

Fourth Theme: Economic Development in the Changing North

Circumpolar Socio-Economic Comparisons - A Tool for Better Governance

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Numbers are interesting: without a word, they speak a lot. Describing economic realities, they can be used to analyse strengths and weaknesses of a regional situation. When considered over time, when the same measures are replicated over time, they can be used to analyse trends and changes. What do we do with such knowledge? The answer depends on the position of each actor in the socio-political system. An enterprise may offer new services or products to fulfill needs they identify from weaknesses. An association of citizens, for instance an aboriginal group, may put pressure on the government to change weaknesses or negative trends that affect them, taking their own interests into account. A regional government or authority may decide to use public resources to change weaknesses or negative trends, trying to reach the general public interest.

During the past 15 years, we have launched and animated a research program to create such a tool in Northern Canada. We started by trying to put together all available valid data into a single databank at the regional level. Then, we expanded the coverage of the databank through Northern Canada. Now, we are able to provide international comparisons that may be of significant interest to those who are involved in economic development, management, and regulation, and who are interested in making progress.

Mutual Interests

We can now, for instance, compare different figures concerning Northern Alaska, Northern Canada, Greenland and the four regions of Northwest Russian part of the Barents Euro-Arctic Region. A first comparison deals with the economic structure, that is, the distribution of wealth creation between various types of economic activities. This kind of comparison shows that, whatever the specificities of each country's regime regarding economic regulation, the overall distribution of economic activities in the Arctic is very similar from one region to another, with a clear dominance of the tertiary sector. The only structural difference is that in the Russian part of the Barents region, the primary sector is much more important than in the rest of the Arctic. There are, however, other differences. They can be documented when going into the numbers in depth. When looking at the primary sector alone, we can clearly see that, with the exception of Greenland where fisheries are by far much more important than mining which is the most important primary activity elsewhere, all the Arctic regions are very similar. In spite of these differences, however, many other similarities can be observed. Across the Arctic, public administration is the most important tertiary activity, whatever the regime.

These kinds of results may illustrate common struc-

tures and interests between circumpolar countries, regions, governments, enterprises and citizens. The commonalities indicate that development in the Arctic has led to similar situations, which in turn may mean that local solutions and initiatives could have relevance in other locations. All over the Arctic, at least according to the figures we have compiled to date, it seems that development has led to somewhat surprising similarities.

But common sense tells us that there are huge differences from one region to another, in spite of the previous results. If they were not apparent through those numbers, they should become visible when comparing other economic indicators. Personal Income is one of them.

It is rather complex to realize such international comparisons. First, each country uses its own currency; consequently, when comparing situations in different countries, the values must be translated into a single common currency. Here we use USD and the exchange rate in USD for each individual currency. The reason for that choice is that the tools used to convert and, later on, to analyse the data that are created by international organizations such as the OECD and UN, are based on USD. Second, one cannot, with an equivalent sum of money, buy the exact same items in every country, whatever the exchange rate is. One will have to pay more in one country and less in another in buying the same food basket, the same clothing, the same fuel, and so on. Consequently, when comparing situations in different countries, equivalences need to be drawn between situations. A tool does exist for that purpose, namely, one called Purchasing Power Parity. In order to make valid comparisons of Personal Incomes from one country to another, it is necessary to convert the data. When correctly done, the following results are obtained: In Northern Alaska, the standard of living is the highest in the Arctic world, at least according to what we can measure. Detailed results show that this level is obtained mainly in the North Slope Borough, due to the oil revenues from the Prudhoe Bay development. Does this mean that Inupiat are the Northern Emirs? Not exactly. When analyzing the data in greater depth, we can see that, in spite of this

result, a large percentage of the total Personal Incomes is actually cashed-in by non-permanent residents of the Arctic, not to mention that the companies themselves are owned by transnational corporations rather than by Inupiat individuals. The Canadian Arctic takes second place, in standard of living, with an economic basis built on government activities and, to a lesser extent, on mining exploitation. Greenland comes third. As was mentioned earlier, Greenland's resource sector is dependent mainly on fisheries exploitation, where wages paid are lower than in the mining and oil and gas sectors. But the biggest difference can be seen between all of these regions and the Russian Barents. The standard of living, as measured by Personal Income, has nothing in common there.

When analysing such figures in depth, one can gain a better understanding of these results, for instance by identifying the economic sectors responsible for differences. Comparing the trends of one region with those of other regions, one can not only gain a better understanding of what the structural differences are, but also understand what is happening, what the factors are that increase differences, deepen gaps, and so forth. In other words, one can pinpoint sectors where public policy should be created, applied or improved in order to encourage those sectors and to increase trends that are compatible with the general interest as seen by regional governments; or alternatively, to discourage those sectors, and to prevent trends that are incompatible with these interests.

Half-Circumpolar Comparisons

So far, it has been possible to put together basic valid demographic and economic statistics concerning half of the Circumpolar World. From Alaska to the Barents Euro-Arctic Region, though a difficult and delicate task, it has been possible to retrieve and compare this data, due, in large part, to the statistics produced and published by public agencies. In all of these regions, national and regional governments and authorities understood the fundamental necessity for collecting statistical material, and for structuring it in such a way that it can be used for comparisons.

Most of Northern Russia does not fit into that picture. I would like to explain why, in my view, this situation has persisted over the last decade. Moreover, I would like to invite regional governments and authorities to work toward a change for the better in that direction.

My reading of the situation is the following: Before the 1990's, statistics describing Northern Russia were either non-existent, not available, or centrally held and controlled. During the last decade, however, crucial changes have been witnessed. Restructuring the distribution of powers gave the so-called regional governments much more effective responsibilities than before. Republics, Autonomous Okrugs and Oblasts together represent political forces that would not have had any equivalent during Soviet times.

These new levels of government have to face huge challenges. To answer them, they have to set up statistical monitoring systems which would put them in a position to learn about demographic and socio-economic structures, to follow trends, and then, ultimately, to better react.

At the same time, we can see a clear coalescence in the kind of information that is necessary for the exercise of political power, due to the overall convergence of the economic and political systems themselves. The kind of data needed to manage a system based on strict central planning and collective properties is not the same as what is needed when the system to be managed includes free markets and private ownership of the means of production. In fact, any system of government that must react to situations, must follow situations. Today, basic demographic and socio-economic information of common interest can easily be defined as a result of international cooperation in this domain. This information is very close to what is needed for all regional governments throughout the Circumpolar Arctic. And this is a totally new situation, largely due to the changes which have taken place in Russia over the last decade.

In other words, there exists an historic opportunity for creating a tool that would better serve regional needs and, at the same time, would allow us to increase our knowledge and understanding of Arctic realities.

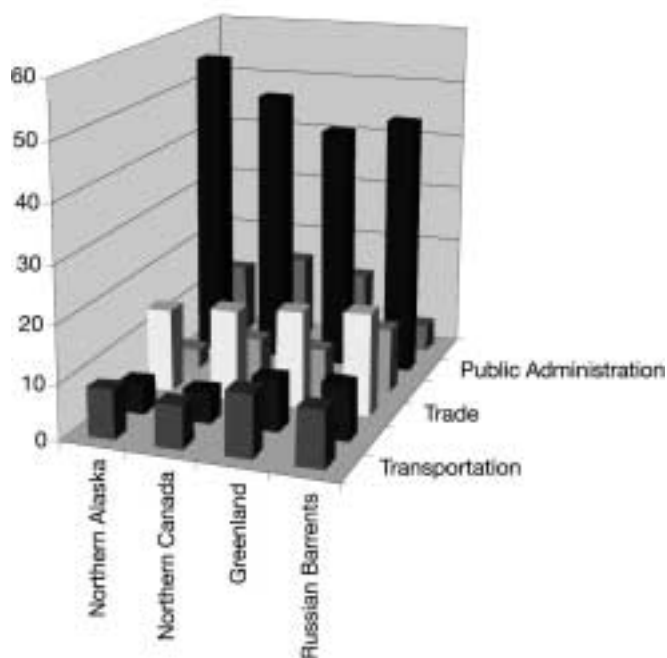
Invitation

We have been able so far to compare the economic situation for one half of the Circumpolar Arctic. I am of the opinion that the Northern Research Forum, and its members, have the opportunity and the power to change this, and to make possible, in the near future, a truly circumpolar economic portrait.

