POLYNET Action 2.1
Qualitative analysis of service business connections

This project has received European Regional Development Funding through the INTERREG III B Community Initiative

NWE ENO
INTERREG IIIB
NORTH WEST EUROPE

Northern Switzerland

Northern Switzerland

Qualitative Analysis of Service Business Connections

Lars Glanzmann, Nathalie Grillon, Christian Kruse & Alain Thierstein

1. Introduction

Contents

1.1 Purpose / Research Questions

The analytical findings of the preliminary research phase in Actions 1.1 and 1.2 have shown that commuting data alone in the case of the European Metropolitan Region Northern Switzerland (EMNS) can provide no solid basis for argumentation in discussing polycentricity as well as the functional spatial organisation of city networks. Together with the results of the first rough analysis of the functional reorganisation of business activities through inter-firm networks they form the basis for a qualitative consolidation of the results by way of interviews. This report investigates the positioning of the EMNS with Zürich as global financial driver of advanced producer services (APS) at its heart in the regional, national and European knowledge production environments, and tries to determine the set of roles that the region plays at the different scales in this global network of strategic places.

This research introduces a new way of looking at things, selecting a multiple set of physical and virtual connectivity indicators to define the realm of the knowledge-intensive business service (KIBS) network. The overall approach focuses on the quantitative as well as qualitative investigation of interrelationships of functional urban regions (FURs), taking into account the fact that different scales ask for different interaction patterns and that value added production relies on overlapping service networks.

Preliminary analysis showed that although the cores have gained disproportionately high importance as KIBS-providers on the whole, the functional division of labour has created quite distinct regional economic activity patterns. The following sections will provide some clues as to whether the metropolitan region of Northern Switzerland is truly moving toward the development of a more polycentric layout in terms of an increased functional division of labour with increased specialization on economic- value-adding service systems.

Drawing an overall picture of the physical connections (e.g. commuting), market-driven spatial patterns (e.g. geographical locations of knowledge intensive business service firms, business linkages) and perimeters of political strategies (political cooperation, business development, spatial and institutional sphere of influence) will offer a better understanding of the interactions and linkages between varying processes to enable a balanced regional development. Patterns could reveal how (value chains) and where (clusters, districts, spatial division of labour) the added value is created (and by whom). Are there sub-regions within the metropolitan region that are losers or winners? How do local and national policy react in response? Are political decision-makers aware of the existing systems and patterns at the regional (super-cantonal) level? And are there measures that can be taken to lead to a more balanced development in the Metropolitan Region of Northern Switzerland? Do we need modified political institutions to control that development?

1.2 Methodology

In order to provide a solid methodological basis for the qualitative interviews, and better place individual statements in the overall context, a set of standard basic questions was developed from the general interview guidelines. These formed the basis for a quantitatively oriented web-based questioning of all the APS firms defined in the expanded database with regional to global orientation (cf. Report 1.2).

In line with the different sectoral structures, the distribution of the numbers of companies questioned varies widely across the eight service sectors under study (cf. Fig. 1 below). At over a third, it is companies in the area of management consulting (MCS) which are the most frequent participants. Then, at 17%, follow companies in the advertising (ADV) and design consultancy sector (DCS), and, between 6 and 7%, companies in the accounting (ACC), logistics (LOG), banking and finance sector (BFS). At 4% and 3%, legal advice (LAW) and insurance companies (INS) form the smallest groups. Overall, 47% of those who participated and completed the questionnaire in full were prepared to be interviewed.

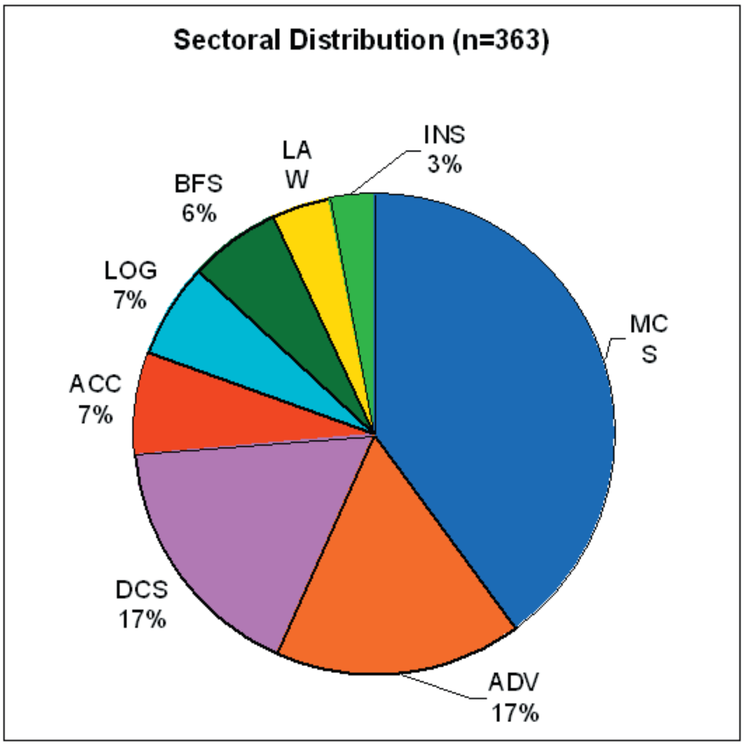

Figure 1: Sectoral Distribution of Web Survey Participants

The choice of interviewees was ultimately made on the basis of an initial analysis of the results, coupled with a more in-depth study of the relevant company websites, giving a balanced coverage of the sectors and FURs under investigation in the EMNS. The firms chosen are therefore the most likely representatives to portray an appropriate picture of the whole spectrum of intra- and inter-firm business networks of APS activities. Firms, which were not selected for interview, formed the primary target group for the final web diary survey. Interrogation was initiated by writing e-mails, asking to pass the invitation on to all senior management employees.

1.3 Interview Set

The first contact with the companies that had indicated a willingness to be interviewed was made by way of a formal letter thanking them for their participation and interest in the project, together with notification that members of the project team would be phoning them to arrange an interview appointment. Of the 130 companies written to in this way, 65 were selected and contacted by telephone (or by e-mail if the contact person was out). All but one of these enquiries were successful.

In general the conversations lasted between 45 and 90 minutes and, by agreement with the participants, were either recorded onto MiniDisc or recorded in handwritten notes. Evaluation was by means of a standardised question framework, which essentially focussed on the following five areas (cf. Appendix 3):

1) Sector and organisation
2) Regional, national, international networking of the company
3) Personal networks of the interviewee, interactions, communications
4) Role of the institutional framework
5) Political negotiating requirements, needs, obstacles

1.4 Web Survey (Diaries)

From the participant pool of the first questionnaire, all companies, which had not received a written invitation to interview, were contacted by e-mail. This gave a potential address list of 230 firms, from whom 73 replies (31.7%) were received by 31 October. The participants of this survey were also asked to rate location factors in Northern Switzerland concerning importance and satisfaction. The most important results are incorporated in this report.

2. Firms and Places

2.1 Geography of APS Clustering / Key Sectors

Service-specific business strategies and regional location preferences (potential for cluster formation) can only be partly derived from the individual distribution of the actual offices. In general, only firms in the accountancy and management consultancy sectors are comparatively more focussed on customer proximity and the establishment of the most extensive branch network possible (two to four offices in the eight FURs; see also Report 1.2). Firms in the remaining sectors appear to structure their business areas more on the basis of private and corporate clients (subdivision into sub-companies). Concentration strategies can be observed mainly in the advertising, banking and law sectors, with many companies having an international focus serving their customers from one central location (mainly Zürich).

The business services studied show that a fairly balanced distribution pattern exists in the EMNS. Overall, it is only possible to identify a few centres of specialisation. As compared with the national average, it is mainly banking and the associated legal and management consultancy services that enjoy an above-average presence in the region. The most striking level of specialisation is found in advertising (Lucerne, St Gallen), banking (Zürich) and in the exceptional status of Zug which shows above-average presence in accountancy, insurance, law and management consultancy.

