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Internationalization in Telecommunications Services Markets: Some Preliminary Findings

By Dieter Elixmann*

Summary

The paper focuses on the activities of telco service companies outside their home markets. Different patterns of internationalization in the telco service markets are described. The analysis aims at characterizing features both of Foreign Direct Investment in a cellular or fixed-link telco market in a country abroad and of strategic alliances already operating today in the telco service market.

1. Introduction

The past decade has witnessed a fundamental change of the objectives and modes of international activity of the players in the telco services sector. This paper tries to highlight some characteristics of these developments. The paper draws heavily from a research project on internationalization in the telco market which has been carried out at WIK during the past years. Part of this project is the establishment of a huge data base on cross-border activities of telco operators throughout the world. The project focuses on internationalization issues particularly from the perspective of industrial economics and strategic management.

Section 2 outlines the facets of change in the telco services market which induces incentives for the operators to intensify their business outside their home markets. In section 3 we try to assign the numerous cross-border activities which have taken place so far to specific groups characterized by different focuses. Basically we will distinguish ventures abroad which represent Foreign Direct Investment (FDI), i.e. which have a focus on a single country, and strategic alliances which aim at offering services worldwide. This section contains many empirical examples. In section 4 it is intended to give an overview of the main players and to characterize some features both of the FDI strategy and the strategic alliances which can be concluded from the WIK studies undertaken so far. Section 5 contains a résumé.

2. Dimensions of change in telco markets

The telecommunications services sector has become an important segment of the economy throughout the world.

The world market volume of telecommunications services in 1995 is equal to around US \$ 450 bill¹. Plain old telephone services still account for around 83% of the market. However, in most countries the structure of the market exhibits similar and far-reaching changes, i.e. the importance of domestic fixed-link telephone services decreases in revenue terms whereas the importance of cellular services, VANS and international telephony services increases significantly.

In this section we try to highlight why there are new modes of international activity in telecommunications services markets. The argument is that basic conditions in the market are changing which causes the market structure to alter. This, in turn, leads to a change of conduct of the telco companies.

Traditionally, in most countries of the world telecommunications services predominantly consisted of fixed-link terrestrial services. These services were provided by entrenched monopolies² which often were part of the State budget. The workers in turn had a special status (e.g. civil servants). The "strategy" of the national telecommunica-

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¹ See OMSYC, Key Figures for the World Telecommunications Market, 1995.

² The main argument for the monopoly regime was that high fixed costs in particular in the local loop causes production and cost characteristics to exhibit natural monopoly properties. Concerning the theory of natural monopolies and its implications for competition see Baumol, Panzar and Willig (1982). An empirical appraisal of producing telco services, especially concerning economies of scale and scope, in Germany from the 1960s to the 1980s can be found in Elixmann (1990).

tions entities exhibited a domestic focus, with a high weight on social objectives (e.g. universal service obligations, like affordable prices, ubiquity of access to the network etc.).

Several factors have induced fundamental changes of these features of telecommunications services production.

Firstly, a couple of legal and regulatory changes have taken place. On the one hand telecommunications markets have been or are about to be opened up to competition usually under a regulated regime with special telecommunications specific objectives and instruments. Often a limited number of licences has been granted for different market segments. On the other hand the dominant incumbent firms in the telco services markets have undergone radical changes by being corporatized and by becoming privatized, respectively. This leads to a decrease in the importance of social objectives and a far higher weight on business objectives.

Secondly, technical progress has been very dynamic in telecommunications. The digitization of transmission and switching, the deployment of fiber optics in the network, and the possibility of utilizing wireless technology together bear significant potentials to make the ancient natural monopoly obsolete and markets contestable.

Thirdly, characteristics of demand have changed. There is a rapid increase in the international division of labour in nearly all goods and services markets which is especially underlined by the upcoming of multinational enterprises during the past three decades. Moreover, in particular for international business customers there is an increasing importance of the availability and quality of national and international telco infrastructures, of the availability and quality of custom-tailored services and of the structure and level of prices. Today there is a high pressure on the traditional system of cross-subsidized tariffs in telco markets towards cost orientation and flexible pricing regimes.

Regulatory, technical and demand changes have had a sound impact on international activity in the telecommunications services markets. Thus, viewed from a telco company in its home market there are several driving forces of its internationalization: 1. The regulation policy abroad which by liberalizing the market increases opportunities for market entry abroad. 2. The regulation policy at home which by liberalizing the telco services market allows market entry of new domestic and foreign players often with deep pockets. This, in turn, causes pressure on prices and margins for the domestic incumbent firm. 3. The shareholder interest which causes a switch in the business strategy from an orientation on social welfare considerations to the interest of increasing shareholder value, requires the company to produce efficiently and raise productivity. Thus, the need for external growth may arise to compensate for a loss of market share in the home market as well as to profit from economies of scale on the procurement side. 4. The customers which by expanding their international presence have an increasing need for cross-border telco services and world-wide ubiquity of services. 5. Last

but not least the "knowledge" inside the company concerning e.g. technical and organizational capabilities, marketing experience etc. can also be exploited in foreign countries.

3. Patterns of internationalization

In this section we aim at identifying stylized facts about the features of the internationalization of telco service companies and to underline this by some empirical examples.

3.1 The early phase of international activity

Until a decade or so ago, telco service companies were rather inter-national than international. They were providing cross-border telephony and data services by sticking together half pipes on both ends of the network under certified technical terms and an internationally agreed accounting rate regime. They were cooperating mainly in international consortia focusing on the provision of cross-border transmission capacity like cable and satellite. Some of the big telecommunications companies from the developed world have already been active outside their home markets since the 1970s, mainly in less developed countries³. However, the amount of FDI was pretty low compared to the situation today. This mirrors the fact that nearly all telco market segments, especially plain old telephony and transmission services were closed, i.e. not opened up to competition. Or to put it another way, the scope of non-reserved services which at least in principle were gradually opened up to market entry and the associated market volume were rather limited. Thus, virtually only in the 1980s one could observe the beginning of market entry from abroad in domestic segments of the telco service markets like data services, value added network services etc⁴. This was also the time when telco companies began to establish offices and subsidiaries outside their home country.