I would like to strongly urge regional leaders from all of Northern Russia, as well as other leaders representing Arctic regions, to cooperate in this effort. Ways and means for relevant cooperation are numerous. We can share our knowledge about the best data to be collected and the best ways for collecting it. When it already exists, we can share the data itself. By exchanging our respective databanks, we can aim at fruitful comparisons, we can answer specific questions, etc.

Whatever your position is, I would like to offer you the collaboration of our research program, and the resources that could and should be mobilized to support cooperation. We all have some expertise, some know-how, and some resources; the benefits of these could be multiplied by sharing our mutual assets.

Tertiary Activities by Branch



In the open world in which we are all living these days, no group benefits from ignoring its situation, or ignoring the situation of its neighbours. Everyone benefits from comparisons. It is from comparisons that better ideas, better solutions, and better practices can be described, understood and then shared. Through such processes, they can eventually be exported, or, in other words, they can be applied in regions to which they are relevant, in order to improve the living conditions of Arctic peoples.

Notes

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Local Economic Development in the North: Three Hypotheses

Lee Huskey

The local economies of the North present a puzzle. These communities and regions lie, for the most part, within some of the world's richest nations. Many of the local economies in the North, however, are relatively poor with low incomes and high levels of unemployment. This paper focuses on the development of local economies in the North and offers three hypotheses to explain the relative development of Northern communities.

The collective per capita output of the eight Arctic nations (Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the United States) would rank the region as the thirteenth richest nation. Except for Russia, the individual Arctic nations rank among the top twenty richest nations in the world. Russia lags significantly behind the other Arctic nations (The Economist, 2002).

Within these Arctic nations are regions and communities of low economic development. Unemployment is one indicator that illustrates the limited economies in some regions. In the predominantly Alaska Native communities of Western Alaska, unemployment rates were fifty percent greater than the Alaska average when discouraged workers were also counted (Huskey, 1992). Unemployment rates of 40 percent were predicted for Natives in the Canadian Arctic (Stabler and Howe, 1990). Russian communities in Central Siberia had unemployment rates of over 90 percent following the collapse of the

state supported economic structure of the Soviet days (Anderson, 2000).

Three hypotheses are offered for testing. The North offers a wide variety of cases. Some Northern communities have developed successful economies while others have only limited economies. Comparing the variety of northern experience will allow social scientists both to add to and to test these hypotheses. The final section of the paper offers some discussion about possible policy options if these explanations prove true.

Framing the Question

Discussions of economic development often focus on the role of government. The primary question asked is often "What can government do to improve the economy of the region?" This paper frames the question differently. In a market economy the entrepreneur is the primary agent creating economic growth. Their search for opportunities leads them often to frontiers, new ideas and new regions. One way to frame the question of development in the Northern regions of the world is to focus on the supply of entrepreneurs in the region. I assume that development is directly affected by the amount of entrepreneurial effort supplied. The question for this paper is "What affects the movement of entrepreneurs into the Arctic regions of the world?"

This doesn't mean we can ignore the role of government in local economic development. Government at all levels has been an active player in the economic development of the North. Government has subsidized growth in a number of ways, providing tax breaks, infrastructure, or direct subsidy. Government has also limited growth by restricting the use of resources or promoting the inappropriate use of resources. Understanding the determinants of entrepreneurial activity will help to make governments' efforts more effective.

For many years economists have suggested that good policy was enough to secure economic development. More recent ideas have focused on the important roles of long lasting institutions and geography. The geography and environment of a region influences both the resources it has for production and the way goods and services are produced (Sachs, 2001; Sokoloff and Engerman, 2000). Geography may also limit access to world markets. Institutions reflect the set of rules under which economic activity takes place. Institutions can create growth encouraging or growth retarding incentives (North, 1991; Olson, 1996). More recent research has focused on the role of geography and environment in the creation of an economy's institutions (Easterly and Levine, 2002; Acemoglu, Johnson, and Robinson, 2001). The first two of the following hypotheses reflect the role of geography in Northern development and the final hypothesis focuses on the institutions of the North.

Hypothesis I: The Lack of Information Limits Development

Economic development in the North is based on resource development as has been the case in most frontier or peripheral areas (Watkins, 1972). Perhaps the simplest explanation of limited local economic development in the North is the lack of information about Northern resources. In other words, the natural resources for development are there but nobody knows about them. The lack of knowledge about resources reflects both geography and history.

Northern natural resources are for the most part

under the ground, so they are expensive to look for. Searching can be costly and risky. Search will be greater the more valuable the resource. The costs of search will be affected by what has gone before, since the development of infrastructure and the historic attraction of entrepreneurs lower the cost of searching.

The limited supply of local entrepreneurs restricts searching for resources in the North. An outside entrepreneur would have to expect a major find to take the risk and search in the unknown and expensive North (Huskey, 1985). Entrepreneurs generally don't stray far from home. Entrepreneurs know more about their local environment and local knowledge helps them to succeed. The more entrepreneurial resources are drawn into the North, the greater is the local expertise. This is a scale economy in searching that reduces the costs and the risks.

This limited information hypothesis seems the easiest to dismiss. The North has seen entrepreneurs enter the region and search for natural resources. Individual and large scale entrepreneurial efforts have explored and developed Northern resources. However, limits to information may still be a significant constraint to development if past search efforts reflected high expected rewards or low costs from rich deposits. For example, much of the gold rush activity in the North American North occurred during a time of economic depression which both raised the value of gold and lowered the cost of searching. Unless past efforts have increased the general knowledge of resources in Northern regions, marginal resource deposits may not be developed because of the limited effort made to find them.

Hypothesis II: Remoteness Increases Costs and Limits Development

A remote region is far from existing markets and has relatively small internal markets. Economic distance can be the result of physical distance, the lack of infrastructure, or political constraints. Whatever the reason, economic remoteness increases the cost of producing resources. The high costs limit the development opportunities in the North (Leven, 1986).

Costs in remote regions are high for two reasons. First, the distance to markets and sources of non-resource inputs increases the cost of producing and delivering resource products. Second, the small internal market offers few scale economies resulting in high local per unit costs. Lack of scale also means there is limited infrastructure, such as housing or transport facilities. Resource producers may have the additional cost of providing this infrastructure.

Remoteness and the high costs associated with it have meant that resource development in the past has been of high valued, large scale deposits to cover the high cost. These Bonanza resources dominate Alaska's resource history and the history of other Northern regions. The economies of scale associated with these deposits lower the per unit cost to compensate for the high cost imposed by remoteness.

Remoteness may be overcome by infrastructure investment, such as transport connections. The production of Bonanza resources may change the cost environment of a remote region. Infrastructure introduced to mine the richest deposits may be available for lower grade resources allowing them to be economically viable. The condition of remoteness can be changed by production from bonanza deposits.

Rising resource prices encourage the development of remote resources by overcoming the high per unit costs of production. However, rising prices may also pose a problem for the development of natural resources in remote regions, as they may encourage the creation of technological substitutes that don't face the limits of distance.

Hypothesis III: The Extent of the Northern Commons Limits Development

The most significant institutional limit to development in the North may be the lack of well defined rules of ownership. Private property rights encourage economic growth. Property rights are examples of efficient institutions that channel individual effort into productive activity. These rights assign owner-

ship and decision making about the use of the resource to particular groups. These rights might be invested in individuals, corporations, or indigenous communal groups (Ostrom, 1990). Property rights must be enforced and transferable to encourage development. When private property in the North is limited, the commons dominates and this limits economic growth.

