MORGAN STANLEY

Investment Research U.K. and Europe

3 August 1995

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Global Telecommunications: Sweden

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Telia: Into Uncharted Territory

- Sweden has the highest penetration of fixed and mobile telephony in the world, at close to the lowest prices. It is also one of the world's most competitive telecommunications markets. Telia faces radical shifts in its business, with the effects of a maturing market compounded by severe market share losses.
- Telia's first response to these challenges has been to establish Unisource, and to develop it into one of the most credible of the various global alliances: not only does Unisource strengthen Telia's domestic competitive position, it also provides an avenue for profitable overseas expansion.
- The second response has been to restructure its domestic operations: to maintain its low-cost advantage against other telcos; to strengthen its relationships with customers; and to prepare itself, and its customers, for the move towards content provision.
- Telia should emerge from this process of change as one of the industry's most powerful players, even if the transition is a painful one.

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Industry Environment

The rate of change in telecommunications is accelerating, with established operators facing challenges on many fronts. While new technology is increasingly turning the basic business of telephony into a commodity, it is also providing opportunities for the development of new applications and services, for increasing the value-added and 'content' element of the service, and for changing the way people use the telephone. Equally, while new technology and the near-universal shift towards market liberalisation are providing new opportunities for competing against established operators, they are also providing the more efficient of those operators with an avenue for profitable international expansion. The one certainty that remains is that telephone company revenue and cost structures will undergo radical change in the next few years.

Regulatory Environment

Like many European telecommunications providers, Telia is a 100% state-owned company. There the similarities end. The company has never had the formal protection of a statutory monopoly, and the ever-present threat of competition has unquestionably contributed to the high quality of service that Telia has traditionally offered. The 1993 Telecommunications Act introduced a system of operator licensing and empowered a new independent regulator — the Telestyrelsen, or National Telecommunications Authority (NTA). Despite the formalisation of much that was previously achieved passively, the regulator remains essentially pragmatic and consensual. Telia has been allowed a large measure of freedom to rebalance its tariffs and to restructure its cost base. In return, emerging competitors have been allowed a modest degree of entry assistance, which will largely disappear after 1996, at the end of the transition period.

Competitive Environment

Telia faces extraordinary competitive pressures on many fronts, and it is currently suffering shifts in market share that are virtually without precedent in Europe. According to Telia's own forecasts, it will have lost up to 15% of its switched telephone market within three years, and up to 40% of its international market. Meanwhile, Telia has gone from enjoying an overwhelming dominance of the mobile market in Sweden to having to fight to maintain a 50% share of GSM growth. If the UK is the laboratory for telecommunications liberalisation, Sweden is the commercial field trial.

First Response — International Restructuring

The international segment is where Telia's greatest and most immediate competitive threats and opportunities lie. Unisource is the company's strategic response. Founded on impeccable business logic, Unisource has already demonstrated its competitive and technical credentials and, in its relationship with AT&T ($52.00) and its expanding range of interests across Europe, it promises to become one of only two or three really significant players in global telecoms. Not only is Telia's domestic position thereby strengthened, it also has the opportunity to export its efficiency to a far larger market.

Second Response — Domestic Restructuring

Consistent with Unisource's slogan of "think global, act local", Telia is restructuring its domestic operations in such a way as to reduce operating costs (it is already one of the lowest-cost producers in Europe), strengthen its relationship with all customers, and also to prepare itself and its customers for the shift up the value chain.

Recent Results — Out of the Frying Pan...

1994 saw Telia emerge from a long and deep recession, only to face significant competition for the first time. Revenue growth accelerated to 7.3% at the group level, from 0.1% in 1993, despite a 1.8% reduction in call prices at the beginning of the year. The success of Megacom in capturing increased business and the rapid growth in the competitive mobile market were principal drivers of growth. However, increasing competitive pressures resulted in a severe contraction of the gross margin, while substantial exceptional asset write-downs and pension-related interest expenses further depressed reported profitability. Reported returns on equity fell from 19% to 12%. The good news was that, while capital spending rose 16%, reflecting the accelerated network modernisation efforts, shareholder's equity was still able to rise 8% and net debt fell 53%. It was a tough year, but the company ended it in excellent shape.

The Outlook

The structural changes in the telecommunications industry have reduced the visibility and predictability of future earnings for all telephone companies. The maturity of the basic telephone service in Sweden and the advanced degree of market liberalisation make it unusually problematic to predict the future for Telia with any degree of certainty. Not only is the company likely to suffer a significant and rapid decline in its market share, but it will also experience rapid shifts in its revenue mix over the next two or three years, through the rebalancing of tariffs on existing services, and through the development of new services. By virtue of its already relatively high levels of operating efficiency and a strictly non-protectionist regulator, Telia can not be shielded — as many other operators can — from the full impact of declining market shares and gross margins. However, we can predict with reasonable confidence that revenues and earnings will continue to grow through this transition period. In the very short term, Telia has indicated in its first-quarter earnings announcement that, even after a 35% decline in net income in the first quarter, income for 1995 as a whole would show an increase over 1994.

The Industry Environment and Telia's Strategy

The rate of change in telecommunications is accelerating, with established operators facing change on multiple fronts. While new technology is increasingly turning the basic business of telephony into a commodity product, it is also providing opportunities for the development of new applications and services, for increasing the value-added and "content" element of the service offering, and for changing the way people use the 'phone. Equally, while new technology and the near-universal shift towards market liberalisation are providing new opportunities for competing against established operators, so are they also providing the more efficient of those same operators with an avenue for profitable international expansion. The one certainty that remains is that telephone company revenue and cost structures will undergo radical change in the next few years.

In our previous report on Telia (*At The Cutting Edge*, July 1993), we highlighted three factors which were forcing dramatic change in the telecommunications industry worldwide:

- The 'push' of technological advance, creating opportunities for new and profitable services such as mobile, but also facilitating the entry of new competitors;
- The 'pull' of market forces, requiring telephone companies to restructure in order to address a more demanding and more competitive marketplace;
- The imperative towards privatisation, subjecting telephone companies to more demanding owners, but also forcing greater consistency in regulatory decisions.

As we argued then, "more competition and more product and service opportunities raise the growth rate of the industry. But they also raise the risk of failure at the individual company level."

The world has not really changed since 1993 — it has merely moved on. Two years ago, we judged Sweden to be in the vanguard of change for telecommunications liberalisation — and it is still there. On the surface, Telia's challenges appear daunting.

First, by conventional measures, the domestic market is highly penetrated (70% fixed, 20% mobile), and some would say close to maturity; the propensity of the user to spend more on telecommunications services will therefore become increasingly a function of marketing and new applications — essentially unfamiliar areas of expertise for Telia (as it is for other European telcos).

Second, domestically the company faces virtually unlimited competition, from domestic operators such as Tele-2, Comviq and Europolitan, and from international carriers such as BT/Concert (399p) and France Telecom/Atlas. Given easy access to customers (for example, 007 is the access code for Tele-2's international and domestic switched telephone service, compared with 009 for Telia), market-share losses in certain segments threaten to be significant and rapid. Meanwhile, the initial entry of global competitors represents a potential time-bomb, when the service migrates from data to voice, and from large corporate user to smaller enterprises.

Third, by virtue of demographic, cultural, technological and competitive change, Telia is likely to experience a dramatic shift in the mix of its business over the next few years. The rapid growth of mobile telephony in Sweden — currently accounting for most of the growth — is the clearest near-term example; the inexorable migration up the value chain away from 'carriage' towards 'content' may be the next paradigm shift. Some internal forecasts assume that, by early in the next century, only 50% of Telia's business will be derived from services currently available. This has profound organisational, cost and risk implications.

Although the challenges it faces appear daunting, the company's overall objective is deceptively simple: to grow in line with the market. Given the scale of the resource that is lining up to enter previously monopolistic telecommunications markets, this should be recognised for what we believe is an extremely aggressive strategy. Telia's strategy is two-pronged:

- To expand internationally, both within and outside of Unisource;

- To develop and expand the Swedish market, by moving up the value chain.

The next two sections describe the regulatory and competitive environments in Sweden, and the subsequent two sections describe the implementation of Telia's two-pronged strategy. In the meantime, and as an antidote to the commonly-held view that competition must be all negative for telephone companies, it is worth highlighting Telia's considerable inherent strengths and natural advantages.