3.2 Foreign Direct Investment

The opportunity to invest directly in foreign telco markets emerged basically from three processes: 1. The cellular mobile service segment has been opened up to competition nearly everywhere in the world. 2. Many countries have launched bids for tender to sell a portion of their dominant incumbent State owned telco company to a strategic investor. 3. In many countries of the world telco markets, especially fixed-link telephony and the infrastructure monopoly, are or are about to be fully liberalized.

³ A typical mode of this development aid is when the foreign operator helps to upgrade and modernize a network, then operates the network for a specified time before operation is transferred to a national authority from the less developed country (the so called build-operate-transfer model).

⁴ For an empirical evaluation of the markets for value added network services, network management services and corporate networks especially in Germany see Stoetzer (1991) and (1993).

Table 1

Status of Competition in European Cellular Telephony

Countries	Analogue	GSM	PCN / DCS 1800
Austria	Monopoly	Duopoly	Bid for tender for one licence announced for 1997
Belgium	Monopoly	Duopoly	Bid for tender for one licence announced for 1997
Denmark	Monopoly	Duopoly	Bid for tender for up to five licences announced for early 1997
Finland	Monopoly	Duopoly	Three licences
France	Duopoly	Duopoly	One licence ¹⁾
Germany	Monopoly	Duopoly	One licensee already operating, currently bid for tender for second licence
Greece		Duopoly	See footnote 2)
Iceland	Monopoly	Monopoly	
Ireland	Monopoly	Duopoly	
Italy	Monopoly	Duopoly	Bid for tender for one licence announced for 1996
Luxembourg	Monopoly	Bid for tender for second licence underway	
Netherlands	Monopoly	Duopoly	Bid for tender announced for 1997
Norway	Monopoly	Duopoly	GSM operators have licences for field trials, bid for tender for another licence presumably 1997
Portugal	Monopoly	Duopoly	
Spain	Monopoly	Duopoly	
Sweden	Duopoly	3 competitors	One licence
Switzerland	Monopoly	Monopoly	Field trial by Swiss PTT, bid for tender for one or more licence(s) announced for 1997/1998
United Kingdom	Duopoly	Duopoly	Duopoly
As of September 1996			
1) France Télécom (FT) is not a licensee, however, they do have the permission for a field trial in Toulouse.			
2) The Greek incumbent company OTE up until today has no GSM licence, however it has been granted a DCS 1800 licence. The two GSM operator are likely to sue this decision.			

3.2.1 Cellular telephony

In Western Europe for example nearly every country has already granted at least two concessions in cellular telephony as can be seen from Table 1. Table 2 shows that this market opening virtually in each case has led to market entry from at least one foreign telco company.

It deserves to be stated that in the vast majority of East European countries at least two analogue licences in cellular telephony have been granted and that in many of them also the operation of digital GSM networks has already started. In each of these cases at least one foreign telco company is part of the winning consortium. Other parts of the world in which foreign telco companies have

Table 2

Market Entry of Foreign Companies in European Cellular Telephony Markets

Country	Telco partners from abroad	Licence ¹⁾
Austria	Deutsche Telekom, Siemens Austria	D2
Belgium	- Air Touch (USA), - France Télécom (F)	D1 D2
Denmark	Bell South (USA), via subsidiary also Vodafone (UK)	D2
France	- Vodafone (UK), via subsidiary also Southwestern Bell - Cable & Wireless (UK), US West (USA), VEBA (G)	D2 E1
Germany	- Air Touch (USA), - Bell South (USA), Vodafone (UK)	D2 E1
Greece	- France Télécom (F), US West (USA), Vodafone (UK) - STET (I), Nynex (USA)	D1 D2
Ireland	Telenor (N)	D2
Italy	Bell Atlantic (USA), Air Touch (USA), Telia (S), Mannesmann (G)	D2
Netherlands	Vodafone (UK)	D2
Norway	Ameritech (USA), Singapore Telekom	D2
Portugal	Air Touch (USA)	D2
Spain	Air Touch (USA), BT (UK)	D2
Sweden	Air Touch (USA), Vodafone (UK)	D2
United Kingdom	US West (USA), Hutchison Whampoa (HK)	E1
As of September 1996		
1) D1 and D2, respectively, mean the first and second GSM licence. Likewise, E1 and E2 mean the first and second DCS 1800 licence.		

a considerable market presence in the cellular segment are Latin America (including the Carribeans) and Asia, especially the Pacific Rim, China and India. However, the market structure⁵ as well as the technical standard⁶ differ in many cases from the "traditional" European approach which is characterized by a duopoly and the GSM/DCS 1800 technology. Market entry from abroad in the cellular telephony market segment takes place on a much lesser scale in Africa. In North-America there is a competitive market structure in the cellular segment, however, there is virtually no market entry from companies which are not from the U.S. and Canada.

3.2.2 Strategic investment in an incumbent foreign fixed-link operator

In many countries of the world the most favoured mode of privatizing the dominant incumbent state owned telco company is to sell it completely or in part to a strategic investor. Usually, two or more foreign telco companies are members of such a consortium.

⁵ Often the number of cellular telephony licences in these countries is higher, partly because regional licences have been granted.

⁶ Apart from the European GSM/DCS 1800 standards there is e.g. the digital AMPS standard and CDMA.

It is hardly possible to get hard data on internal rates of return of such a project from the investing companies. However, different telco companies in all likelihood differ remarkably in their evaluation of the determinants⁷ of a concrete business case at least according to what is announced during the application process.