The resource commons affects economic development in three ways. First, renewable resources may be destroyed because of the much discussed 'Tragedy of the Commons' (Hardin, 1968). Lack of ownership means there is no one in particular who has an incentive to preserve the resource for the future or to make investments that increase the productivity of the resource. Second, the commons causes the cost of production to be higher. Lack of well-defined private property rights often means that the exploitation of resources held in common is unnecessarily labor and capital intensive as entrepreneurs compete for rents. Anything that reduces output or increases costs in the already high-cost North will limit development.

Government ownership and regulation of the Northern commons may limit the 'Tragedy of the Commons'. When the commons are publicly owned, however, decision making becomes more complicated. The commons complicates development by creating externalities. Decisions about development impose costs on some and offer benefits to others. When decisions about resource use are made in the political arena neither side considers the costs they impose on the other, since no one has to compensate the losers.

Political decisions in this environment can delay, add to the cost of, or prevent efficient resource use. It can also result in development taking place even when the social costs exceed the benefits. This effect of the commons may be especially important in Northern regions when decisions are made at a national level (Hickel, 2002; Rasmussen, 1999).

Conclusion

Government policy toward Northern communities should be based on an understanding of the factors that limit and promote growth in the North. There are policy responses for each hypothesis. If information is the limiting factor, governments may wish to use subsidies to encourage exploration. Governments may even search for resources themselves. If remoteness is the important constraint, governments may subsidize infrastructure development. In both these cases, development in the North will depend on the largess of the rest of the country and will be out of the hands of local people. Limits to the willingness and ability of central governments to transfer resources to poorer regions has caused problems in some parts of the North (Pika, 1999).

If the commons is the limiting factor, the government could create more private ownership. The land claims movement in Alaska and Canada has begun placing resource ownership in the control of the regions' residents. Local owners have the incentive to develop resources when the benefits to them exceed their costs.

This paper has presented three hypotheses that may explain the limited development of some regions within the seven Arctic nations. These hypotheses reflect in large part the Alaska experience. Other social scientists interested in the North may be able to add to the list from their experience in other regions. With such a list, the variety of experiences of Northern communities and regions becomes a kind of laboratory, which should allow us to identify the factors responsible for successful community development.

References

- Acemoglu, D. S. Johnson, and J. Robinson. 2001. "The Colonial Origins of Comparative Development: an Empirical Investigation." *The American Economic Review* 91(5):1360-1407.
- Anderson, D. 2000. "The Evenkis of Central Siberia" in M. Freeman(ed.) *Endangered Peoples of the Arctic: Struggles to Survive and Thrive*. Westport: Greenwood Press.
- Easterly W. and R. Levine. 2002. *Tropics, Germs, and Crops: How Endowments Influence Economic Development*. Working Paper 9106. National Bureau of Economic Research.
- The Economist. 2002. *Pocket World in Figures, 2003 edition*. London: Profile Books.
- Hardin, G. 1968. "The Tragedy of the Commons." *Science* 162: 1243-48.
- Hickel, W.J. 2002. *Crisis in the Commons: The Alaska Solution*. Oakland: Institute for Contemporary Studies.
- Huskey, L. 1985. "Import Substitution: The Hidden Dynamic in the Growth of Frontier Regions." *Growth and Change* 16(4): 43-55.
- Huskey, L. 1992. *The Economy of Village Alaska*. Institute of Social and Economic Research, University of Alaska Anchorage.
- Leven, C. 1986. "A Note on the Economics of Remoteness." In E. Bylund and U. Wiberg (eds.) *Regional Dynamics of Socio-economic Change - The Experiences and Prospects in Sparsely Populated Areas*. CERUM: University of Umea.
- North, D. 1991. "Institutions." *The Journal of Economic Perspectives* 5(1): 97-112.
- Olson, M. 1996. "Big Bills Left on the Sidewalk: Why Some Nations are Rich and Other Poor." *The Journal of Economic Perspectives* 10(2): 3-24.
- Ostrom, E. 1990. *Governing the Commons*. New York: Cambridge University Press.
- Pika, A. 1999. *Neo-traditionalism in the Russian North*. Edmonton: Canadian Circumpolar Institute and Seattle: University of Washington.

Rasmussen, O. 1999. "Conditions for Sustainable Development in the Arctic - A General Perspective" in H. Petersen and B. Poppel (eds.) *Dependency, Autonomy, Sustainability in the Arctic*. Aldershot: Ashgate.

J. Sachs. 2001. *Tropical Underdevelopment*. Working paper 8119. National Bureau of Economic Research.

Sokoloff, K. and S. Engerman. 2000. "History Lessons: Institutions, Factor Endowments, and Paths

to Development in the New World." *The Journal of Economic Perspectives* 14(3): 217-232.

Stabler, J. and E. Howe. 1990. "Native Participation in Northern Development: the Impending Crisis in the NWT." *Canadian Public Policy* 16(13): 263-283.

Watkins, M. 1972. "A Staple Theory of Economic Growth" in E. Johnson and D. Kammerschen (eds.) *Readings in Economic Development*. Cincinnati: Southwestern.

Oil and Reindeer - Traditional Methods of Pasture Selection among Komi Herders, and the Relevance to Conflicts over Land Use

Kirill Istomin

The problems posed in aiming for a sustainable development of the Russian Arctic are seldom straightforward. Prominent among them are those arising from the conflicting interests of modern industries and traditional economies and, in this case, from conflicts over land use between the oil and gas industries and local reindeer herding enterprises.

Traditional reindeer herding forms the basic subsistence for many aboriginal peoples of the Russian North. As has been noted by many scholars (inter alia, Krupnik 1989, Baskin 1968), nomadic reindeer herding is highly sensitive to changes in the environment, whether these changes be natural or man-made. The processes by which environmental change can influence reindeer herding are, however, inadequately researched and, in this respect, it is still difficult to predict the consequences of new business initiatives in the north for local reindeer herding enterprises. It can be assumed, of course, that each process and its effect will depend on the peculiarities of the particular herding system in question, and that these effects will vary from one herding system to another and from one people to another; yet, in issues of land usage conflict, it is the ethno-ecological point of view that has now come to the fore, emphasising the immense value of a scientific discipline that focuses on the relationship of a culture to its natural environment.

This presentation is based on the results of research of this very kind, and in particular from fieldwork conducted among the Komi reindeer herders of the Bolshezemelskaya tundra in north-eastern European Russia. This region is unusual because its traditional nomadic reindeer herding takes place in an area of relatively rapid industrial growth, caused predominantly by the exploitation of oil and gas. Conflicts over land are, therefore, especially pronounced.

The empirical material for this presentation was collected from a total of seven months fieldwork, over a three-year period. Four months' work was conducted in collaboration with Mark J. Dwyer, a PhD student in the Scott Polar Research Institute at Cambridge University. Information gathered during fieldwork encompassed the summer, autumn and winter seasons of the reindeer herding cycle. The principal methods used included participant observations and qualitative ethnographic interviews designed in accordance with the standards of cognitive anthropology. Information obtained was then analysed to define and appraise the ecological (adaptive) significance of the observed herding technologies.

Among the information gathered during fieldwork, there was one aspect of Komi traditional reindeer herding that appeared to be not only of central importance to the herding system but also of parti-

cular relevance in the present context, namely the methods employed by herders when evaluating and selecting pasture.

These pasture evaluation methods are based on traditional knowledge regarding broadly the following: the tundra and the northern taiga, and their ecological characteristics; the biology of the reindeer as a species; reindeer behaviour; the seasonal changes of vegetation; and herd migration routes. Additionally, when selecting pastures within a particular herding territory, a Komi herder will take into account further details relating to the physical terrain, the season, the weather, ice and frost in winter, the presence of mosquitoes, the whereabouts of other herds, and so on.

Decisions about where to graze reindeer have, traditionally, formed the basis of land usage. Furthermore, and in spite of the many details involved in the selection process, information collected during this fieldwork has suggested that it is even possible to describe a set of general principles which will obtain annually, changing only according to season.