However, the similar distribution of the sectors in all the centres should not lead to a conclusion of similar significance and role of the centres, as the mere presence of a company or branch does not say anything about its role or significance in the context of the metropolitan region. The possibility cannot be excluded that, despite similar sector representation, the centres have their own functional specialisations and hierarchical positions. In the EMNS, the significance of a company profile beyond its locality or region is difficult to tell from its choice of location. The choice of location of SMEs, and companies in sectors where proximity to customers is of minor importance is much more strongly influenced by personal preferences of the company proprietor than classic locational advantages. For example management consultants interviewed in Baden confirmed that the location in terms of transport (accessibility by car, train, bus) for them is more important than proximity to a major centre. Thanks to the internet international customers can be served from any location in Switzerland without problems. There is rare need for expansion abroad, as companies are more or less international anyway via the new media.

Ultimately the factors determining a company's choice of location are many and varied: there are hardly any typical features for any one sector or product portfolio. Rather, the importance of location can be explained more in relation to the degree of specialisation of a company. The consequences of this for the locations of branches and firms operational strategies within the various geographical scopes will be examined in greater detail in the following chapters.

2.2 Operational Scopes of APS Firms

Business strategies of APS firms in the EMNS show three main characteristics: (1) at national level, firms show a preference for Zürich and Geneva as sole location to cover either the German or French speaking part of Switzerland (or both); other locations, like Basel or Basel, only serve as location to target specific clients or markets; (2) with the exception of accountancy and logistics, APS firms in the EMNS are concentrated exclusively in the eight selected FURs, with few or no other branch offices outside the EMNS except for finance and trust services; (3) it is not possible to use the intra-firm network of physical branch locations to determine the firms business strategy, as functional connectivity also largely relies on virtual and personal networks.

Companies may have very different geographical and organisational strategies. They may focus on local customers or be open to customers from all over the world. They may produce large parts of the value chain internally or have outsourcing policies, obtaining products and services from third parties, from the immediate vicinity or from anywhere in the world. A company may consider itself a self-contained, fixed organisational unit, or part of a wider network, which flexibly and spontaneously interacts with other members of the network.

"We don't have a strict strategy of geographical networks. It depends very much on the particular job, and also

on our competitors. We have a "mind-map" of course, but we are open to change it, if we see new opportunities." (Management consulting (IT))

As the sector- and market-specific positioning of a company and the shaping of commercial strategies is a decisive factor in the choice of company location and vice versa location strongly determines business strategies, the geographical scope plays a crucial role in this kind of analysis. The investigation of the business relationships of APS firms may provide initial information on significant locations and hubs of activity of the various sector relationships.

Findings of the survey show that the financial service providers play a central role in these inter-sector relationships. They have the most frequent and most significant business relationships of all APS sectors investigated. A decisive factor in this is the function of the banks as company financiers and financial advisers. However, the financial service providers also appear to be important as intermediaries between the various sectors, maintaining the relevant networks of relationships and communications (cf. Table 1). Within the framework of this overall network of relationships, clear concentrations can be seen, for example in the sub node of accountancy, legal advice and financial services. A second, closely related activity node connects legal advice and insurance services. A relatively isolated group is formed by design consulting, advertising and financial services, where firms only appear to be linked within their own or the financial services sector.

Table 1: Average Importance of APS Firm Interrelations (Source: own survey)

Business Relations between APS Firms (incl. Hightech Electornics HTE)

	ACC	ADV	BFS	DCS	HTE	INS	LAW	LOG	MCS
Accountancy	1.4	0.5	1.7	0.3	0.4	0.8	1.5	0.3	1.2
Advertising	0.8	1.7	1.5	1.4	0.9	0.8	0.6	0.5	0.9
Banking and Financial Services	0.8	0.8	2.2	0.6	0.7	0.8	1.2	0.4	0.6
Design Consulting Services	0.8	0.7	1.7	1.2	0.6	0.9	0.8	0.5	0.8
Insurance	1.6	0.7	2.1	0.5	0.3	2.5	1.1	0.3	1.1
Legal Services	0.9	0.4	1.4	0.1	0.9	1.0	1.4	0.0	0.9
Logistic Consulting	0.6	0.5	1.3	0.6	1.1	0.4	0.2	1.2	1.2
Management Consulting	0.7	0.6	1.4	0.6	0.9	0.9	0.6	0.4	1.2

Assessment Scale: 3 = high importance 1 = low importance
2 = medium importance 0 = no importance

The number and type of relationships of APS firms depends to a large extent on the services they provide. However, the question arises, particularly in connection with the POLYNET research questions, as to what role the company's location plays in this regard. Firstly, do companies in different locations have numerous important relationships with other companies, and secondly do they have relationships on different geographical scales (regional, national, Europe, worldwide?)

If an analysis is made of the geographical pattern of inter-company relationships sorted according to location, i.e. in accordance with the FURs examined by POLYNET, it becomes apparent that the companies, which give their location as Zürich (or Zürich among others), are around one-fifth more closely networked with other locations than companies of other regions. Even Basel, which achieved high connectivity levels in the preliminary GaWC analysis (cf. report 1.2) and where one would expect a similarly high level of networking, trails in this aspect.

The most frequent relationships of the companies questioned are at regional level. The intensity of the business relationships drops, in particularly in the case of SMEs, as geographic distance increases, with one in ten relationships at European level, and one in twenty on a global level. Although the regional relationships dominate the majority of the companies questioned all have individual contacts at national to global level, showing a specific pattern of interrelationships. Often specific services are sought at a trans-regional level, while a very large percentage of the services required are taken from within the region. This does not confirm the assumption that companies which have national relationships also generally have European and global relationships. The patterns vary greatly, and often levels are "leapfrogged", that is, companies may, for example have regional and European relationships, but no contacts within the rest of Switzerland outside the EMNS, which again points to the "single business location strategy" which is often pursued by the APS firms.

2.3 Intra-Firm Connectivities

It has already been shown in previous chapters that companies based in the Zürich area generally have stronger business relationship networks. The following chapters will now try to show, if there are any differences in respect of the company-specific relationship networks between the EMNS centres under investigation. The survey showed that differences are also apparent regarding the spatial dimensions of the networks: While APS firms based in one of the Aargau FURs of Aarau and Baden-Brugg have practically no relations on a global level and very few at a European level – a prominent exception to this pattern can be found in the high-tech sector where firms like ABB can still be found in traditional industrial locations – companies based in the Zürich area have more frequent, some the most frequent, connections of all centres in the metropolitan region. It is interesting to notice though that companies in Basel, which are generally less networked than those in Zürich, have a considerable proportion of relationships at a global and European level.

This shows that companies in different locations may follow completely different geographical networking strategies. Further investigations will have to show whether there are also sector-specific network patterns. Preliminary findings so far confirm the central role of the financial services sector in the inter-sector networks, as the sector with the most international relationships, while companies from the accounting, legal advice and partly also management consulting sectors show much stronger regional orientations. Consultancy networks aimed at SMEs particularly rely on local knowledge in their day-to-day business, and therefore often also use personal contact networks of staff on the spot (building networks within the network), only reaching out to the specialists in the larger centres for specific jobs. The more specifically defined the range of services offered, the stronger the international orientation appears to be. This is shown, for example, in the two related sectors of design consulting and advertising, where firms like Vitra Design, Pixelpark and Advico Young Rubicam have successfully made the transition from a specialised niche to the global stage.

But in spite of the broad variety of network strategies, the ability to communicate with other offices is of high importance for most firms, as the ranking of location factors shows. Most of the factors that concern physical or virtual connections are rated above average. Availability of broadband telecommunication is even at the very top of the list of location factors.