- It has one of the lowest cost and price structures in the European telecommunications industry, essentially in the same "first division" league as Tele Danmark (Dkr 301);
- It has been pursuing a process of internal structural reorganisation over the last several years, and it is therefore further advanced than most European telcos in changing the mix, as well as the overall level, of skills within the workforce;
- It has a constructive relationship with a regulator, Telestyrelsen, that is itself pragmatic and even-handed: although some entry assistance is given to aspiring competitors, this support is relatively modest and is likely to be short-lived. In marked contrast to many other operators, Telia has almost complete freedom to rebalance tariffs;
- Although early competition in fixed services has so far been primarily on the basis of price differentials, the likelihood is that the pattern will, sooner or later, begin to follow the experience of the US long-distance market, where market share is gained or lost not on actual price differentials, but on the basis of perceived price differentials and on actual marketing prowess. Both will tend to stimulate growth in the overall market, to the advantage of all players, as the experience of GSM competition has so powerfully demonstrated;
- As the dominant operator, and likely to remain so in the local loop for the forseeable future, Telia will derive significant compensation for the loss of long-distance and international market share from the growth in interconnect revenues. As illustration of the structural shifts taking place in the company's sources of income, and according to our estimates, by 1998, Telia is likely to be deriving more income from interconnect revenues than it does from international services —even if the bulk of current interconnect income represents inter-company transfers from its own Telia Mobitel subsidiary;
- The Swedish consumer has tended to be an 'early adopter' of new technology, and is likely to continue to be receptive to new applications and services. Telia has already begun the necessary restructuring of its domestic business in order to be able to develop and take advantage of new possibilities for value-added and content-rich services. Its significant 50-60% share of the highly-penetrated Swedish cable TV market gives it valuable experience in the provision of consumer entertainment and information services.

The Risks

Sweden has embarked on a bold programme of telecommunications market liberalisation, creating the conditions for a level of competition that is already bringing about rapid shifts in market share. While Telia is probably better placed to face this competitive challenge than virtually any other European operator, the risk remains that the pain of competitive market-share loss might be felt by Telia long before the compensating effect of general market expansion becomes apparent — if indeed it ever does. In this regard, the risk Telia faces can be seen as the risk facing any pioneer. The company's first-quarter results may be a precursor of tough times to come — revenues were virtually unchanged at SKr 9,558 million, while EBITDA and EBIT margins fell six and nine percentage points respectively, to 36% and 14%.

notices to more than 2,000 employees and cut its investment budget by SKr 2 billion. The original price-cap formula was subsequently replaced by RPI-1%. Although this might appear somewhat generous by comparison with other price-cap agreements in Europe and the US (see Table 5), Telia's formula applies only to a very narrow range of services, specifically single-line business and residential customers: together these account for approximately two-thirds or almost SKr 20 billion of fixed telephony revenues. If allowance is made for larger customers, and particularly for the international and long-distance component of its telephone service, then the effective price deflator (set by the market rather than by the regulator) would appear significantly higher.

Relative to the base year of 1992, 1995's price change represents a degree of under-utilisation of Telia's full theoretical allowance under the price-cap formula. The actual change — a 3.1% nominal price reduction — represents an annualised price reduction of SKr 700 million, clearly indicating the extent to which commercial market as well as political pressures provide the real constraint.

Table 2
Price Rebalancing

(%)	1/1994 Changes	1/1995 Changes
Call Charges		
Local	+25.0	+29.0
Long Distance	-6.0	-18.0
International	-2.0	-12.0
Overall Call Charges	-2.5	-5.3
Rental Charges		
Business	+3.0	-
Private	+12.0	-
Overall Rental Charges	+9.0	N/C
Other Charges		
Private Connection	-14.0	-
Private Move	-37.0	-
Private Transfer	-47.0	-
Business Connection	N/C	-
Business Move	-57.0	-
Business Transfer	-47.0	-
Total Other Charges	-26.0	N/C
Total	-0.4	-3.1
Broken Down into		
Business	-1.7	-5.1
Private	+1.0	-1.7

N/C = No Change *Source: Company data*

Rebalancing

It is questionable whether price rebalancing remains an area of real difficulty between Telia and the government in their discussions on the restructuring, and potential privatisation, of the telecommunications sector. Telia's position on the subject has been consistent. Facing the prospect of new licensed competition in the form of Tele-2, BT/Concert, France Telecom, and a host of smaller players, the company does not believe it should be made artificially vulnerable by maintaining an unjustified and archaic imbalance of prices between local and long-distance services, and therefore between the domestic and the larger business customer. It has therefore consistently wanted there to be no effective restriction on rebalancing.

In the event, Telia has achieved a reasonable measure of rebalancing, broadly in line with its own three-year assumptions of 1993, which looked to a 5% annual reduction in domestic long-distance charges and a 10% per annum reduction in international rates. Since then, the company has achieved two major price changes — at the end of 1993/beginning of 1994, and again at the beginning of 1995. The major elements of the changes are detailed in Table 2.

As can be seen, local call charges have been raised by a cumulative 55% since the end of 1993, a rebalancing of tariffs that could perhaps be argued to be consistent with Telia's request that year for a 250% increase — assuming an extended timescale for implementation, and assuming declining local exchange prices.

The principle of price rebalancing has been supported consistently by the regulator, and there is no formal restriction on rebalancing written into the price cap (unlike BT, which has for years been subject to a sub-cap control on rebalancing). However, the practical reality is somewhat different. The director general of the NTA has said that he believes the process of rebalancing will be complete by the end of the current Contract period in 1996. This means after one more round of price changes — which seems somewhat at variance with Telia's thinking.

Telia's Mini Tariff was introduced in 1994 as a low-user option, at the behest of the regulator: in return for a 30% reduction in the rental charge — SKr 167 versus SKr 247 — call charges are doubled. Telia's break-even is around 80 calls per quarter.

The reduction in installation and other one-off charges is particularly interesting as it demonstrates the company's sensitivity to public criticism. Telia felt it could not justify such a high charge as the process of reconnection had become an almost entirely software-driven function. Other less altruistic reasons also applied, and it is fair to say that the reduced connection charge was also partly intended to stimulate new subscriber growth after the stagnation of 1993.

Also worthy of comment is the introduction of calling plans, whereby consumers qualify for a range of tariff discounts. There are a range of calling plans, which offer volume-related discounts on payment of a higher monthly fee. There are approximately 60 different calling plans in existence in Sweden today — evidence of the extent to which Telia and its competitors have sought to segment the market.

Telia's Friend & Family package has proven particularly effective in the business market, but perhaps surprisingly it has achieved less penetration in the residential segment. Telia's calling plans were introduced only a couple of days after Tele-2 started its own switched service, which forced Tele-2 to cut again in order to be able to guarantee cheaper rates than Telia.

What will replace the current price-cap formula when it expires in 1996? Again, there is some debate. In Telia's view, discussions on a new price cap are likely to take place in 1996, and the outcome is likely to be somewhat harsher than the present regime. However, according to the NTA, there is little significance to the 1996 Contract expiry date, other than its political and symbolic effect. Politicians were worried about the effect on the consumer of unbridled competition. In the NTA's view, there is very unlikely to be a new Contract after 1996 — the need for it will have been obviated by the fact that Telia will have completed its tariff rebalancing programme (it has one more rebalancing step to go before then). As the director general suggested, there will be little need for a formal mechanism to provide public reassurance, as Telia is always likely to have some of the lowest tariffs in the world.

Interconnect

The resolution of both the price rebalancing and interconnection issues is critical to the development of telecommunications competition in Sweden. In general, how these issues are resolved depends on the objectives of individual governments, although there is increasingly a European dimension to be considered.

The issue of interconnect is complex and subtle. The 1993 Telecommunications Law allows interconnect charges to be levied by Telia on other competing operators, but provides no framework for establishing terms of interconnection, and grants no powers to the NTA to enforce its own judgements: the NTA's only permitted role, and only then at the request of both negotiating parties, is that of mediator.

As in other countries, controversy surrounds interconnect. For example, the 1993 Act states that, in calculating an appropriate access charge, Telia should be allowed to take into its costings its own access line deficit (that is, the revenues foregone by not having been able to rebalance its tariffs towards costs).

The NTA believes that, in principle, Telia should not charge for an access deficit because there is no formal restriction on rebalancing: Telia agrees with this argument in the long run, but in reality still feels it is justified in imposing an access deficit fee because current tariff patterns reflect past history, not current competitive reality.