In biological and ecological studies, and even in some ethnographic literature, one encounters broad statements relating to pasture lands. Vladimir Islavin in 1847, for example, stated that 'the whole Bolshezemelskaya tundra is one huge reindeer pastureland (see also: Kercelli 1911; Babushkin 1930; Chernov 1980). This is probably biologically correct (although it must be said that in the Bolshezemelskaya tundra there are many bare hilltops, rocky areas and sandy windouts where a reindeer would certainly go hungry) but, from an ethno-ecological point of view, Islavin would be quite wrong. For a terrain to be of use in reindeer herding terms, it is not simply a question of the availability of suitable food, or of the food being of adequate quality, or even of the food being sufficient in quantity to support the growth of a herd. A further factor which must surely be taken at least equally into account here concerns the practical techniques of herding, that is, the traditional working methods of the herders whose role is to control and protect their herds.

In general (and without going into detail here) one can say that the effort required by herders to maintain control over a herd will depend on the size of the herd and the quantity of available grazing: for example, the less food, the more active the herd and the more difficult for the herders to maintain overall control. The average size of Komi herds has always been quite large; even today most brigades graze up to 3,000 head. Herds are controlled by one or, sometimes, two herders at a time, assisted by between one and four dogs in 24-hour shifts. It will therefore be understandable why large stretches of land might not be used by herders for long periods, even if the lands in question have rich grazing: the physical effort required of herders often simply exceeds a brigade's capacity. During fieldwork it became apparent - and in time it was confirmed - that it is predominantly the question of herd control, rather than pasture depletion, that forces herders to change pasture. Abandoned pastures are frequently still rich in food. According to observations made subsequently at a summer pasture of the Bolshaya Inta Reindeer Herding Enterprise immediately after it was abandoned by 3,000 head of deer, only every third bush of dwarf birch (the main vegetation species there) had been eaten. Herders who insisted that pastures grazed by a large herd could be used again by smaller herds in the course of the same year further confirmed these observations. It would appear, then, that it is the questions of control and herder effort which will ultimately define and limit pasture status. And as fieldwork and analysis progressed, the scientific methods that have in the past assessed reindeer pasture lands solely in terms of the food resource appeared increasingly inadequate.

Among the Komi, herd control is further affected by vegetation type and physical terrain. Participant observations and interviews indicated that herds are far more manageable in terrains where vegetation is low (*mol'yd mesta*), than on bushy tundra (*röshha*) or, as is especially the case, in the taiga. On bushy tundra and in the taiga, reindeer quickly separate (*oras'ö*) into smaller groups (*polak*) which become difficult to reassemble. From the ecological standpoint this can be explained by the fact that a reindeer's herding instinct works mainly by sight (Baskin 1968):

when deer cannot see each other, their ability to interconnect is significantly weaker. In addition, high vegetation makes it difficult for herders to use reindeer-drawn sledges. And in dense taiga, sledge transport becomes all but impossible, thus limiting the ability of herders to react rapidly to changes in herd movement. Similarly it is easier to control the herd on relatively flat terrain, in comparison to areas with numerous hills and hollows (*pindey*).

Herd behaviour is also influenced by the wetness of a terrain. Grazing herds in wet places, especially among bogs (*sada*), is more difficult and less effective than in dry places. Herders regularly mentioned that, in spite of the more extensive fresh grass that is usually present on wet land, reindeer do not like wetlands and will always endeavour to avoid them, even when directed towards them by herders.

Komi reindeer herding enjoys a wide nomenclature, drawing nice, and precise, distinctions. (Interestingly, many Komi terms used in terrain evaluation are from the Nenets language, indicating also the origins of much of the Komi reindeer herding system in general). In landscape terms, hills and hill ranges may be *mylk* and *musur*; flat places, *gop*, *laida*, and *glad*. In vegetation terms, bushy places are named *röshha*; forest patches are *vördi*; and places without high vegetation are *mol'yd mesta*. Of flat places without high vegetation, Komi herders distinguish between *glad* and *turun mesta* (a relatively dry grassy place), *pacha* (a place covered mainly by dwarf birch or small willow), and *loma glad* (a dry territory with tussocks, covered by grass and lichen). Very dry places, usually situated on hilltops and covered with lichen, are named *jarej*. In terms of soil surface, the word for turf (peaty) places is *momga*; wet places are commonly named *sada*. These are divided into *saduku*, *zybun*, *plavun*, etc, according to their degree of wetness, the peculiarities of their surface and the difficulty of crossing them. Wet places on hills, usually covered by grass, are known as *n'artso*. There is also a set of terms relating to the taiga: *p'aseda* is a dry open place surrounded by forest, a 'tundra island in the taiga'; *jag* is open pine forest; *n'ur* is forest bog; and *daa* is dense spruce forest.

When describing pastures, herders traditionally describe ideal pasture to be *jarej*; almost as good are *loma glad*, *pacha* and *glad* (*turun mesta*). Such areas are especially valuable if near a river or on a 'peninsula' formed by a winding river. In the latter case, herd control is naturally made easier. Bushy places (*röshha*) and very wet areas (*sada*) are considered unsuitable in spite of their excellent grazing: the effort to control the herd is simply too great. According to herders, the best grazing in the forest is to be found in the *jags* but, because of the near impossibility of using sledges, this kind of forest is impracticable for grazing a herd so that, in this zone, grazing is usually conducted on/in the *p'aseda* and *n'ur*.

During the process of pasture selection, the stage of the reindeer herding cycle is also taken into account. Komi herders differentiate between three types of seasonal pasturelands: *gozhalanin* (summer pastureland), *tööjanin* (winter pastureland) and *pijas'anin* (calving ground). The remainder of the territory is known as *vötlanin* ('place to drive through') and, although herders do not term it as 'pasture', a major part of the whole migration route is actually *vötlanin*, with a herd spending the longest period there each year - about seven months. Every type of pastureland has some minimum quality requirements for use. Only terrain meeting these requirements can be named and used as a winter or summer pastureland, a calving ground or as a 'place to go through'. Calving grounds (*pijas'anin*) must meet the highest criteria in terms of vegetation quality, and the only terrains suitable would be a *loma glad* or a large and relatively flat *jarej*. A calving ground should also have a hill nearby from which herders can observe the calving process from a distance. For winter pastures (*tööjanin*) terrain is of lesser importance; it is only important to avoid dense or high vegetation (including trees). For summer grazing, herders must find low vegetation and dry ground. Almost any terrain with low vegetation - except bogs - can be used. The 'place to go through' can be anywhere, except forested areas with high bushes.

Although pastures may meet all the relevant seasonal requirements, herders will still talk of 'good' and 'bad' pastures, and 'good' and 'bad' calving places. A

summer pasture on a *jarej* will, for example, be considered better than a simple grassy place, despite the fact that both may meet the minimum criteria for summer pasturing (they are not bogs and they do not have high vegetation). An ideal winter pastureland would be on a *p'aseda* or a *n'ur*. Open pine forests (*jag*), while meeting minimum requirements for winter pasturing, will always create difficulties for sledges. *Jags* can indeed be used in winter but herders will do so only if they are forced to by the inaccessibility of other places (due to ice crust, for example).

How, then, might these findings be applied to resolving conflicting interests in land usage? First, they show that existing methods of assessing losses sustained by herding brigades due to oil drilling must be amended. Such amendments should take into account not only reindeer herding methods but should also assess the effects of industrial incursion in relation to territories and their terrains as a whole - not simply in relation to food resources alone. And while this conclusion is based on information drawn from Komi reindeer herding territories, it must surely apply almost equally to other reindeer herding groups and systems. Secondly, these findings may be applied in the selection of oil drilling locations. If, for example, drilling rigs were sited on bushy tundra or in dense forest, or distanced well away from calving grounds, the industrial activity would be far less

harmful to a reindeer herd, regardless of how much of the food resource, whether lichen or grass, were damaged. In the context of oil drilling and conflict management, a helpful tool would be a map indicating the relative values of terrains within reindeer herding territories. The creation of such a map would not be costly and would surely save the oilmen some cash while preserving herders' assets.

