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Tourism Clusters and the Geographical Distribution of Hotels in Switzerland

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Introduction[1]

The aim of this paper is to examine the supply-side of Swiss tourism by looking at the geographical distribution of hotel activities in Switzerland. In particular, we wish to determine if the Swiss hotel industry is characterised by clustering, and how this clustering has evolved over the past decade.

As numerous authors have pointed out, tourism is a complex system of interrelated industries, which come together to create the tourist product. This product is the result of the choices of individual tourists, and sometimes of tour operating firms, who compose menus of products and services in accordance with their needs and wants. A meal sold at a restaurant may be considered a tourism product when sold to a foreign tourist, and a non-tourist product when sold to a local. This complicates the examination of the broad tourism system and in particular when we wish to determine tourism clusters. Initiatives such as the Tourism Satellite Account try to deal with these complications, providing an interesting tool to examine tourism products on a national accounting level. In our somewhat simplified analysis, we will concentrate on the hotel industry, which is often considered one of the engines of tourism.

This paper is divided into several sections. In a first section we briefly discuss geographical location and clusters. We then go on to explain our approach to the examination of tourism clustering in Switzerland. In the analysis section we present our findings on the geographical distribution of the hotel industry in Switzerland and its evolution from 1992-2002. Finally, in the conclusion we shortly discuss some weaknesses of our analysis and avenues for further research.

The Spatial Allocation of Production

Tourism activities, like most other economic activities, are not equally distributed throughout the physical and industrial landscape. Most regions have to some degree specialized themselves in certain activities rather than others. Examining the reasons for this specialization has long been one of the *raison d'êtres* of economic geographers. Their location theories have tried to explain regional specialization by focussing on such things as the physical landscape; cost of inputs (such as labour costs); distance to inputs (linked to transportation costs); distance to customers; and other such variables. For instance, in some

studies the hypothesis has been that firms will locate close to their most expensive input. In the case of primary aluminium manufacturing, for example, manufacturers need cheap electricity, and have therefore tended to locate in places like Norway, Iceland, Canada and Switzerland, where an abundance of hydroelectric power has made electricity a cheap commodity. In general one can say that the location of firms and the geographical distribution of these have been considered as either a rational cost-minimizing exercise, as a decision process involving uncertainty and bounded rationality, or as a strategic process involving future expectations and strategic decisions[2]. Whatever the logic, it becomes clear that industries are not scattered randomly, nor are they likely to be distributed evenly, across the landscape. On the contrary, individual organizations within an industry tend to locate in clusters around optimal locations for that industry.

The writings of Michael Porter on competition and the importance of economic clusters have caused quite a stir in the past decade, bringing about a renewal of interest in the geographical elements of economic growth. As a reminder, Porter (1998) defines:

"Clusters are geographic concentrations of interconnected companies, specialised suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also co-operate."

Although the concept of clusters still suffers from a somewhat vague definition, and despite some divergence amongst scholars as to what constitutes a successful cluster, literature on the subject has exploded, resulting in a range of new opportunities for research. There are many potential avenues to explore both in terms of theoretical, analytical and empirical work. Regional development policy questions have also been dealt with in this light, and still need to be examined extensively. The emergence of cluster-oriented regional policies like it has been seen in Sweden and Denmark, for example, show that both private and public institutions believe in the efficiency of such policies.

Various strands of research have evolved from the study of specific clusters of organizations, working in the same industry. A commonly cited example of these is Silicon Valley in California, U.S.A. Many other examples exist from around the world and from many different industries. This clustering of interdependent, yet often competing, firms has been widely examined in the past two decades. Some scholars, particularly in Italy, have referred to these

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[2] For a more thorough examination of location theories, one can refer to for instance Hayter (1997) or Wheeler, Muller, Thrall & Fik (1998)

clusters as industrial districts. Others again refer to milieux innovateurs, regional innovation systems or learning regions. The similarities and differences between these strands of research have been widely discussed and are not the main subject of interest here. A good overview of these various theories is found in Dicken & Malmberg (2001). A paper presented at the 2004 DRUID summer conference also provides a good introduction (Belussi, 2004). An interesting point to note at this point is that the advent of the internet, contrary to common belief, seems to have strengthened the agglomeration forces present in these clusters (Leamer & Storper, 2001).

