monopolies in transport. It is important not to restrain these mechanisms further with publicly supported domestic "Buy Greenlandic" campaigns. Competition in service sectors could also be enhanced by a more open attitude to foreign companies. The most prominent example is the construction sector where building contractors are limited to firms located in Greenland. In an economy with many small markets and weak competition this tends to enhance formation of local monopolies and/or cartels among both employers and employees, pushing up the cost and wage level[23]. As indicated in Chapter 3, significant construction and maintenance initiatives might be needed in the years to come. To avoid overheating of the construction sector as a result of this increased activity, and thereby wage increases in other sectors as well, foreign companies with expertise and experience in construction in the arctic should be invited to participate in the bidding processes (a requirement of employing and training of local workers could be included in the contract). Companies located in Greenland will have a competitive advantage given that they are already in Greenland and used to the specific conditions, while overseas companies may bring new ideas and organisational/working practices to the sector.

23. Construction costs are 1.7–2.5 higher in Greenland than in Denmark (Arbejdsgruppen verdorende støtte til de landbaserede erhverv, 1998).

Competition in the labour market could also be further enhanced. Legislation gives people born in Greenland and people with special relations to Greenland preferential treatment. When a vacancy (unskilled or skilled workers) is to be filled, the employer can only hire from abroad after special permission is obtained and this is only given if no Greenlander with the required skills is available. It is doubtful whether this rule has positive effects on the employment of Greenlanders since the firms have already a strong economic incentives to hire local workers, as it is very costly (moving expenses, etc.) to hire employees in Denmark.

5. Taxes and transfers

Taxes on labour income often spill over into the wage setting mechanism. Wage earners may attempt to resist any lowering of their net income via compensating claims at the bargaining table, which would result in higher labour costs. Unemployment compensation has been introduced in OECD countries to prevent temporary lack of employment from having too adverse social consequences. Benefits have been successful in achieving these aims, but there has been growing recognition that overly generous benefits may reduce the intensity of job search, increase the duration of unemployment, and weaken the pressure on the unemployed to accept suitable job offers. High benefits may also contribute to excessive wage demands.

Unemployment insurance in a traditional sense does not exist in Greenland -- the general rule is that everyone must support themselves and their family. However, members of SIK receive fixed rates of financial assistance in case of unemployment or illness. This assistance amounts to 66 per cent of the SIK's pay level in case of unskilled parents and 55 per cent of SIK's pay level to others. The financial assistance based on fixed rates is provided for no more than 13 weeks in a 12-month period. Financial support (cash benefits) may be granted to all groups when normal income is reduced or no longer received during a period which is not temporary. In addition, assistance given according to need can be granted to cover reasonable fixed costs and living expenses. In principle, financial assistance is higher than cash benefits, although the level of cash benefits is not well-defined, as it is based on subjective criteria and differ between the municipalities.

Early retirement can be granted to individuals with physical, psychological or social difficulties. The municipalities are responsible for allocating and awarding the benefits while the home rule government bears 90 per cent of the financing, giving the municipalities an economic incentive to allot early retirement benefits, especially in regions where it is difficult to find employment opportunities.

A crucial aspect of any tax-transfer system is that it should avoid high marginal effective tax rates that create poverty traps (*i.e.*, the situation where poor families can find themselves with reduced disposable income if one member works more) and unemployment traps (*i.e.*, the disincentives to work that arise from high, out-of-work, welfare payments relative to income from work). With a low benefit level and the short benefit duration the tax-transfer system does not for the most part generate unemployment traps. The existence of poverty traps, however, seems to be a serious dilemma, particularly as regards the means-testing of child allowances and housing benefits. It has been estimated that the disposable income (net of tax, rent and child allowances) of a family with two children will decrease by 4 260 DKK if the family gross income increases from 110 000 DKK to 140 000 DKK (Table 23). A similar calculation made for a single wage earner showed that his disposable income will increase only 480 DKK if his annual income increases from 100 000 DKK to 128 000 DKK. As the annual income for a SIK-worker earning the minimum wage is around 110 000 DKK the economic incentive for low paid workers to find a higher paid job, undertake training courses and to take up additional work is non-existing and it is very difficult for the lowest paid to move upward in the income ladder. The problem cannot be neglected as 7 per cent of the single wage earners have an annual income in the range

100 000-125 000 DKK and almost 1/5 of the couples have an annual income in the range 100 000-150 000 DKK (although not all of them have 2 children).

Table 23. Disposable income for a family with two children

(DKK)

Income	Income net of tax	Child allowance	Rent net of housing benefits	Disposable income
110 000	102 800	9 720	9 180	103 340
128 000	113 600	9 720	23 180	100 140
140 000	120 800	6 480	28 200	99 080

Source: Socialreformkommissionen (1997).

6. Employment security provisions

A long term relationship between firms and employees, employment security, whether guaranteed by legislation or collective bargaining, encourages firms to invest in their workers' training, which may lead to higher levels of productivity and earnings for "insiders". However, as such regulations leave firms retaining workers who are no longer required, they will become more cautious in hiring, to the particular detriment of "outsiders" and risking the dynamism of the economy more generally -- the creation as well as liquidation of enterprises is an important mechanism in a market economy and efforts to maintain unprofitable jobs should generally not be encouraged.