During the Analysis of Action 2.2 we examined four illustrative examples of business travellers working as senior managers or in similar positions for APS Firms, which have their headquarters within the metropolitan region Northern Switzerland. They show that journeys within Northern Switzerland are clearly most frequent. A great part of them are within the same FUR, between proximate FURS or between the major FURS. But there are also journeys to other Swiss FURs (Auvernier in the FUR of Neuchâtel in the French-speaking part of Switzerland), which is a sign of the relatively balanced spatial economic structure in Switzerland. One of the examples contents a journey to Florida, USA. This traveller's firm headquarter is in St. Gallen, but the role of Zürich as a hub is very evident. Zürich connects the centres in Northern Switzerland (or even beyond) to each other, and to other centres in the whole world.

2.4 Implications for the inter-linkages of urban centres

The EMNS as fully functional economic area is dependent on all the centres under investigation. The interviews showed that from an entrepreneurial perspective a stronger specialisation of the individual centres is not only welcome, but even necessary to further strengthen the regional division of labour. FURs should seek more clearly-defined positions. The current functional network is strong enough to enable international/global cooperation, but there should not be concentration on Zürich alone.

"It is simply not sufficient to have Zürich alone as a spider weaving a web of developments. Little comes from

Lausanne. It is a huge drawback that Basel does not have an ETH. With its proximity to the border of France and Germany there are incredible possibilities for gaining innovations from three cultures." (Management consulting)

Basel should not have the role of a counterweight, but rather should have the role of complement to Zürich. But Zürich, too, should consider where its future lies as the most important economic centre in Switzerland in a closed-knit network with Geneva, Basel and St. Gallen.

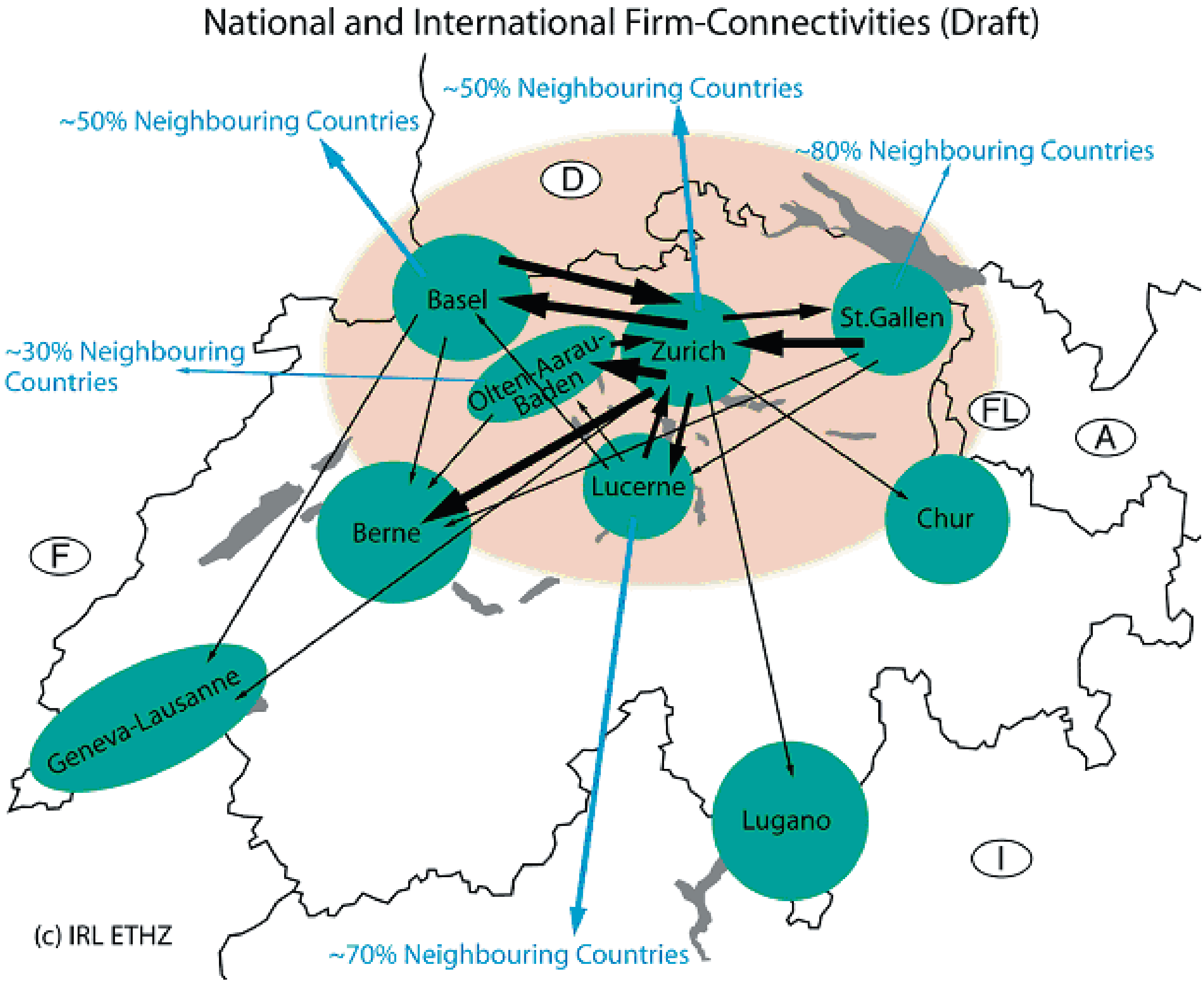

Figure 2: Intra-Firm Relationships within major FURs in Northern Switzerland

From an entrepreneurial point of view, both Basel and Zürich are indispensable complementary locations. According to a large part of the interviewees other FURs such as Lucerne, St Gallen and Basel are not perceived as important business locations for an international orientation. However, for the successful development of the economic area as a whole it is necessary to recognise all centres as a metropolitan region and to be prepared to think more expansively, including in political circles.

"I think the idea of a complementary network of Swiss cities is a very good one. The particular cities should stop considering all other cities as competitors only, and see them as partners as well. Their present policy is often selfish and leads to nothing" (Management consulting)

"Zürich or Basel: That doesn't really matter. In an international context, they talk about Switzerland, not about Zürich or Basel, or whatever." (Banking and Finance)

3. Sectors, Markets and Corporate Strategy

3.1 Sectoral Changes / Trends

The following trends were seen initially in the companies questioned by POLYNET: individualisation and increased flexibility of the organisational form and increased orientation towards individual customers, with concentration accordingly on individualised service products.

These two trends are interlinked, and result from growing competition and increased individual expectations of the service customers. These in turn rely on flexible and innovative mechanisms to introduce new products to the market; a process which has become increasingly demanding over recent decades, particularly considering the – compared to the primary Swiss trade partners – below-average economic development of Switzerland in the last two decades:

Table 2: Economic Growth in selected OECD countries between 1990 and 2004

Annual GDP Growth of Selected OECD Countries

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002 (1)	2003 (1)	2004 (1)	Average 1990-2002
Austria	4.7	3.3	2.3	0.4	2.6	1.6	2.0	1.6	3.5	2.8	3.0	1.0	0.7	1.9	2.6	2.3
Belgium	3.0	1.8	1.3	-0.7	3.3	2.3	0.8	3.9	2.1	3.2	3.7	0.8	0.7	2.1	2.8	2.0
France	2.6	1.0	1.3	-0.9	1.9	1.8	1.1	1.9	3.5	3.2	4.2	1.8	1.0	1.9	2.9	1.9
Germany	5.7	5.1	2.2	-1.1	2.3	1.7	0.8	1.4	2.0	2.0	2.9	0.6	0.4	1.5	2.5	2.0
Ireland	8.5	1.9	3.3	2.7	5.8	10.0	7.8	10.8	8.6	10.8	11.5	6.0	3.6	3.6	4.4	7.0
Italy	2.0	1.4	0.8	-0.9	2.2	2.9	1.1	2.0	1.8	1.6	2.9	1.8	0.3	1.5	2.5	1.5
Netherlands	4.1	2.3	2.0	0.8	3.2	2.3	3.0	3.8	4.3	4.0	3.3	1.3	0.1	1.6	2.6	2.7
Switzerland	3.7	-0.8	-0.1	-0.5	0.5	0.5	0.3	1.7	2.4	1.5	3.2	0.9	-0.2	1.4	2.2	1.0
United Kingdom	0.8	-1.4	0.2	2.5	4.7	2.9	2.6	3.4	2.9	2.4	3.1	2.0	1.5	2.2	2.5	2.1
United States	1.8	-0.5	3.1	2.7	4.0	2.7	3.6	4.4	4.3	4.1	3.8	0.3	2.3	2.6	3.6	2.8