Swiss Tourism Clustering

In our analysis, we will take a very simplified approach to defining clusters. We simply define a cluster as being a geographical concentration of competitors in any given industry. Various economic sectors are worth examining in the form of clusters, perhaps none as much as tourism. The Alpine region has been a magnet for certain types of tourism for a very long time and continues to attract visitors. These include both domestic and foreign visitors, coming for shorter or longer stays, or simply passing through on the way to other destinations. However, during the past few decades, Swiss tourism seems to have stalled and even suffered a decline. Compared to other destinations around the world, Switzerland has clearly lost a lot of ground, whilst the world at large has experienced strong growth in the sector. This can be measured both in terms of arrivals, overnight stays, and perhaps most strikingly, the number of firms operating in the field. Thus, the number of hotels in Switzerland has declined by around 30% in the past three decades.

In this paper, we wish to attempt to identify the main tourism clusters, as well as get a rough estimate of their individual impact on the over-all industry. We will quantify the concentration exhibited by the industry and examine the development of this concentration from 1992-2002, using detailed data from the Federal Swiss Statistical Office (OFS). As already hinted at, defining the limits of a cluster is very challenging. We will here simplify the analysis by focussing only on one of the drivers of tourism, the hotel industry. This choice may be easily criticized since it excludes from the discussion, areas which are dependent only on excursionists. Whilst this is a clear limitation, it makes sense from the point of view of the definition of a tourist. The World Tourism Organization definition of the tourist refers to an individual who spends at least one night (24 hours) at the place he visits. This automatically then involves an overnight stay, hence justifying the focus on hotels. Our focus on the hotel

industry also introduces a limit by ignoring other forms of accommodation, such as camping, secondary homes etc. Finally, we are looking at only one actor in the tourism sector, deliberately ignoring the other industries in the tourism value chain. We believe this to be the main limitation to our analysis.

Essentially our methodology borrows from the quantitative traditions of economic geography. We will examine the spatial arrangement of Swiss hotels, as well as space-time processes due to the diffusion, or retreat, of hotels over time (Robinson, 1998). Few studies of this kind exist on the hotel industry and tourist flows in general (O'Hare and Barrett, 1999). Most studies have focussed on international flows of tourists, rather than the distribution within individual countries. The data we use has, to the best of our knowledge, not previously been used to examine hotel activity concentration.

General Trends in the Swiss Hotel Industry

The long term development of the Swiss hotel industry follows very closely the kind of path predicted by industry life cycle models (Gort & Klepper, 1982; Sund, 2004). The long term development of the number of hotels operating in Switzerland is shown in Figure 1. This clearly shows that the Swiss hotel industry is currently in a consolidating phase. At its apogee in the early 1970s, the industry counted over 8100 hotels, generating well over 35 million overnight stays. Since that time, over 2400 hotels have closed down in Switzerland. Overnight stays have stagnated, regularly fluctuating between 30 and 37 million. This consolidation phase looks set to continue.

In this paper we are focussing on the geographical concentration of the industry, not the competitive one. If we were interested in the competitive concentration, we would have to take into account also the rise in hotel chains, franchises and joint-marketing groups. According to Swiss Hotel Association figures (Sund, 2004), over 1200 hotels are members of 33 groups active in Switzerland. This makes the competitive consolidation even more apparent. Again, we expect this trend to continue.