In Greenland, labour market legislation is very liberal with very low hiring and firing costs, although it is difficult for the public owned enterprises to lay-off people in the smaller towns for political reasons. With the high unemployment rate among unskilled it is important to maintain this flexible system to avoid further aggravating the insider/outsider problems and to ensure a dynamic economy.

7. Flexibility of working time

Traditional working-time arrangements, whether enshrined in legislation or collective agreements, may hinder labour market flexibility and job creation. Firm's requirements vary over time and across sectors, both as a function of seasonal and cyclical fluctuations in demand and differences in production processes. Flexible working-time arrangements allow a better match between firm's labour requirements and worker's aspirations, including the flexibility desired for family or educational reasons. In a very small economy where the production processes by nature are of small-scale and where seasonal variations are pronounced, the importance of working time flexibility is especially important.

In Greenland working hours tend to be very flexible. The starting point is a 40-hour working week for all groups with access to longer/shorter working hours if needed. Furthermore, there are no restrictions on the use of part-time employment, and with the recent decision to increase the retirement age increased flexibility over the life-time has also been introduced. Thus, restrictions on working hours cannot be seen as an impediment to job creation in Greenland.

8. Active labour market policies

Helping the unemployed to become competitive in the labour market is preferable to providing them only with income support. This general principle is the basic rationale for active labour market policies (ALMPs). Examples of this kind of policy are job-search assistance and counselling, training programmes, hiring subsidies and temporary employment programmes in the public sector. The experiences with some ALMPs in OECD countries have been disappointing in the past and countries have been encouraged to monitor more closely the effectiveness and efficiency of such interventions. However, if carefully designed, tightly managed and targeted on individual needs or specific groups, these policies can help the unemployed to overcome difficulties in finding a job and improve the functioning of the labour market more generally.

In the absence of unemployment insurance, active measures are the predominant form of labour market policy in Greenland and include initiatives like different kinds of wage subsidies, job creation for young people, measures to reduce seasonal unemployment, training programmes and measures to maintain employment. Total public expenditure in OECD countries on public labour market programmes (including unemployment benefits) vary in the range ¼ to 6 per cent of GDP (OECD, 1998*b*). In Greenland the total expenditures on these programmes are around 9 per cent of GDP (Direktoratet for Sociale Anliggender, Arbejdsmarked og Offentlige Arbejder, 1998). Although the OECD and the Greenlandic figures are not directly comparable it indicates that a big effort is undertaken in Greenland in this area. However, the outcome of the effort has not been evaluated in detail and the results are unknown.

9. Creation and diffusion of technological know-how

Sustained improvements in real wages and living standards depend ultimately on technological progress. Productivity gains associated with the introduction and diffusion of new production processes contribute to the secular rise of real wages and may make it easier to sustain low rates of unemployment when wages are not fully flexible. Technological progress occurs through basic research, innovations and diffusion of new products and processes, as well as more efficient use of existing resources.

Given the size of the economy and the generally low level of education, it would not be prudent for Greenland as a general strategy to concentrate its efforts in basic research, although it cannot be ruled out that research in specific areas like arctic science and fisheries might be beneficial. In general, it would seem more relevant to concentrate on dissemination of research results and innovations.

10. Macroeconomic situation

Economic growth has been moderate since 1986 and thereby not conducive to job creation although low inflation and budget surpluses have been obtained (cf. Chapter 2).

Scope for action

Greenland faces two major challenges on the labour market: unemployment is concentrated on the low-skilled which constitute a large part of the labour force and job creation has to be accelerated in the years to come if large-scale unemployment is to be avoided. Moreover, there are questions about the preparedness of the labour force in terms of educational attainment and appropriate skills. For instance, ongoing minerals and oil exploration activities may result in a jump-increase in the demand for labour and the question is whether the Greenlandic labour force will be ready to reap the full employment benefits of the country's natural resources.

Greenland is already meeting a range of the *OECD Jobs Study* recommendations while extra effort to increase employment should primarily be concentrated on five related, areas:

- Training and education;
- Fostering entrepreneurship;
- Increasing product market competition;
- Closing the gap between productivity and wages;
- Reforming the transfer system.

To close the gap between productivity and wages is not an easy task as the labour market situation in Denmark has a strong influence on the wage setting in Greenland. Obviously the best long-term solution would be increase productivity by improving the educational level of the labour force. Such a strategy will also ease the process of replacing Danes on the labour market and thereby weaken the linkages to the Danish labour market. Continuously improvements of the educational level should be supplemented with lower wage increases in Greenland than in Denmark, thereby improving competitiveness and reducing the wage-productivity gap.

When assessing the level of education in Greenland the relatively short period of economic development, basically only the last 50 years, should be taken into account. A couple of generations ago it was neither custom nor easy to undertake education. Given that education is much related to tradition it is not surprising that the educational level is still lacking behind the level in Denmark. At the same time it is encouraging that the average level is increasing.

However, the recent trend for fewer students to complete their education is worrying and somewhat surprising, especially when the private incentives to undertake education are taken into account -- students do not only receive generous grants during their studies but after successful completion they are almost guaranteed high salaries and low unemployment risk. The high drop-out ratio is a matter of serious concern and it should be reduced.

