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# Shrinking regions au Nord de l'Europe : Le cas de l'Upper Norrland

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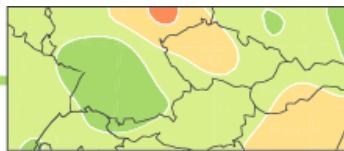
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**“Shrinking Regions”**  
**Un paradigme pour l’analyse des interactions entre**  
**démographie et cohésion territoriale**

**Shrinking regions au Nord de l’Europe**  
*Le cas de l’Upper Norrland*



Magnus Strömgren & Einar Holm (Umeå University)

**Abstract:**

*In the 20th century, urbanization and suburbanization have depopulated sparsely populated areas in Sweden. In the south, these processes are largely hidden by the growth of the centre when observed at the municipality level. In Northern Sweden, however, many sparsely populated municipalities have experienced a substantial overall population decline in recent decades. The main cause for the population loss is negative net migration. Young adults are overrepresented among the out-migrants, resulting in an aging population. This, in turn, has local economic implications, especially in light of a shrinking local tax base. The main long-term development problem for shrinking regions in Sweden is shortage of professional labor equipped for emerging tasks and sectors. The shortage of young professionals is intimately connected to the absence of a diversified local labor market for specialists giving both partners in such a couple suitable jobs concurrently. Short- and medium-term consequences for those staying in the shrinking regions should however be remedied generously. This is still a minority problem so it's relative cheap to support the victims of the prospering urban economy.*

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## Introduction

This working paper examines shrinking regions in Sweden, in particular its sparsely populated municipalities and its northernmost NUTS 2 region, the “national area” “Upper Norrland” (SE082). The regional distribution of population in Sweden has been rather stable for a long time. When comparing the 290 Swedish municipalities<sup>1</sup> of today with the same areas two hundred years ago, much remains the same. If the population per municipality is reduced proportionally (by almost two thirds) into the domestic sum of 1800 and compared with observed numbers at that time, three quarters of the relative distribution remains the same as today. Hence, three quarters of the explanation for the current regional population distribution in Sweden has to be found in location factors operating in the eighteenth century and earlier. The regional location of an average Swede still more reflect medieval agriculture conditions than it reflects conditions of the present urban economy. Moreover, the slow urbanization was largely a local process within current municipality borders. Replacing municipalities with parishes in the 200-years comparison reduces the overlap in distributions to 50%, half of the redistribution between parishes was local within the municipalities – the contemporary communes of Sweden. The only large scale regional change between municipalities obviously visible over the two hundred years was the colonization of the coastal areas of North Sweden in the ninetieth century. Despite the slow pace of urbanization, during the same time period average interpersonal accessibility has increased one hundred-fold. The reason, in addition to the modest effect of the slow urbanization is the effects of advances in transport technology and effects of the general population growth. In 1800, the average Swede could reach 5000 other persons within one hour by foot and hoarse. In the year 2000, the average inhabitant had access to more than half a million other persons within one hour of travel by bus or car (Håkansson, 2000). This accessibility increase creates one fundamental geographical condition for the division of labor in production and consumption required by the developed

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<sup>1</sup> “Municipality” and “commune” are used as synonyms in the text.

urban economy of today. Even so, only a fraction of the potential gain from urbanization economies is capitalized on since the regional population distribution lags behind current conditions with hundreds of years.

Nevertheless, in the 20<sup>th</sup> century, urbanization and suburbanization have depopulated sparsely populated areas in Sweden. In the south, these processes are largely hidden by the growth of the centre when observed at the municipality level (290 local units). In the north, however, entire municipalities, including their core have experienced a continuous, and in many cases substantial, population decline. In the six northernmost counties of Sweden, more than half of the municipalities lost more than 10% of their population between 1970 and 2000, with more municipalities encountering population decline in the 1990s compared to the 1970s and 1980s. Since then, the trend has continued, with certain municipalities yet again losing more than 10% of the population 2000–2007 (Pettersson, 2000; Statistics Sweden, 2008).

The NUTS 2 region Upper Norrland comprises the counties of Västerbotten and Norrbotten. All in all, the region consists of 29 municipalities, of which 15 are located in the county of Västerbotten and 14 in the county of Norrbotten. The NUTS region has many local administrative units quite large in size and small in population. Still, many municipalities are surprisingly “urbanized”, in that large parts are more or less uninhabited; most of the population is clustered in and around a few small or medium-sized urban localities. This observation is most pronounced in the sparsely populated north but reflects otherwise the general low population density of Sweden. Measured by 100m<sup>2</sup> squares, only 2% of the land area contains any settlements, so 98% of the land is “empty” and has always been so.

## **Demographic Developments in Northern Sweden and Sweden’s Sparsely Populated Municipalities**

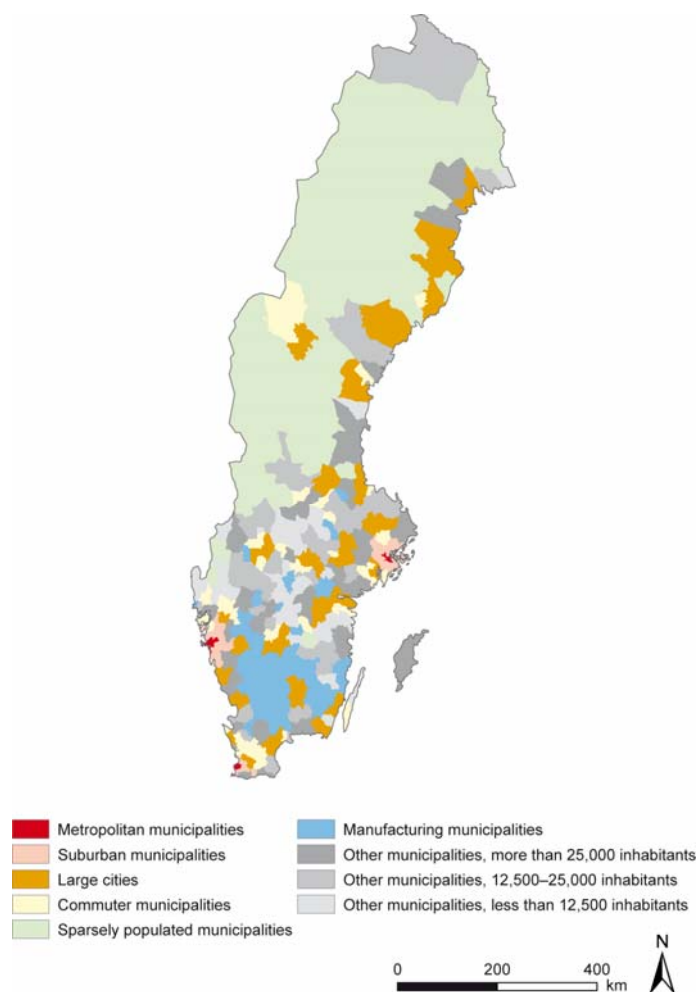
### *Population Development by Municipality Type*

In 2005, the Swedish Association of Local Authorities and Regions (SALAR) designed a classification of Sweden’s municipalities in nine different municipality groups, taking into account their characteristics in terms of for instance population size, commuting patterns and employment profile. In other words, the classification tries to define homogenous regions – regions that at least in some respects share similar characteristics. The nine municipality groups are:

- Metropolitan municipalities (3 municipalities).
- Suburban municipalities (38 municipalities).
- Large cities (27 municipalities).
- Commuter municipalities (41 municipalities).
- Sparsely populated municipalities (39 municipalities).
- Manufacturing municipalities (40 municipalities).
- Other municipalities, more than 25,000 inhabitants (34 municipalities).
- Other municipalities, 12,500–25,000 inhabitants (37 municipalities).
- Other municipalities, less than 12,500 inhabitants (31 municipalities) (SALAR, 2008).

The municipality groups are presented in map form in Figure 1. Sparsely populated municipalities are defined as municipalities with less than 7 inhabitants per km<sup>2</sup> and a total population less than 20,000 inhabitants. This municipality group consists of 39 municipalities,

20 of which are located in Upper Norrland. In other words, almost 70% of the municipalities in the NUTS region can be characterized as sparsely populated. There are three municipalities in upper Norrland classified as “large cities”, Umeå, Skellefteå and Luleå.