Swiss Hotel Industry Evolution
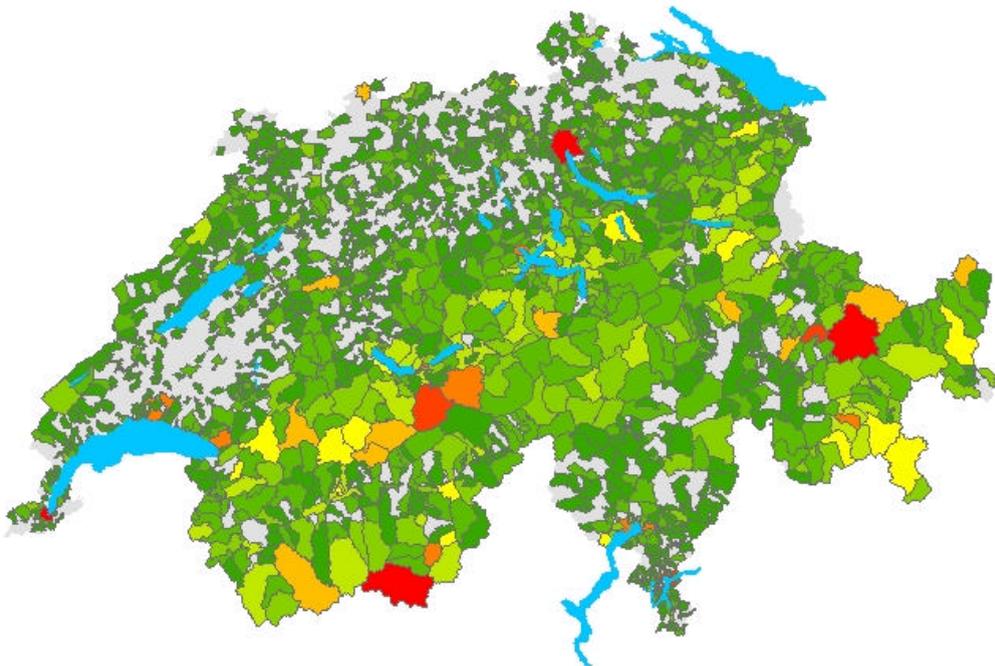
(incl. Health Hotels & Spas)
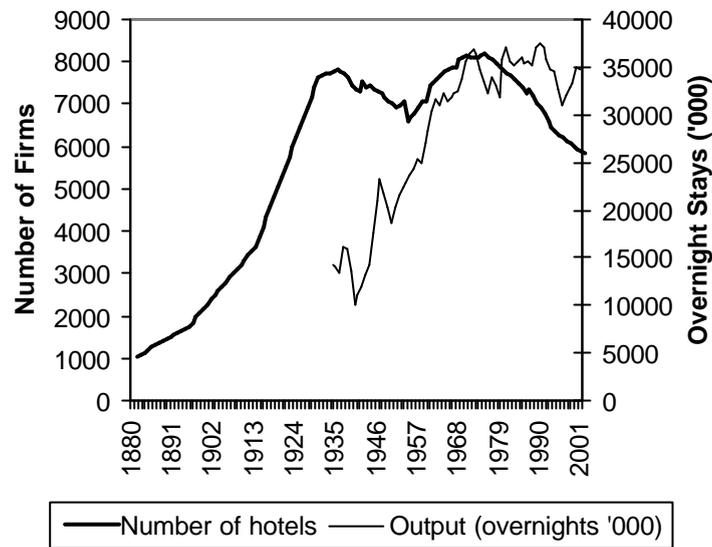
Figure 1

(Source: Federal Swiss Statistical Office)

Geographical Distribution

Using Geographical Information System (GIS) software, we have mapped data on the number of hotels per commune. Figure 2 shows the geographical distribution of hotels in Switzerland in 1992 and figure 3 shows the same data for 2002. The change which has taken place between these two dates is not very clear from the maps, but it is there. What is very clear is the uneven distribution of hotels throughout Switzerland. The areas which benefit from above-average tourism activities are clearly visible. Other areas, in grey on the maps, have no hotels at all. Most of Switzerland is characterized by little or no hotel-related activities. A few communes do however have up to a hundred hotels or more. Roughly speaking, these tourism hotbeds are the major Swiss cities, as well as a few very active mountain resorts. These will be identified in a later section of this paper.