To improve the outcome and the efficiency of the education system a range of initiatives should be considered:

- Given the high unemployment rate among unskilled and the high drop-out ratio, the most important issue in the education system is to strengthen the quality of basic education (primary and lower secondary education). Apart from improving the general level of education, this will ease the transition to upper secondary and tertiary education, and lower the age at which students finish their education. To identify where (geographically) and at what age the pupils are beginning to lag behind, country-wide skills tests at all levels should be conducted on a regular basis. The result of such tests should indicate where additional effort is particularly needed. Further, to increase motivation, the tests could be used as a basis for performance related bonuses for the schools and/or the teachers.

- Geographical concentration of educational institutions would reduce diseconomies of scale and thereby lower the high costs per student and would improve the professional environment to the benefit of both teachers and students. Taking into account that the number of people born in Greenland aged 17-24 is expected to increase by more than 30 per cent up to 2008, it

will be imperative to increase efficiency in the education system if significant cost increases are to be avoided.

- It should be carefully considered whether it is prudent to maintain several tertiary education institutions in Greenland or whether it makes more sense to encourage students to undertake education either in Denmark or in another country. Seen from a purely economic point of view, it would be much cheaper to let more students undertake their education abroad, especially in Denmark. And maybe more importantly, the students will be better educated as it is difficult to obtain and maintain a sufficiently high professional level at small institutions with very few teachers. Anecdotal evidence suggests that most students return to Greenland after graduating (or even better after having gained some professional experience), so the risk of excessive brain drain may be moderate. The incentive to come to Greenland could be strengthened if students not returning within some years after graduating were obliged to repay their student grants.

Concerning curricula, it should have high priority that the pupils in addition to Greenlandic learn at least Danish and preferably other foreign languages. It is a very demanding requirement but some OECD countries (*e.g.*, Canada, Switzerland and Belgium) have demonstrated that it is possible to have well performing societies with more than one official language.

To enhance competition in the economy a less protectionistic attitude is called for. Some straightforward initiatives would be:

- Abolishment of the preferential treatment to people born in or with special relations to Greenland when new positions are to be filled. People already living in Greenland and/or people who are accustomed to the Greenlandic language and habits already have a competitive advantage.

- Inclusion of foreign firms in competitive tendering. The (potential) presence of foreign companies on markets will enhance competition, weaken wage pressure, improve efficiency and make the projects cheaper to the benefit of the public finances and the consumers.

- The open attitude in mining and oil exploitation towards foreign capital should be expanded to include other parts of the business sector.

- The requirement of a special license to trade and operate in Greenland should be abolished. If people want to start-up a new company they should not be hampered by red tape and regulation.

- Elimination of the uniform freight duty which acts as an import tax (cf. Chapter 4).

- Government support to domestic “Buy Greenlandic” campaigns should be carefully considered.

The need for creation of new enterprises, especially SMEs, is evident and creation of a more prevalent entrepreneurial climate is needed. Such a development will be encouraged by improved competition in the economy, less public involvement, and by a reduced gap between wages and productivity. Furthermore, the authorities should consider:

- Publicly commending entrepreneurial efforts through awards such as "most successful business of the year", which create role models and could help to reduce the perception of personal failure if a business start up is not successful.

- Introducing programmes such as business competitions in schools, training centres and in the public owned enterprises, which can help students get experience and give encouragement.

- Introducing micro-enterprise programmes.

The high marginal effective tax rates for people earning low annual incomes is a particularly worrying feature. A reform of the social security system, including housing subsidies and child allowances, containing a reduction of the very high marginal effective tax rates, especially for the lowest paid, is necessary. Moreover, a social security reform should include a change of the financing of early retirement, leaving a larger part of the financing of the system to the municipalities, thereby reducing the economic incentive for the municipalities to offer early retirement. Furthermore, to ease administration and to increase transparency, a social security reform including a unified benefit system based on objective criteria, not favouring members of selected trade unions, should be considered. It has for some time been discussed whether a publicly financed unemployment insurance system should be introduced in Greenland but no decision has yet been taken. That appears to be a prudent decision for (at least) two reasons: First, it would be very costly to launch such a system. In addition to those registered as unemployed it would create an incentive for people with low productivity to apply for unemployment benefits making the total number of potential recipients large. Second, there is a considerable risk that it would impede the traditional way of living in the settlements without generating alternative employment opportunities.

Employment-conditional benefits and tax credits have attracted increased attention in recent years and several OECD countries (*e.g.*, Ireland, Italy, Canada, New Zealand, UK, United States) have introduced different kinds of favourable treatment to targeted groups, *e.g.*, low income families and families with children (OECD, 1997*b*). Given the significant effort used and resources spent in Greenland on various projects to maintain and create employment (cf. Chapter 2 on subsidies and the section above on active labour market policies) and given the high unemployment rate among the unskilled, the authorities could consider defining a system of in-work benefits or wage subsidies targeted to employment of the lowest paid as a way to narrow the gap between productivity and wages.

As the benefits must be withdrawn from earnings the marginal effective tax rates will be affected. Therefore, such a scheme should be carefully designed and seen in conjunction with the social benefit system to avoid the creation of new poverty traps. To replace the numerous subsidies with a universal wage subsidy would increase transparency and reduce distortions in the economy as it will be given to all enterprises employing low paid workers and it would not be restricted to a selected group of enterprises. Thus, a universal wage subsidy would benefit all enterprises, not only specific sectors and existing enterprises but also encourage the creation of new enterprises. Furthermore, it would be a more direct and cheaper way to support the employment of low paid workers than the present system where subsides are given to enterprises without direct links to employment (cf. the high subsidy per employee in certain sectors). Generally, subsidies should be temporary and phased out when the subsidised activity can be conducted on a commercial basis. This principle should also apply to a wage subsidy. As more and more people will move up the income ladder with an increasing general level of education and extended on the job training, the need for the wage subsidy will gradually diminish.