(1) preliminary data
source: www.oecd.org

After the long upturn in the post-war period, by the 1970s, world economic growth was for the first time losing considerably in dynamics and stability, and this strongly affected Switzerland. But for a few years in the 1980s, Switzerland returned to stable growth with increasing consumer percentages, but as these developments were not based on sustainable foundations, this led to negative trends, which are still affecting the Swiss economy to this day. In the 1990s Switzerland underwent substantial restructuring of the economic landscape, with unemployment figures which were high in Swiss terms, and strong consumer uncertainty. The consequences were the lowest growth rates for generations, which did recover slightly towards the end of the 1990s, but have remained very low to date. In 2002 the gross domestic product at market prices grew by just 0.2% in comparison with the previous year. The productivity of the Swiss economy developed below average in comparison with the other OECD countries (cf. Table 2), a further reason for Switzerland's weak growth rate.

In such a strained economic climate with hesitant consumer behaviour, introducing the right product to the market at the right time has been a challenge for companies. Knowledge and information have gained in significance as production resources. Increasingly, companies are unable to generate these themselves, and they are bought in from outside. At the same time the expectations of the companies, which produce and supply this knowledge and information are increasing. The services must be tailored to suit their recipients and capable of flexible adaptation to market developments. It is thus almost impossible to standardise them.

The requirements of the workforce have changed so that flexible and creative working, are among the most sought-after attributes. In any case it is frequently the case that the highly specialised qualities required by knowledge-intensive service companies are incapable of standardisation, and so cannot be learned in the traditional education establishments. Many companies are therefore forced to accept a long familiarisation period for new employees, as tailor-made employees for a specific company are rarely found on the labour market. The companies questioned only infrequently recruited specialists from outside their local labour market.

3.2 Corporate Strategies

The consequences of both global and local economic developments on company strategies and organisational structures will be illustrated here using three case studies. All three are companies involved in IT development and consultancy. The examples show how varied and unique company strategies can be.

Company A produces and maintains communications systems for the finance trade. Its Swiss branch is right in the centre of Zürich, which is absolutely essential as the majority of its customers are also located there. If there is a system breakdown, the financial trading system is interrupted and the experts of Company A must be on the spot within minutes to rectify the fault, as their clients otherwise risk suffering massive losses. Physical proximity to its clients is therefore absolutely essential to Company A, as it not only produces its products, but also provides after-sales service to financial traders. A second branch has also been established in Basel, as the clients there could not be reached quickly enough from Zürich in the case of an emergency. Remote access is not possible as confidentiality is very important. The cooperation between Company A and its clients is therefore very efficiently organised and is mainly on a long-term basis. Software development is not carried out in Zürich. As highly specialised industrial engineers are required, the software development side is outsourced to Minsk. Swiss industrial engineers, direct from university, need up to six years to become fully conversant with the specialist field of Company A.

Company B installs and maintains IT systems in various types of company. It works flexibly and with a very broad knowledge base, and does not specialise in a narrow circle of clients like Company A. Company B's clients are within a radius of around two hours' train journey of their base in Winterthur. Distance does play a part with clients, as they generally require on-site service; for example, no clients are acquired in French-speaking Switzerland. However, customer relations generally last over many years and with growing trust emphasis on geography decreases. Thus, in one case a client of Company B moved from Switzerland to the Netherlands, but continued to receive service from Company B. This was done by virtual remote methods, which is possible with a high level of established trust, but could not be considered for new clients. The location of Winterthur is considered ideal by the directors of Company B. The good accessibility is important here (the company is located right next to the station, and every employee has the option of a Swiss rail season ticket; the connections between Winterthur and Zürich, Bern and Basel are excellent), as is the high quality of life in Winterthur. A move, for example to Zürich, would be rejected by employees in view of the extremely attractive environment of Winterthur. Employees are recruited above all from the technical colleges. Important aspects are not only technical skills and knowledge, but also the ability to gain a broad general knowledge base.

Company C provides services for companies in the development and implementation of IT systems; its main operations are project management. The company director set up her own business as she was not happy being tied to the rigid organisational structures of a large company. She sees this as a broad trend and supposes that highly-qualified people will increasingly want to start their own businesses, in order – like herself – to be able to work more freely with networks rather than fixed organisations of companies. The reason for this is not financial in nature (it is rarely possible for the self-employed to earn more than employed staff), but rather lies in the greater opportunities for individual development and greater freedom offered by self-employment. This has to be weighed against the greater risk. Working in a looser network depends above all on trust. No-one can afford to make mistakes, for example working with incompetent people, as this could damage the whole network. Relationships are therefore generally long-term and operate over large distances only if the parties know one another well enough. In such network-based companies personal and ethical characteristics are therefore a very important consideration.

The CEO of company C is based in a district of the Zürich agglomeration. Corporate strategy considerations had a subordinate role in this choice, the priority being the fact that she no longer wished to live in the city of Zürich, where the concentration of population had adverse effects in particular on the quality of life. In theory she could work anywhere, as she needs little more than a networked computer. Her clients and employees could also be located anywhere in theory, although cultural barriers and the economic climate in practice limit the economic area of Company C to a specific territory. The cultural barriers are above all language (German-speaking customers do not want their services to be provided in English), and a better economic climate extends Company C's territory, as clients are prepared to pay more (customers at a greater distance increase Company C's costs, as clients generally need to receive their services on site).

These case studies show how the organisational structures of the economic players are increasingly individualised, even within the same sector, and their behaviour is also increasingly individual. In all probability, the resultant geographical structures will be similarly unpredictable. This observation must be taken into account in the formation of future geographical development concepts.

3.3 Organisational Competition

The strategies adopted by APS firms in order to establish themselves in the market are, as shown above, very varied and individual. The main reason is that the service products are very different from one another, and thus also the markets where the companies are present. The same applies to the spatial strategies of APS firms. It is not possible to speak of trends, which apply generally to all sectors though. There are sectors where proximity to customers is very important, in which case orientation is predominantly regional. There are also companies offering highly specialised niche products (especially in the IT consultancy), which are also in demand from substantial distances away, and their economic territories extend far beyond the national borders. But there are also firms offering highly specialised products, which can find enough customers in their own region, or deliberately limit themselves to their own region. The rating of location factors in Northern Switzerland, however, reveals that proximity to clients is important to most firms. This allows the conclusion, that regionally oriented firms form a majority, while globally oriented firms, which are not seeking for proximity to customers, are clearly less frequent (but by no means insignificant).

The question also arises as to how consciously or unconsciously companies define their economic sphere. In most cases the economic sphere, insofar as it can be delimited, is dependent on the product range of the company and the economic circumstances.