Geographical Distribution
of Hotels in Switzerland
1992

Categories

Communes
Hotels1992.NUMBERHOTE

- 1 - 2
- 3 - 6
- 7 - 11
- 12 - 18
- 19 - 27
- 28 - 37
- 38 - 53
- 54 - 74
- 75 - 106

0   24'500 49'000   98'000   147'000   196'000
                                                   Meters
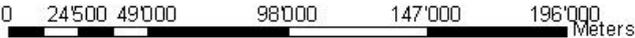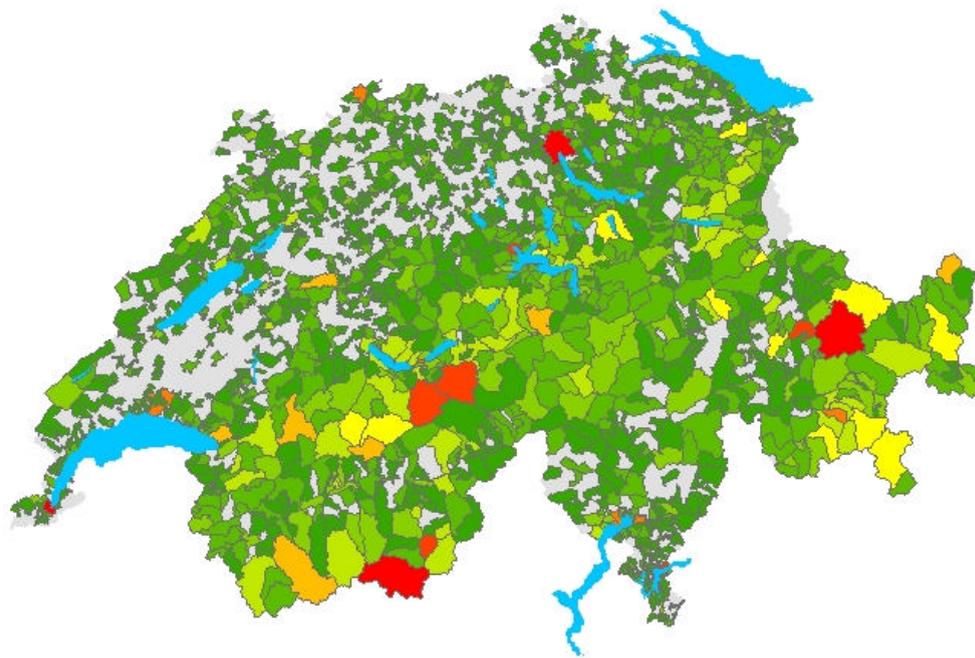
Figure 2

Geographical Distribution of Hotels in Switzerland 2002

Categories

Communes

Hotels2002.NUMBERHOTE

- 1 - 2
- 3 - 6
- 7 - 11
- 12 - 19
- 20 - 27
- 28 - 34
- 35 - 44
- 45 - 58
- 59 - 110

0   26'000 52'000   104'000   156'000   208'000
Meters

Figure 3

Geographical Concentration

The main question we wish to answer in this paper is: What has happened to the geographical concentration of the Swiss hotel industry over the past decade? In order to answer this question, we have constructed Lorenz curves for the industry, for 1992 and 2002. The construction of these Lorenz curves involves cumulating the ordered percentages of hotels per commune. For reminders, if the Lorenz curves were straight diagonal lines, this would indicate hotels to be equally distributed amongst the communes. In other words, each commune would have an equal number of hotels.

What the Lorenz curve for 2002, in figure 4, shows is that the hotel industry is highly concentrated, with half of the Swiss hotel industry concentrated in a mere 1% of the communes. Furthermore, and even more interestingly, this concentration appears to be growing. This can be seen in figure 5, which contains the Lorenz curves for both 1992 and 2002. Over the last decade, the Swiss hotel industry has been noticeably concentrating itself. Whilst the industry in total has seen the loss of 727 hotels in the period studied[3], these hotels have not been randomly closed down across the country, but rather have been lost in specific areas, namely in outlying regions. Unfortunately, these tend to be the areas which were already not tourism intensive. In a sense, the areas already suffering from a withdrawal of tourism activities, have continued to suffer. The outlying regions, which often turn to tourism as a potential economic booster, have seen this booster fail.