6. INDUSTRIAL STRUCTURE AND FUTURE DEVELOPMENT

The business sector in Greenland is often characterised as having four pillars (Grønlands Baseselskab *et al*., 1997): fisheries, raw materials (mining and oil production), tourism and other land based business (construction, retail trade, industrial production, etc.), underlining the importance ascribed to the country's natural resources. From an economic and employment point of view fisheries and other land-based business are by far the most important sectors (Table 24). But there is also great potential in other sectors.

Table 24. Employment and turnover in the four pillars, 1996

	Employment	Turnover, 1 000 DKK
Fisheries, etc.	6 400	2 477
Raw materials	40	225
Tourism	210	152
Other land-based business	8 200	6 858
Total	14 850	9 712

Source: Andersen *et al.* (1998).

Fisheries

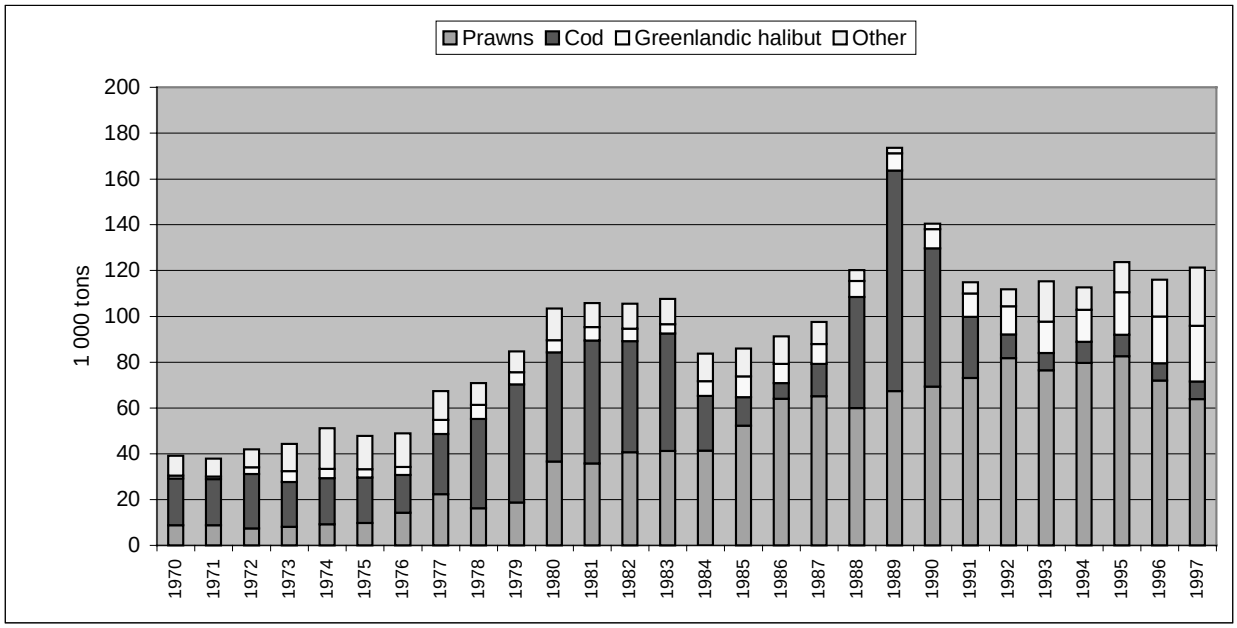
Fisheries is the key business sector, accounting for almost one quarter of total employment and 92 per cent of exports (of which prawns make up 70 per cent). However, the dominance of fisheries makes the economy highly dependent on the development of the fish stock and on fish prices, which both can be quite unstable. Greenland's fishing industry is protected to some extent from these vagaries by being highly subsidised. In 1996 total subsidies to fisheries amounted to 235 million DKK, corresponding to a subsidy per employee of 37 000 DKK (Andersen *et al*., 1998). These figures do not take into account that: fisheries are exempted from paying social contributions (0.8 per cent of the wage bill) or that they have access to cheaper electricity and water supplies than other sectors.

Total catches by Greenlandic vessels increased strongly from the mid-1970s to the late 1980s (Figure 17), but following a decline in the first half of the 1990s it has been roughly constant since then. The composition of the fish catch has changed dramatically, however. Twenty-five years ago prawn catches were small, whereas it is the dominating species today. Cod, on the other hand -- which has traditionally been the most important species -- is almost non-existent in Greenland waters today[24]. And while in the mid-1970s Greenland halibut played an insignificant role, it is now the second most important species. Massive investments in, and adjustments of, the fishing fleet have gone hand-in-hand with the strong increase in catches and their changed composition, demonstrating that an important part of the

24. Greenland has some cod quotas in the Barents sea whereby some expertise in cod fishing is maintained.

Greenlandic business sector has been well able to adjust to new circumstances, although not without some difficulties. During the 1980s, when cod catches were booming the fishing fleet was increased significantly leading to excess capacity, which became particularly visible in the wake of the decline of cod stocks.