References

- Babushkin, A. I. 1930. *Bol'shezemel'skaya tundra* (Great Land Tundra). Syktyvkar: Komstatotdel.
- Baskin, L. M. 1968. *Ekologicheskie osnovy severnogo olenevodstva* (Ecological Background of the Northern Reindeer Herding). Moscow: Moscow State University.
- Chernov, Yu. I. 1980. *Zhizn' tundry* (Life of the Tundra). Moscow: Mysl'.
- Kercelli, S. V. 1911. *Po Bol'shezemel'skoi tundre s kochevnikami* (Through the Great Land Tundra along with Nomads). Archangel: Gubernskaia Tipografia.
- Krupnik, I. I. 1989. *Arkticheskaia etnoecologia* (Arctic Ethnoecology). Moscow: Nauka.

External Dependency in Greenland: Implications for Growth and Instability

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Economies of the Arctic can be described by their small size, their scattered population, their remoteness and lack of accessibility, their narrow resource base, and a climate that presents challenges of its own. It is structural features such as these that have contributed to the high level of economic instability as well as much of the economic dependency that continues to characterize the region today. Sustainable solutions to problems of economic development have been sought on several fronts and with a general awareness that economic development cannot take place in isolation of external markets. Arctic economies continue to look for ways to overcome the many obstacles to economic development that confront them. Achieving development is a long process however, and above all it must be done within the constraints imposed by unique structural features. Strategies of development must also be formulated with a view to the level of dependency that prevails and its plausible adverse consequences for instability and economic growth. Research must begin to tackle more systematically the question of the inter-linkages between external dependency, growth and instability, and the implications for economic development in the Arctic.

This paper presents an analysis and discussion of external dependency in Greenland, with a special emphasis on implications for economic growth and

instability. The literature has largely failed to quantify the degree of economic dependency and the level of instability, and to systematically test the association between them. With Greenland as a special case study of the Arctic, this paper attempts to draw conclusions about the relationship between dependency, growth and economic instability, with a main emphasis on trade dependency and its association with growth and instability. The results of an empirical analysis presented here are based on a macroeconomic time-series analysis of the Greenland economy, 1955-2000 (see Larsen 2002a, 2002b).

Economic Dependency in Greenland

While Greenland is becoming an increasingly modern economy, it is also a country that continues to be highly dependent on Denmark in terms of financial support, technology, and markets for its products. Specifically, it is characterized by large annual transfers of funds from Denmark, a heavy reliance on Danish imported personnel, and a high degree of trade dependency and trade concentration (Larsen (2002b); Danielsen et al. (1998); Rådgivende Udvalg Vedrørende Grønlands økonomi (1997)). Progress on the economic development front is complicated by geographical and Arctic realities, remoteness and lack of accessibility, a small and scattered population,

and a harsh Arctic climate. The Greenland economy is characterized by a shortage of employment and economic opportunities (e.g. Grønlands Hjemmestyre, 1994). This is linked in part to the very restricted market, the lack of infrastructure, the limited resource base, and the general remote and scattered pattern of towns and settlements, with many towns and settlements not only isolated from external economies but also from each other (e.g. Lyck (1987); Poole (1990)).

The level of external dependency in Greenland is described by its significant ties to Denmark, in terms of finances, trade, and technology. Dependency, as outlined here, refers to a situation where the growth of income of a country is substantially, if not entirely, dependent on external factors, essentially exports, imports and external finance and technology. Economic structures of dependent economies tend to be characterized by a number of distinct features, which are also present to varying degrees in Greenland. First, the relationships between different sectors of the economy tend to be few and limited. Only a small fraction of production serves as input into other sectors of the domestic economy. Second, resource use tends to be less flexible than in the case of more developed economies. There are significant constraints on the ability of product-mix to adapt to the effects of external shocks and disturbances. Third, economic growth is highly dependent upon external factors, with external demand changes being largely central to making full use of productive capacity and in justifying and financing large-scale investment to expand capacity. Fourth, there exists a significant disparity between the structure of domestic demand and domestic resource-use which is reflected in high export and import coefficients, a high concentration in commodity exports, and a low concentration in commodity imports. And lastly, domestic institutions tend to be directed and controlled to a significant degree by the external environment. When judged according to criteria such as these one might argue that Greenland continues to be significantly dependent on the external environment. At the same time, however, countries designated as dependent are not all trapped in a permanent situation of foreign control and regulation in which they are destined to

endure low growth rates and low levels of income. Rather, the level of dependency as measured by various indicators may change through time. In the case of Greenland there have been fluctuations in the level of dependency over time, as well as a lessening of some key indicators since Home Rule; but the general picture remains largely unchanged: dependency ties to Denmark continue, and at a high level (For an analysis of dependency indicators in Greenland see Larsen, 2002a, 2002b).

In the following, this paper presents the results of an empirical investigation into the association between external dependency, economic growth and instability. Specifically, it looks at the questions of whether dependency is a deterrent to economic growth, to what extent instability is associated with dependency, and whether instability acts as a dampening force on economic growth in Greenland. The Greenland economy is very small and based in large part on its supply of natural resources, with the result that even small shocks and disturbances are likely to have large impacts on the national economy. Hence, attempts to draw conclusions from analyses based on a narrow time frame run the risk of failing to capture the real dynamics of dependency and instability since the degree of dependency and economic instability will depend on the year chosen. To avoid this shortcoming, the results of an empirical analysis presented here is placed within a time-series context, extending from the end of colonial rule to the present, which permits the analysis to capture the condition of dependency as it has unfolded within the historical process (Ibid.).

Trade, Financial and Technological Dependency

Looking first at Greenland's dependency on international trade, results based on the Hirschman-Gini coefficient of concentration and a three-digit Standard International Trade Classification (SITC) code show that trade has been characterized by high commodity and geographic export concentrations, a low commodity import concentration and high geographic import concentration, indicating that Green-

landic exports are concentrated in a few products and exported to only a few markets, while imports are highly diversified but with few countries of origin (Larsen (2002a, 2002b); Statistics Greenland, Yearbook (2000); Statistics Denmark, Yearbook, various years)). Concentration ratios such as these describe some of the key features of a small, over-specialized and narrowly based dependent economy. Specifically, it points to a narrow production geared primarily to foreign markets, thereby necessitating the import of a broad variety of consumer and intermediate goods. Greenland trades predominantly with Denmark, which is reflected in a large Danish share in the country's imports and exports. Exports consist mainly of primary commodities, notably fish (shrimp, halibut, and cod) and, until recently, raw materials (zinc, lead, and cryolite), (Statistics Greenland, Yearbook, 2000). The primary export ratio has fluctuated in the range of 86 to 96 per cent over the period 1955-2000. This ratio is calculated as the ratio of primary export commodities to total exports. Currently, about 93 per cent of total export revenue accrues from primary exports and fish exports account for about 100 per cent of total primary export revenue. The high concentration in exports is complicated by the fact that Greenland's exports are concentrated in a limited number of primary products, and the larger share of exports is either semi-processed or not processed at all, which means that Greenland is losing value added and forgoing an opportunity to create employment and economic opportunities domestically (e.g. Larsen (2002a); Poole (1990, 1992)). In the period under study the primary export ratio has remained high, in the 90 per cent range. However, the share of fish in total exports has increased, which by and large reflects the end of mineral exports. Commodity import concentration has remained relatively stable, while export commodity concentration has fluctuated appreciably more, with a trend toward a decline in concentration in the late 1990's. The reduction in export concentration in later years reflects in part the emphasis placed on diversification in fish species harvested, and the modernization of fish processing plants to enable further processing.