**Figure 1**  
**Municipality groups (source: SALAR, 2008)**

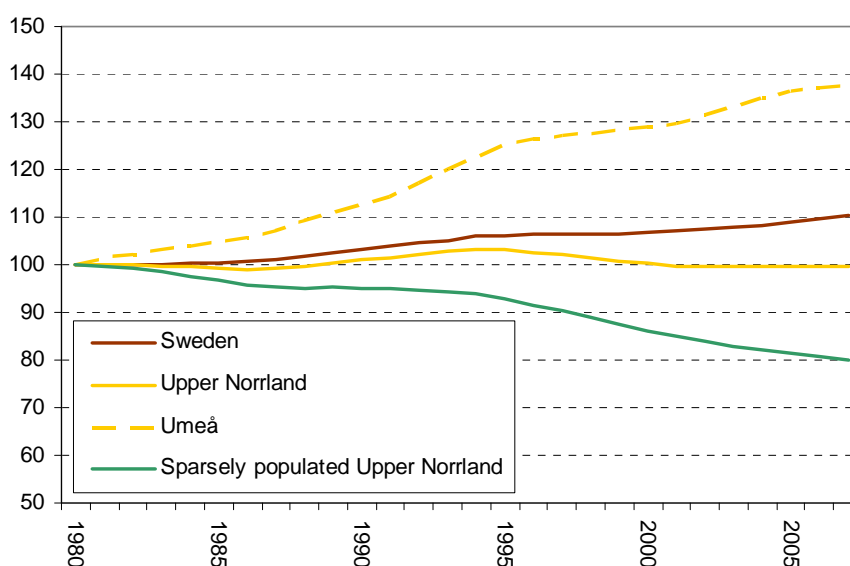
In Table 1, the population change 1980–2007 is summarized for the nine municipality groups. The categories “Sparsely populated municipalities”, “Manufacturing municipalities”, “Other municipalities, 12,500–25,000 inhabitants” and “Other municipalities, less than 12,500 inhabitants” have lost population. In absolute terms, “Sparsely populated municipalities” and “Other municipalities, 12,500–25,000 inhabitants” exhibit the largest population losses, while in relative terms the smallest other municipalities and – in particular – sparsely populated municipalities are worst off.

**Table 1**  
**Population change 1980–2007 per municipality group (source: Statistics Sweden, 2008)**

<i>Municipality group</i>	<i>Population change 1980–2007</i>	
Suburban municipalities	355,462	33%
Commuter municipalities	108,593	22%
Metropolitan municipalities	257,176	20%
Large cities	293,975	13%
Other municipalities, more than 25,000 inhabitants	31,498	3%
Manufacturing municipalities	-37,659	-6%
Other municipalities, 12,500–25,000 inhabitants	-53,636	-8%
Other municipalities, less than 12,500 inhabitants	-31,275	-11%
<i>Sparsely populated municipalities</i>	<i>-59,144</i>	<i>-17%</i>

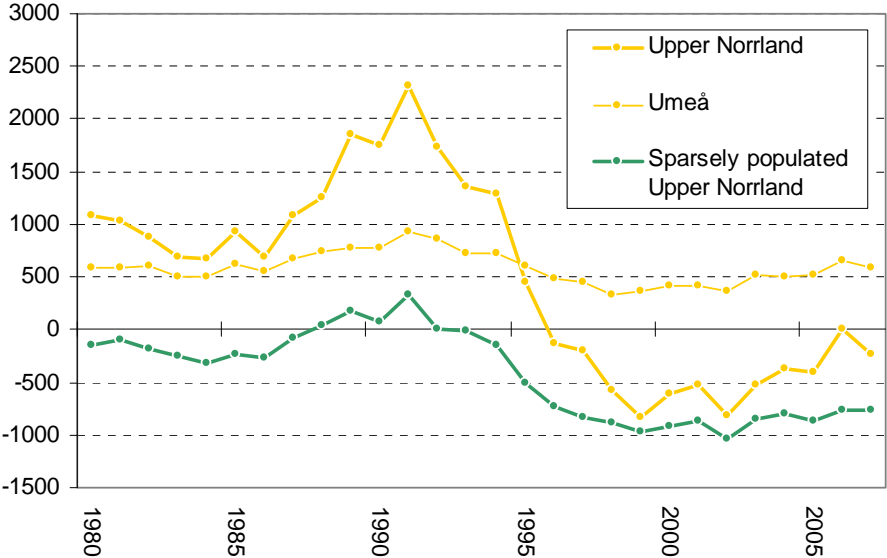
### *Population Development in Northern Sweden*

Since Upper Norrland to such a large extent consists of municipalities belonging to a municipality group with shrinking population, it can be expected that the entire NUTS region also has exhibited a substantial population loss. Figure 2 shows the relative population change in Sweden, Upper Norrland, Umeå and Upper Norrland’s sparsely populated areas 1980–2007 (index year 1980=100). While Sweden as a whole has increased its population with 10% since 1980, the population in Upper Norrland has been rather stable and also increased a little during parts of the 1990s. For the sparsely populated municipalities in the region, however, there has been a substantial population decline. With a population loss of 20%, sparsely populated Upper Norrland is slightly worse off than sparsely populated municipalities in general. Among municipalities experiencing a population increase during this period, Umeå stands out with a – for the region exceptional – 38% gain in population between 1980 and 2007. This, of course, also – for better or worse – signifies a concentration of the region’s population to the Umeå area.



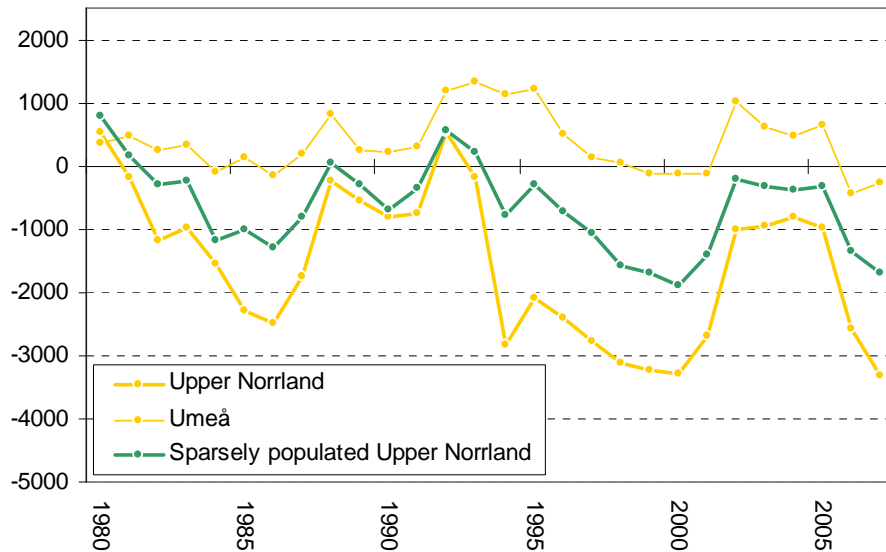
**Figure 2**  
**Population development in Sweden, Upper Norrland, Umeå and sparsely populated Upper Norrland 1980–2007 (source: Statistics Sweden, 2008)**

Figure 3 presents the contribution of natural population change to the demographic development in Norrland, Umeå and sparsely populated Upper Norrland 1980–2007. Until the middle of the 1990s, natural population change was positive for Upper Norrland as a whole, and for Umeå this has been the case for the entire time period. In the sparsely populated parts of Upper Norrland, however, mortality has exceeded fertility with the exception of a few years around 1990.

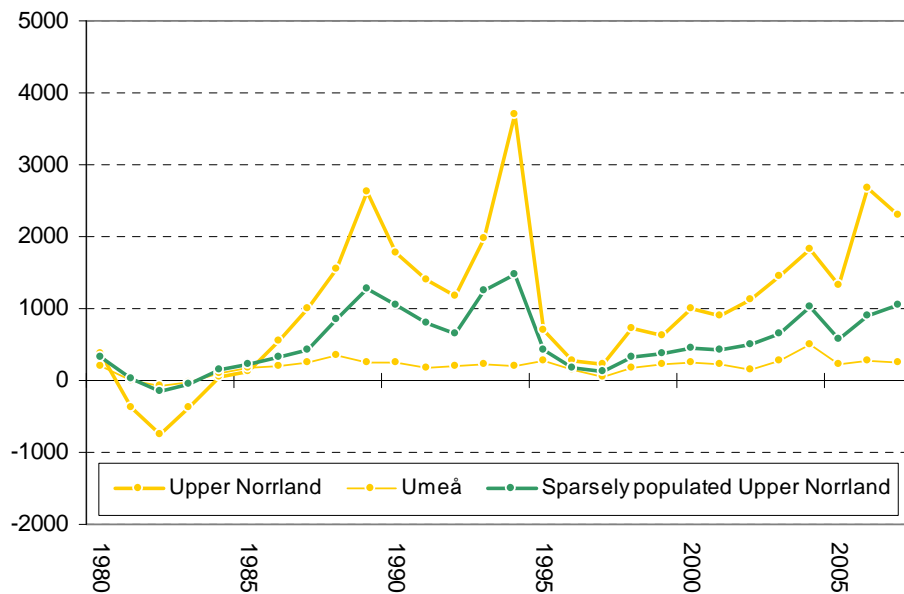


**Figure 3**  
**Natural population change (fertility-mortality) in Upper Norrland, Umeå and sparsely populated Upper Norrland 1980–2007 (source: Statistics Sweden, 2008)**

In Figure 4, net domestic migration rates during the time period is presented for the three geographical areas. When it comes to domestic migration, Upper Norrland and its sparsely populated areas exhibit negative figures for most of the time period, while Umeå most years has a net inflow of migrants. Figure 5, demonstrates the corresponding net international migration flows, tell that for most of the years, there was a net increase for Upper Norrland as a whole as well as both for Umeå and the sparsely populated areas. The largest inflows took place in the beginning of the 1990s, largely resulting from the arrival of refugees from former Yugoslavia. In the present decade, Upper Norrland as a whole and its sparsely populated areas exhibit quite high – and generally rising – net immigration, mainly reflecting arrival of Iraqi refugees. The positive population development for Upper Norrland in the beginning of the 1990s (see Figure 2) can obviously mainly be attributed to a combination of a natural population increase and positive net international migration. While fertility subsequently dropped significantly, immigration has continued to mitigate the population loss in Upper Norrland in general as well as in its sparsely populated municipalities.