Until last year, the long-distance and international operator Tele-2 had an interconnect agreement with Telia, paying SKr 0.65 per minute, representing the internationally agreed part of the accounting rate for national extension, adopted for traffic between operators in the Nordic countries. From 1 July 1993, and as per the 1993 Act, the price for interconnect had to be based on fully-allocated costs. Negotiations on interconnection started between Telia, the three mobile operators and Tele-2 at the end of 1993, with agreements being reached with the mobile operators at the beginning of 1994 at a basic level of SKr 0.27 per minute per single segment and SKr 0.34 per minute per double segment (national carriage). At the time, no agreement could be reached with Tele 2 and the matter went to the NTA for mediation. The NTA came out in favour of Telia except that, as previously noted, it did not accept the case for an access deficit component. As a result, in the spring of 1995 Telia and Tele 2 agreed interconnect terms on the basis of SKr 0.235 per single segment and SKr 0.305 per double segment.

At present, and according to the contract with the Swedish government due to expire in 1996, Telia cannot recoup the cost of Universal Service Obligations through interconnect charges. Although the issue is still under discussion, the attitude of the regulator appears to be that this cost will probably be shared by all market participants after the expiry of the present contract in 1996. This is directly in line with EU thinking.

Spectrum (Re)Allocation

One very important outstanding issue is that of the future rationalisation and re-allocation of the radio spectrum. Telia is dominant in the analogue mobile sector but now faces vigorous competition in digital GSM services from Comviq and Europolitan.

The decision to include three GSM operators, rather than the more conventional two as in other European countries, and to split the standard frequency allocation into three rather than two segments has had significant consequences for the operators: first, growth has mushroomed, spurred at least in part by the increased competition; second, the effective capacity has been limited by the diseconomies that come into effect with three operators rather than two.

GSM subscriptions have ballooned in the last year, and Comviq and Europolitan have requested that 900 MHz spectrum currently allocated to Telia's NMT 900 service should be progressively transferred to the GSM operators. It is a matter of lively debate in Sweden as to how and when this spectrum should be reallocated, with Telia clearly lined up against its smaller rivals.

The NTA's view is that radio spectrum represents a scarce and limited resource that needs to be rationed. Jan Freese's view appears to be that the aggressive promotional activity seen in 1994 was inevitably going to lead to capacity shortages: the corollary of this seems to be that operators should bear the consequences of their own marketing excesses.

The issue is complicated by the fact that the European regulatory dimension has to be considered — by the nature of things, GSM is a pan-European service — as well as the fact that other demands for radio spectrum are being made by companies such as BT and France Telecom.

The NTA's position on this is not yet clear, but we believe it is likely to represent some form of compromise, without the need for Comviq or Europolitan to go to the Courts for judgement, which would inevitably delay the process.

One possibility is that additional 900 MHz allocations could be made on the basis of current need and actual market shares. This would be to the advantage of, and probably explains the aggressive growth of, Comviq and Telia. Alternatively, the NTA might take the position that the existing NMT 450 and 900 services do provide valuable universal coverage and that technology should provide the solution, at least in the medium term. This could take the form of additional spectrum being allocated to existing and/or new operators in the 1800 MHz band, exploiting the inevitable growth of "dual-mode" handsets, as well as greater cell splitting in congested urban areas.

Competitive Environment

Telia faces extraordinary competitive pressures on many fronts, and is currently suffering shifts in market share that are virtually without precedent in Europe. According to Telia's own forecasts, it will have lost up to 15% of its swtiched telephone market within three years, and up to 40% of its international market. Meanwhile, Telia has gone from an overwhelming dominance of the mobile market in Sweden, to having to fight to maintain a 50% share of GSM growth. If the UK is the laboratory for telecommunications liberalisation, Sweden is the commercial field trial.

The telecommunications market in Sweden has always been the most open in the world, simply by virtue of the fact that until July 1993 it had not been necessary for any operator, including Telia, to have a licence in order to be allowed to offer a service. Moreover, unlike all its European equivalents, Telia has never enjoyed a statutory monopoly on its network or on network services, only a *de facto* monopoly. Additional incentives for competitors to become established were created in January 1992, when the Swedish government decided to allow third-party traffic, that is, the resale or sub-leasing of capacity on lines leased from Telia.

Table 3
Competitors to Telia

International Operators	BT/Concert/Tele Danmark France Telecom/Atlas Tele-2 *plus* multiple resellers
National Operators	Tele-2 BT/Concert/Tele Danmark/ Tele Norway France Telecom/Atlas
Cable TV Operators	Singapore Telecom
VAN Providers	IBM EDS GEIS SITA *plus* numerous others
Mobile Phone Operators	Comviq NordicTel/Europolitan

Source: Morgan Stanley Research

In June 1992, Tele-2 (60% owned by the Kinnevik group (SKr 230), and 40% owned by Cable & Wireless (421p) announced plans to compete with Telia in the international telephone services market, expecting to capture at least 10% of the market within five years. Tele-2 AB began operations in March 1993, initially offering an X-25 packet switched service, and began offering an international voice service in March 1994.

Since then the pace of change has accelerated. Telia has lost approximately 15% of the international market to Tele-2 since the latter began a switched service at the beginning of March 1994. When Tele-2 began competing on national long distance in October 1994, it gained 2% share of the market in the first two months. According to Telia's estimates, Tele-2 now has somewhere between 150,000 and 200,000 subscribers on its international "007" service.

The competitive threat is not confined to a single player, unlike the UK where for the seven years there was an official duopoly policy. In Stockholm, Telia estimates there are some 25 competitors, half of which could claim to be value-added service providers or operators, rather than mere call-back companies. Table 3 lists the principal competitors that Telia faces across the telecommunications spectrum.

Of the major global alliance players (see Unisource section below), the most active and immediately serious threats, aside from Tele-2, are BT and France Telecom. Both have publicly-stated ambitions to become the number two operator in Sweden which, as Tele-2 already enjoys that distinction, suggests that competitive pressures are going to be intense.

France Telecom has been a threat for some years, having come to prominence in 1991 when it outbid Telia for the datacommunications contract of the Swedish Treasury Ministry. That loss that precipitated Telia's entry into the joint-venture with PTT Nederland that ultimately became Unisource. France Telecom has for some years been aggressive in its pursuit of international contracts, with the technical excellence of its Transpac X-25 offering opening doors, its willingness to offer extraordinarily advantageous prices serving to close doors to other competitors.

British Telecom has only relatively recently become active in Sweden, but its conviction appears to have been strengthened since it signed Tele Danmark and Telecom Norway as Scandinavian distributors of Concert services. BT will be working with both companies in a joint assault on the Swedish market.

Although neither France Telecom nor British Telecom have so far gained significant market share in Sweden, the threat that they pose in the longer term is evident. BT's and FT's switched-data services — Tymnet and Transpac respectively — have been described by Telia's management as "operating and regulatory time-bombs": gaining credibility with customers before BT and FT are in a position to offer the full range of voice-and-data, national and international services.

Telia expects to lose 20% of its long distance and international business to Tele-2, and a further 20% to other competitors by 1996. Although this might appear to represent a worst-case scenario, Telia claims to have lost 15%-20% of its long-distance and international business already (as at March 1995) to a range of operators including Tele-2. Table 4 gives some idea of Telia's own expectations for market share losses over the next three years for the major categories of public telephony. It makes sober reading.

Mobile

Sweden has for years been in the vanguard of the development of mobile communications. Having achieved the distinction of becoming the most highly penetrated of any markets, in the last two years it can now also boast having become one of the most competitive. In that short period, the previously dominant provider, Telia, has found itself in the position where it now has to fight to retain what it feels to be its due, 50% share of the new GSM market.

Previously, the competitive threat mounted by Comviq, the second NMT operator, was more token than real, the combination of spectrum shortage and financial constraint relegated it to a position of distant second to Telia Mobitel.

The decision to award GSM spectrum equally to Telia, Comviq and to Nordictel dramatically levelled the playing field for the competition. Although splitting the GSM allocation into three rather than the more usual two bands could be viewed as being less than optimal in respect of spectrum utilisation, it has nevertheless had a powerfully stimulative effect on overall market competitiveness.

Growth in GSM subscriber connections began to soar in early 1994 when Comviq began a commission war, raising the dealer bonus to around SKr 4,500 per net subscriber addition, thereby allowing GSM handsets to be virtually given away. (It is worth noting that mobile tariffs are generally so low in Sweden as to preclude sufficient margin for UK-style service providers to exist profitably: a dealer's income must therefore derive almost entirely from commission payments from the network operators.)