"If a customer is ready to pay our tickets, we'll cooperate with him, no matter where his location is, in Zürich or anywhere in Europe." (Management consulting (IT))

A considered delimitation of the economic sphere is the exception, and usually only happens in the case of large companies with clear expansion intentions. For the majority of the interviewed companies, the sphere of activity arose automatically. For

APS firms the delimitation of the EMNS appeared to represent a good approximation of this, as the substantial majority of the businesses of companies based in the metropolitan region also operate within the metropolitan region. However, there are no hard and fast rules, as the various company strategies are so individual in their causes and implementation.

The international level only has an indirect role for the vast majority of APS firms, for example via customers, or via the supply of specialist knowledge, which cannot be generated in Switzerland (which is only rarely the case; cf. Figure 3 below). There are some deliberate international strategies, but these are in the minority. But the fact that

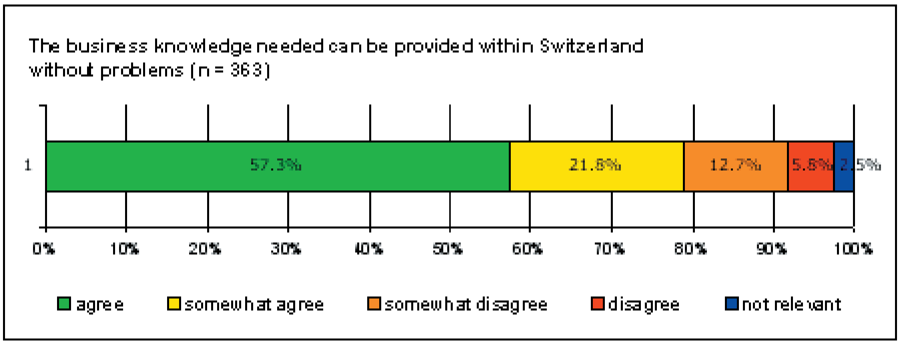

Figure 3: Assessment of the Swiss Knowledge Provision (own survey)

international customers are supplied in Switzerland with services provided by the companies being questioned shows that there is nevertheless a widespread international aspect. It is clear that companies' strategies may therefore only be considered in a wider context.

The same applies to the choice of location or change of location of firms. Reasons are manifold and varied here and there are few hard and fast rules. There are companies for whom a central location is absolutely essential, but these are in the minority. However, for a significant minority of companies, the desire for a "good address" with the corresponding prestige is instrumental, even if the services could be provided as well, if not better, form another location. The majority of firms questioned confirmed that the choice of location on the micro level is rarely based on firm economic arguments but rather personal circumstances.

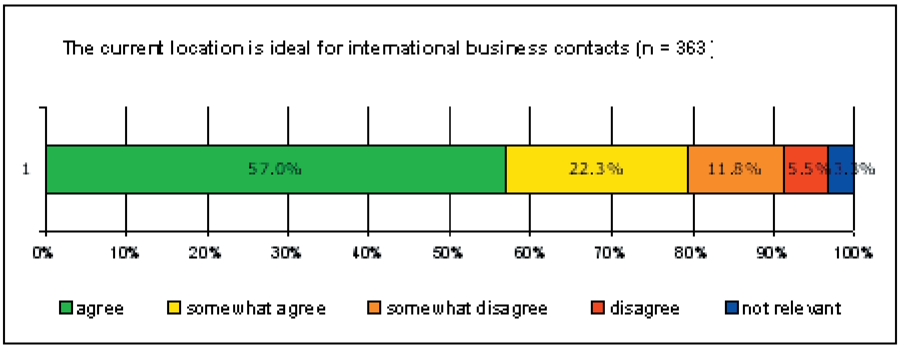

Figure 4: Assessment of the current business location (own survey)

This is confirmed by the rating of location factors. Soft factors like the quality of life and environment play an important role, while taxations, labour conditions, support by the local government and other rather hard factors rank behind.

3.4 Roles / Functions of Urban Centres

The city of Zürich is an ideal and indispensable location for substantially fewer companies than could be assumed. Business people of the future will forever frequently ask themselves what advantages Zürich actually has to offer over and above other centres in Switzerland. The airport is very easily accessible from large parts of German-speaking Switzerland. Land prices and taxes are cheaper elsewhere. Appropriately qualified employees can be found almost anywhere in Switzerland, as can a good quality of life.

Although Zürich is still the dominant economic centre of Switzerland, the city is fighting increasing problems. Above all it seems to have reached a point where further growth can only be achieved at the cost of quality of life. The transport infrastructure on road and rail appears to be fast approaching the limits of its capacity. Further growth of the economy in the city, with even more commuters, would lead to higher jams and environmental costs. A further risk factor is the airport development strategy, the status of which as a international transport hub can only be maintained at the cost of high noise pollution levels of rather densely populated areas.

> *"I just didn't want to live and work in Zürich any more. Just try to find a free parking space there, and you'll see what I mean." (Management consulting (IT))*

> *"They have a technology park in Zürich, but it doesn't work because the quarter where it is located is an artificial business area. Young entrepreneurs have no contact to the "real life" there. This is so much better in smaller towns." (Management consulting (IT))*

Other centres of the EMNS are presenting themselves as alternative locations. However, above all due to its airport, universities and reputation, Zürich continues to function as a leading gateway for Switzerland, with the role of "Gateway to the World". Other centres are not in a position to fulfil this function, as they lack the necessary infrastructure. However the majority of companies can benefit from this gateway function of Zürich without actually having to be based in the city or Zürich FUR itself. An essential prerequisite is the transport infrastructure linking the various centres to one another, and thus linking smaller subcentres to the “gateway” of Zürich (see Chapter 4.3).

4. Flows and Relationships

4.1 Virtual Communications

Communication media, including the long-established telephone, but above all due to the possibilities of the Internet (e-mail, Intranet) have established themselves as everyday communication channels. Additional means of communication such as video conferencing are less commonly used, as these are too expensive for many companies, especially the smaller ones. But larger companies, too, appear to use video conferencing only infrequently.

Simple, practical communication channels such as e-mail form the largest proportion of communications and the majority of everyday business contacts are made via these. However, such channels are used more circumspectly for important business contacts. They are only able to replace personal contacts in situations where relationships of trust exist between the players, for example in the case of long-term supplier-customer relations. For example, when it comes to gaining new contacts and keeping them, face-to-face contact has not been replaced by telecommunications.

4.2 Role of F2F Contact

Despite the technical facilities, which have made huge progress in recent years, physical presence and face-to-face contact still have an essential role in business relationships between companies and their representatives. This is confirmed by the rating of location factors in Northern Switzerland, as “face-to-face contact opportunities” and “proximity to clients” both rank above average. The main reason for this is that mutual trust is perhaps the most important prerequisite for efficient cooperation. In particular, it is apparent that trust is an essential factor for cooperations, which are very knowledge intensive, individual and incapable of standardisation, which applies to all advanced producer services.

A further factor connected to the resource of trust is the duration of business relationships. As new relations are established, personal presence is essential. However, if these relations continue, and the trust therefore grows, relations are more frequently maintained via virtual channels. As virtual relations are often more economically efficient, and the establishment of new relations requires a high input of resources, many companies place the emphasis on long-term relationships with customers or cooperation partners. Small companies in particular, which require maximum efficiency due to limited resources, pursue such strategies of long-term relationships.

The extent to which the importance of trust through physical presence affects geographical positioning in FURs, is very sector-specific. If the service offered by a company is specialised and therefore rare, the economic sphere of a company expands, as customers are more prepared to pay the higher distance-related costs. However, with less specialised companies the sphere of activity remains small, as customers often choose the geographically closest provider, which charges the lowest distance-related costs. A similar rule applies with the factor of the economic climate, which influences customers’ readiness to pay higher distance costs. If a customer has sufficient financial resources available, they can choose the best provider, with distance playing only a subordinate role.