Likewise, it is hardly possible to give a comprehensive set of factors which determines the decision of a government either to look for a strategic investor or to make an initial public offering of shares on the capital market followed by a quotation of the shares at the stock exchange. Countries opting for the first alternative often have a poor infrastructure and a poor quality of services. A second factor is the lack of an appropriate capital market. A third factor might be that governments try to combine the benefits of privatization with the benefits of having the ability to select an appropriate partner by a beauty contest which gives them an opportunity to impose on him local content rules, to arrange a smooth transition as to redundancies etc. Table 3 gives a selection of countries in which a strategic investor has bought a stake in an incumbent operator.

3.2.3 Strategic investment as an entrant into liberalized fixed-link markets

Several countries in the world already have a competitive regime in all segments of the telco services market. This holds true e.g. in North America, in some Latin American countries, especially Chile and Mexico, and in Australia and New Zealand.

The liberalization of the North American telco market has only had a limited effect on market entries from telco companies, which have their home market outside North America. The main telco market segment in which entry from foreign telco companies has occurred so far is international telephony. In Chile and Mexico the entrants are already operating. Liberalization in these countries has led to an influx of many companies from abroad, mainly from the U.S.. Chile and Mexico in all likelihood are utilized by foreign telco companies at least to some extent to strengthen their ability to compete and make them fit for market entry in other countries.

In Chile there is a competitive regime in the telco market since more than three years. Today there are at least seven competitors in the fixed-link segment⁸. In Mexico competition was introduced in August 1996. At least seven competitors today try to get a chunk of the former monopoly market. Also here each competitor has at least one telco company from abroad as a shareholder. These companies mainly come from the U.S.⁹.

In Australia and New Zealand there is also domestic fixed-link competition, and the market structure can be characterized as a duopoly. The second operators in each of these two countries are also partly owned by foreign telco service companies¹⁰.

The EU is on the verge of introducing full competition from the beginning of 1998¹¹. Thus, also in the fixed-link market segment a wide range of entry opportunities abroad will be opened up for telco companies. Usually, an entrant in Europe consists of one or more foreign partners and one or more domestic partners. Domestic partners often are banks, utilities, or railways. In most of the EU member states the final composition of the consortia willing to enter a national market at the moment (September 1996) is still unclear. The same holds true for the main facets of their business strategies, e.g. concerning the customer segment on which they will focus in the beginning, the scope of services, the pricing policy etc.

In Germany, for example, there are currently at least four potential entrants: 1. Mannesmann, which together with Air Touch already operates the second GSM cellular mobile network, recently have won a 49.8% stake of the telco subsidiary of the German railway company Deutsche Bahn. Mannesmann is about to join forces with AT&T and Unisource (see next section). 2. Veba owns a share of the first German DCS 1800 cellular mobile operator and has already teamed up with Cable&Wireless not only by coordinating their activities in Germany but throughout Europe. Moreover, Veba owns a stake in Cable&Wireless. 3. Viag has teamed up with RWE from Germany and BT. They are about to apply for the second German DCS 1800 cellular mobile licence which will be granted presumably at the end of 1996. 4. Thyssen is working together with Veba and Bell South in the operation of the first German DCS 1800 cellular mobile network. Unlike the others, up until now

⁷ Factors potentially influencing the decision to invest in a foreign telco company are numerous, e.g. the regulatory environment, the country risk, the prospects of the economy, etc.

⁸ The entrants are mainly focusing on long distance and international telephony whereas the local part is virtually served by a single company, CTC. Telefonica holds a stake in CTC. Other foreign companies active in Chile mainly come from the U.S. like Southwestern Bell, Bell South and Bell Atlantic, which are members of different entrants. Besides Telefonica there is only one additional entrant in the Chilean market who comes from Europe (STET). For more information about the Chilean telco market and its transition from monopoly to competition see Stehmann (1995).

⁹ Since 1990 France Télécom and Southwestern Bell are shareholders of the then monopoly operator Telmex. Today, the three main long distance companies from the U.S., i.e. AT&T, MCI, and Sprint, are active in different consortia in Mexico. AT&T has joined forces with Telefonica and GTE. Moreover, the international Canadian operator Teleglobe Canada and Bell Atlantic are present in the Mexican telco market.

¹⁰ When Optus was established in Australia, Bell South and Cable&Wireless became shareholders. In New Zealand BT and MCI are shareholders of clear communications.

¹¹ The vast majority of EU member states will have liberalized their telco market in 1998. Only Ireland, Luxemburg, Portugal, and Spain have been granted a permission to open up their markets later. However, it is not clear, whether and to which extent each of these countries will make use of this permission. On the other hand countries like the U.K., Sweden and Finland already today virtually have fully liberalized telco markets.

Table 3

Strategic Investment in a Foreign Incumbent Fixed-link Operator: Examples

Continent	Strategic investor(s)	Company	Region
Latin America	Cable & Wireless SBC, France Télécom Telefonica Telefonica, GTE, AT&T MCI	... Telmex Telco Sur CTC Entel TLD CANTV Belize Telco	Caribbean Mexico Argentina Chile Peru Puerto Rico Venezuela Belize
Australia / New Zealand	Ameritech, Bell Atlantic	TCNZ	New Zealand
Asia	Cable & Wireless	Hongkong Telecom	Hongkong
Eastern Europe	Ameritech, Deutsche Telekom Dutch PTT, Swiss PTT	MATAV SPT	Hungary Czech Rep.
Western Europe	BCE Ameritech, TeleDanmark, Singapore Telecom Dutch PTT, Telia	Mercury Belgacom Telecom Eireann	UK Belgium Ireland

Thyssen owns no infrastructure. In addition to this a couple of niche and regional suppliers are seeking to get into the German telco market. For a thorough and comprehensive assessment of different basic approaches of penetrating the German telco market see Gerpott (1996). It is highly likely, that the composition and the strategic positioning of these consortia will still be subject to changes up until 1998.