**Figure 4**  
**Net domestic migration in Upper Norrland, Umeå and sparsely populated Upper Norrland 1980–2007 (source: Statistics Sweden, 2008)**



**Figure 5**  
**Net international migration in Upper Norrland, Umeå and sparsely populated Upper Norrland 1980–2007 (source: Statistics Sweden, 2008)**

The overall effects of these different demographic components 1980–2007 are summarized in Table 2. Umeå, but also Upper Norrland as a whole, had a population gain through natural population change. In combination with positive domestic and international net migration, Umeå gained population. For Upper Norrland, while net international migration is positive, net domestic migration is not, and in total the area has lost population through migration. All in all, the demographic development has been negative, but only slightly so (see Figure 2). For the sparsely populated parts of Upper Norrland, negative natural population change in combination with negative net migration has resulted in a significant population loss, notwithstanding the positive net international migration.

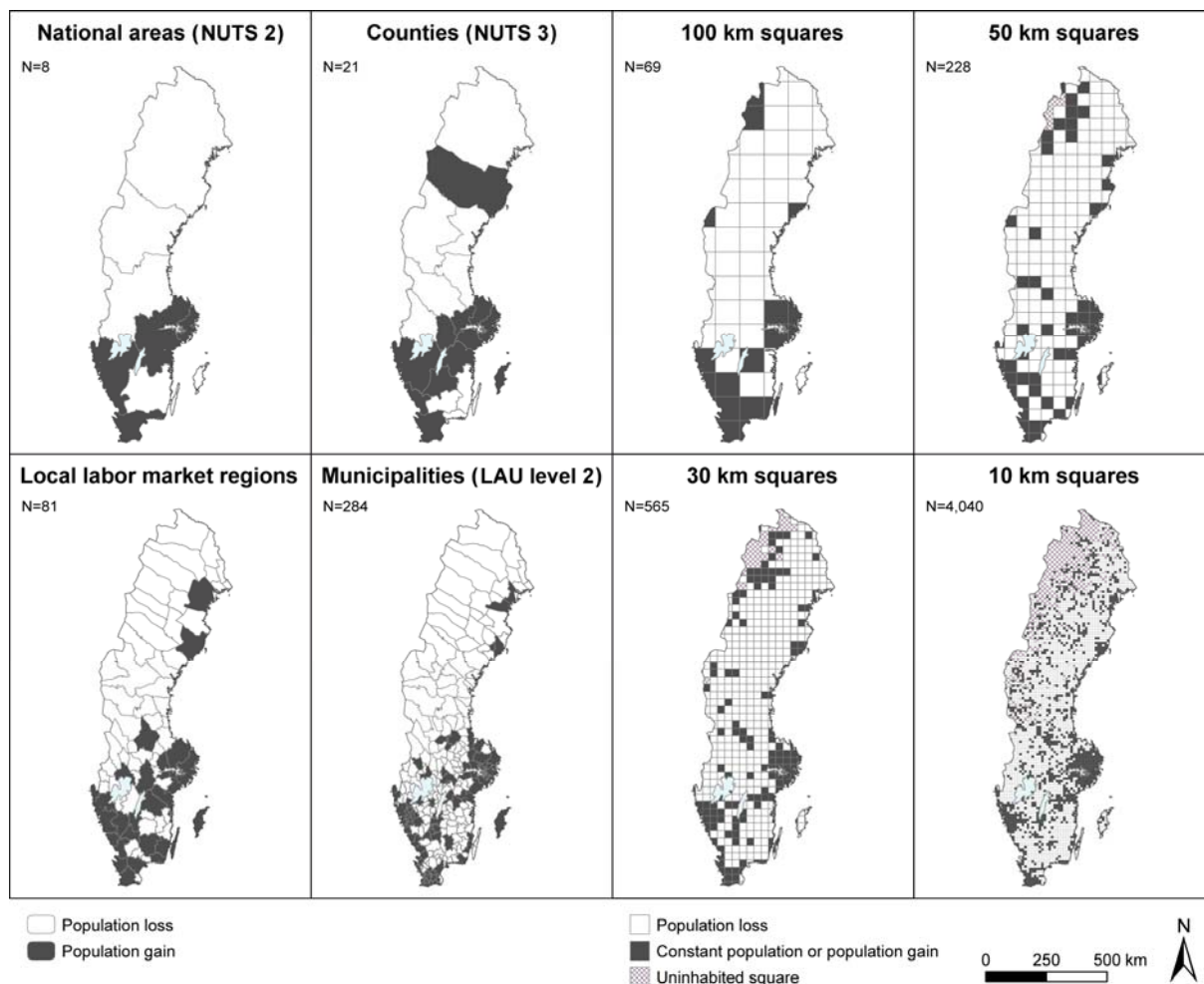


**Table 2**  
**Effects of population change and migration on demographic development 1980–2007 for**  
**Upper Norrland, Umeå and sparsely populated Upper Norrland (source: Statistics**  
**Sweden, 2008)**

	<i>Natural population change</i>	<i>Net domestic migration</i>	<i>Net international migration</i>	<i>Net migration</i>	<i>Demographic development</i>
<i>Upper Norrland</i>	+	-	+	-	-
<i>Umeå</i>	+	+	+	+	+
<i>Sparsely populated Upper Norrland</i>	-	-	+	-	-

### *The Impact of Scale*

In the context of population change in different geographical areas, the so-called Modifiable Areal Unit Problem (MAUP) needs to be taken into account. A certain geographical area may exhibit different population trends, depending on the subdivision of space that is employed. For purposes of comparison within the entire EU, the NUTS 2 and – to some extent – NUTS 3 levels (i.e., counties) constitute suitable levels for study of the phenomena. In the Swedish context, however, focus tends to be on changes at the municipality level. To some extent, this can be attributed to the planning and economic implications a change in population entails for municipalities. In Figure 6, the population development in Sweden 1990–2002 is presented at the NUTS 2 and NUTS 3 levels, but also for local labor market regions, municipalities and four grids of different resolutions.



**Figure 6**  
**Eight views of population change in Sweden 1990–2002 (source: ASTRID database)**

At the NUTS 2 level, only the southern parts of Sweden seem to increase its population, with the exception of Småland and the islands, while the three northernmost regions put on display a population loss. However, although the NUTS 2 region Upper Norrland has lost population, one of its two counties, Västerbotten increase its population – a development that primarily can be attributed to the already mentioned substantial growth of Umeå municipality. At the local labor market region and municipality levels, a more mixed pattern emerges – particularly in Southern Sweden. At these levels, it appears that – as far as Upper Norrland is concerned – the coast is better off than the inland areas. The grid maps also show areas of population gain in inland Upper Norrland. However, although growth in such areas may very well be substantial in terms of relative population increase, in absolute numbers, the population increase is modest. This local heterogeneity in population change is obviously most apparent in the most detailed grid map, where areas of constant population or population gain are scattered throughout both Southern and Northern Sweden. However, at close up, the expanding cells often are municipality centers while the surrounding countryside and small agglomerations in the south as well as in the north are continually losing population. This particular map also reveals that when aggregation is limited to 10 km squares, a substantial, contiguous part of Northern Sweden is totally uninhabited.