4.3 Transport Infrastructure

Switzerland, and thus also the metropolitan region Northern Switzerland, has a very good transport system. The rail network has a very widespread geographic coverage with high frequency, and is very reliable. Switzerland’s motorway network is one of the densest in Europe, with the condition of the overall road network of a very high standard. Smaller FURs profit from this, as their distances from central points such as the Zürich airport become insignificant. For companies, which need to visit customers in the whole of Switzerland, a location in the centre of Zürich may even be a disadvantage, particularly for car journeys, due to frequent traffic congestion in the Zürich area and the shortage of parking spaces in the city. Smaller FURs are beginning to see similar problems as they grow, but they are less significant.

The rating of location factors in Northern Switzerland shows the importance of a good regional transport system, too. Both car and train access rank very high. Surprisingly, plain access is rated much lower. So for the major part of the firms regional public and private transport, which is generally used every day, is of more immediate importance.

Thus, the prerequisite for a fully functional system is an effective and free-flowing infrastructure. Even if a company relocates from Zürich to Aarau, great value will still be placed on good connections with Zürich and its airport, universities, etc. If the quality of this infrastructure is not good enough, other centres of the metropolitan region will be given little consideration as alternatives. There would then be a risk that many companies would avoid not only Zürich itself, but also the metropolitan region as a whole.

It would therefore be a mistake to regard the various locations of the metropolitan region merely as competitors, taking economic power away from one another. The growing integration to form a metropolitan system makes the various towns and sub-centres of the region to partners, which must coordinate what they have to offer to the economy. Care must be taken to avoid the cantons generating excessive capacities in a mistaken eagerness for competition, which are of no benefit to the overall system of the metropolitan region. The appropriate intelligent coordination of the transport and educational infrastructures across the internal boundaries of the metropolitan region of Northern Switzerland (and indeed, the whole of Switzerland) will in future be a decisive prerequisite for the successful continued economic development of Switzerland and its individual centres and regions.

4.4 Interaction Patterns

The functional connections between the centres of the metropolitan region thus become more numerous and closer. However, the reference should not be to a mere division of labour in the usual sense, but an essentially more complex distribution of knowledge and competences in the metropolitan region. Innovative knowledge is not generated exclusively in the major centres of Zürich and Basel, but increasingly also in the smaller centres, chosen by innovative companies as attractive alternative locations, with the prerequisite that these centres understand how to fit intelligently into the regional metropolitan system.

For interactions at international or global levels, Zürich and to a lesser extent Basel continue to play an important role. The first reason for this is the name, known widely around the world, and which the smaller centres can continue to use, or use increasingly, as a label. An even more significant factor, however, is the infrastructure with the intercontinental airport, the universities with their international reputation, etc., which the smaller centres do not have themselves, and so look to Zürich to provide. The route from regional centres to the world continues to be via Zürich, to a large extent if not always.

It is clear that it makes sense to use the functionally defined concept of metropolitan or mega-city region in Switzerland as a geographical unit for land use policies. The growth in significance of smaller centres won't lead to the region being broken into several parts. On the contrary, through these developments the centres will form a true regional added value system, which will have to function as a whole. For even a major centre such as Zürich cannot alone fulfil the role of economic driving force for practically the whole of Switzerland, as its own development capacities and domestic market are limited. Nor can smaller centres meet the challenges of world economic developments successfully alone, as on their own they lack several of the many prerequisites for this.

5. People and Places

5.1 Labour Markets

APS firms rely on a highly specialised labour force. An essential location factor for them is therefore the availability of appropriately qualified employees in the region. This becomes apparent in the rating of location factors, where factors about labour rank rather high. However, many companies occupy such narrow niches that it is almost impossible to find employees with an absolutely tailor-made profile. University and college graduates have very good educational foundations, but generally not specialised practical knowledge.

> *"Universities can only generate basic knowledge. But in our business (re-insurance) implicit or passive knowledge is absolutely necessary. It's only the firms themselves, that can teach that kind of skills." (Insurance)*

This problem presents the companies with strategic decisions concerning the recruitment of staff. Should specialist staff be sought and "imported" from a wide area, possibly global? Or should local staff be recruited, taking into account the fact that they will need longer to adapt and gain the company-specific knowledge and skills?

While the former may be a consideration for larger companies, SMEs tend to prefer the second option. The reasons for choosing not to seek tailor-made staff at an international level lie on the one hand in the high costs, but on the other hand also in the fact that cultural differences may arise as a cost factor, and reduce the advantages of the specific training and education.

Thus to a large extent staff with highly specific educational and training backgrounds are not sought so often, but people with the ability to adapt quickly to new methods and gain new practical knowledge. This shows the importance of good educational foundations, which must start at an early age in school. The school system must fulfil the function of giving young people cognitive and social skills for their professional lives. These include not only learning, as early as possible, the English language and familiarity with the latest information technologies, but also a readiness to continue to learn new knowledge and skills. A frequent criticism in this regard is that in Switzerland there is no coordination over cantonal borders. This division of the education system makes targeted education concepts more difficult and puts Switzerland at risk as a location for innovation.

5.2 Knowledge Production

Local prerequisites of the various centres in the EMNS have a secondary role in the availability of qualified employees. Firstly, the differences in the qualification levels of employees in the urban areas of the metropolitan region are low. For example, the decentralised structure of the technical colleges means that employees available locally, not only in the larger centres such as Zürich and Basel, are educated to a higher level. Secondly, the significance of the local labour pool is more relative due to the fact that the very well developed transport system means that employees can be recruited from greater distances, without having to move house. However, as the quality of life in most of the EMNS FURs is very high, many well-qualified employees are prepared to move. An outstanding example of this is the FUR of Zug, the population of which has grown by 28% since 1980. The main reason for this appears to be the attractive range of job opportunities, which, coupled with the high quality of life, has attracted numerous well-qualified people from the rest of Switzerland and abroad (Madslien, 2004).

5.3 Urban Hierarchy

Zürich and Basel are the only cities of EMNS which have a noteworthy international image. For many companies operating at an international or even national level, an address in one of these cities is a matter of prestige. Many of these companies fear that they will not be taken seriously by potential customers or cooperation partners if they are not based in Zürich or Basel, but one of the smaller centres. An address in Zürich is justified by more narrow economic necessity in only a few cases.

> *"We could do our job just as well in another town than Zürich. But our customers wouldn't understand, why we are in, say, Winterthur and not in Zürich. It would affect our reputation." (Management consulting (human resources))*

Accordingly, therefore, Zürich, and to a lesser extent Basel, continue to have an important place in the consciousness of APS firms. In previous chapters reference has been made to the continued role of Zürich as "gateway" to the world. Being located in the heart of this gateway is still attractive to many companies.

Zürich has a further special role for the metropolitan region in connection with top-rank financial firms with international presence. This function, like the gateway function, is not something it is possible to extend to other centres of the metropolitan region, apart from certain back office aspects. On this basis there should continue to be strong and even growing functional relations between the smaller agglomerations and Zürich.

5.4 Regional Issues

The low level of difference in quality of life between the various centres of the EMNS means that APS firms find good location conditions everywhere in respect of "soft" location factors. The same applies to potential employees, that is well-qualified and specialised employees, who can find a relatively attractive place to live in all locations.

Of course the various locations vary in the type of qualities they have to offer. Thus Zürich and Basel have more cultural facilities to offer than Aarau or Baden. On the other hand, the smaller centres offer a very high quality of environment with extensive recreation areas nearby, often within walking distance.

> *"Zürich has a lot of strengths, for example it's life quality. But Zürich has missed to spread that message internationally. The problem is, that Zürich has no "glamour" like other world cities. So the world often overlooks the qualities, that Zürich actually has." (Management consulting)*

> *"Geographical distances between centres and sub-centres may be important in a local context, but don't matter in a global context" (Management consulting (policy consulting))*

It is therefore difficult to find location factors, which can be shown to have a clear influence on companies' choice of location. The interviews also showed that for many companies most locations in Northern Switzerland were in principal more or less of equal attractiveness. The location choice criteria therefore are often more comparative advantages than absolute advantages.