Figure 17. Greenlandic catches, 1970-1996



Today the prawn fishing fleet consists of two types of vessels:

- Medium-sized vessels, 5-80 GRT. In 1994, one-third of this segment made a zero or positive profit, one third was only rewarding from a cost-benefit point of view when saved social benefits are taken into account, and one third was unprofitable.

- Large sea-going factory vessels, more than 80 GRT. Seventy-five per cent of catches are processed on board and exported directly. The remaining 25 per cent of the catches must, according to law, be processed on land. The big vessels are the most profitable part of the fishing fleet.

The catches not processed on board on the large vessels are conveyed to fish processing factories in towns and settlements along the coast. Some of the factories are not profitable but are maintained as they play a pivotal role in the economic life of some towns and settlements and a significant proportion of the subsidies to the fisheries industry is paid to these factories. Most of the factories are owned by the state owned enterprise Royal Greenland, although a private company, Polar Seafood, has recently constructed its own factories in Nuuk and in some strategic towns, inducing some competition on the domestic market.

It is of critical importance that Greenland maintains a sustainable fishing stock and a tradable quota system is now an integral part of fisheries policy. Each year, the TAC (Total Allowable Catch) is

fixed by the Home Rule Government following recommendations from biologists and international fisheries organisations and taking into account both biological and societal objectives to ensure sustainable fishing. For the large vessels fishing off-shore, the system of tradable quotas was introduced in 1991. In 1996 a system of tradable quotas was also introduced in the in-shore fisheries. The quotas are given to the ship owners each year as a percentage of the TAC after which the quotas can be exchanged between the ship owners within each of the two categories, in-shore and off-shore. This system has allowed for the reduction of excess capacity as the owners of the least profitable vessels have the option of selling their quota to other, more efficient, ship owners and possibly transfer their own vessels to other kinds of fishing. With the use of condemnation loans in addition to tradable quotas, capacity in the out-shore fisheries has been reduced from more than 50 vessels in 1990 to 17 in 1998, while the capacity of the in-shore fleet has been reduced from 140 in 1993 to 75 in 1999.

Although it has worked well, the quota system could be improved by the sale of quotas in open auctions[25]. In the present system the ship owners receive each year a quota which they can sell and thereby make a pure profit if they so wish, a practice which is protectionist and limits access to the market of new competitors. Until a new auction system is in place, the quotas sold for pure profit should at least be taxed. Furthermore, the in-shore and the out-shore fleet are fishing the same stock of prawns and it is difficult to justify, on an economic basis, the division of the TAC into two quotas. The authorities should consider allowing in-shore catches to be processed at sea or merging the in-shore and the out-shore quotas, thereby increasing the overall profitability of the fisheries and reducing the need for subsidies to support particular parts of the industry. Such an initiative would be a continuation of a process towards economically and environmentally sustainable fisheries industry.

A special on-board processing fee of 3 per cent of the turnover is imposed on all catches not processed on land. Some have argued that it is a tax on the country's most profitable export item. However, as long as the prawn quotas are not sold on auctions but given away for free, the prawn duty should be seen as a justifiable payment for having access to a natural resource.

As mentioned above, the dominance of a single species makes the fisheries very vulnerable to changes in prices and the stock of that specie. As the stock of prawns will not in all likelihood increase with trend productivity growth, total employment in prawn fisheries will probably decrease. Efforts to develop new species (*e.g.*, crabs, redfish and capelin) are being undertaken in an attempt to diversify the industry. In order to maintain expertise in catching different species, to develop new species and to increase utilisation of the fishing fleet, Greenland has signed international fisheries protocols with Russia, Norway, the Faeroe Islands and Iceland. As a general principle these protocols allow Greenlandic vessels to catch certain quantities of different species in the other countries' waters and vice versa. These initiatives to diversify fisheries are seen as one way to reduce vulnerability and to maintain a high level of employment in fisheries in preparation for when/if cod returns to Greenlandic waters. In addition, Greenland has a fisheries agreement with the EU. The present agreement covers the period 1995-2000 and gives EU vessels access to certain quotas in Greenlandic waters in return for which Greenland receives an annual payment of 37.7 million ECU. A new agreement is currently being negotiated, and it would help to diversify the economy -- for the same reasons as agreements with other third parties -- if Greenland could obtain access to fish quotas in EU waters instead of simply receiving payments from the EU.

As employment in prawn fisheries is likely to decrease over time, it is important to develop new species, waters and products in order to strengthen the industry and, in turn, the Greenland economy. Although new species might not be as important as prawns or Greenlandic halibut are today, they nevertheless deserve attention, especially as a complement to traditional fishing in the settlements. Attempts to develop exploitation of Greenland's other living resources such as seal products, furs, musk ox