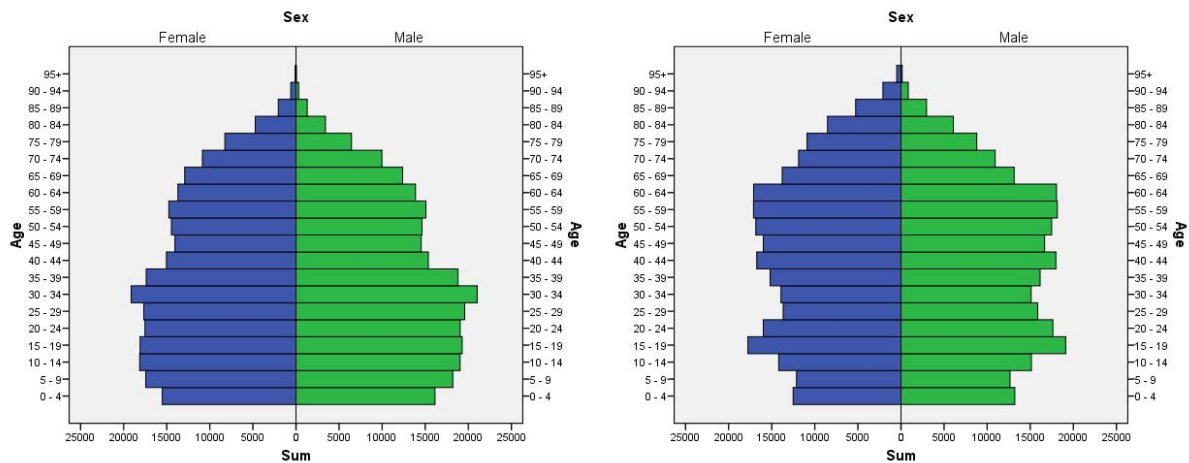
## Population Decline and Aging

Areas experiencing the largest population decline also have the largest share of elderly, as well as the fastest increase in mean age – both in absolute and relative terms. This correlation is not incidental. Indeed, since the main cause for depopulation is negative net migration, and young adults are overrepresented among out-migrants, depopulation also tends to signify an aging population. This, in turn, may contribute to bringing about smaller natural increase or even a natural decrease in population (Malmberg *et al.*, 2005; Pettersson, 2000; Statistics Sweden, 2008). When summarized at the municipality group level, geographical variations in age are not as tangible as when comparing individual municipalities. Still, as Table 3 reveals, the group of sparsely populated municipalities in the year 2007 had the highest share of individuals aged over 64 years, while in 1980 it shared this position with the three metropolitan municipalities and the smallest “other municipalities” category. Indeed, “Metropolitan municipalities” is the only category that has decreased its share of elderly during the time period.

**Table 3**  
**Share of population aged 65– per municipality group 1980 and 2007 and change 1980–2007 (source: Statistics Sweden, 2008)**

<i>Municipality group</i>	<i>Share of population aged 65– 1980</i>	<i>Share of population aged 65– 2007</i>	<i>Change 1980–2007</i>
<i>Sparsely populated municipalities</i>	20%	23%	+3
Other municipalities, less than 12,500 inhabitants	20%	22%	+2
Other municipalities, 12,500–25,000 inhabitants	19%	22%	+3
Other municipalities, more than 25,000 inhabitants	17%	20%	+3
Manufacturing municipalities	17%	20%	+3
Large cities	15%	17%	+2
Commuter municipalities	16%	17%	+2
Suburban municipalities	9%	15%	+5
Metropolitan municipalities	20%	14%	-5

For the municipality types represented in Upper Norrland, there has been a general increase in the share of the population aged over 64 years between 1980 and 2007. Thus, it can be assumed that the overall age distribution of the population in Upper Norrland is different today, compared to the situation in 1980. In Figure 7, the population distribution in Upper Norrland is presented in the form of population pyramids for the years 1980 (left) and 2007 (right). In 1980, the population pyramid is actually quite pyramid-like, while in 2007 there are two visible dents reflecting a low share of children and young adults.



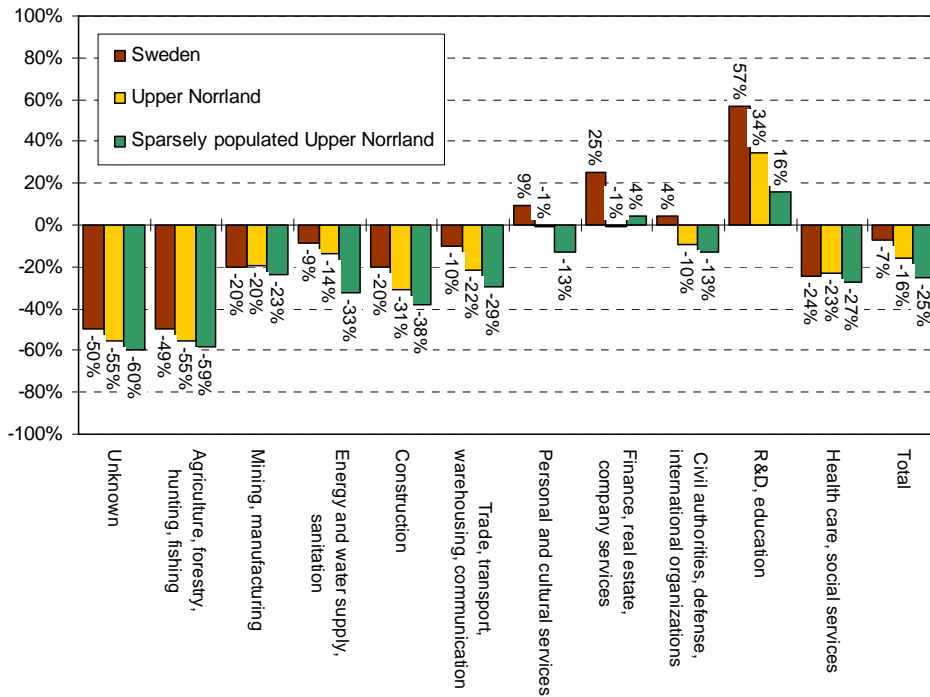
**Figure 7**  
**Population structure in Upper Norrland 1980 (left) and 2007 (right) (source: Statistics Sweden, 2008)**

## **Economic, Governance and Social Issues**

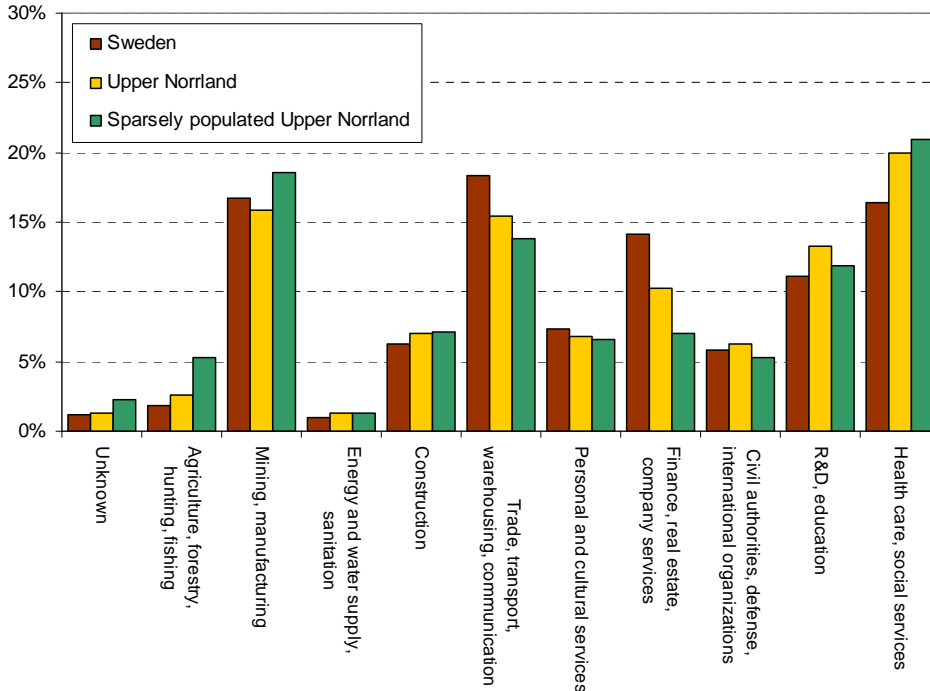
### *Economic Development in Upper Norrland*

Upper Norrland, like Sweden as a whole and developed countries in general, have faced considerable amounts of changes in employment structure during the 20<sup>th</sup> century. The number of employed in the primary and secondary sectors have declined, while employment in the tertiary, service sector has increased. In the last decades, total employment in Sweden has declined, between 1990 and 2003 with 7% (Figure 8). In Upper Norrland, and sparsely populated Upper Norrland in particular, the decrease was considerably more substantial, 16 and 25% respectively. When this overall change is broken down by industry sector, it becomes apparent that employment has decreased in almost all sectors of economic activity. In Upper Norrland and its sparsely populated areas, only the industry sector R&D and education exhibit any significant increase in employment. One core component of this change is that up 1990 female participation rates had increased to very high levels while female occupation was the first victim of the economic crisis 1991-93. Female participation has not yet recovered to this historical high point.

Figure 9 shows the 2006 employment by industry sector for Sweden, Upper Norrland and sparsely populated Upper Norrland. Despite substantial employment decline in mining and manufacturing and health care and social services (see Figure 8), these industry sectors are still the most important in Upper Norrland's sparsely populated areas in terms of number of employed. The industry sectors in question also account for a larger share of total employment compared to both Upper Norrland as a whole and Sweden in general. Due to the high global demand, mining is at the moment a prospering industry. However, due to modernization of the industrial process, this will likely not translate to that many new jobs.