3.3 Strategic alliances¹²

According to Morasch (1994) strategic alliances can be defined as contract-based cooperative agreements of at least two companies whereby the alliance partners remain autonomous in those activities to which the cooperation does not apply. The strategic element in the context of internationalization derives from the underlying assumption of the alliance partners that cooperation leads to a competitive advantage which cannot be achieved through FDI.

The common objective to be reached with the cross-border cooperation of two or more firms in the telecommunications service sector is the provision of world-wide, custom-tailored end-to-end services predominantly to multinational companies, including particular features such as ubiquitous one-stop-shopping and one-stop billing. Following the value chain logic of Porter (1985:33) the activities to reach this objective in a stylized view can be subdivided into "production" and "distribution". Production predominantly refers to the operation and the manage-

ment of the physical infrastructure and the distributional side comprises activities such as marketing, sales and after sales service, i.e. the provision of the services to the customer. In order to perform the required tasks on these value chain stages several resources are necessary. Producing cross-border services — be they voice-, data- or video communication — on a worldwide scale refers to the presence both of international resources and resources in the target markets.

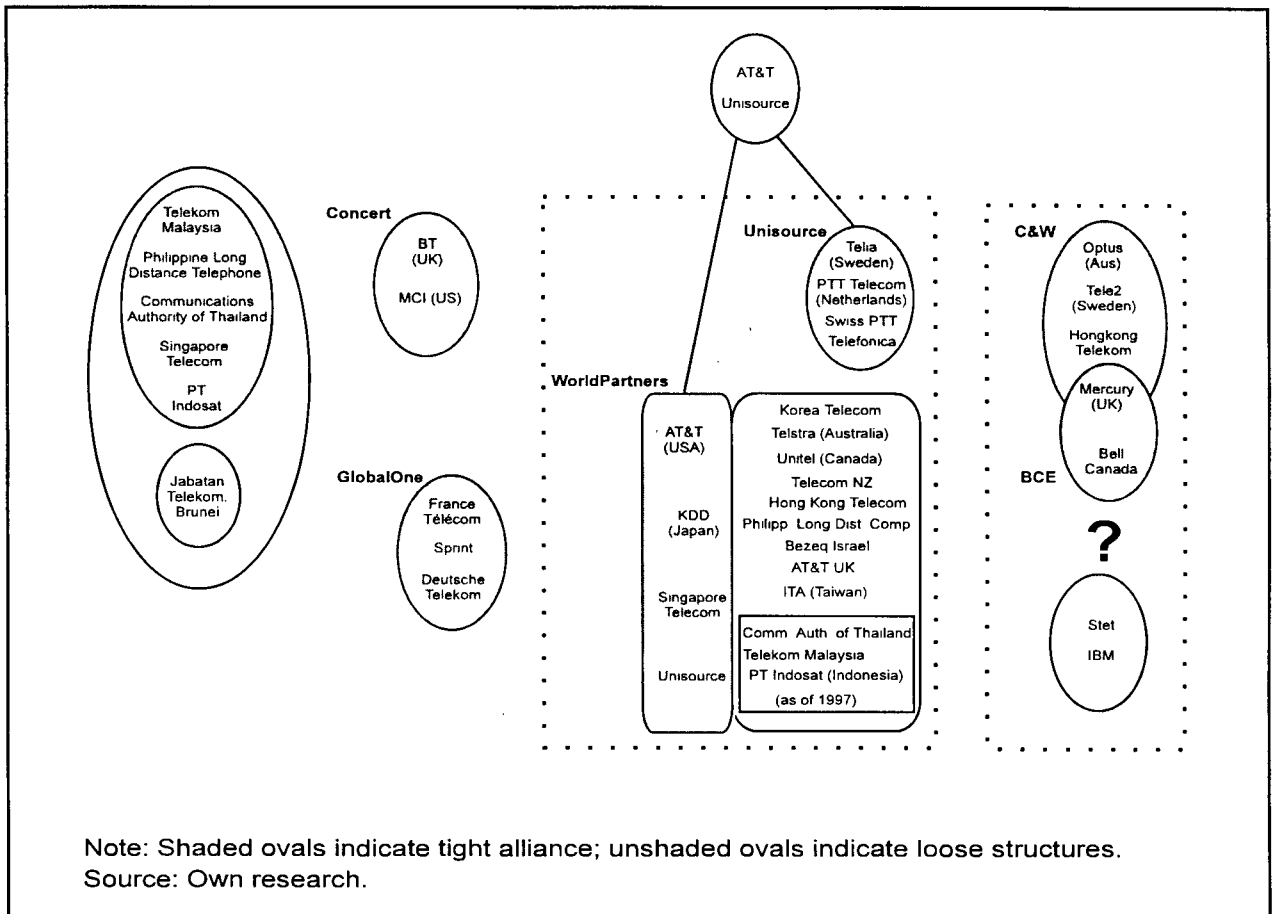
Know-how is needed both with respect to production (technical knowhow) and distribution (country-specific know-how). Concerning production on the one hand an international backbone network, i.e. transmission and switching capacity as well as the staff for its operation, maintenance etc. is required. On the other hand, in each country served a national infrastructure as well as the respective staff is necessary¹³. The distribution of services, however, requires only resources which are available within a country such as local outlets as well as service stations and the respective staff.

¹² The following discussion is based on Elixmann and Hermann (1996) who have studied in detail strategic alliances in the telco sector and challenges for business strategies brought about by this cooperation.

¹³ The national infrastructure comprises the local and the long-distance network within a country. The function of the international facilities consists of the interconnection of the two (or more) domestic networks in order to provide seamless end-to-end interconnectivity.

Table 4

Current Strategic Alliances in the Telecommunication Service Sector



This resource-based value chain analysis entails a "pragmatic" explanation for the existence of cooperation between telco service companies from different countries¹⁴. In order to provide international telecommunications services it is indispensable to dispose of these resources in their entirety. However, a look at the present "resource portfolio" of telecommunications service providers in the world shows that the bulk of their resources still is national and only some of them own international capacity. Moreover, telco service companies are very rarely present in *foreign* markets as a carrier.