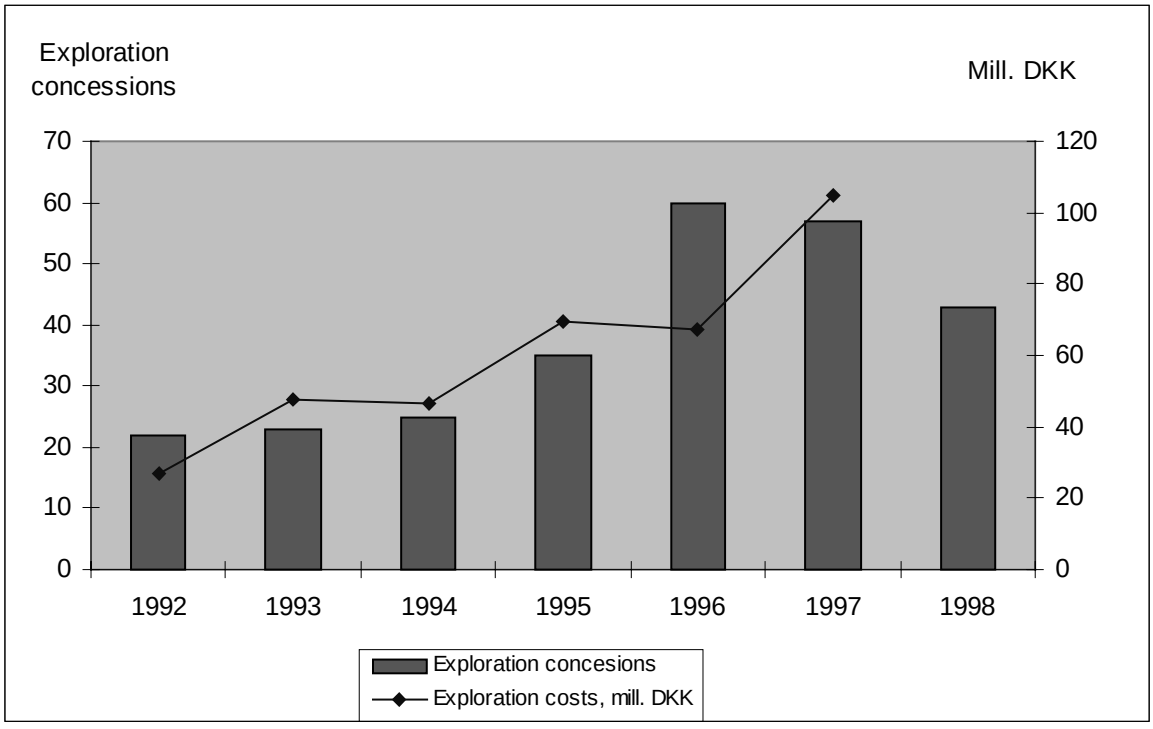
25. The quotas could be sold for instance every 5 or 7 years to allow an appropriate planing horizon.

and lamb also have potential as ways of diversifying local economies through relatively small-scale niche products.

Mining and oil production

There is a long tradition in Greenland of mineral extraction, including cryolite, coal, zinc, lead and copper. The last active mine was closed in 1991, but in recent years there has been a marked increase in exploration activity (Figure 18), including, for instance, gold, diamonds, zinc, nickel and copper. Furthermore, there is an increasing interest in oil exploration. There are today two exploration licenses for oil and gas off-shore in West Greenland. The first off-shore well since 1977 will be drilled in the year 2000. The overall strategy is to actively encourage exploration for both minerals and oil and gas because a high level of exploration activity is a necessary condition for the discovery of commercially viable deposits.

Figure 18. Mineral exploration



Source: Bureau of minerals and petroleum.

Increased exploration activity has been spurred by interesting discoveries in comparable geological areas in Northeast Canada, and a open political attitude towards the international oil- and mining companies has made conditions for exploration and exploitation favourable compared to the situation in other countries.

A recent study (Udvalget om socioøkonmiske virkninger af olie- og gasudvinding samt mineralproduktion, 1997) analyses the economic consequences of exploitation of raw materials. The

impact of oil production would, of course, be much more far-reaching than a revival of mining activities (Table 25). During the investment phase, the employment effects would vary with the size of the projects but would be in the range of 100 to 500 persons, while in the production phase the employment effects in mining and oil production are much alike, 100-400 persons. The indirect employment effect (hotel, transport, etc.) might also be of a similar magnitude. A much greater impact on the Treasury could be expected from an oil industry than from mineral extraction, however.

Table 25. Economic consequences of mining and oil production

	Mining Billion DKK	Oil production Billion DKK
Required investments	0.1-1	10
Annual production	0.05-1	4
Tax revenue, first years	0.03	0.1
Tax revenue after depreciation of total investments	0.1	1

Source: Bach (1998).

Although exploitation of the Greenlandic underground would need to be increased considerably before economic independence would be reached[26], deposits of less importance would nevertheless contribute to the development and diversification of the economy. Increasing exploration activities are very encouraging and a revival of raw material prices would spur exploration activities still further.

Finding an oil-field or big mineral deposit would have a significant impact on the economy by increasing government revenue and generating some employment. There are, however, risks. If spent immediately, oil revenues could overheat the economy and aggravate the symptoms of Dutch disease, without helping to develop the private business sector and having a detrimental impact on the fishing industry. Hence, it is very important that the extra revenue is not spent pro-cyclically, *i.e.* when the economy is already booming due to exploration and/or exploitation activity. A "Raw Materials fund" in line with the Norwegian "Petroleum Fund" (OECD 1995) could help to contain the risk of overheating and it would make it clear to policy makers that exploitation of raw materials may be only a temporary phenomena, maybe lasting 15 - 25 years, and allow future generations to benefit from wealth in the subsoil.