**Figure 8**  
**Development of different industry sectors in Sweden, Upper Norrland and sparsely populated Upper Norrland 1990–2003 (source: Statistics Sweden, 2008)**



**Figure 9**  
**Employment by industry sector in Sweden, Upper Norrland and sparsely populated Upper Norrland 2006 (source: Statistics Sweden, 2008)**

## *Territorial Organization and Local Governance*

Public governance in Sweden is carried out at three levels: the national, regional and local levels. The national level is represented regionally by county administrative boards (“länsstyrelser”). The division of the Swedish territory in 20 counties (18 county councils and 2 regions) remains relatively unchanged compared to the 24 ones set up by Axel Oxenstierna in the 17<sup>th</sup> century. Over the centuries they have served the purpose of being the main level for governmental regional control and development policy. In the 20<sup>th</sup> century the governance by the national state became heavily supplemented by two additional spatial administrative bodies, “landsting” and “kommuner”.

The landsting is a spatial organization governed by representatives elected by the regional population. The regional division is mainly the same one as used for the national state governance, the counties. Landstingen are primarily responsible for more qualified care and hospital services, but earlier they also had a substantial responsibility for regional planning within their borders.

“Kommuner” (communes, municipalities) is the basic local administrative level of Sweden. Originally, a kommun covered the same territory as did the parish, roughly about 2,500. That number reflected the requirements for functional regions giving access by foot or horse to the main local core of that time, the church. In the midst of last century it became obvious that the present communes were all too small for harboring more than a tiny part of services required at local level. All the time there was a political agreement that services for care, schools and local planning should remain a local and public responsibility. Therefore, a series of commune mergers was launched, ending up in the current local division in 290 communes (meanwhile also the number of parishes has decreased into about 2,000, but that is now a business of interest for the Lutheran church exclusively).

The big “reform of communes” is unprecedented in administrative rationality. Today, the tendency is rather to try to occasionally break up the created communes and probably it would have been much harder to achieve anything like the reform today. Anyway, the current communal division gives the functional basis for the current division of power between administrative levels in Sweden. The aggregate communal budgets covers almost half of the public sector activity in Sweden, so in a formal sense one can say that a substantial part of public affairs are decided by democratically elected local bodies. Over 80% of the communal expenses go to care and services for young and elderly. However, the power of the communes is heavily constrained by the government in several ways. A series of regulations defines minimum levels and standards of public services including school, elderly care, child care, planning principles etc. In addition to local taxes there is also an additional redistribution of taxes between rich and poor municipalities in order to enable such minimum requirements (equalization of taxes scheme). So largely, the communes have the power to administer the details of what they anyway are obliged to do.

As revealed by Table 4, suburban municipalities have the highest average tax base, while sparsely populated municipalities have the lowest. In this system, all but 14 municipalities exhibit a net gain (hence, the redistribution scheme is based on net subsidies from the government). Among those municipalities gaining most per inhabitant, there is an almost complete dominance of sparsely populated municipalities in Northern Sweden. On the other hand, of the 14 municipalities that are net losers in this system, 12 are designated as suburban, 10 in the Stockholm area and 2 in the Malmö region. Even with this support and redistribution

system in place, however, sparsely populated municipalities still exhibit the highest municipality taxes, while the lowest tax rates are levied in metropolitan and suburban municipalities (Table 5).

**Table 4**  
**Average tax base per municipality group 2008 (source: Statistics Sweden, 2008)**

<i>Municipality group</i>	<i>Average tax base</i>
Suburban municipalities	176,783
Metropolitan municipalities	165,253
Large cities	153,314
Other municipalities, more than 25,000 inhabitants	147,121
Commuter municipalities	146,914
Manufacturing municipalities	145,938
Other municipalities, 12,500–25,000 inhabitants	143,199
Other municipalities, less than 12,500 inhabitants	137,146
<i>Sparsey populated municipalities</i>	133,212

**Table 5**  
**Average municipality tax (per 100 SEK) per municipality group 2008**  
**(source: Statistics Sweden, 2008)**

<i>Municipality group</i>	<i>Average municipality tax (per 100 SEK)</i>
Suburban municipalities	19.9
Metropolitan municipalities	19.9
Large cities	21.3
Commuter municipalities	21.4
Manufacturing municipalities	21.4
Other municipalities, more than 25,000 inhabitants	21.7
Other municipalities, 12,500–25,000 inhabitants	21.8
Other municipalities, less than 12,500 inhabitants	21.9
<i>Sparsey populated municipalities</i>	22.6

So, the enlargement of the basic local administrative areas from 2,500 small parishes into 290 larger communes doesn't help covering the fact that most sparsely populated parts of Sweden are shrinking in terms of population, employment and income per capita. Many of the "new" communes, especially in the north, are so small and weak in population and employment that their entire area is declining, not only their former remote "parish" parts. On the margin though, probably the situation would have been still worse for those parts without the reform. Now a remote area within a commune can be regarded as just another dwelling area automatically benefiting from all infrastructure and services provided by the larger commune. In the alternative case as a remaining small "parish" commune it would have to fight for subsidies and infrastructure by itself and gaining no economies of scale in service provision.

But that is only on the margin. The basic, long term developments in former small remote parishes are mainly connected to changed conditions and preferences for urbanization and suburbanization as elaborated in the introduction. The imperative of that dominant, prevailing force is much stronger than any impact of rearranging administrative borders. Most people and firms, for a range of god reasons, want to live and operate in relative proximity to each

other and that choice of location isn't much influenced by the label, border and stated policy of the surrounding local administrative unit.

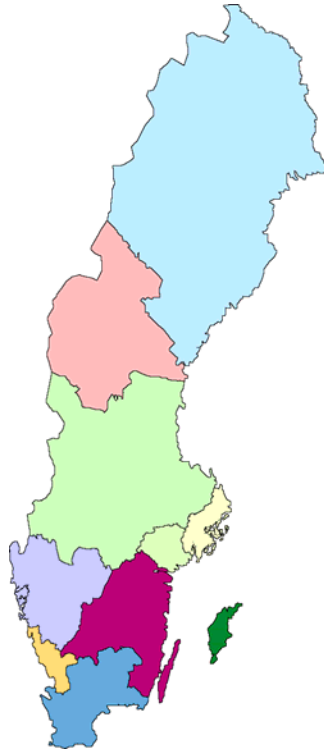
Counterurbanization is a phenomena promoted as a partial remedy in literature from more dense countries. For Sweden however, the observable traces of counterurbanization are tiny. Maybe Österlen in northeast Skåne, maybe some ski and spare time resorts. Other examples of increased "countryside living" put forward in the debate are in fact rather to be classified as new faces of suburbanization. The continuous improvement of infrastructure for daily commuting around bigger cities enables increased settlements also beyond the former urban fringe, "in the countryside". This development is actually almost officially accepted as a viable policy option for regional development under the label "region enlargement" for two reasons: 1, for tapping increased productivity and growth advantages of labor market related urbanization economies and 2, the new expanded fringe zone itself benefit from becoming incorporated in the growing urban economy.

Neither the 400 years old counties, nor the 50 years old "new" communes of Sweden are fit for contemporary challenges. Rather than being contained within the present 290 communes, commuting behavior tends to create at most some 80 "labor market regions", containing most daily work related travels. And, such a definition, based on commuting, creates fewer regions for every year. For that reason, a new commune reform is appropriate. With less than 80 communes there is no obvious need, in a small country like Sweden, to keep the medieval three tier administrative hierarchy for political decision making (state, county, and commune). The county level has served its historical duty. It is just marginally harder to distribute governmental resources directly on 80 communes compared to 20 counties. Increasingly, interaction with the rest of the world is a direct interaction between individuals, firms and municipalities in different countries. Those emerging actors neither need, nor want any filtering interference by county level (or state level) bodies.

But such a reform will not happen. There is no political current whatsoever in touching the commune level organization beyond eventual small voluntary locally induced border adjustments. Today, no political party can see any gain in suggesting changes guaranteed to create immense local opposition however it is arranged. Current Swedish communes will remain – if not forever, so at least for a very long time.

What will happen, however, is a much less important change in county level organization. Current 20 counties will become some nine or so regions with somewhat different authority and responsibility. The nine or so regions mainly replace the current "landsting" for health care administration. Some governmental functions might also be carried over from current counties while other will become centralized to the state or decentralized to municipalities or tailor made levels. Also this change has created a long standing debate. Since people in general are little concerned by the organization of the county level (as compared to the local level) this debate has mainly engaged those directly concerned: county level officials and politicians loosing their power and income platform. One current suggestion is demonstrated in Figure 10. Most likely many changes remain before decision.