The prospect of regional anchoring is also critical in the choice of location. When there is a concentration of companies in a specific sector in the larger centres, a location in the FUR rings or sub-centre can be advantageous, as the opportunities are greater here due to the lack of excessive competition. In local markets there is less of a tendency towards saturation. However at the same time trans-regional areas can be covered. Focussing on limited areas such as the German speaking part of Switzerland is usually purely on linguistic grounds.

6. The Regional Knowledge Economy – an Overview

6.1 Inter-urban Linkages

What do the findings described in the previous chapters concerning the relationship structures of APS firms mean for the definition of the metropolitan region of North Switzerland? Are the patterns discovered in accordance with what would be expected from the definition?

As expected, Zürich has shown itself to be of central importance to the whole metropolitan region. However many of those questioned do not consider Zürich to be an essentially desirable location for their own companies, despite this high level of significance. The central functions of Zürich, and to a lesser extent also Basel, radiate out into the metropolitan region, and the benefits of this can be felt even in more distant centres. For example, the airport at Zürich is easily accessible from all FURs of Northern Switzerland.

Basel has a subordinate role in comparison with Zürich, although it does itself have a lot of potential, as above all it has a favourable location in Europe. Thus the airport could theoretically adopt a central function. Basel also has high potential as a location for innovation thanks to its location at the intersection of three cultures. An essential prerequisite for making the most of this potential is a better-functioning cooperation and coordination across the political borders.

Distances within the EMNS therefore play a subordinate role. The well-developed infrastructure network of Switzerland ensures that geographical position is not a decisive disadvantage for any location. Thus, despite the outstanding significance of Zürich, there is a lot of potential for the growth of APS activities in the smaller centres of the metropolitan region.

6.2 Polycentricity

One characteristic of the metropolitan region, which was expected from the start, was that its individual centres relate to one another in a functional context and have a specific role in this system. It has clearly been shown how significant the role of Zürich as "gateway" or "hub city" for the region is. No other centre can adopt this role, and indeed there is hardly any sharing of this role by the other centres. However, it does not appear to be an automatic consequence that Zürich is an essential location for APS firms. Thanks to the good infrastructure between the "hub city" of Zürich and other centres, the latter offer themselves as alternative locations, and are increasingly recognised and used as such by the economy.

The fact that companies are located in the various centres of the metropolitan region, while still regarding Zürich as being important to them, strengthens the functional relationships between the different centres. But this is less of a tangential process, that is between the smaller centres, as a radial one, that is between the smaller centres and Zürich. Why do APS firms' inter-company relationships between the smaller centres have only a subordinate role?

Apart from the function of Zürich, as already referred to, of "gateway" or "hub city", the small size of Switzerland as an economic area or market is also of significance. For most APS companies it does not make sense to divide Switzerland into regions in respect of their own business activities, and build up locational and cooperation patterns accordingly. In many cases they have no problem in providing their services across the whole of Switzerland from a single location, and at most need just a few satellite locations with subsidiary tasks. This naturally also applies to the metropolitan region of Northern Switzerland, which can generally be well covered from one location, with a few sector-specific exceptions. Thus for most APS companies there is generally no need to maintain several locations in the metropolitan region.

A radial pattern with Zürich at the centre emerges, not only in respect of companies' internal structures, but also in inter-company relationships. The reasons here lie on the one hand in a relatively high potential for cooperation opportunities and customers, which Zürich alone can offer due to its size in comparison with the other centres. But another reason lies in the fact that Zürich is generally chosen as a location by those companies, which occupy a central role in the economic networks. An important example here is the financial sector. Through their central position in a functional network, these companies have corresponding radial relationships with APS firms in the other centres of the metropolitan region. The geographical location of companies, and the spatial pattern of their relationships, therefore depends on the centrality of their position in a functional network.

From this we can learn in respect of the definition of the metropolitan region that we are much better able to understand the geographic location and relationship pattern if we know more in general about the relationships and connections between the different sectors. Therefore we have to determine the geographical anchoring of regional value chains and their development into overlapping value adding systems on different spatial measurement levels. Which sectors have central positions in the networks of relationships, and which are more peripheral? These positions in the value adding system are reflected in the spatial location patterns of the sectors.

Now the question arises as to what extent this pattern of inter-company relationships is polycentric. If we simply consider the fact that Zürich continues to have important central functions, which it is not possible for other centres to take over, then the metropolitan region cannot be described as specifically polycentric. To a large extent, immovable factors are decisive here, such as the transport infrastructure with the airport, but also "soft" factors such as the brand Zürich, which, unlike the names of most of the other centres in the metropolitan region, is recognised worldwide. It is practically impossible to "polycentralise" these factors, or at least this can only be achieved on a very long-term basis.

Another picture presents itself, if we consider the distribution of APS activities in the metropolitan region and their relationships with one another. Many high-level activities are still concentrated in Zürich, but the smaller FURs of the

EMNS are increasingly being perceived as valid alternative locations, above all by APS companies, which for economic reasons do not want a prime central location, or wish to escape from the growing disadvantages of the agglomerations. In any case this development is leading, albeit slowly, to a growth in tangential relationships.

The potential for a future polycentric distribution of APS activities in the metropolitan region is nevertheless clearly there. The interviews showed that the location of a company outside the two largest centres of Zürich and Basel need not lead to the setting aside of information flows. Many interviewees emphasised that within the metropolitan region of North Switzerland it is mainly not the location which is the deciding factor as to whether a company can participate successfully in regional, national or global networks, but that this is above all due to the well-developed infrastructure. A much more important factor is the ability of the players to integrate themselves into the networks and maintain contacts, whether with customers or cooperation partners. The importance of distances within the metropolitan region must also be clearly relativised in this respect.

6.3 Challenges

The structures and developments described in the previous chapters mean numerous challenges for the sustainable management of the metropolitan region. If the distribution of APS activities actually develops polycentrically, as the interviewees lead one to believe, the metropolitan region would face several important tasks.

A growth of APS activities in the various centres could strengthen the links between those and possibly place greater burdens on the infrastructures affected. These may possibly need to be expanded, which would lead to high financial costs and adverse effects on the quality of the environment. In addition, a growth in APS activities in the smaller FURs may also accelerate population growth, confronting them more strongly than before with the disadvantages of agglomerations and density costs. These are challenges requiring intelligent management at the local level, but whose causes are at regional to global levels.

In order for the potential for growth of APS activities in all centres to be used, different prerequisites must be satisfied. In Chapter 4.3 the importance of links of the smaller centres with the “hub city” of Zürich was emphasised. First of all assurance must be given that Zürich can maintain its gateway function. Here, the airport in particular represents a risk and uncertainty factor, as its future capacity is called into question by the aircraft noise pollution problem, an extremely controversial issue in Zürich. Secondly, the infrastructure linking the centres must grow to meet future loads and the continued high expectations of users. This objective could require a high input of financial resources. In addition, improved horizontal and vertical coordination between the cantons, the local authorities and the Federal government will be needed in the future, as these infrastructures extend beyond administratively defined boundaries to a large extent. This latter aspect leads to a fundamental problem of metropolitan regions, and thus also the EMNS: the management of metropolitan regions, which are not political-administrative units.

The research findings show that economic structures and contexts, and all associated phenomena, are to a large extent spread freely throughout the area, thus penetrating all the existing administrative units (cantons, states). APS firms have an important role here as driving force and controller of these processes. These players are therefore important agents in establishing the sustainable management of metropolitan regions. However, to date they have been far too insufficiently bound into the relevant political processes. This is due to a large extent to the fact that the existing institutions do not allow for such inclusion, for legal or practical reasons. A frequent complaint by interviewees was that political engagement was not sufficiently attractive and effective for them, and that the politicians in power did not understand the problems of the economy, often only seeking contacts with the major leading companies which would improve their chances of re-election. A great gap between the political system and the economic basis can therefore be observed and there is a need for reform, representing a future challenge for the political system.