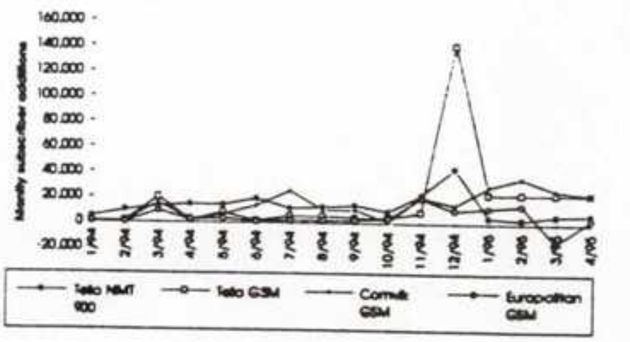
Although Comviq initiated the commission war, Telia was almost bound to respond, given that the Telia Board had publicly committed to maintaining a minimum 50% share of the GSM market. Europolitan responded, although to a less extreme extent, with majority shareholders in the form

Table 4
Market Share in Sweden

(%)	1994	1997E
Access	100	90-95
Local calls	100	85-95
Traffic to Mobile	100	80-90
National	95	75-85
International	85	60-70
Total PSTN	98	80-85
Mobile	94	70-80
Private Circuits	90	70-80

E=Company Estimates *Source: Company data*

Figure 1
Mobile Market Growth (1993 to Date)



Source: Fintech and Morgan Stanley Research of Vodafone and Airtouch exerting a restraining discipline, with no pre-conceived market share ambitions, and in the belief that a stronger direct sales force than Comviq would allow higher quality and more profitable growth than Comviq was ever likely to achieve.

In December 1994, Telia reduced commission rates to previous levels, and Europolitan followed from 1 January 1995. It is not clear when Comviq reduced its commission rates but it was probably in March 1995. Figure 1 illustrates the dramatic pick-up in monthly growth rates during 1994, as well as the subsequent relative slow-down.

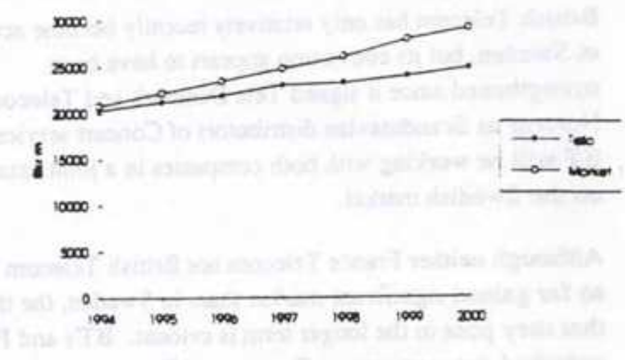
Implications for Telia

Some 120 years of a 'natural monopoly' telephone operation is giving way to a fully competitive market in the space of a couple of years, a significantly faster rate than virtually anywhere else in the world. What effect does this have on Telia? In the following sections I discuss the two principal aspects of Telia's competitive response:

- The strategic international partnership with PTT Nederland, Swiss Telecom, Telefonica de Espana (Pta 1,610) and AT&T in Unisource/Uniworld, aimed both defensively and offensively; and
- The restructuring and refocusing of Telia's Swedish operations to optimise its domestic offering.

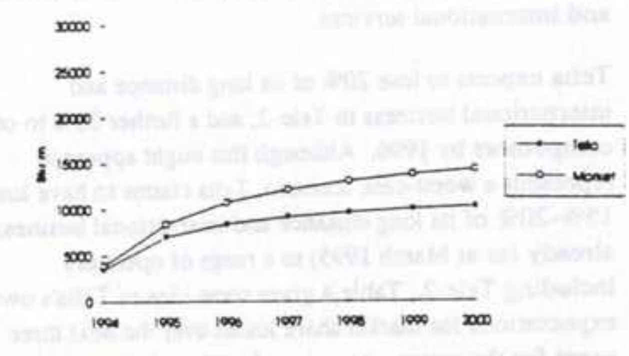
In the final section, I also attempt to assess the impact of intensifying competition on Telia's earnings. Figures 2 and 3 summarise my expectations for changes in market growth and market share over the next five years, for fixed and mobile services.

Figure 2
Fixed Market Forecasts



Source: Morgan Stanley Research Estimates

Figure 3
Mobile Market Forecasts



Source: Morgan Stanley Research Estimates

Table 5

Competitive and Regulatory Structures in Telecommunications

Market	Basic Services	Principal Price Control	Mobile Services
Sweden	Competitive	Price cap of RPI-1%	Three GSM operators
Netherlands	Monopoly	Four-year price cap of RPI-0%	Two operators
Germany	Monopoly	Annual bargaining; price cap is being discussed	Three operators
France	Monopoly	Price cap rising to RPI-5.5%	Three operators
UK	Competitive	RPI-7.5% on BT	Four operators
Spain	Monopoly	Annual bargaining; price cap is not presently being discussed	Two operators
Italy	Monopoly	Annual bargaining; price cap is expected to be introduced	Two operators
US	Competitive	Price cap on dominant supplier	Three-plus operators;

Source: Morgan Stanley Research

Telia's First Strategic Response — Think Global

The international segment is where Telia's greatest and most immediate competitive threats and opportunities lie. Unisource is the company's strategic response. Founded on impeccable business logic, Unisource has already demonstrated its competitive and technical credentials and, with its relationship with AT&T and expanding range of interests across Europe, it promises to be one of only two or three really significant players in global telecoms. Not only is Telia's domestic position thereby strengthened; it also has the opportunity to export its efficiency to an immeasurably larger market.

In October 1991, PTT Telecom and Telia announced the formation of a joint-venture company called Unicom (the name was later changed to Unisource to avoid trademark infringements). In 1992, the Swiss PTT announced that it would join the consortium, initially pledging its satellite services operation but ultimately committing its entire international data, mobile and card services alongside those of Telia and PTT Telecom. Telefonica de Espana signed a memorandum of understanding in 1994, and was expected to have joined as an equal 25% owner by the beginning of April 1995. If there has been a delay, it has probably been due to nothing more sinister than the complications arising from the subsequent announcement by AT&T in December 1994 that it would take a 40% stake in a new venture, Uniworld, that would itself become a member of AT&T's WorldPartners organisation.

Raisons d'Etre

Telia's two-pronged strategy — to defend its domestic market position while expanding abroad — is, on the face of it, indistinguishable from that of most other developed world telcos. The difference is in implementation, and Unisource is a critical component of both its domestic and international strategies.

There are a multitude of reasons why telcos have been forging alliances in the last two years. Customers are demanding more of their telecommunications providers than can be provided by the traditional local telco. Customers themselves are globalising: world trade barriers are falling, international trade is expanding, and the structure of trade is also changing. In the 1980s, overseas sales of multinationals doubled, from $2.4 trillion to $4.8 trillion, and in the process became more important than exports. Customers are becoming more demanding, in respect of products and suppliers, requiring greater quality and choice in both.

Not only have larger corporations increasingly sought to bring telecommunications "in-house" for reasons of control, flexibility and price; global service providers, such as Swift and SITA, have also emerged to address specific industry requirements (both of these providers are examples of customer-led initiatives, responding to the inflexibility of telcos). To avoid becoming mere "bit-carriers", telcos have recognised that they have to recapture some of this telecommunications high ground.

The first and most powerful driving force is fear — the threat posed by untrammelled competition in the domestic market. As discussed in the domestic section, Telia's involvement in Unisource/Uniworld represents an extremely powerful insurance policy: it substantially increases the resources at Telia's (and its customers') disposal; it extends the geographic footprint for Telia's domestic customers, and provides assurance of a common set of standards and protocols — the much sought after 'seamless service'.

The other main motivator is ambition — the desire to exploit current liberalisation trends by taking shares in foreign markets to compensate for the loss of domestic share — expanding the telco's field of influence from the traditional domestic base, and thereby exploiting relative inefficiencies in foreign markets. From the telco's perspective, therefore, entry into a global alliance offers a number of potential benefits:

- To fill gaps in a product or service range, as well as acquire new skills — BT's access to MCI's marketing and billing expertise, for example, or Unisource's access to SITA's customers;
- To maximise economies of scale and scope — shared procurement, shared cost of national build-outs, pooled software research and development, the development of consumer brand awareness;
- To increase a telco's market power, by eliminating a competitor, by raising the barriers for other aspiring entrants, and thereby slowing the rate of market share loss;

- To enter new geographic markets, as the only way possible or practicable to overcome political/cultural/entry-barrier hurdles; and

- To share risk — many of the changes being contemplated by telcos, such as the migration of the service offering from pure transport to content, represent bold leaps of faith.