**Figure 10**  
**Proposed regional re-organization of Sweden (source: modified from Dagens Nyheter, 2008)**

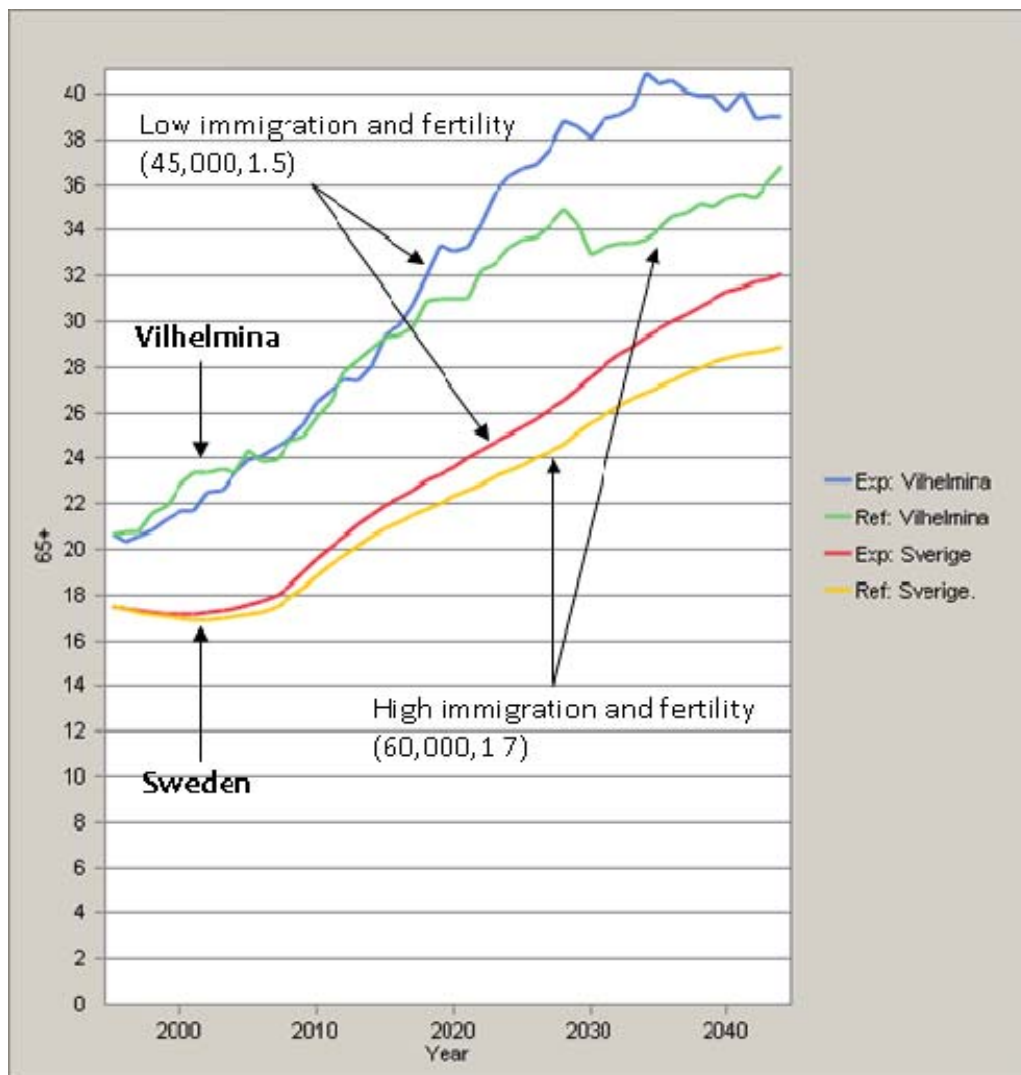
### *Aging and the Local Economy*

There is an important political dimension involved in the changes in age composition and workforce size and structure brought about by the redistribution of population between municipalities. Given the municipal responsibility for care of the elderly, selective out-migration of young people contributing towards a skewed population structure is likely to have economic consequences at the local level. A higher share of elderly means increasing costs, while at the same time out-migration of individuals in working age deteriorates the tax base. To the extent that impact on local taxation is counterbalanced by increased redistribution of funds between local authorities, well-off suburban municipalities will need to give up increasingly larger amounts of money. This may increase the local discontent with an already somewhat controversial and locally unpopular redistribution system. As noted above, despite this additional funding system, local tax rates are highest in sparsely populated municipalities. On the other hand, it should be noted that costs of living, particularly in terms of housing, is comparatively low in sparsely populated regions, which to some extent will offset the negative impact of high taxation levels.

The long-term population development and structure in different parts of Sweden will depend on future demographic trends, including fertility rates and the primarily policy-driven international immigration flows. Figure 11 displays some results from an experiment with the microsimulation model SVERIGE2. The model operates on 10% of all individuals in the entire Sweden and contains the usual set of equations for mortality, fertility, migration, labor force participation, etc. The chosen output in this case is the share of population 65 years and older for Sweden as a whole and the municipality of Vilhelmina as an example. Vilhelmina is located in inland Västerbotten and designated as a sparsely populated municipality in the

previously described municipality group classification. Since 1970, it has lost almost 17% of its population (Statistics Sweden, 2008). Two scenarios are presented in the figure, one with low immigration and fertility and one with higher. Over the next 30 years, the share of people in retirement ages will increase from some 18% to around 30% in the entire country, while the level in Vilhelmina increases from some 20% to as much as about 40%.

One message that can be derived from this example is that aging is a rapid transformation going on everywhere, and that it will inevitably happen despite quite different assumptions regarding fertility and immigration. Another message is that the national development largely mirrors that of sparsely populated municipalities; the difference corresponds to not more than some 20 years of change. Today, problems with supporting the elderly in peripheral areas can be regarded as a minority problem, not all too severe to handle by means redistribution of resources. Within not more than 20 years, however, today's level in sparsely populated areas will become the average level for the entire country. In that situation, the conditions for solidarity between core and periphery will be challenged by an entirely different general situation in which the core might claim that they have enough problems taking care of their own elderly.



**Figure 11**  
**Two scenarios of future share of elderly (65+ years) in Sweden and the municipality of Vilhelmina**

### *The Provision of Services*

In regions experiencing population decline, demand for various services may diminish with a resulting detrimental effect on service provision, private as well as public. To some extent, this has undoubtedly been the case in sparsely populated Upper Norrland. This development and how it relates to public policy will be elaborated on later on. This section presents the result of an examination of the situation using micro data on workplaces. Using the individual longitudinal database ASTRID, the provision of services in Åsele – a sparsely populated municipality in Västerbotten – was examined. The supply of services was examined 1990 as well as 2005, i.e., fifteen years later. During this time, the population declined with 21%.

For this particular municipality at least, a rather mixed pattern emerges concerning the development of service provision. Many public services, such as schools and health clinics, were rather stable in terms of number of facilities 1990 compared to 2005. This was also the case for certain private services, such as restaurants and hairdressers. However, several forms of private services were less common in 2005 compared to the situation 1990. For example,

the number of grocery stores declined sharply during the studied period. Presumably, this is partly a result of the shrinking process, but also influenced by more general trends in retail. In recent decades, the Swedish retail sector has seen radical changes, one of which is increased geographical concentration. For instance, the number of smaller retail outlets has decreased dramatically in favor of large shopping centers and retail parks (Bergström and Fölster, 2005). Incidentally, one such area is forming in Haparanda, Norrbotten following the recent establishment of an IKEA outlet there.

### *Temporary Residence and Employment*

Temporary residence and employment is a phenomenon that occurs everywhere, but whose local impact is most tangible in sparsely populated areas. In Sweden, second home tourism is a common phenomenon. Purpose-built second homes are most frequently found in metropolitan hinterlands as well as in seaside and mountain resorts, reflecting demand for scenic locations and accessibility. In some cases, particularly concerning mountain resorts, such areas are located in sparsely populated municipalities. Furthermore, in the countryside in general, ordinary housing stock has to varying extent been converted to second homes. This is a development that has been made possible by urbanization and the resulting surplus of housing outside of urban areas (Müller and Hall, 2003).

While second homes, by their very definition, not function as a permanent place of residence, many second home owners spend considerable time there, sometimes continuously for several months. Müller and Hall (2003) present adjusted population figures for Sweden, taking into account temporary residence in second homes. Their calculation assumes that each second home on average is used by three persons for two months a year. Given this (perhaps a bit generous) assumption, their redistribution of the 1996 population result in a population gain in 190 of the (at the time) 288 municipalities. Many of the municipalities exhibiting a substantial population gain are located in sparsely populated Upper Norrland. When second homes are used, the relative local increase in population is most evident in areas where the permanent population is small. Obviously, then, second home owners have some impact on consumption and civil society in sparsely populated areas. Local taxes, however, are paid to the municipality they permanently reside in. Similarly, the tourism industry in sparsely populated areas is largely characterized by the employment of persons that are not permanent residents. Lundmark (2005a) estimates that, in 15 northernmost mountainous municipalities, about one quarter of the workforce employed in tourism are seasonal migrants or long-distance commuters.

### **Policy Study and Recommendations**

Before statements about countermeasures are put forward, the problem they are supposed to solve should be defined. So, what is the problem with shrinking regions? What kind of shrinking?