7. Emerging Policy Issues

7.1 Labour markets, skills and education

Well-educated employees are available in sufficient numbers, but the educational reforms are too slow and not always relevant, so the next generation of people needed for APS activities is not assured. At present there is a high number of well-qualified employees moving in, above all from the EU countries. The different centres of the metropolitan region differ only slightly in respect of the professional qualifications of the population.

7.2 Housing & home-working

Throughout the metropolitan region, good quality housing is available for a well-qualified workforce. However, the prices and availability of residential accommodation vary. In the major centres such as Zürich, vacant flats in all price classes are a rare commodity, while in the peripheral locations vacant flats are easier to find. A small but growing proportion of well-qualified employees are using the option of home-working, especially as self-employment is becoming ever more attractive for many of these people.

7.3 Environment & worklife quality

The quality of life in terms of the environment of the whole of the metropolitan region, with a few isolated exceptions, is high. Recreational areas are within easy reach everywhere. The ever-increasing (leisure) traffic, affecting the FURs in particular, is the main factor which threatens to reduce the quality of life.

7.4 City culture/milieux & image

Zürich, Basel and Lucerne are the only cities in the metropolitan region with an international name. Accordingly, the cultural facilities and events are concentrated in these few centres. In recent decades Zürich has been seeking to gain a worldwide reputation, but to an extent is still fighting against a provincial small-town image.

7.5 Regional Transport

The public transport system is very well developed in Switzerland. The road network is also very good and extensive. Despite this the road and rail transport systems are nearing the limits of their capacity in the FURs. The problem is recognised in principle by the political system; however, the solution will also be a matter of what financial resources are available. A further uncertainty factor is Zürich airport. Its future capacity and role as international hub is called into question by the serious aircraft noise disputes (BAK 2004).

7.6 Office Buildings, infrastructure, design

In the whole of the EMNS, including Zürich, there is sufficient capacity of office and commercial premises. During periods when the economy is weaker the vacant quotas of office premises are generally very high. However, in Zürich further investments in office complexes in former industrial areas are still planned.

7.7 Regulatory issues – EU, State/regional & professional

Switzerland is not a member of the EU. However there are bilateral agreements between Switzerland and the EU, controlling, for example, the free movement of people. A second round of bilateral agreements is in progress. The effects these agreements will have on economic development will be seen in the next few years. From the point of view of the economy these contracts and the economic opening up of Switzerland is very desirable. Within Switzerland the dwindling agreement in the economic functional areas and the political regional units (cantons, local authorities) presents an increasing challenge (BFS 2004).

7.8 Regional and local planning & economic development

The planning laws are relatively strict in Switzerland and building activity closely regulated. However, under pressure from global economic competition the planning laws are increasingly being relaxed. The Swiss "Verbandsbeschwerderecht", the law which gives a specified circle of environmental organisations the chance to object against contraventions of the planning and environment protection laws by the authorities, will also in all probability be relaxed somewhat in the near future. Thus negotiation between economic, ecological and social interests, which should lead to the sustainable development of the living environment, will in future be a difficult task for Swiss politicians.

7.9 Professional, institutional & government infrastructure/support

The political system in Switzerland traditionally sees its task as providing favourable framework conditions for the economy. The difficult situation facing the public budgets leads to the assumption that, in future, public services to the economy will increasingly be reduced. The change from a supply- to a demand-oriented planning of public services requires a more complex institutional design to appropriately handle the positioning between regulation and market liberalisation. (Thierstein et al., 2004).

8. References

BAK Basel Economics (2004): Die internationale Verkehrsanbindung der Schweiz in Gefahr? (online, *http://www.bakbasel.com*, 11.11.2004)

BFS Bundesamt für Statistik (2004): *Standorte der innovativen Schweiz: Räumliche Veränderungsprozesse von High-Tech und Finanzdienstleistungen*. Neuchâtel: BFS

Madslien, John (2004): Zug: from Bull Market to Cash Cow. BBC News 25.10.2004 (online, *http://news.bbc.co.uk/go/pr/fr/-/hi/business/3653076.stm*)

OECD (2004): *Territorial Reviews* – Switzerland. Paris: OECD.

Thierstein, Alain, et al. (2004): Liberalisierung öffentlicher Dienstleistungen. *Auswirkungen auf die Wettbewerbsfähigkeit der Unternehmen im Schweizer Berggebiet*. Bern: Haupt Verlag

Appendices

Appendix 1

Firms

Chairman	0
Vice-President	1
Chief Executive, Chief Economist or Chief Operating Officer	16
Senior or Managing Director or Partner	12
Manager (including General, Strategic, Business, Project etc)	2
Other	2

(Only face-to-face interviews. Web-Survey Interviews excluded)

Institutions

President	
Chief Executive, Executive Director, Director or Director General	2
Head or Senior Officer, Senior Manager	5
Regional Director	0
Regional Manager or Officer	1
Other	0

Appendix 2

Firm	Sector	Empl.	Location	Scope
4PL Central Station	Logistics	5	Basel	International
ARENAE	Management consulting (IT)	12	Zürich	National
Arthesia	Management Consulting	15	Zug	International
Avexys	Management Consulting (IT)	10	Zürich	National
Bank Julius Bär	Banking/Finance	1800	Zürich	International
Bank Sarasin	Banking/Finance	1110	Basel	International
Bank von Tobel	Banking/Finance	975	Zürich	International
Bär & Karrer	Law	100	Zürich	International
Bossard Partners	Accounting	5	Baden-Brugg	national
CapVis	Banking/Finance	n.a.	Zürich	International
CI Programm	Design	23	Zürich	National
Credit Suisse Group	Banking/Finance	54000	Zürich	International
Credit Suisse Group	Banking/Finance	54000	Zürich	International
Credit Suisse Group	Banking/Finance	54000	Zürich	International
Dimensia	Management Consulting	8	Zug	National
Etrali	Logistics (ICT)	25	Zürich	International
Ficon Finanz Consulting	Banking/Finance	10	Basel	National
First Tuesday	Management Consulting	41000	Zürich	International
Hauser+Wirth	Design	n.a.	Zürich	International
HBM Partners	Banking/Finance	n.a.	Zürich	International
Jaeger Partners	Management Consulting	5	Zürich	National
Kirchhoff Consulting	Advertisement	36	Lucerne	International
Lombard Odier Darier Hentsch	Banking/Finance	n.a.	Zürich/Geneva	International

MediData	IT Logistics	20	Lucerne	National
MetaDesign	Advertisement	20	Zürich	International
Serwise	Management Consulting (IT)	14	Winterthur	National
Sutter	Design	39	Basel	regional
Swiss Re	Insurance	8100	Zürich	International
Swissandfamous	Design	5	Zürich	National
SWX Swiss Exchange	Banking/Finance	n.a.	Zürich	International
UBS	Banking/Finance	65929	Zürich	International
Variousity	Management Consulting	5	Basel	national
Zürcher Kantonalbank	Banking/Finance	4124	Zürich	regional

(Only face-to-face interviews. Web-Survey Interviews excluded)

Appendix 3

Institution	Location
BAK Basel Economics	Basel
AWA Canton Zürich (Amt für Wirtschaft und Arbeit)	Zürich
AWA Canton Zürich (Amt für Wirtschaft und Arbeit)	Zürich
Avenir Suisse	Zürich
ARV Canton Zürich (Amt für Raumordnung und Vermessung)	Zürich
ARE (Federal Office for Spatial Development)	Bern
Department for Spatial Development, Canton Aargau	Aarau
FSTE (Fachstelle für Stadtentwicklung, City of Zürich)	Zürich