An overview of strategic alliances in the telco services sector established so far is presented in Table 4.

4. Assessment of cross-border activities of telco service companies

In this section we present some empirical material on the main players, characterize features of their FDI strategy, and focus on characteristics of strategic alliances.

4.1 The main players

We firstly aim at illuminating who the main actors in cross-border activities in the telco services market are. As Table 5 reveals, many of the telco companies mentioned so far are among the 50 largest telco operators in revenue terms¹⁵. Nearly 75% of the top 50 telco operators are already active in markets outside their home country. Table 5 underlines that the vast majority of these companies is at least partially privatized. Nearly 40% of the top 50 operators are members of a strategic alliance, in particular four (AT&T, DT, FT, BT) out of the five largest TOs¹⁶ have established cooperative ties through strategic alliances.

¹⁴ The empirical and theoretical literature on the drivers behind cooperation is abundant. For an extensive overview on empirical studies see e.g. Schrader (1993). Sydow (1992) provides a comprehensive overview on theoretical approaches to cooperation.

¹⁵ This table focuses on telco operators. Thus, Cable & Wireless is not included in the table, however, operators in which Cable&Wireless owns a stake like Mercury and Hongkong Telecom are part of the table.

¹⁶ The only exception is NTT of Japan.

Table 5

Top 50 Public Telecommunication Operators: 1994 Revenue and State Ownership (as of August 1996)
members of an alliance shaded

Rank	Operator	Country	Revenue Total (US\$ million)	State Ownership (in %)
1	NTT	Japan	68 852	65.4
2	AT&T	United States	43 425	0
3	Deutsche Telekom	Germany	37 713	100
4	France Télécom	France	23 288	100
5	BT	United Kingdom	21 263	0
6	Telecom Italia	Italy	18 047	**
7	GTE	United States	17 363	0
8	Bell South	United States	16 845	0
9	Bell Atlantic	United States	13 791	0
10	MCI	United States	13 338	0
11	NYNEX	United States	13 306	0
12	Sprint	United States	12 662	0
13	Ameritech	United States	12 569	0
14	SBC	United States	11 618	0
15	US West	United States	10 953	0
16	Telstra	Australia	9 769	100
17	Telefónica	Spain	9 582	20
18	Pacific Telesis	United States	9 235	0
● 19	TELMEX	Mexico	8 656	0
● 20	Telebras	Brazil	7 768	100
● 21	DGT (P&T)	China	7 196	100
22	PTT Telecom BV	Netherlands	6 970	45***
23	Korea Telecom	Korea (Rep. of)	6 895	98
24	PTT Telecom	Switzerland	6 768	100
25	Bell Canada	Canada	5 907	0
● 26	DGT	Taiwan-China	5 019	100
27	Telia AB	Sweden	4 917	100
● 28	PTT (PTV)	Austria	3 654	100
● 29	Belgacom	Belgium	3 498	50.1
30	Hongkong Telecom	Hongkong	3 482	3.4
31	JT	Japan	2 983	???
32	DDI	Japan	2 912	???
33	Tele Danmark	Denmark	2 806	51
● 34	Telekom SA	South-Africa (Rep. of)	2 716	100
35	Telenor	Norway	2 613	100
● 36	Mercury	United Kingdom	2 518	0
● 37	MPT	Russia	2 517	100
● 38	Turkish PTT	Turkey	2 292	100
39	KDD	Japan	2 216*	0
● 40	Telefónica	Argentina	2 102	0
● 41	DOT	India	2 056*	100
42	BEZEQ	Israel	2 004	76
43	OTE	Greece	1 991	100
44	Telecom	Argentina	1 828	0
45	SGP Telecom	Singapore	1 802	89
46	Portugal Télécom	Portugal	1 787	72
● 47	MOPTT	Saudi Arabia	1 770	100
● 48	SNETC	United States	1 717	0
49	TM	Malaysia	1 712	75
50	PT Telkom	Indonesia	1 711	100

* estimated
 ** IRI is 100 % state owned. IRI holds about 65 % of the share capital of STET. STET holds about 55 % of the voting rights of Telecom Italia.
 *** 100 % hold by KPN, 45 % of which is hold by the Dutch State.
 ● no cross-border activities up until today.

Source: ITU/World Telecommunication Development Report. International Telecommunication Union, 1995, p. A-48 (revenues), own research (state ownership).

The members of the alliances mentioned in the preceding section jointly accounted for over 60% of the world's outgoing MITTs based on 1994 data.

To sum up, it can be stated that up until today the main players which are active outside their home markets are the incumbent telco companies of the most important industrialized countries of the world, some players from emerging countries, and niche players like Millicom and Vodafone. Yet, it should be stressed that already today not only these companies but also new entrants in the telco services market, particularly those in the cellular segment, try to strengthen their market position by establishing joint ventures in telco markets outside their home countries¹⁷. Last but not least it should be mentioned that telco equipment manufacturers play very limited role in telco service markets. Their importance as an international player in the services segment is negligible¹⁸.

4.2 Features of the FDI strategy

4.2.1 Internationalization strategies

As to FDI, a closer examination of the activities of telco companies outside their home markets reveals very different internationalization strategies. This relates both to the services offered and to the geographical focus. There are companies which are concentrating their international activity mainly on cellular services in Europe (like e.g. Air Touch¹⁹, which is a spun-off of the mobile activities of Pacific Telesis) or on the provision of fixed-link services in Latin America (like e.g. Telefonica)²⁰. Others aim to be present as a mobile operator in some countries and as a fixed-link operator in others, whereby the activities cover different continents (like Deutsche Telekom)²¹.

Internationalization strategies also differ with respect to the organization of the international activity. One useful approach to get a better understanding of different modes of internationalization strategies of telco service companies is that of Bartlett and Ghoshal (1989). They differentiate between a multidomestic strategy, a global strategy and an international strategy.