In addition to dependency on external trade, finan-

cial dependency in Greenland has also remained critically high. Financial dependency on Denmark is reflected in the financing of Greenland's public sector by the Danish state, and in the ratio of total Danish expenditures on Greenland to Gross Domestic Product (GDP). About 48% of public sector revenue in Greenland is provided by funding (including block grant) by the Danish state (see Statistics Greenland, Nationalregnskab, 2000). The ratio of Danish expenditures on Greenland to GDP is around 40%. Overall, one must conclude that financial dependency in Greenland remains entrenched and high (Larsen, 2002b, 2003). Similarly, Greenland's dependency on external technology continues to be significant. Technological dependency has in the literature been measured using criteria such as the degree of reliance on imported foreign personnel and imported capital goods. When judged according to indicators such as these, Greenland can be described as a country with a high degree of technological dependency. Technological dependency, as reflected in the import of Danish personnel (estimated by the share of the working age population born outside of Greenland) has declined in the post-Home Rule era, however (see Larsen, 2002b). This trend is the result, in part at least, of advancement in the level of educational attainment, and priority in hiring being given to Greenlanders (e.g. Grønlands Hjemmestyre, 1999). Technological dependency as measured by the capital-import ratio (estimated as the ratio of capital import to total import, as reported in the international trade statistics) has, on the other hand, remained relatively stable throughout the period under study. This ratio has fluctuated in the range of approximately 15 to 27 percent. While the capital-import ratio has fluctuated within a relatively narrow range, the data suggest that there was an upward trend in the mid 50's that lasted till the early 60's. There was another, though minor, increase in the ratio in the middle 1960's. These upward trends overlap with the periods surrounding the Danish development initiatives coined as G-50 and G-60 (e.g. Greenland Commission (1950,1964); Boserup (1963)). The early to late 80's also saw a significant upward trend coinciding with the implementation of Home Rule, followed by a decline back to pre-Home Rule levels. Overall, the empirical results point to a continued

high level of external dependency in Greenland. Greenland scores high in all selected indicators of trade, financial and technological dependency. Hence, advances on the economic development front, including modernization of the fishing industry and development within the public and private sectors, have not resulted in any significant lessening of external dependency.

By analysing the development process within a time series setting, the results presented here have allowed for the possibility of a country experiencing periods of decreased dependency. In other words, dependency is not viewed as a permanent circumstance from which there is no escape. When high levels of dependency persist, as in the case of Greenland, this does not pose an absolute barrier to economic development. Rather, it presents an impediment to the economic development process that can be overcome through the application of appropriate strategies of economic development. Even developed economies may exhibit some level of dependency when measured in terms of various indicators of dependency such as those presented here, and dependent countries may exhibit periods of reduced dependency as measured by such indicators. However, in contrast to more advanced economies, small, open and resource dependent economies, such as Greenland, can be categorized as dependent because they are weak on both resource mobility and the ability to develop economic substitutes. This presents impediments to effectively minimizing the adverse consequences of external shocks and disturbances. The difference between advanced and developing economies, therefore, lies in their ability to respond to instability in the presence of dependency. More advanced countries tend to have higher degrees of flexibility and economic diversification which permit them to minimize the adverse effects of external shocks and disturbances through the utilization of domestic and foreign substitute resources. Greenland continues to be constrained not only by a lack of resources but also by a lack of flexibility in existing resources. The significant resource constraints witnessed in Greenland are reflected in the level of dependency on imported personnel, the degree of financial dependency, and the high concen-

tration in trade. The lack of flexibility and mobility witnessed in Greenland is but one aspect of a broad web of dependency ties to the external environment. The question that presents itself is whether the high level of dependency has negative consequences for growth and economic stability. The remainder of this paper presents an overview of the results of empirical hypothesis testing formulated to shed light on that question.

Dependency and Economic Growth

While theory predicts that dependency is growth stagnating, there exists no empirical evidence from Greenland or from the rest of the Arctic to either support or disprove this claim. The results presented here are obtained from tests of hypotheses formulated to answer the question of whether external dependency retards growth. Specifically, the relationship between selected indicators of dependency and economic growth in Greenland were tested, and conclusions drawn about the extent to which dependency is a factor in explaining economic growth. Overall, the results obtained from estimation of dynamic time-series models, using annual macroeconomic data covering the period 1955-2000, do not lend support to the theoretical proposition that a negative association exists between economic growth and dependency. Rather, evidence points to a positive association between growth and some indicators of dependency (see Larsen, 2002b). The basic findings of the analysis, leaving out reference to the technical aspects of estimation, suggest that the rate of growth of real GDP in Greenland has been negatively associated with the rate of increase in financial dependency, which could suggest a possible crowding out effect on private investment and initiative. Other indicators of dependency, however, were found to be either positively related to economic growth or statistically insignificant in explaining the rate of growth. For instance, estimation results do indicate that technological dependency, as measured by the lagged capital-import ratio and the share of imported personnel in the work force, has been positively associated with economic growth, whereas estimation results do not provide any evidence that

trade concentration (measured by commodity and geographic import and export concentration, and the primary export ratio) is a factor in the economic growth process. While ratios of trade concentration, according to empirical testing, are not associated with economic growth, the evidence does suggest that economic growth in Greenland has been led by growth in total primary export revenues. Results based on econometric modelling and a Granger causality analysis do indicate that primary exports have been able to produce trickle-down effects that have been a contributing factor in the economic growth process in Greenland's post-colonial history (Larsen, 2002a). Hence, while it has frequently been alleged that primary exports cannot effectively lead the way to economic development because markets for primary products often grow too slowly to fuel growth and earnings tend to be unstable due to price fluctuations, and, additionally, expected diversification around the export industry and the creation of linkages tend to be weak or non-existent, trade in primary exports has, in the case of Greenland, been significant in fuelling economic growth. The results lend support to the broad range of development strategies, which were focused to a large extent on export-promotion strategies throughout the period since the end of colonial rule. While the results presented here provide evidence in support of primary exports as a growth generating factor over the period 1955-2000, a key problem for Greenland may be that of realizing long-run sustained growth. This would most likely require flexibility and mobility of resources as well as sufficient innovation to permit shifts into new export lines and possibly shifts into production for the domestic market, just as it would require the capacity to enter into new foreign markets. Greenland would be confronted with a number of challenges including the existing limits on resource flexibility, the ever present constraints on finding, as well as entering into new foreign markets, and the difficulties associated with a very small and scattered population base which presents barriers to achieving economies of scale in domestic markets.

Dependency and Economic Instability

High levels of dependency coupled with a lack of flexibility and mobility in resources are likely to be important factors contributing to the level of vulnerability to shocks and disturbances witnessed in Greenland. While dependency does not have a direct negative effect on economic growth, the question remains whether dependency exerts an indirect negative effect on growth through an association with economic instability. Macroeconomic instability can be measured as squared deviations from trend values, with the basic problem being fluctuations around an estimated trend. Not all deviations are problematic in as much as they reflect long term shifts in consumer tastes, technology, or factor supplies. Fluctuations must however be viewed as undesirable when they serve no useful purpose but only act to trigger fluctuations in other variables such as government revenue and investment, which may in turn impact on short term macroeconomic stability and long run economic development (e.g. Wilson, 1994). In general, it is the sporadic elements of deviations from some "normal" level of earnings as opposed to regularly reversing deviations that are likely to be the greater cause of concern. For instance, it is possible for income to fluctuate over time and yet be known in advance with certainty. Events like these that are predictable or certain do not necessarily have adverse consequences, since regularly reversing fluctuations make it easier to predict the level of exports and income each year and to judge the correct timing for implementing stabilization policies. However, given that the scope for corrective action in small, developing and economically dependent Arctic economies tends to be limited, for a number of reasons, including a lack of finances and limited economic and political autonomy, it is unlikely that governments of the Arctic can undertake effective policies to offset and minimize shock effects, even given the optimistic assumption that they would be able to predict the future accurately. Greenland's dependence on primary products and its high level of concentration in trade may thus be a factor in explaining economic instability in this country. Also, the economic structures of Greenland, and, in general, those of the rest of the small Arctic economies, are

characterized by a limited diversity, and therefore the degree of economic instability is likely to be higher than that of non-Arctic economies where economic structures are more diversified. The lack of abundant and diversified resources in the Arctic and the limited domestic market tend to reduce the capacity of economies in this region to accommodate sudden changes in demand for their products. Concentration on a few products reduces the chances of having fluctuations in one direction in some of the exports offset or ameliorated by counter-fluctuations or stability in others. It should also be pointed out that receipts from primary product exports are inherently subject to greater short-run instability than receipts, for instance, from manufacturing goods, which helps explain the level of economic instability witnessed in this region (Larsen, 2002b, 2003).