#### *What is the Problem with Shrinking Regions?*

For simplicity, a shrinking region is defined as a region facing long term population decline. Other candidate indicators are employment or income reduction or decrease in employment or income per capita. In most cases however, such indicators are heavily correlated so any of

them would pinpoint more or less the same regions within the same time frame. If found, exceptions are also of interest, e.g. regions with population decline but increasing income per capita.

So, if shrinking signifies population decline in a given region, for whom is that a problem?

- 1) For persons moving out?
- 2) For persons moving in?
- 3) For other persons living in the region?
- 4) For persons living outside the region?

*Case 1* is a problem if it's about a forced move. If the out mover wanted to stay but had to move i.e. because no local job, education or other earnings alternative was available. But, there is never a sharp binary choice set. No person will die by staying. In most cases the welfare system will give support up to approximately 80% of former income to staying unemployed etc. It's also a question of how reasonable it is to expect local presence of the failing amenity. If a young person moves because of entering university studies in a larger city but had preferred to have the university situated at home, that in most cases exemplifies an unreasonable wish – particularly so if no university ever was conceived to be located to the small remote shrinking region. Then, the decision to move can as well be regarded as a voluntary trade of between existing “reasonable” alternatives (reasonable in the sense that a political majority is prepared to put public resources into the specifically preferred amenity).

What might remain as a reasonable problem indicator is becoming unemployed and “forced” to move because of failing local industrial performance for middle aged persons. But that applies to a tiny share of all out movers. Several large Swedish and Nordic surveys about migration motives (i.e. SOU 2000:36) concludes that almost all movers regard their move as a voluntary one and moreover that the reason for moving in not more than one fifth of the cases had anything to do with the labor market, unemployment, moving to a new work or change work. If the move is voluntary, it's hard to regard the move as an individual problem. On the contrary, since the move is voluntary, the person gained personally, given own preferences and available conditions in the region and elsewhere.

*Case 2* might also be considered a problem only if it's a forced move, if the person actually wanted to live somewhere else but i.e. could get employment in the shrinking region only. This is probably a pathologically rare case however.

*Case 3* is probably the main “problem” case. Those remaining in the shrinking region face a continuous relative deterioration of services and jobs partly induced by shrinking demand from fewer locals. The out movers personal gain is partly counterbalanced by the collective loss he/she thereby creates for those remaining. But the conventional wisdom often exaggerates this impact of service “thresholds”. The main force behind the ongoing concentration of services into larger maus is driven by economies of scale and by customers increasing preference for large facilities giving a rich choice set at low prices compared to the limited supply of expensive goods available in the old small shops. That restructuring happens much faster than, and independently of, changes in local populations. It affects small remote regions with increasing population as well as the shrinking ones. The same story partly applies to industrial restructuring. They are not even remotely dependent on local demand for their products but heavily dependent on urbanization economies, in most cases promoting locations closer to large local labor markets. Local public services are in a way more dependent on local population numbers compared to private services but in Sweden that effect

is already almost compensated by the earlier discussed tax redistribution scheme. Basic services of schools and care are available everywhere – but sometimes only possible to reach at longer distances than before.

So, it seems a little bit unfair to blame the out mover for increasing deprivation for those remaining in the shrinking region. Also the fragment of this impact that remains can be challenged as a family based rational choice between available alternatives. The parents of the child moving to university from the village in the shrinking region also belong to those facing increased deprivation partly because of the child's move. Probably, in that situation most parents anyway would regard the advantages for the child of getting a university education and city experience more important than their own loss of daily contact with the child and loss of services etc.

Obviously, the search for an agent to blame for lacking local developments often only creates scapegoats. The real agents are abstract and invisible and located all over the globe. However, the problem remains. The service and employment environment for those remaining in shrinking regions deteriorates continually for a range of visible and invisible reasons. The reasons don't really matter for the consequences of the result. That remains as a "reasonable" problem indicator challenging a quest for at least some political countermeasures easing up life conditions for those staying.

Often however, in discussions on regional developments, the welfare of the individuals in a region are mixed up with the abstract notion of welfare for the region "itself" independently of it's current inhabitants. Therefore, the self evident has to be repeated: The welfare of a region is nothing but the aggregate of its inhabitant's welfare. If nobody wants to stay there, if everybody living there, given the conditions, voluntarily wants to move out, then there is no point in pitying the region – and definitely no point in trying to implement policies for developing the region. Actually, all former inhabitants gained welfare by moving out and the collective welfare in society increased by that. The swamps, forests and abandoned cottages of the empty region are not carriers of welfare and have no human value if nobody wants to use them.

*Case 4* can sometimes be relevant, at least in a national context and might superficially seem to contradict the last paragraph above. The obvious example is if the region contains valuable natural resources like minerals and forests. Such resources are important input for prospering forest- and metal industries elsewhere in Sweden. That industry contributes significantly to employment, value added and incomes in Sweden totally and gives a substantial part of the export incomes of the country. So, it appears that the rest of the population would have an obvious interest in maintaining population and labor supply in shrinking regions containing such natural resources.

Originally, one of the main reasons for establishing settlements and local societies in some of the currently shrinking regions was precisely the need for labor to harvest the forests and mine the minerals. One reason for the industry using the resources to still be utterly competitive on the world market is rapid continuous developments of its real capital and hence a tremendous increase in labor productivity, not least in the resource extraction part of the production chain. The result however is that today, also compared to the tiny populations of the shrinking regions, labor input for extraction only gives employment for a few percentages of the local population. And, even so, sometimes there are problems finding adequately educated personnel locally.

Another development since the early days of mining and forestry is changes in settlement preferences, especially among young well educated persons. They move from the village in the shrinking region, get education and family in a university city and then rarely see any possibility to return together with an equally well educated partner. Maybe one of them can get a suitable job “at home” but seldom both of them. This development also explains why the main development obstacle for the shrinking regions is not the traditional lack of jobs and unemployment due to increased productivity and therefore decreasing number of employed in the local industry. Instead, the main obstacle is labor shortage for new qualified jobs in emerging and expanding sectors. This local mismatch on the labor market also applies to the public sector. A large part of the local health services in the shrinking regions has to rely on non local, long range commuting physicians, dentists and nurses.

The productivity increase and the changed settlement conditions/preferences for well educated couples give entirely different conditions for developments in the shrinking regions today compared to the “colonization” era. It’s instructive to set up a “thought experiment” in order to see current conditions. Let’s say that, for some reason, the natural resources of currently shrinking territories remained undiscovered until today. Then no settlements, population and local services would have been created meanwhile. Now suddenly strikes the question of how to arrange the exploitation of those utterly valuable discovered resources in virgin land in order to create a new booming industry. Would it be possible to replicate the old solution and create new local societies around the resource sites? The core personnel would have to be well educated in machinery and equipments contrary to the situation “last time”.

Most likely, the employer would almost only be able to recruit such persons on a long range commuting base. Their partners would never accept to settle alone in the forest and stay at home with the children as did their grand mothers, also if they were paid a normal salary for that. So, the most relevant organizational template for this situation is probably the one employed by oil companies extracting oil in the sea; an oil platform. Forestry and mining personnel would still live in the cities, flying in to camps in the forest on a weekly or so basis, work 12 hours a day and then stay at home for two weeks. Hence, not much in terms of developing traditional societies is to be expected from the industry requiring the natural resources of the shrinking regions. And also if the public sector was prepared to put in considerable resources in an effort that effort would fail. No money ever available can instantly create something like a university city in several places in the shrinking regions. Nevertheless, that is what the young professionals would require in order to move to and settle in the region.

### *Problems and Countermeasures*

So again, what are the remaining problems reasonable to attack by help of public policy/resources in the shrinking regions? Maybe:

1. Support for maintaining consumption for middle age and old stayers without realistic labor market options locally or elsewhere.
2. Support for maintaining private and public services for the stayers.
3. Support for additional costs for day care, schools and transports for children of families with adults required for maintaining services for the stayers.

4. Support for covering additional costs for long range commuting by professionals required for maintaining qualified services for the stayers.
5. Support for taking care of unusually large proportions of elderly in the shrinking regions.
6. Support for eliminating the negative development impact in shrinking regions of implementing national policies in all different governmental sectors.
7. Support for finding and developing new viable products/services based on old, current and emerging comparative advantages in the shrinking regions.

This short list is the result mainly of an interpretation of the analysis above. It's not an interpretation of current official Swedish goals and problem formulations for regional policy and developments. Actually, the last point above can be regarded as a narrowed down version of the vast amount of goals and measures put forward in contemporary formulations of the content and ambitions in policies for regional development in Sweden as discussed further in next section.