Accounting Rates

This brings us to consider one of the less obvious, but no less significant, motivations for forming global alliances — the desire to control international traffic flows.

Again, there are both defensive and offensive objectives at work here. From a defensive viewpoint, Telia has been trying to reduce accounting rates for years (with other relatively efficient network operators) and progress has been painfully slow. The artificially high level of accounting rates has set an equally artificially high floor on collection rates, or retail prices. This has resulted in two forms of arbitrage, both of which progressively undermine the accounting rate system and distort an already distorted economic construct even further.

Medium and large-sized corporations have been making increasing use of international private networks, both to improve the reliability of inter-office communications, and also to cut costs. Traffic on an international private circuit is essentially invisible to the telco that provided the circuit, and incurs no accounting rate charge. The telco has a legitimate interest in trying to persuade the corporate customer back on to the switched public network, in the interests of maximising scale economies, but is inhibited by the high level of accounting rates from reducing collection rates to a level that would be competitive with private circuit costs.

The second form of bypass is the relatively new phenomenon of 'call-back'. In this case, a phone call from a high-price country is made to an automatic switch in a low-price country. As soon as the identity of the caller is established, the call is terminated and the customer is then automatically 'phoned back from the low-cost country: as a result, the caller is therefore provided with international dialling, but at something nearer the low-cost country rate.

Using relatively efficient countries such as the US, UK or Sweden as the switching hub, resellers can avoid incurring accounting rates, and are thereby able to offer discount tariffs of up to 50-60%.

For the moment, the accounting rate system remains in place and it can be expected to do so for some years to come, given the extent to which the present system delivers substantial hard-currency subsidies to poorer and less efficient developing countries. As long as it does remain in place, Unisource can use its size to negotiate better accounting rates with correspondent countries and operators. On the critically important transatlantic route, for example, BT has a much better accounting rate agreement with the US than does Telia, for simple reasons of size and the volume of minutes that it can promise. By aggregating the international minutes generated by its four owners, Unisource can negotiate a better rate than any of its owners could do individually.

Similarly, Unisource can exploit a particular geographical advantage that it has — every important country in Europe has a physical border with at least one if not two of Unisource's owners. This allows traffic to be transported across Europe with the minimum of transit costs being incurred.

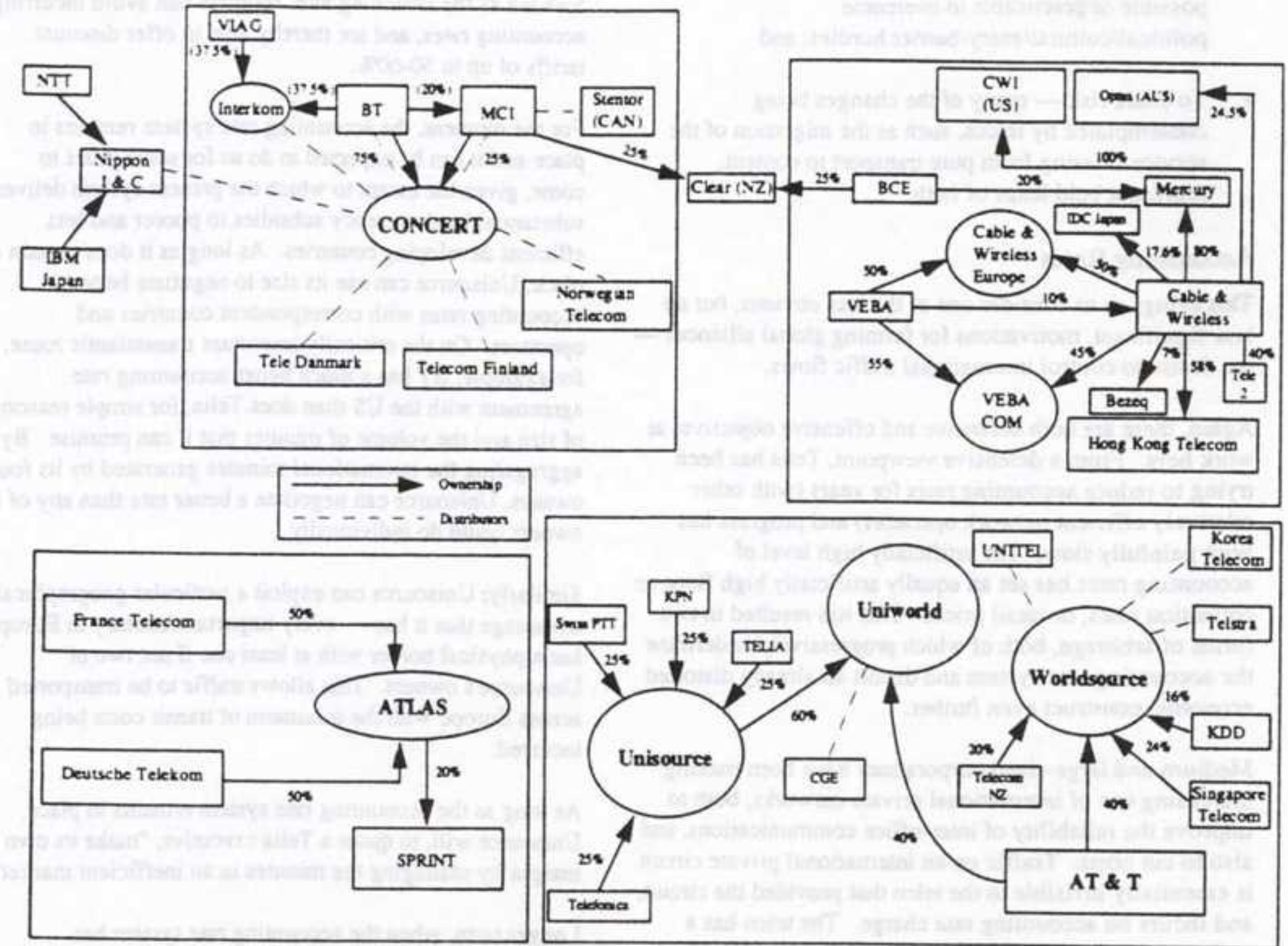
As long as the accounting rate system remains in place, Unisource will, to quote a Telia executive, "make its own margin by managing the minutes in an inefficient market".

Longer term, when the accounting rate system has eventually given way to a system whereby the originating country keeps all of the collection fee, passing none to the terminating country, the key to competitive advantage will, more than ever, be the sheer volume of international minutes that an operator controls. Hence the recent moves to consolidate among international operators.

What Is Unisource Now and Where Is It Going?

Unisource is a joint-venture, owned equally by Telia, PTT Nederland, the Swiss PTT and Telefonica de Espana . Each partner has contributed (or in Telefonica's case, is in the process of contributing) various elements of their respective product offerings: data and managed network services, VSAT services, phone card services and so on.

Figure 4
Global alliances



Source: Company data, Morgan Stanley Research

According to its recently published 1994 accounts, Unisource more than tripled revenues to $600 million, pre-Telefonica. It appears that the original plan for Telefonica to contribute its entire data services to Unisource has been modified somewhat; we can only assume that difficulties, encountered when negotiating issues such as valuation and consequent balancing payments, proved insuperable. In the event, Telefonica is contributing only its VSAT business at this stage.

The national operations of the original founders, Telia and PTT Telecom Nederland, were initially injected into Unisource Business Networks (UBN) to create a cash flow to finance European expansion. UBN initially offered seamless data networks and VSAT satellite services. The aggregate turnover of UBN is estimated to be SKr 3-4 billion, and represents the largest data operation in Europe.

Expansion into voice service will depend on the speed and direction of European deregulation, but is inevitable, in our view.

Unisource can be regarded as the vehicle for the European operations of its four owners. However, its role has evolved somewhat with the agreement to create a 60/40 joint-venture with AT&T. Figure 4 sets out my best understanding of the new organisational structure within Unisource. Although the structure appears complicated, the logic is relatively clear:

The Unisource organisation, equally owned by KPN/PTT Telecom, Telia, Swiss Telecom and Telefonica, represents the vertical integration of their respective 'supply-side' operations. In particular, this is the vehicle for a common network platform, for common signalling and software standards and protocols, and for common customer-care systems.

As presently organised, Unisource develops and markets products and services through three distinct entities — Unisource Card Services, Unisource Mobile, and Uniworld, the 60/40 joint venture with AT&T. Uniworld also ensures commonality with AT&T's World Partners confederation.

In the case of Uniworld, specific country operations typically will be provided by an entity jointly-owned by Uniworld and the country distributor. In simple terms, the Uniworld country operation will provide the network intelligence, services and customer-support systems, while the local partner will provide access to low-cost infrastructure.