It is also important that a large part of the employees in these new activities come from the local community, and that the local service industry is sufficiently developed to take on as many as possible of the ancillary tasks involved. Particularly in oil projects and to some extend in mineral projects the jobs require specialisations which are not currently available in the local work force. Moreover, the oil and mineral industry is likely to attract people already employed in Greenland. Hence, it is essential that the labour force be trained and educated to a standard where they can participate in employment growth. Further, to also benefit from increased demand for services and thereby the indirect employment effects from mineral and oil activities, it would be necessary to focus policy attention on building a stronger, more entrepreneurial service sector (cf. Chapter 5).

26. If one oil field is found it is probable to find more and an "oil-adventure" can not be excluded.

Small-scale mining

Along with the big mining projects, small-scale mining activities are also under consideration. These projects are intended to employ seasonal workers extracting small quantities of special minerals, typically during the summer period. The activities can be located in old mining areas where some minerals are readily accessible or in new localities where the deposits of minerals are too modest for large-scale industrial exploitation. Moreover, to tap valuable local knowledge about geology a "mineral hunt" is organised each year where people are encouraged to go out in the field and look for minerals. Prizes are awarded to those giving the most interesting new information regarding mineral deposits or general geology. Although most significant mineral discoveries are the result of an extended process involving collection of geological data and systematic exploration, every now and then individuals do make spectacular discoveries that could result in major mines. However, while this kind of project is unlikely to generate a lot of jobs, they represent potential areas of economic activity in remote regions, which may involve educational undertakings, and increase the general awareness of and knowledge about mining.

Environmental concerns

Greenland has always been highly dependent on natural resources and there is a widespread understanding of the need to follow a sustainable environmental development path. Considerable attention is given to physical and ecological environmental factors during all stages of mineral resource activities from the preparatory phases to and after closing down. More generally, a concerted effort is made to build up knowledge regarding environmental conditions and mineral resources in the Arctic. Base-line activities are carried out in connection with all major potential exploration activities, and during all production activities the environmental effects are monitored systematically, with this work typically continuing several years after production has ceased.

Tourism

The third pillar of the economy is tourism, another area where future expansion is primarily based on Greenland's outstanding natural environment. Greenland has unique sights and exceptional tourist activities not found elsewhere or in only a very few places, such as icebergs, the ice cap, dog sledges, the Northern Lights, midnight sun, Inuit traditions and culture, etc. At the moment, however, employment in tourism (excluding transportation) is only 240 people on an annual basis. As such, it would appear that there is scope to develop tourism further, based, to a large extent on local resources, and to create new job opportunities and supplement activities in remote areas.

The government has already set up ambitious objectives regarding tourism (Grønlands Hjemmestyre, 1998):

> *"Tourism should make Greenland richer in terms of money, work and cultural understanding, and create opportunities and experiences for local people as well as for tourists".*

More concretely the aim is to:

- Ensure a total turnover in tourism of 500 million DKK by 2008;
- Generate local employment, preferably full time employment;
- Improve the infrastructure to and in Greenland;

- Increase general awareness of, and knowledge about, Greenland;
- Create opportunities for new experiences for local people;
- Respect the environment and local culture.

Provision of tourism services is dominated by Greenland Tourism, a company fully-owned by the home rule government. It was established in 1992 with the aim to develop tourism, including product diversification and marketing. In recent years local branches of Greenland Tourism have been created and in 1993 a special "Outfitter-arrangement" was established to encourage local people to enter the tourism business. A special certificate is required to become an outfitter, involving detailed knowledge of the local area, first aid, etc.

As tourism was to be built-up from a very low level in the early 1990s and new investments was required, it made good sense to commence with a co-ordinated effort. In a medium term perspective, however, public involvement in the sector should be reduced given that tourism is an area where private initiatives, particularly on the part of entrepreneurs and small companies, can flourish. In 1997 direct subsidies in tourism corresponded to 2 000 DKK per tourist or 225 000 DKK per full-time employee in the sector (Andersen *et al*., 1998), which also suggests that efforts to lower public involvement are needed.

Development of tourism in Greenland is constrained by a number of factors: travelling to Greenland and within the country is costly; it is expensive to be a tourist in Greenland due to the high price and cost level; tourist facilities are not yet sufficiently developed in many parts of the country and Greenland has not so far gained a reputation as an accessible destination. Most of these adverse factors are closely related to the structural challenges in Greenland and as discussed in the preceding chapters it is possible to counteract most of these weaknesses. Reforming the uniform price system is expected to reduce travelling expenditures and broadly based reforms in other parts of the economy should also lower the general cost level. Further, more tourists coming to Greenland will in itself lower costs in the tourism sector as there will be some potential for benefiting from economies of scale. A stronger emphasis on education (in particular foreign languages) is another crucial element in developing tourism, especially as the use of local competencies is a high priority. The tourism sector would also benefit from a better entrepreneurial climate[27]. Although it is difficult to envisage tourism solving the employment problem, it is a sector with potential for development, and one which would contribute to diversifying the economy.