A multidomestic strategy is characterized by the establishment of a strong local presence thus being able to take into account national differences. Otherwise stated, viewed from the parent company the ventures abroad have a strategic freedom and a high level of organizational autonomy. This strategy obviously leads to a "portfolio" of domestic entities. The internationalization strategy of the North-American Regional Bell Operating Companies (RBOCs)²² as well as that of Telefonica's activity abroad may serve as an example of this approach.

A global strategy is characterized by establishing cost advantages by centralized, but world market oriented activities. The focus is on an integrated worldwide business environment and global customer needs. As to the coordination of their FDI activities at least up until recently Cable&Wireless apparently have followed this approach.

An international strategy comprises both a strong home base and internationalization. The focus is on utilization of knowledge and capabilities of the headquarters by worldwide diffusion and adaptation. Or to put it another way, firm specific knowledge is transferred to markets abroad and adapted to their domestic particularities, however, the headquarters still keeps considerable power and control. An example of this approach may be AT&T.

4.2.2 Ownership and location specific advantages

Elixmann et al. (1994) and Ruhle (1995) have carried out an empirical investigation of ownership specific advantages and location specific advantages concerning FDI in cellular telephony and fixed-link telephony, respectively. Relying on Dunning's eclectic theory²³ and based on the

¹⁷ The German companies Mannesmann and Veba, which are members of consortia already operating cellular networks in Germany, may serve as an example. Mannesmann is already active in mobile segments of the telco markets of Italy, Spain and especially of France. In France Mannesmann is about to prepare with its partners for the market entry into the fixed-link segment after liberalization in 1998. Also Veba is active in other European countries via its partnership with Cable&Wireless.

¹⁸ Alcatel is about to withdraw from the telco services sector in France. An example where an equipment manufacturer is a member of a consortium in the services sector is Siemens who in Austria (via its Austrian subsidiary) are part of the second GSM operator.

¹⁹ See section 3.2.1.

²⁰ Telefonica's international subsidiary TISA (Telefonica International SA) entered the scene in 1990, buying a stake in CTC, the local and long distance operator in Chile. Nowadays TISA is the dominant operator in several Latin American telecommunications markets. In Argentina, Chile and Venezuela, stakes in both fixed network operations and mobile network operations were acquired. In Peru TISA owns a stake in the fixed-link monopoly carrier and in Mexico a stake in Unicom SA, one of the entrants. Other regional footholds in Latin American fixed network operations are Codelco in Columbia and TLD in Puerto Rico the latter giving Telefonica direct access to the U.S. market.

²¹ Up until today DT is active in Europe in Austria (GSM mobile), in the Czech Republic (GSM mobile), Hungary (full telecoms service), Kazakhstan (deal being negotiated, fixed network), in the Netherlands (paging), Poland (GSM mobile), Russia (e.g. regional licenses concerning GSM mobile, paging), Switzerland (mobile data) and the Ukraine (long distance telephone and international switching). In Asia it is active (as of June 1996) in Indonesia (GSM mobile, satellite communications), Malaysia (fixed network), in the Philippines (fixed network, mobile and paging), and in Thailand (fixed network, mobile and paging).

²² The RBOCs were established after the divestiture of AT&T in 1984 as the „local" monopolies in the U.S.. Up until recently there were seven RBOCs: Ameritech, Bell Atlantic, Bell South, Nynex, Pacific Telesis, Southwestern Bell, and US West (see Table 5). In early 1996, however, after a fundamental change in the U.S. telco law Pacific Telesis and Southwestern Bell as well as Bell Atlantic and Nynex merged their activities.

²³ Dunning's eclectic theory, see e.g. Dunning (1981), specifies internalization specific advantages as a third category in addition to the ownership specific advantages and the location specific advantages. All of these advantages have to be present to make FDI useful.

features of international activities since the mid-80s contained in WIK's data base they come to the following conclusions⁴.

Concerning investments abroad in the cellular telephony segment ownership specific advantages were primarily the length of experience in the home market, the experience (of the consortium a telco company is a member of) in the technical standard requested by the host country and the extent of previous successful market entries abroad. Factors that had to be rejected were the impact of the number of cellular customers in the home market as well as that of total revenue of the companies going abroad.

As to location specific factors a distinction was made between home market and host country factors. There was empirical evidence that the introduction of competition in the home market in all likelihood generates an increase of internationalization activities of telco companies in foreign mobile telephony markets. Concerning host country factors Elixmann et al. concluded that firstly the transparency and public character of the tender process employed for issuing a licence and secondly the current economic performance of the host country, are vital factors influencing intensity of bidding in the country.

Focusing on FDI in fixed-link telephony Ruhle found that the cash flow of a company, the scope of the service portfolio in the home market, the level of private ownership, and the number of previous successful market entries abroad were decisive ownership specific factors in the internationalization process in this segment. Factors of negligible importance were the debt ratio as a proxy for financial capabilities, total revenues as well as the number of main lines as a proxy for size, and revenue per employee as well as the number of main lines per employee as a proxy for productivity.

With respect to internationalization in the fixed-link segment it also becomes evident that telco companies have increased their attempts to enter foreign markets after they faced competition in their home market. Concerning location specific factors in the host country Ruhle tested factors regarding the regulatory setting and factors describing the economic situation and telecommunications market in the host country. The somewhat surprising result was that telco companies apply more strongly for licences in non-monopolistic markets. A second factor impacting the intensity of bidding in a host country positively was the transparency and openness of the regulatory process. Regarding location specific factors of the host country Ruhle found that GDP per capita, the market potential measured by the lengths of the waiting list for the installation of main lines, and the volume of international traffic between the host country and the country of origin of the telco companies applying for market entry each have a positive impact on the intensity of applications in this country.

4.2.3 "Success" of FDI

We have also evaluated WIK's data base to gain some insight as to the success of FDI. Firstly, there are very dif-

ferent levels of successful bidding. Air Touch, for example, were very successful in their applications in Europe, whereas STET of Italy experienced many failures since the end of the 1980s. Secondly, it remains to be stated that on the average up until today the revenue share of the international business, apart from international telephony, is still low²⁵. However, the growth rates in this segment are high.