In turn, individual country sales and service will be provided through the sales and service organisations of the country partner. Depending on the country, these distributors will either be one of the four Unisource shareholders, AT&T, or other members of the World Partners organisation. In the case of a third-party country like France, the local partner is Compagnie Generale des Eaux (FFr 5620).

Separate from Uniworld, and more like 'sister' organisations, will be two other customer-facing units: Unisource Mobile, which will be responsible for developing mobile operations outside the respective home countries of the parents (these will continue to be managed by the parent companies). Unisource Mobile is understood to be looking to become a pan-European service provider, and has recently acquired a German service provider. Unisource Card Services will provide calling card services on a global basis, pooling the individual efforts of the parent companies. Both have the potential to become the basis for the development of global branded services, to support Unisource's push into the consumer market.

Strengths and Weaknesses

The relative merits of each alliance can be judged according to a number of criteria, including size, geographic reach, technical competence, and effectiveness of structure. I believe Unisource/Uniworld scores consistently highly on all measures.

Size In sheer volume terms, Unisource/Uniworld leads the field. As can be seen in Table 6, it dominates in terms of aggregate international minutes. It also dominates in respect of aggregate parent company revenues and free cash flow.

According to Morgan Stanley calculations, as well as representing 15% of transatlantic traffic, the Unisource members together account for around 24% of all intra-European traffic (EC plus EFTA).

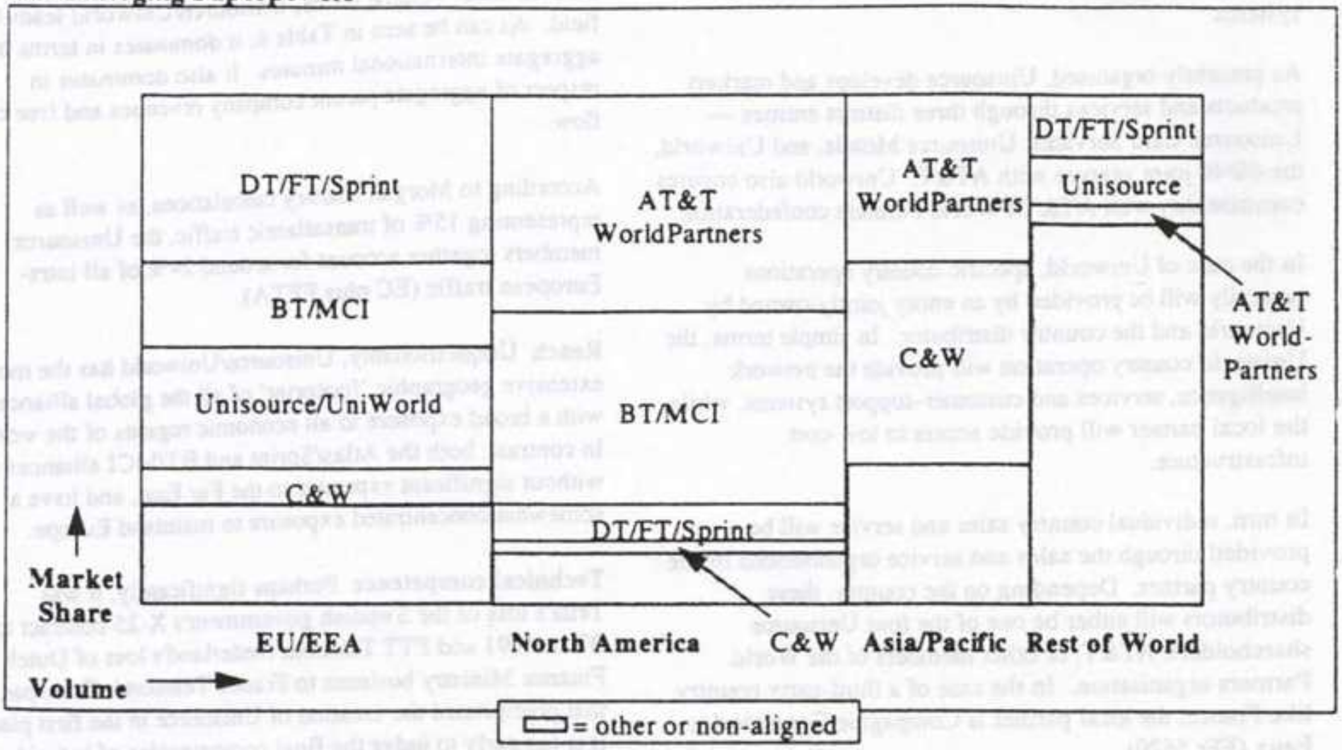
Reach Unquestionably, Unisource/Uniworld has the most extensive geographic 'footprint' of all the global alliances, with a broad exposure to all economic regions of the world. In contrast, both the Atlas/Sprint and BT/MCI alliances are without significant exposure to the Far East, and have a somewhat concentrated exposure to mainland Europe.

Technical competence Perhaps significantly, it was Telia's loss of the Swedish government's X-25 contract to BT in 1991 and PTT Telecom Nederland's loss of Dutch Finance Ministry business to France Telecom's Transpac that precipitated the creation of Unisource in the first place. It is too early to judge the final competencies of individual alliances, but the successful award of the EVUA contract and other subsequent managed-network contract awards is powerful evidence of the basic competitiveness of the alliance, strengthened further through the Uniworld association with AT&T.

Effectiveness of Structure It could be argued that the multiplicity of interests behind Unisource/Uniworld (five equity partners), and the confederate nature of the WorldPartners organisation, might count against the alliance when customer responsiveness and flexibility will be critical to differentiating between competitors. The risks in swapping one national bureaucratic structure for a multicultural, multinational bureaucratic structure are clear, particularly when set against the relatively simple structure supporting the BT/MCI alliance. However, the Unisource management is alive to the issue and, in any case, it could equally be argued, in a traditionally conservative marketplace, that its strength lies in its multiculturalism, the small size of its European partners, and the collaborative rather than combative stance adopted by its American partner.

Figure 5

The Emerging Superpowers



Source: Analysys

Will It Work?

In its short history, Unisource has emerged as an extremely credible player on the world stage.

First, it was structured at the start as an arm's-length joint-venture between three approximately equal players, each of which effectively committed its entire major account futures to the success of the venture.

Second, the partnership mentality that led to Unisource's creation may well be a positive competitive strength in the customer's eyes, contrasting with the 'go-it-alone' mentality of BT Concert.

Third, although there are cultural differences between the four partners, reflecting four national characteristics, this does not extend to the commercial arena, where there is a commonly shared view of the objectives.

Fourth, senior management is deeply committed to the success of the venture. PTT Telecom's Ben Verweyen, the CEO of Unisource, apparently spends more than half of his time on Unisource matters, and has established a reportedly excellent working relationship with Unisource's Chairman, Telia's Lars Berg.