In the case of Greenland, using the approach of squared deviations from trend values, econometric test results suggest that economic instability is significant, both in terms of export and income instability. The results further suggest that instability is associated with indicators of external dependency. First, econometric results support the argument that relying on a few primary resources is a source of instability in the Greenland economy. Specifically, the results suggest that an increase in primary exports and the share of fish exports in total exports raises instability in export earnings. Second, the results indicate that instability in real GDP is positively related to financial dependency, and negatively related to technological dependency as measured by the capital-import ratio. The estimation results show no statistically significant relationship between instability in GDP and indicators of trade dependency and concentration of export earnings.

The level of economic instability witnessed in Greenland coupled with evidence of an association between indicators of dependency and instability does raise the question of a possible indirect association between dependency and economic growth. While evidence has pointed to a direct positive association between some indicators of dependency and economic growth, dependency may still exert an indirect negative impact on growth through its asso-

ciation with instability (see Shinka (1999); Grirmay et al. (1999)). An empirical investigation into the association and direction of causation between economic instability and economic growth in Greenland shows that the association is a negative one, i.e. economic instability is a deterrent to economic growth (see Larsen, 2002b). The lack of economic diversification and the significant constraints that exist in resource flexibility in Greenland may offer some explanations for the relationship between economic instability and the economic growth record of this country. The negative association suggests a difficulty in predicting and reacting correctly to shocks to the domestic economy, and in applying the correct timing for stabilization policies. Both the limited degree of economic diversification and the low per capita income may be important factors in explaining the level of economic instability in the Arctic. Lack of diversification and lower per capita incomes create an environment in which resources cannot easily be transferred. In general, the instability problem which is likely to be linked to an uncertainty about availability of public and private resources may complicate development planning and subsequently reduce the rate of growth of the economy below the rate which would have been attained under greater certainty.

The above discussion provides evidence to suggest that Greenland continues to be highly dependent on Denmark, both in terms of finance, trade, and technology. Furthermore, export and income instability in Greenland is high, and evidence suggests that instability is associated with some indicators of economic dependency, and that it acts as a dampening force in the economic growth process in the Greenland economy. These results point to a critical need to identify strategies of economic development that emphasize economic diversification and that are formulated with a view to the level of economic dependency that exists and its adverse consequences for economic instability and growth.

References

- Boserup, Mogens. 1963. *Økonomisk Politik i Grønland*. Grønlandsudvalget af 1960, Copenhagen.
- Danielsen, Mogens, Thomas Andersen, Thorkild Knudsen & Olafur Nielsen. 1998. *Mål og Strategier i den Grønlandske Erhvervsudvikling*. Sulisa A/S, Nuuk, Greenland.
- Det Rådgivende Udvalg Vedrørende Grønlands Økonomi. 1997. *Beretning om den Økonomiske Udvikling I Grønland*. Statsministeriet: Copenhagen.
- Ghirmay, T., Sharma, S.C. and R. Grabowski. 1999. "Export Instability, Income Terms of Trade and Growth: Causal Analyses." *Journal of International Trade and Economic Development*. Vol. 8, No. 2.
- Greenland Commission, Grønlandskommissionen af 1948. 1950. *Betænkning afgivet af Grønlandskommissionen af 1948*, (G-50 Betænkningen)
- Greenland Commission, Grønlandsudvalget af 1960. 1964. *Betænkning fra Grønlandsudvalget af 1960*, (G-60 Betænkningen).
- Grønlands Hjemmestyre. 1994. *Landsplanredegørelse*. Økonomidirektoratet. Nuuk.
- Grønlands Hjemmestyre. 1999. *Politisk-økonomisk Redegørelse*. Nuuk.
- Larsen, J.N. 2002a. "Trade Dependency and Export-Led Growth in an Arctic Economy: Greenland, 1955-1998." In *Native Voices in Research*. Editor: Jill Oakes. Native Studies Press, University of Manitoba.
- Larsen, J.N. 2002b. Ph.D. Dissertation: "*Economic Development in Greenland: A Time series Analysis of Dependency, Growth, And Instability*." University of Manitoba.
- Larsen, J.N. 2003. Upcoming: "Causes and Consequences of Economic Instability in Greenland." To be published in *Polar Records*, Scott Polar Research Institute, Cambridge, UK.
- Poole, G. 1990. "Fisheries Policy and Economic Development in Greenland in the 1980s." *Polar Record*. Vol. 26, No. 157, pp. 109-118.
- Poole, G. 1992. "An Economic Analysis of Development of Greenland's Shrimp Fishing and Processing Industry." In *Nordic Arctic Research on Contemporary Arctic Problem. Proceedings from Nordic Research Forum Symposium*. Ed. Lise Lyck.
- Sinha, Dipendra. 1999. *Export Instability, Investment and Economic Growth in Asian Countries: A Time-Series Analysis*. Yale University: Center Discussion Paper No. 799.
- Statistics Denmark. *Statistisk Årbog*. (Statistics Yearbook) Annual Publication. Various years, 1955-2001.
- Statistics Greenland, *Statistical Yearbook*. Annual Publication. Various years, 1950-2001. Nuuk.
- Statistics Greenland. 2000. *Nationalregnskab*. Nuuk.
- Wilson, P. 1994. "Export Earnings Instability of Singapore, 1957-1988: A Time Series Analysis." *Journal of Asian Economics*. Vol. 5, No. 3, pp. 399-412.

Human Capital Development and Labour Market Adjustment with Reference to the Baltic States

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and
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The key issue for progress in the North is to achieve sustained and strong economic growth. To this end, human capital is crucial for development. The experience of the Baltic States has provided additional evidence in favour of the hypothesis that good political and economic institutions do matter towards improving human capital development and, as a result, raising the standard of living. The integration of the Baltic States with the world economy, their orientation towards European integration and transatlantic security cooperation through membership in NATO declared in a relatively early stage of transition, became an important external anchor both strengthening the process of political and economic reforms, and providing a very broad set of targets in various areas.

The Baltic States' favourable location between East and West, their historical and cultural traditions of cooperation with other countries around the Baltic Sea, and their market economy experience in the period between the two World Wars are important initial conditions and determinants of transition influencing both the economic development and the EU accession processes of these countries. After regaining their independence in 1991, the Baltic States' governments have followed similar principles of economic policy directed towards solving the following main tasks:

- 1) liberalization of prices and gradual elimination of all state subsidies;

- 2) privatisation of state owned enterprises;
- 3) introduction of a separate currency by means of a currency board system (Estonia and Lithuania) or regular pegs (Latvia);
- 4) maintaining conservative fiscal policy;
- 5) implementing a comparatively liberal foreign trade regime: The Estonian foreign trade policy has been the most liberal - Estonia introduced a foreign trade system without tariffs and quantitative restrictions; Lithuania introduced a relatively extensive system of trade barriers; and Latvia has been somewhere between Estonia and Lithuania in its manner of trade policy liberalization.

Retrospect and Prospect: Catching up

The material welfare of the public is an important aspect of human development; for that reason, the authors of this paper have devoted a great deal of attention to the analysis of economic growth, labour market and wage developments.

The economic development of the Baltic States in the post-socialist era has been aimed at bridging the gap, which is essentially a multi-dimensional one, with the developed countries. While the political, legal and institutional criteria are all certainly important, we focus more on the economic aspects of this problem. Economic growth serves to raise the stand-

ard of living and to improve human development, making it possible for the population to prosper in all spheres of life.

All of the Baltic States have experienced GDP growth as a result of first generation reforms (1992-1994); strong macroeconomic fundamentals are behind the growth in 1996-1998, with an interruption in 1998 and 1999 due to Russian crises.

Second-generation reforms are aimed at closing the income gap between the Baltic States and the EU in GDP and at achieving real convergence. The accession of Central and Eastern European countries to the EU is likely to lead to conflicts between these countries and the existing member states unless there is a rapid narrowing of the gap between them in per capita income. These concerns, however, are counter-balanced to a large extent by a "catching up" predicted both by theory and by experience for poorer countries: unless their development is impeded by institutional barriers, they usually develop faster than richer ones, and there is a tendency towards convergence in levels of GDP per capita. In recent years, this process of catching up seems to have started.