Another way of illustrating the concentration effect is to calculate a measure of relative entropy. Mathematically:

$$\frac{-\left(\Sigma\left(\frac{x_i}{\Sigma x_i} * \ln\left(\frac{x_i}{\Sigma x_i}\right)\right)\right)}{\ln(n)}$$

- Where x is the number of hotels in commune i, and n is the total number of communes
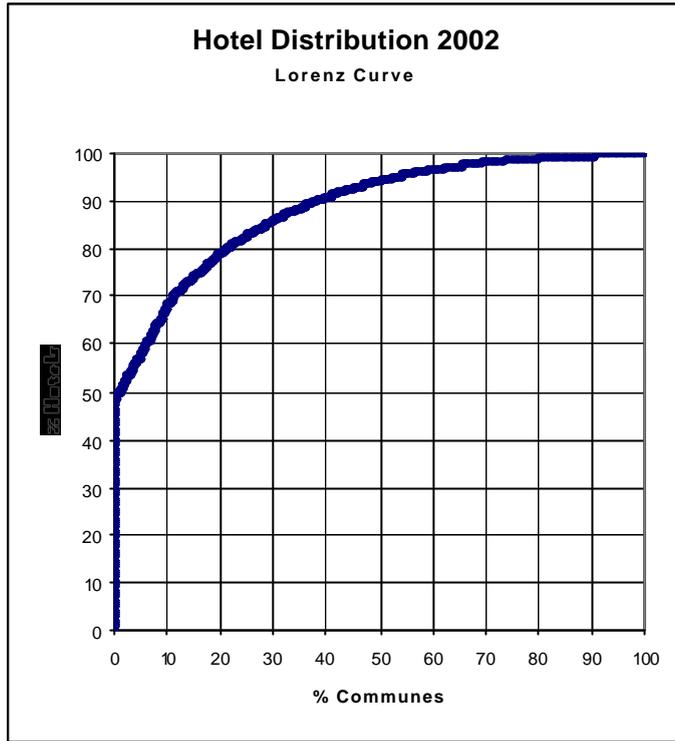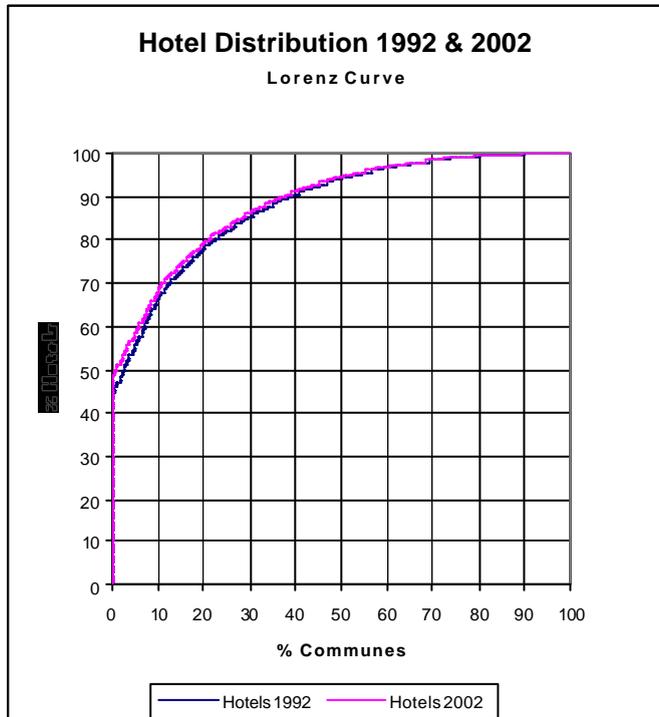
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[3] Source: OFS