The problem areas 1–5 above are, on the contrary, quite defensive and traditional. Rather than pointing at new development strategies aiming at reversing the development direction, they have the more limited aim of reducing some of the negative consequences of the ongoing (inevitable) shrinking and urbanization process. Problem 1 is primarily a case for the individual social and labor market policy aiming at supporting individuals regardless of their place of living, although the proportion of persons in need for such support is larger in shrinking regions. Problem 2–5 are more localized specifically to persons living in shrinking regions. They all belong to the brand of issues supposed to be treated partly by help of the discussed policy for tax redistribution from rich to poor communes. The argument might be that it is “reasonable” to maintain and increase that redistribution, especially to the most deprived shrinking regions.

But even more directed support can be motivated. One example of a case in problem area 2 is a current quest from the oil companies to sharply reduce the number of gas station in the country – claiming that current numbers are the result of over establishments. Such a reduction would primarily affect the shrinking regions and in many cases create very long distances to the nearest remaining gas station. This change will considerably worsen accessibility to basic services for the local population for two reasons. I. The afore mentioned restructuring of the private service sector has already gone so far so, in many cases, the gas station is the closest remaining private service establishment available. II. Meanwhile, the gas stations have changed their assortment of goods into that of a general local shop – in effect, they are the remaining local shops. Therefore it might be reasonable to give them a directed support for staying in operation in remote parts of the shrinking regions.

Problem area 3 should be covered by the tax redistribution system. The costs for problem 4 however are now directly covered by the respective employer. It could be argued that this extra cost should be regarded as a general cost for ongoing restructuring and economic growth in the country and hence, at least partly be covered by subsidies from the rest of the country, that is the government. Otherwise it deteriorates the quality of the service provided in the shrinking region (availability of physicians etc.). It's easy to motivate an almost full coverage of the extra regional costs created by additional aging (problem 5) by help of tax redistribution or something like it. The children of the parents remaining in the shrinking region are certainly prepared to pay taxes for the care of their parents regardless of where in



the country they live. It's out of the question to put that burden entirely onto those few young persons staying in the shrinking region.

Several public investigations on regional policy have observed problem 6, that sectorial national policy unintentionally might create new problems in certain regions: That the totality of sectorial ambitions are not independent and consistent in their local spatial outcomes. Despite this awareness it's not certain that this problem is less pronounced today compared to when it was first observed. A plethora of new national governmental agencies have been created during the last decades, each with their own little special question to guard and promote. Two out of many possible examples:

1. The Swedish environmental protection agency is responsible for creating and maintaining national parks and natural reserves. In so doing sometimes large parts of remote shrinking communes have been allocated to Natura2000 areas or national parks. Such state eco-protectorates largely remove the local control of the territory in question. The protected land no longer falls within municipal planning control as other land use does. In other forms of land use, the local commune has the power to evaluate conflicting interests against each other, i.e. the value of limited exploitation combined with nature tourism against eventual damages on the nature. Not so with protected land. Nothing is allowed to interfere with the land as it was at decision time. In the extreme case that might cause a failure in launching any services at all for visitors including necessary infrastructure. So, for whom then is the protected area protected if nobody can come and see it? At the same time as one of the few available options for creating local jobs matching local competence is spoiled (Lundmark and Stjärnström, 2008).
2. The Swedish planning legislation has a general rule that prohibits construction of housing closer than 100 meters from the waterfront in the entire country. The reason was the emergence, during the first part of last century, of housing (and second homes) very close to the water on the shores close to the bigger cities, effectively closing access to the most attractive seashore for all but the property owners. The county administrations can extend the limit to 300 meters, but also grant exemptions (that in turn may be appealed by the environmental protection agency). The rule has thus been implemented but with random exceptions all over the country, also in the shrinking regions with several kilometers of sea shores per inhabitant. So, in places where access really matter for a large part of the general public, the harm was already done. Getting a house close to water is one of very few local amenities attractive enough to motivate settlement in shrinking regions without much attraction otherwise. The stiff implementation of the rule removed this rare comparative advantage for the sparsely populated areas despite very little conflict with access to the waterfront for other potential users can be envisioned. On the contrary, access to distant waters requires roads for the majority of the general public and the only activity able to carry the cost for such roads is construction of houses for permanent or temporary use. However today, some fifty years later, this policy is about to be eased up for parts of the shrinking regions.

The seventh problem motivating some countermeasures in shrinking regions corresponds to the bulk of statements in current regional policy documents promoting growth everywhere. The problem definition here is deliberately much narrower in order to return to and maintain a clear distinction between regional development measures and general economic growth measures. Two constrains are put forward: only to shrinking regions and only to activities

clearly exploiting comparative advantages in the shrinking region. All the rest is general growth policies dressed as regional development policy.

### *Tourism as Development Strategy*

Tourism, particularly winter tourism, is an important economic activity in Upper Norrland, particularly in the inland, mountainous municipalities. Since tourism-related activities (e.g., hotels, conference centers and ski facilities) are comparatively labor intensive, both national and EU support have focused on improving the conditions for tourism employment. However, the tourism industry is highly seasonal in character. For the considerable proportion of the employed that are seasonal migrants or long-distance commuters, their permanent place of residence is elsewhere. While this means that unemployment may be “exported” from the area during off-season months, the area will also miss out on local consumption during those times (Lundmark, 2005a). In this context, decreased seasonal variation in tourism demand, e.g. though a prolonging of the seasons, has been suggested as possible goal for public policy (Lundmark, 2005b). For one thing, such a development would encourage permanent residency, with resulting impacts on consumption, civil society and the local public economy. In practice, however, how to structure public support in order to best contribute towards such a development is not entirely clear. Nevertheless, the tourism sector is certainly a promising target for public support, since it in itself is labor intensive and also attracts temporary visitors to an area.

Concerning second homes, where temporal residency is a given, a similar argument can be put forward. Second home tourism has seasonal economic and social impacts at the local level. In locations where demand for second homes is high and supply scarce – and second home tourism thus significantly contribute to higher housing prices – there is at least a possibility that the phenomenon contributes towards a displacement of temporary residents. In Upper Norrland, however, this situation is not at hand at all, with the possible exception of some highly unusual hotspots. Rather, there are many abandoned houses that could be converted to second homes, and an eventual resulting inflow of additional temporary residents would stimulate consumption and civil society. While such effects would not be negligible, particularly in sparsely populated areas, more pronounced local effects – especially in terms of local public economy – would presumably be achieved in the case of second home owners changing their permanent residence to their second home.

Another issue that is relevant in this context is how to best capitalize on the local environmental conditions. Many “success stories”, such as the “moose farm” (Bjurholm, Västerbotten) and the Ice Hotel (Kiruna, Norrbotten) were pioneers in leveraging the environmental conditions in Upper Norrland in innovative ways. Nature conservation is often promoted as a way to stimulate tourism. While this may be true to some extent, the Swedish model of nature conservation usually limits accessibility in protected areas – which constitutes a barrier for visitors and may actually counteract other tourism activities. By way of example, a current proposal to create a national park in Storuman, Västerbotten has met with some local resistance for this particular reason: already existing tourism activities involve snow mobiles, which would not be permitted in an eventual national park. Nature protection in the Swedish manner may very well be worthwhile as such, but its effect on local development is probably questionable at best.

## Conclusions

- The shrinking region problem is the aggregate of the problem its inhabitants face – nothing else.
- The migration problem for shrinking regions is not out migration. The rate of out migration doesn't vary at all as much as does in migration rates between communes and can mainly be regarded as a natural consequence of life cycle events. Young people are supposed to move from home and then often prefer another destination. The problem is instead the lack of in migration compensating out migration.
- The long term development problem for shrinking regions is not ongoing restructuring and loss of jobs in outdated sectors and the immediate unemployment caused by that. The problem is the shortage of labor trained for emerging tasks and sectors.
- The shortage of young professionals in shrinking regions is intimately connected to the absence of a diversified local labor market for specialists giving both partners in such a couple suitable jobs concurrently.
- In addition, the preferences and possibilities for living in the shrinking region among young professionals deteriorates while forming family, social life, habits and aspirations in the city of education.
- Development support to shrinking regions should target areas of comparative advantages in those regions (wilderness tourism, cheap waterfront living, second homes, extreme sports, everything requiring space and emptiness like the car test activities in Arvidsjaur etc.)
- Development support should not be divided up in myriads of small conventional short term projects all over the target area. Evaluations of the results of the first EU supported program in Upper Norrland, "Goal 6" essentially concluded that almost no traces of lasting impact of the 1.7 billion euro programme could be discovered a few years after its end. As an example of a completely different alternative, the money would have covered the cost for a bridge to Finland and that one would at least have been visible today – and probably also useful.
- Short- and medium term consequences for those staying in the shrinking regions should be remedied generously. This is still a minority problem so it's relative cheap to support the victims of the prospering urban economy.
- In the more distant future, the aging problem in the shrinking regions is still relatively speaking a minority problem but on a much more severe level, not least since then also the core regions of the country would have approached the level of aging observed in remote regions today.
- Central sectorial policy should much more be challenged and evaluated in terms of its local consequences in shrinking regions. This applies to planning regulations, environmental preservation programs, service provision principles etc.

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