Thirdly, concerning profitability of investments, even if there are hardly any hard data, the following can be stated: FDI in the mobile sector, especially investments in the GSM cellular telephony segment in Europe, are profitable after a relatively short set-up period of around 4 years of operation. Also buying shares as a strategic investor may pay out in a relatively short time as the example of Telecom New Zealand shows²⁶. Also Telefonica's investments in Latin America, to some extent still under monopoly regimes, are highly profitable²⁷.

There are, however, also a couple of cases which mirror the (potentially unexpected) risks of FDI. One factor is the capital market as the plunge of the share prices in Mexico in 1995 shows: The shares of Telmex in which France Télécom and Southwestern Bell have a stake lost more than one third of their value. A second factor is the attitude towards FDI in the host country which may change due to political elections, mounting pressures of unions etc. An example is the privatization of OTE in Greece, which has been at least three times postponed and the conditions of which have been altered substantially in the course of time. Another example is the bidding process for regional licences in India which has taken place in the past two years. One of the "highlights" of the auction procedure in this country was that the conditions of the auction and the underlying licences, respectively, have been altered after a decision had been made²⁸. A third risk factor for FDI may

²⁴ Both studies relate to applications for licences abroad rather than *successful* applications.

²⁵ In 1994 Air Touch's revenue from its European activities amounted to 370 mill. US \$, that of AT&T in Europe amounted to 250 mill. US \$ and that of BT outside the U.K. amounted to roughly 150 mill. US \$.

²⁶ Bell Atlantic and Ameritech bought 100 % of Telecom New Zealand in September 1990 for a total of 4.25 bill. NZ\$ (= US \$ 2.46 bill. at that time). One condition of the sale was that the two American companies later on sell shares to the public to decrease their combined stake to below 50 %. The issue price of the initial public offering was 2 NZ \$, today the price is more than 6.50 NZ \$. Thus, the value of today's 24.82 % of each of the two partners is worth much more than the initial investment for each partner's 50 %.

²⁷ Telefonica's international subsidiary TISA accounts e.g. for around 20 % of Telefonica's group income, i.e. the importance for the performance of the parent company is considerable.

²⁸ To cut a long story short one of the most successful bidders in India's regional licences had won so many "circles" (i.e. regions) due to his high bidding price that the financial means of this consortium were far too low to secure the associated investments. Thus, the Indian agencies introduced after this "final" decision a maximum of three circles which can be owned by a single bidder. For the rest of the circles of the winning consortium a new bidding process was initiated. It is not surprising that in the aftermath of these events rumours of bribery have emerged.

be viewed in an unanticipated (change of) business strategy of a local partner of the host country. In this context developments in the cellular segment in Poland may serve as an example²⁹.

4.3 Features of strategic alliances

Research at WIK has also focused on strategic alliances, see Elixmann and Hermann (1996). Their paper investigates especially Concert, Global One, Unisource, and World Partners. Their analysis aims at characterising how the companies involved in strategic alliances behave with respect to three strategic decisions which are fundamental to their business activities³⁰.

As a first basic strategic decision the authors analyse the allocation of responsibilities and resources along the value chain. The focus is on whether the parent companies or the alliance is responsible. The analysis reveals that firstly, it is the alliance which is responsible for the provision of the global backbone network and secondly that the responsibility for production and distribution in a parent company's home market is with the parent company. The four alliances differ, however, to a large extent as to the organization of market entry abroad, i.e. in countries outside the parent companies' home turf. In this context two decisions have to be made: the basic decision on responsibility (either the parent companies or the alliance) and the decision on the access mode in a target country (either alone or in cooperation with partners from the target country). The authors come to the conclusion that WorldPartners follows the "parent company — alone" approach, Concert rests on the "parent company — cooperation" approach, Global One is based on the "alliance — alone" approach and Unisource is characterized by the "alliance — cooperation" approach.

A second basic strategic decision relates to the elements of the contractual arrangements of the cooperation. In this context the analysis shows that licencing agreements are used primarily to cover technical knowhow, Intellectual Property Rights, brands, etc. However, licencing agreements are not the dominant contractual element. Rather, it is the means of handling the trade-off between maintaining flexibility and limiting the vulnerability to opportunistic behaviour by a coalition partner which characterizes the contractual relationship. Three approaches differing with respect to their tightness can be observed: 1. a relatively loose cooperation virtually based on longer-term contracts granting flexibility and far-reaching autonomy to the (parent) companies involved (WorldPartners), 2. establishing a joint venture company, however, with no further capital participation among the parent companies (Unisource) and 3. establishment of a joint venture accompanied by an equity stake in a partner (Concert, Global One).

A third basic strategic decision concentrates on the extent and focus of a parent company's FDI activities and its

international objectives covered by the alliance. In particular, the degree of coordination across the different international activities has been assessed by the authors. Their analysis reveals that each of the two Concert parent companies to date has only invested to a limited extent in foreign ventures. Yet, there is a high degree of coordination of their internationalization strategies. Members of WorldPartners "on the average" are only to a limited extent active in markets outside their home market via FDI. However, there is a low degree of coordination with respect to the international activities. Several Unisource partner companies have already reached a higher level of FDI activity than the partner companies mentioned so far. To a certain extent Unisource partners are coordinating their FDI activities, however, FDI of the parent companies has negligible links with the activity of the alliance. Global One partners exhibit a high level of FDI activity in foreign countries throughout the world. However, these activities are virtually not coordinated between the partners. Likewise, FDI of the parent companies and the activities of their strategic alliance are carried out independently from one another.