Figure 4

Figure 5

When the entropy measure falls, this indicates a growing concentration, or diminishing dispersal. What figure 6 shows is that there is a clear concentration effect. Furthermore, there is a very good correlation between the number of hotels and the geographical concentration as measured by the relative entropy.
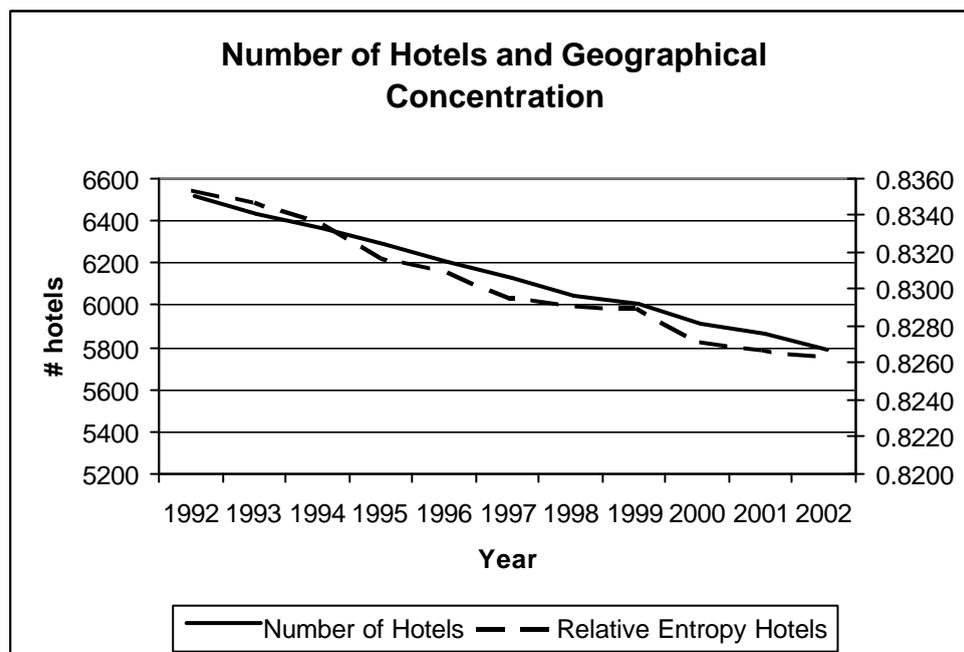

Figure 6

Main Tourism Clusters

Based on the analysis above, we may now name the main tourism clusters, assuming of course that these correspond with the main areas of hotel activity. The limitations of this assumption were discussed earlier. The ten main tourism areas are to be found in figure 7. What figure 7 also shows, is further evidence of the concentration discussed earlier. This time the consolidation is shown in overnight stays. Whereas the top ten communes in terms of overnight stays represented 28.7% of the total market in 1992, this figure had increased to 31% in 2002. The biggest destinations in Switzerland remain Zürich, Geneva, Zermatt and Davos. Furthermore, the city destinations seem to have done considerably better coping with the consolidation phase of Swiss tourism, than many rural areas and alpine destinations.

Concentration in Overnight Stays				
Commune	**1992**	**2002**	**Commune**	**2002**
Zürich	1908067	2126426	Zürich	2126426
Genève	1713607	1889093	Genève	1889093
Davos	1344463	1052003	Zermatt	1156910
Zermatt	1143505	1156910	Davos	1052003
Luzern	869473	884363	Luzern	884363
St.Moritz	863786	809435	St.Moritz	809435
Basel	626757	619093	Lausanne	672598
Lugano	623498	507872	Basel	619093
Arosa	605668	486559	Lugano	507872
Lausanne	602585	672598	Interlaken	497487
TOP 10	10301409	10204352	TOP 10	10215280
Total CH	35891693	32993369		32993369
TOP 10 Market Share	**28.7**	**30.9**		**31.0**

Figure 7

Conclusions

Our findings have shown that the hotel industry is geographically quite concentrated, with a few clear "clusters". Some of these clusters have performed better than others in the past few decades, with resulting changes in the geographical distribution of tourism activities. Today, the top ten communes (in terms of overnight stays, and out of a total of over 2900 communes in Switzerland), account for almost a third of Swiss hotel overnight stays. Furthermore, this share is rising. The geographical concentration of the Swiss tourism industry is increasing. Our findings indicate that, in particular, outlying regions will find it increasingly hard to compete and survive in the future. Our research also indicates that at least on an industry or a macroeconomic level, any past efforts to revitalize tourism in peripheral, non-central regions, seem to have failed. The trend is clear, and raises questions concerning the future of Swiss tourism in peripheral regions.

We need to caution that we have made some simplifying assumptions in this paper, and future research should aim to relax these assumptions. In particular the analysis would benefit from studying the clusters from a more "Porterian" point of view. In other words one should include the full value chain as well as government and non-government actors in the analysis, not just the hotel industry. Furthermore, the analysis would benefit from being extended to a longer time period, in order to verify the behaviour of the measures of geographical

concentration over time in this industry. We anticipate that one would find a clear relationship between phases in the industry life cycle and the value of measures of the geographical concentration of the industry.

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