Other land-based business

The fourth pillar, other land-based business, includes sectors like retail trade, construction, services, production, etc. with an employment of 8 200 persons or 1/3 of total employment. These industries are almost exclusively directed towards the Greenlandic market, and the sectors contributes less than one per cent to total exports. Although the public sector also plays an important role in this part of the economy[28] some private sector dynamism exists. One third of the enterprises are less than 6 years old and some small enterprises are flourishing (Grønlands Baseselskab *et al.*, 1996). Reflecting the many small markets in Greenland 76 per cent of the enterprises have less than 10 employees (Table 26).

27. The development of entrepreneurship would at the same time be encouraged by the tourism sector as it is a relatively easy area to start up some activities (low capital requirements, based on local experiences, can be on ad hoc basis during the summer period).

28. In the most important of the sectors, retail trade, 2/3 of the total employment of 3 500 persons are engaged by the public owned company KNI.

This fourth pillar comprises many different kinds of activities and is an important area with a big potential for development. If a better entrepreneurial climate is to be created (cf. Chapter 5) it appears that new enterprises would show up strongly in this part of the economy, although it is difficult to predict a priori what kind of activities private business people will initiate. Given the high freight rates and long transportation time some of these enterprises will probably be based on import substitution, others on producing "normal" goods and services, and some producing goods based on Greenlandic amenities like products put together with old techniques, special Arctic equipment, etc. The build up of several small enterprise producing many kinds of goods and services will create jobs, lay down the foundation for the development of medium sized enterprises and contribute further to a more diversified economy.

Table 26. Firm sizes in the fourth pillar, 1995

Employees	Number of firms, % of total
1-2	27
3-5	28
6-10	21
11-20	15
21-50	7
50+	2
Total	100

Source: Grønlands Baseselskab *et al.*, 1996

Replacing the foreign workforce

Since the establishment of the home rule government it has been the declared policy that as many foreigners as possible should be replaced by people born in Greenland. In most other countries immigrants are primarily taking up low skilled jobs. It is not the case in Greenland, where foreigners are taking up many key positions and exploitation of this "fifth pillar" has consequently room to create local employment by substitution to the extent it is possible for people born in Greenland to take over the positions. However, the aggregate economic effects of such "job creation" are, obviously, smaller than the economic effects of new job creation. It would be preferable to create new jobs and thereby increase total employment and total income and reap the benefits of having a greater local market for goods, services and labour.

Nonetheless, at least two detrimental factors stemming from the many Danes working in Greenland are detectable. First, many Danes are taking up important positions in Greenlandic society making their influence on the overall development relatively large. Second, with some parts of the labour market dominated by Danes their influence on the wage development is disproportionately high (cf. Chapter 5). With a better-educated workforce and more highly qualified Greenlanders, more segments of the labour market would cease to rely solely on foreign workers and more Greenlanders will be able to take over key positions.

Long-term economic prospects

Without a macro-economic model for Greenland, it is a hazardous task to make long term predictions about economic development. However, based on the analysis in this chapter it is possible to

outline a possible path along which employment might evolve up to 2005, assuming unchanged policy[29] (Table 27).

In fisheries, productivity increases and reduction of some of the remaining excess capacity in the in-shore fishing fleet and in some of the production plants will reduce total employment over time, even if catches of species not fully exploited today might create off-setting new employment. However, it will not be sufficient to stop the decline, which may reach 500 persons (8 to 10 per cent of employment in the sector).

Total employment in mining and oil production is presently very low and it is unlikely that significant exploitation can be achieved within a ten year period. Some mining activity is within reach if exploration activity continues at its present pace and it appears reasonable to assume that 1-2 medium-sized mines may be active in 2005, generating a total employment in the order of 300 persons.

Growth of the tourism sector will in all likelihood continue and a doubling of total employment by 2005, implying an annual increase of 9 per cent, is within reach. Many of the jobs will probably be part time jobs, implying that up to 2 000 persons will be required during the high season.

Total employment in other land-based businesses is 8 200 persons, making it the most important segment of the labour market. Given the shortage of dwellings in Greenland, higher employment in the construction sector is almost inevitable. On the other hand, some rationalisation, especially in the retail trade, might affect overall employment in land-based businesses. Assuming an unchanged economic structure and policy context, the sector is not likely to experience significant expansion due to increased entrepreneurial activity, though this would certainly be desirable. Thus, a conservative estimate of total employment in other land-based businesses is that it will remain unchanged to 2005.

Finally, the public sector is unlikely to be much reduced over the coming years, although some decrease of public employment cannot be ruled out if privatisation and rationalisation get on stream.

Table 27. Employment in 1996 and 2005

	Fisheries	Raw materials	Tourism	Other land-based Business	Public sector, Including infrastructure	Total
1996	6 380	40	210	8 220	10 320	25 170
2005	5 880	300	450	8 220	10 320	25 170

Source: Danielsen *et al.* (1998).

Stagnation of total employment up to 2005 imposes considerable challenges on policy makers. But the existence of unexploited potential for private initiatives in all business sectors is very encouraging as it leaves room for diversification of the economy and creation of new activities in many different areas -- such as development of new species in fisheries, exploitation of raw materials (maybe oil, probably minerals and small scale mining), development of various tourism-related activities in different geographic areas, and creation of small and medium-sized enterprises in numerous land based sectors. The broad based strategy sketched out in the preceding chapters lays the foundation for capitalising on these opportunities.

29. The reasoning in the following is in line with the findings in Danielsen *et al.*, 1998.

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