The actual influence of the Baltic economies on the EU's eastward enlargement processes cannot be very significant in view of the very small size of the Baltic market compared to the markets of the EU's current member states and those of the candidate countries as well. The Baltic States' share of the population is only 2% of the EU15, and 7.4% of CC10 population. The GDP of the Baltic States forms about 0.3% of the EU15, and 6.3% of the CC10 total GDP; and their GDP per capita (PPP) level is only about 30% of the respective indicator for the EU15 countries (34% in Estonia, 26% in Latvia and 28% in Lithuania) (Straubhaar, 2001, p. 170). According to these figures, the convergence process of the Baltic States with the EU GDP per capita average will take more than 50 years (till 2054 in Estonia, 2065 in Lithuania, and 2068 in Latvia) (ibid).

Labour markets in the Baltic States deserve special attention. Changes in the Baltic labour markets have been very rapid in the past ten years in comparison

with other transition countries. If we try to analyse the structural adjustment (or adaptation) of Baltic labour in different sectors, then we can see that the speed of restructuring has been particularly high when compared to countries in the West, to the EU countries and to Japan. The structure of the economy and labour in the Baltic States is already similar to that of the industrialized countries. The share of the different sectors is as follows:

- Industry - 25-30%
- Agriculture - 10-15%, Estonia less than 10%
- Service - 50-60%

Employment is an important indicator of the linkage between economic growth and human development. Rational employment helps to reduce poverty and inequality. Unemployment rates in all three Baltic States are presently considerable: 13-15% in 2000, and 12-13% in 2002 (Statistical Yearbook of Estonia, Latvia, Lithuania, 2003). But there is also a lack of labour force. Hence, all these transitional countries are facing the problems of structural unemployment.

In the framework of income policy, it is important to improve the wage system. The use of international experience in labour and income policies needs, however, to be harmonised with the international legislative norms and EU directives.

People in the Baltic countries, as elsewhere in the former Soviet Union, suffered a dramatic loss of purchasing power during the initial transition years as a result of the use of a policy of shock therapy rather than one of gradual change. Debate on such issues has been provoked recently by Stiglitz's (1999a; 1999b) papers; in spite of this controversy however, there is very little doubt that fast, radical and comprehensive reforms in the economic and institutional sphere have helped to achieve better transition results than compromise and gradual change. (Dabrowski, Gortat, 2001; EBRD, 2000; World Bank, 2000).

A partial recovery of real wages got underway in Estonia and Latvia in 1993, and in Lithuania in 1994; since then living standards have continued to increase more or less in line with the trends observed

in Central European transition economies. The Russian economic crisis in the autumn of 1998 does not appear to have curbed the positive development of real income, in spite of some job losses. Estonian workers currently earn the highest real wages in the Baltic countries, and recent improvements have been particularly strong in Lithuania.

About Labour Regulations

The Baltic States follow the main international standards that regulate labour relations. The regulation of employment relations, in general, corresponds to international standards: the most important ILO conventions are ratified, and legislation assures the protection of employees' rights in terms of working hours, remuneration, holidays, and termination of contracts. There are also several measures to protect employees who are less favorably situated such as the elderly, pregnant women, women with children, disabled persons, etc. Of course there are also some differences in regulation measures between the different Baltic States. In Lithuania for instance, legal regulation has a more adverse impact on labour market flexibility than in Latvia due to a higher minimum wage, longer advance notice period and higher compensation for employer terminated employment contracts.

Using summary indicators of legislation (Paas, 2002) in order to compare the regulation of labour relations within the Baltic States and the EU, we notice that the index measuring legal restrictions for individual dismissals shows that dismissals are less regulated in Latvia than in Estonia and Lithuania. The index value for the Baltic States is also higher than the average for the European Union. On the other hand, the use of fixed term contracts is less restricted in the Baltic States than in the EU. At the same time, their usage is less restricted in Lithuania than in Latvia and Estonia. Both in Latvia and in Lithuania the status of civil servants is regulated by special laws. Civil servants have some advantages, but are also subject to additional duties. In all three Baltic States, the status of people is legally regulated and they enjoy certain rights. In Lithuania, the unemployed

receive higher unemployment benefits than in Latvia and the conditions for getting them are less stringent. At the same time, of the three countries only Latvia has an unemployment insurance programme that can be compared with such programmes in OECD and Central European countries.

The improvement of the wage system needs to be based on reaching a better balance between the level of wages, the volume of work, and its quality and productivity.

Over time, given the Common Market, and, now, the EMU, there is or will be pressure on price equalisation within the EU. Both of these developments are likely to have a profound effect on the ultimate shape of the economies of the Baltic States after they join the EU. This is not to suggest that there will be full equalisation of prices and wages. For one thing, despite the free movement of workers that the common market policy allows, labour mobility in the EU has not escalated appreciably.

There are clearly linguistic and cultural impediments to mobility that continue to play a role, slowing down the wage equalisation process. On the other hand, the wage differential between the EU average and the wage rate in the Baltics is clearly much greater than the difference between the EU average and the average rate of any existing members of the EU.

Regarding possible migration of workers, the counter argument is that the stimulation of investment that EU membership will provide will promote growth and new job creation and keep workers in place. This may be true, but it does not affect the main argument here in respect to wage equalisation pressures since the growth in demand for workers will also cause the domestic wage rate to rise and to converge towards EU levels.

The fact remains, however, that under any of the scenarios at which we are looking, the wage differential should narrow and, as it does, the comparative advantage afforded by cheap labour will be eroded.

What to Do?

One has to conclude that the income gap between the Baltic States and industrialised countries will be larger than desirable at the moment of integrating into the EU and NATO. Problems may arise in many areas, including labour mobility. Keeping in mind the importance of this problem, we should stress that approaching real convergence can be viewed not only as a precondition, but also as an outcome, of membership in these two bodies.

There are two main tasks that need to be tackled by EU candidate countries such as the Baltic States which have both transition and European Union integration problems at the same time:

- 1) To increase labour flexibility - this is necessary in order to meet the requirements of the European Monetary Union (EMU) and optimal currency area.
- 2) To support the adjustment processes of the people to the rapid changes in the labour market - this is necessary in order to have social peace.

In some sense, these are contradictory tasks. If labour markets are less regulated and trade unions are weak, labour is ordinarily more flexible. But in that case, the more disadvantaged population groups have to agitate. In order to avoid social conflict more attention needs to be paid to solving social problems.

References

Catching Up and EU Accession - Conditions for Fast Real Convergence in the Candidate Countries" IIASA's publications web site <http://www.iiasa.ac.at/Publications/Documents/IR-02-068.pdf>.

EBRD (2000): Transition Report 2000, European Bank for Reconstruction and Development.

Marek Dabrowski and Radzislawa Gorta (2001) Political and Economic Institutions, Growth and Poverty - Experience of Transition Countries. Centre for Social and Economic Research, Warsaw

OECD Economic Outlook, Preliminary Edition to No.73, April 2003: Volume 2003 Issue 1.

Paas, T., Eamets, R., Masso, J., Rõõm, M. Labour Market Flexibility and Migration in the Baltic States: Macro Evidences, University of Tartu, Faculty of Economics and Business Administration Working Paper Series, Number 16/2003, Tartu, 2003.

Statistical Yearbook of Estonia 2002, Statistical Office of Estonia, Tallinn, 2003.

Statistical Yearbook of Latvia 2002, Statistical Office of Latvia, 2003

Straubhaar, T. East-West Migration: Will It Be a Problem? INTERECONOMICS, 2001, July/August.

Stiglitz, Joseph, Whither Reform? World Bank ABCDE, 1999

http://www.worldbank.org/research/abcde/washington_11/pdfs/stiglitz.pdf.

World Development Report 2002: Building Institutions for Market, The World Bank.