5. Résumé

Over the past decade, regulatory and technical as well as changes in demand have fundamentally altered the conditions under which telco service companies are operating in their market. Many national telco service markets are now open for market entry from abroad, and there has already been a large amount of Foreign Direct Investment (FDI) of telco companies outside their home markets. In addition to this several strategic alliances between telco operators from different countries have been established since the beginning of the 1990s.

The "pull" factors for FDI activities predominantly rest on liberalization of the cellular telephony market segment and on entry opportunities in the domain of fixed-link services. As to the latter one can distinguish between the case where a (share of a) dominant incumbent State owned telco company is sold to a strategic investor and the case where markets are liberalized and a telco service company is an entrant in a market abroad. It is obvious that the requirements (e.g. expertise, financial means, tasks to be performed etc.) to make strategic investments abroad differs quite a lot across these categories of market entry.

²⁹ France Télécom and Ameritech each own 24.5 % of the Polish analog mobile operator Centertel, the rest is owned by the Polish incumbent telco company TPSA. When the tender process for two GSM licences was initiated it became obvious that the two foreign partners were in a locked-in situation because TPSA was not willing to take part in the bidding process and the two partners alone were forbidden to take part on their own by the terms of the respective law.

³⁰ The guideline of their investigation is to distinguish the parent company level from the alliance, the latter viewed as a distinct corporate entity.

There is empirical evidence that liberalization of a telco market in a country in the majority of cases leads to market entry of a telco company from abroad. Yet, it is also true, that these market entrants from abroad usually team up with domestic partners from the host country rather than to go it alone. The rationale for this on the one hand may be due to restrictions in the host country concerning the share capital in foreign hands. On the other hand also in cases where these restrictions do not exist, the entrants from abroad obviously do not favour the "from the scratch" solution, rather they prefer to give up some of their autonomy by teaming up with partners which are already familiar with the host country thus shortening the time necessary to become operational.

As to strategic alliances there is a demand side and a supply side logic. Viewed from the demand side the rationale of cross-border cooperation in the telecommunications service sector is the increasing requirement of customers, predominantly multinational companies, to be offered world-wide, custom-tailored end-to-end services, including particular features such as ubiquitous one-stop-shopping and one-stop billing. Viewed from the supply side, the rationale of strategic alliances is that each telco company alone does not own sufficient resources (abilities and physical resources) that are necessary given the requirements of world-wide presence. Thus, a symbiotic relationship can be established between resources from different partners, and consequently it is rational to pool these complementary resources.

Our analysis of the main players which are active outside their home markets shows that up until today these are the incumbent telco companies of the most important industrialized countries of the world, some players from newly industrialized countries, and some niche players mainly in the cellular segment. For many of them a strong home base is still important. Telco equipment manufacturers do not play a role as an international player in the services segment.

The FDI strategies of telco companies differ in many respects, for example with respect to the market segment on which they are concentrating (e.g. cellular vs. fixed-link services), the geographical focus of their cross-border activities (e.g. Western Europe, Eastern Europe, Latin America, Pacific Rim), and the organization and mode of corporate governance of the activities abroad (multidomestic vs. global vs. international strategy).

Ownership specific advantages of telco service companies investing in foreign mobile markets are the length of experience in their home market concerning operating mobile networks, the experience in the technical standard requested by the host country and the number of previous successful market entries abroad. Ownership specific advantages of telco service companies investing in foreign fix-

ed-link markets are the cash flow, the scope of the service portfolio in the home market, the level of private ownership and also the number of previous successful market entries abroad. Moreover, it became evident that telco service companies have increased their attempts to enter foreign markets after competition in their home market has been introduced.

As to success of FDI in all likelihood investments in the mobile services sector "make sense". A couple of factors may contribute to this fact like high growth in demand, standardization of technology, learning curve effects, limited risk as well as economies of scale on the procurement side. There are also examples of already very profitable strategic investments in fixed-link operators. However, on the average it seems that the payback periods for investments abroad in the fixed-link segment (e.g. in Eastern European countries) are considerably higher than in the mobile segment.

A striking feature of the international activity of the telco companies with respect to cellular and fixed-link applications is that companies cooperating in one country are often competing in other countries. Thus, the phenomenon of "co-optition" can also be observed in international telecommunications.

An analysis of the strategic alliances operating today reveals firstly that one important distinguishing feature is the organization of market entry abroad which refers both to the basic decision on responsibility (either the parent companies or the alliance) and the decision on the access mode in a target country (either alone or in cooperation with partners from the target country). Secondly, they differ as to the tightness laid down in the contractual elements of their cooperation. Thirdly, it has become obvious that companies involved in strategic alliances in the telco service market usually have a broad portfolio of cross-border activities. So the question arises which role the strategic alliance can take concerning the overall internationalization strategies of the partners involved? Summing up the findings regarding this issue both, the levels of FDI activity and the degree of coordination, considerably vary across the alliances. In particular, in the vast majority of cases FDI activities of a parent company still are not intended to generate positive spill-overs for the alliances (and vice versa). Rather, both investment strategies remain largely separated. In principle, one might expect (transaction and production) cost advantages of a "harmonization" of the FDI and alliance activities for the parent companies. However, it is obvious that at least for the time being the parent companies assign a distinct and limited purpose in the broad field of international activities to their alliance. The alliance viewed as a corporate entity is not an organizational form in which eventually the international activities are integrated.

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Zusammenfassung

Internationalisierung im Markt für Telekommunikationsdienste: Erste Schlußfolgerungen

Die vorliegende Arbeit befaßt sich mit Aktivitäten von Dienstleistungsanbietern im Telekommunikationsmarkt, die diese außerhalb ihrer angestammten Heimatmärkte entfalten. Verschiedene Muster der Internationalisierung in den Märkten für Telekommunikationsdienste werden beschrieben. Die Arbeit zielt darauf ab, charakteristische Merkmale sowohl von Direktinvestitionen im zellularen oder Festnetz-Bereich in Auslandsmärkten herauszuarbeiten als auch von den strategischen Allianzen, die bereits heute im Markt für Telekommunikationsdienste operieren.