Table 6

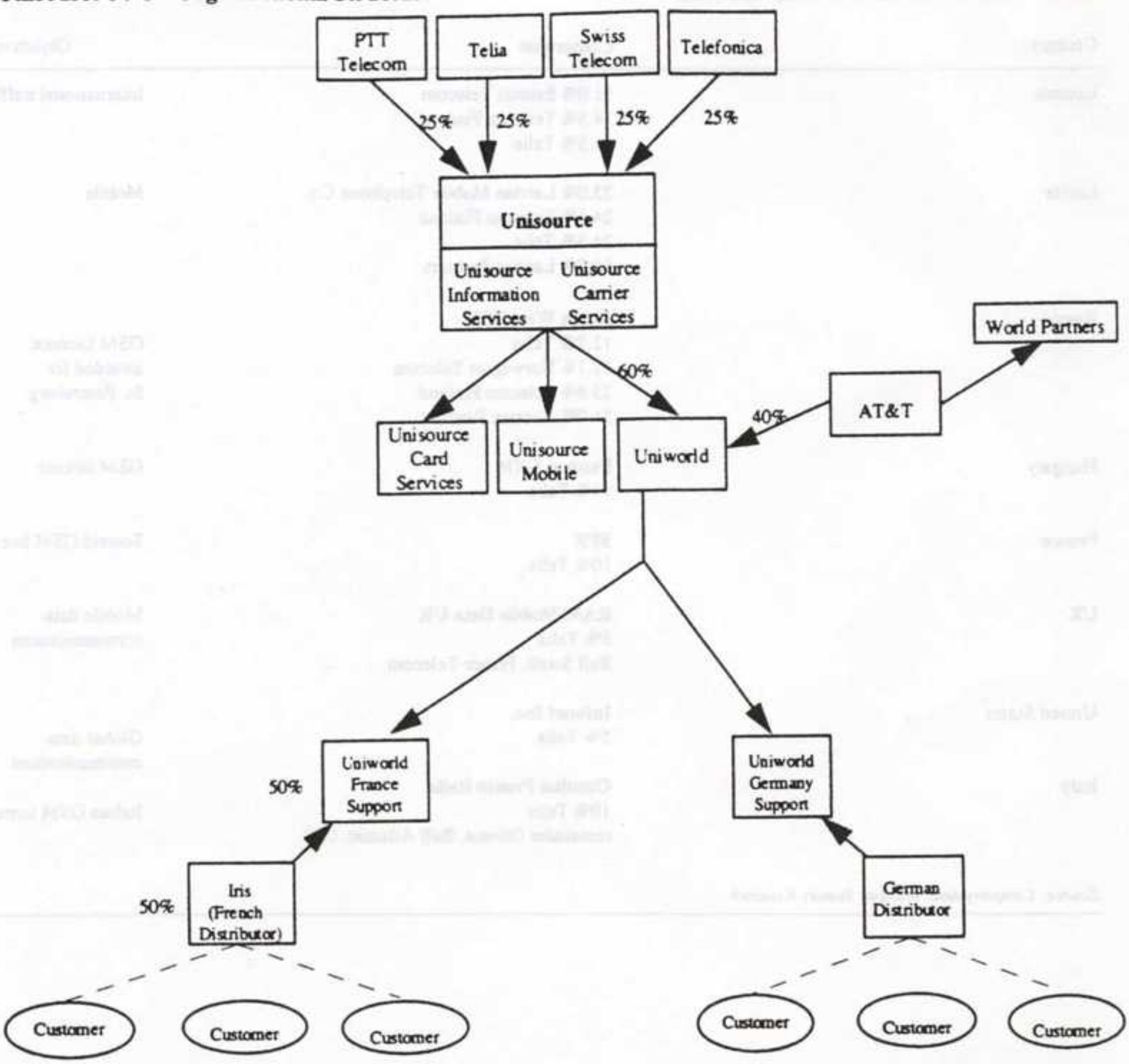
Top 15 International Traffic Carriers, 1991

Rank	Carrier	Outgoing Minutes (million)
1	AT&T	5,780
	(Unisource	3,487)
2	Deutsche Telekom	3,146
3	British Telecom	2,170
4	France Telecom	1,921
5	Telecom Canada	1,420
6	Swiss PTT	1,356
7	Cable & Wireless	1,291
8	MCI	1,132
9	Italcable/Iritel	1,045
10	Netherlands PTT	905
11	KDD	764
12	Belgian PTT	731
13	OTC	620
14	Telia	615
15	Telefonica	611

Note: Unisource entry aggregates international minutes from Switzerland, Netherlands, Sweden and Spain *Source: IIC, 1991*

Figure 6

Unisourse's New Organisational Structure



Source: Company data, Morgan Stanley Research

Table 7
Telia: Current International Investments

Country	Consortium	Objective
Estonia	51.0% Estonia Telecom 24.5% Telecom Finland 24.5% Telia	International traffic
Latvia	23.0% Latvian Mobile Telephone Co. 24.5% Telecom Finland 24.5% Telia 51.0% Latvian Partners	Mobile
Russia	**North West GSM** 12.7% Telia 12.7% Norwegian Telecom 23.6% Telecom Finland 51.0% Russian Partners	GSM Licence awarded for St. Petersburg
Hungary	**Pannon GSM** 14% Telia	GSM licence
France	**SFR** 10% Telia	Second GSM licence
UK	**RAM Mobile Data UK** 5% Telia Bell South, France Telecom	Mobile data-communications
United States	**Infonet Inc.** 5% Telia	Global data-communications
Italy	**Omnitel Pronto Italia** 10% Telia remainder Olivetti, Bell Atlantic, CCI	Italian GSM licence

Source: Company data, Morgan Stanley Research

Telia's Second Strategic Response - Act Local

Consistent with Unisource's slogan of "think global, act local", Telia is restructuring its domestic operations in such a way as to not only cut operating costs (it is already one of the lowest-cost producers in Europe) and to strengthen its relationships with large, medium and small customers, but also to prepare itself and its customers for the shift up the value chain.

Defending the High Ground

Telia sees threats to its customer base on many fronts. The first wave of competition has been focused on Telia's multinational customers: from a new entrant's perspective, they are the easiest to identify; they — or at least their telecommunications purchasing function — tend to be geographically concentrated; and they are the telco's most profitable group of customers, given their disproportionate use of international and long-distance services.

Although, as a group, Telia's 100 largest accounts together account for only 10% of overall revenues, it is nevertheless critical for Telia to defend this customer base. As soon as BT/Concert or France Telecom have won access to a customer for international data or voice, the foot is in the door for supplying the whole range of services thereafter — domestic long distance, local and value-added. Clearly, the multinational client also represents an important beachhead for competitors such as BT and FT — success in this segment provides a foundation for the move downmarket.

As discussed in the previous section, Telia's participation in Unisource is clearly fundamental to the credibility of its response to competition at the high end of the market. Megacom, the unit which is focused on delivering the range of Telia's and Unisource's services to its top 100 customers, is critical to the practical implementation of its competitive response.

The top 100 accounts that are serviced via Telia's Megacom unit are all likely to have close relations with Telia, as well as with its principal competitors, Tele-2, BT and FT. For this reason, it is relatively straightforward for Telia to defend these customers, without massive change to its own organisational structure or to the way it carries out its business. Although the risk is forever present that an aggressive France Telecom, able to do what it likes at the margin in respect of pricing, might cut rates to win customers, Telia is in a relatively strong position to defend this core customer segment.

Defending the Middle and Low Grounds

Competition in Sweden is not, however, directed solely at Telia's largest, individually most profitable and most obvious customers. It is also focused on Telia's small and medium-sized business customers: these can be very profitable and high volume. Because Telia has not traditionally had close sales and marketing relations with these customers (as is typically the case with telcos), and because they are somewhat less sophisticated and demanding than the large multinationals, they are relatively susceptible to the attention of competitors and can therefore be picked off relatively easily.

Given the ease of access that the customer enjoys to alternate carriers in Sweden — viz. Tele-2's '007' access code — the competitive threat is not confined to Telia's business customers. Tele-2 has made rapid inroads to the private customer base on the strength of its '007' brand and of mass-media advertising exposure; both British Telecom and France Telecom are also expected to target Telia's residential customers.

How is Telia reacting to this massive competitive assault on its traditional customers? I categorise its domestic response as 'The Three Cs' — Cost, Customer, and Content.

Costs

The combination of significant market-share losses and the increased functionality of the telephone network mean that Telia is having to undergo a significant restructuring of, and reduction in, its cost base. The company has instituted a voluntary redundancy scheme, offering the equivalent of one to two years' salary by way of compensation, as well as a number of re-training programmes. This initiative, like early retirement schemes such as BT's, has proven effective, but costly. From a total of around 78,000 in 1990, Telia's employee numbers had fallen to 32,000 by the beginning of this year, and a further reduction can be expected in the future.

This downsizing of the organisation is possible, despite Telia's already high level of labour productivity, by virtue of the changes taking place in the company's physical network, with 100% digitalisation expected by 1997, which has a dramatically reduced number (250) of switches. Plans to introduce intelligence into the network are also being accelerated, to reduce the cost base and increase the flexibility of the software production platform and to optimise the efficiency of the customer interface.

Customer

Telia has begun to reorganise its sales and marketing functions, to make them more local and responsive to individual customers.

Management believes that it takes several years for an organisation as traditionally monolithic as a telephone company to achieve a customer-oriented culture. The process of cultural change began in 1983, and management believes that it is less easy to implement when the business is shrinking as there is less scope to recruit to upgrade and acquire new skills.

It is not just at the routine sales level that organisational and employee cultures have to change, but also at the marketing level. Telia has to respond to a market that appears to be less responsive to conventional telephone concerns, such as network quality and reliability, than to the power of branding — viz. the success of Tele-2's '007' access code, supported by intensive advertising. It also has to structure itself for a consumer market that is inherently more volatile than the business segment.

Content

As the basic business of telecommunications becomes increasingly commoditised, so the pressures to move higher up the value chain increase.

The mobile business provides a very clear example of this. As discussed, Telia already has a significant presence in this area, with a market penetration of 15%. Within Stockholm, penetration has reached 30%. At these levels of penetration, there is already evidence of changes in consumer behaviour, as the mobile 'phone increasingly becomes the first and virtually only mode of telecommunications for an emerging generation of (particularly young) users. We can already see the result of this rise in mobile's significance, with the revenue from fixed-to-mobile 'phones having risen 35% in 1994 — and the margin going to the mobile operator. Mobile calls now generate the same revenues as Telia's entire international business and are growing considerably faster.

To illustrate how far Telia has already travelled in reducing its relative dependency on the increasingly commoditised telephone service, it is worth remarking that basic telephony now represents only 55-60% of total revenues. Telia's internal projections suggest that, sometime after 2000, existing business will account for only 50% of business — the other 50% will be entirely new services that do not exist in commercial form at present.

There are a number of initiatives that Telia is pursuing to increase the value-added component of its service. The company has acquired AU System, a Swedish company specialising in Internet interface services that is to target the school market. Information retrieval services are being sold as a value-added supplement to the mobile service. Tele Promoter is providing tailor-made solutions to larger customers, trying to avoid competing on price alone.

However, the real prospect for raising the value content of the telecommunications service package lies in the information and entertainment arena. In the old days of monopoly supply, Telia could not have dreamed of entering the business of content provision; however, the degree of vertical integration being exploited by its principal domestic competitor and the acquisition of Stockholm's Star TV by Singapore Telecom (S$ 2.77), forces Telia to consider it. To co-ordinate its approach to what is essentially a new and yet-to-be-defined market opportunity, Telia has recently set up a new Information Technology/Multimedia unit.

Telia starts out with a significant presence in conventional cable TV, with approximately 50-60% of a market that is already 70% penetrated. Svenska Kabel TV sells, markets and distributes TV entertainment and cable TV service in Sweden. Currently, more than three million households are passed by cable TV networks, representing approximately 75% of Sweden's 8.4 million population. Around 1.2 million households in Sweden were connected to Telia's cable TV networks in 1994, with Telia representing between 50% and 60% of the total market. Telia's principal competitor in Sweden is Cablevision, with a 20% share of the market. Approximately 139,000 of Telia's customers subscribe to pay-TV. Telia is the second-largest cable TV operator in Europe.

Swedish cable TV has been a completely free market since its inception in 1983. The first ten years of the industry's life has seen heavy capital expenditure and equally heavy losses. Investment in the network has been approximately SKr 1.5 billion since 1983. Telia's business became free cash flow positive for the first time in 1992, posted its first operating profit in 1993 and reported very good profits in 1994, thanks largely to cost cutting and selective price increases. At any given penetration rate, relative profitability is highly sensitive to pricing — in the 1980s, prices were held down in order to gain market share, volume and critical mass.

More recently, Telia, in common with other operators, has begun to institute price increases with reportedly relatively little difficulty, either in practical or regulatory terms. A churn rate of 10% per annum allows periodic contract renewals and, as the cable operator has to deal with only two very large housing associations, it is proving very easy to adjust contract pricing. The straightforward revision of subscription rates should provide a significant increase in profitability from this business.

In Sweden, the basic package of nine to ten cable TV programmes is typically included as part of an apartment's rental cost, at a bundled SKr 30-40 per month. Approximately 90% of cable subscriptions are for this basic service, although the system can expand to 30 channels.

Given already high penetration, the physical market-share game is pretty well over. The game now is for extra fee-generating services. The existing network is essentially one-way, so the opportunity to move to a fully interactive environment is limited without the commitment of substantial new investment. As an interim solution, Telia is test-marketing a video-on-demand service using DEC equipment. Technology is not the issue that is being tested, so much as customer demand — specifically, the consumer's willingness to use and pay for new services.

Given that the entertainment business represents a significant new departure for Telia it is likely to be looking for a strategic partner to share the costs and risks in developing the business. This is particularly the case elsewhere throughout the rest of Scandinavia, where Telia sees cable TV as a natural vehicle for competitive entry into telecommunications.

Organisational Change

We believe Telia cannot achieve all it wants to achieve in respect of 'The Three Cs' without undergoing radical organisational change. In a way, the company is blessed in a regulator, Jan Freese, who recognises this simple fact: that there is a "hell of a lot of change to happen within Telia".

Organisational change has been on-going since at least 1993, when the old Televerket became Telia. In 1994, a number of functional changes took place. The various international activities were restructured within Telia's International division. The Operator-Assisted Services division was transferred to the TeleRespons subsidiary (accounting for 2,662 of the 4,074 reduction in parent company headcount during 1994). The MegaCom division was transferred to the subsidiary Telia MegaCom.

Within the parent company, a number of nationwide operating units were formed — Telia Network Support, Telia Integration, Telia System Support and Telia Billing — to support the main operating divisions — Network Services, Telecom Services and International — working through the front-line activities of the eight regions in Sweden.

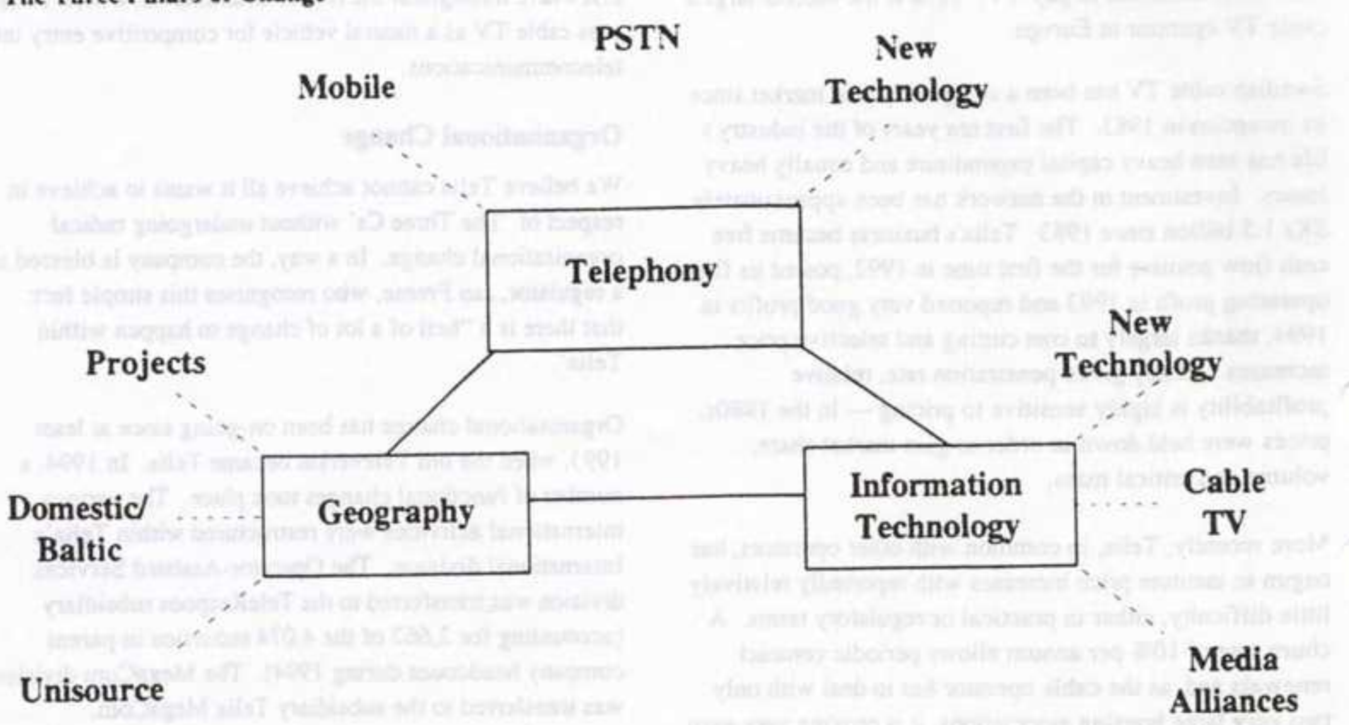
Looking to the future, the company plans a further significant reduction in the number of staff within the parent company — that is, within the main telephone company. The company's five levels of management are to be reduced to three or four (BT's Project Sovereign saw 13 levels reduced to six). In addition, Telia expects to break out the main telephone business along primarily functional rather than geographic lines:

National Network Operations
Product Company
Marketing and Sales

This model follows closely the expected emergence of carriers versus service providers, as articulated in the Analysys report "Global Alliances", 1995, and reproduced in Figure 8.

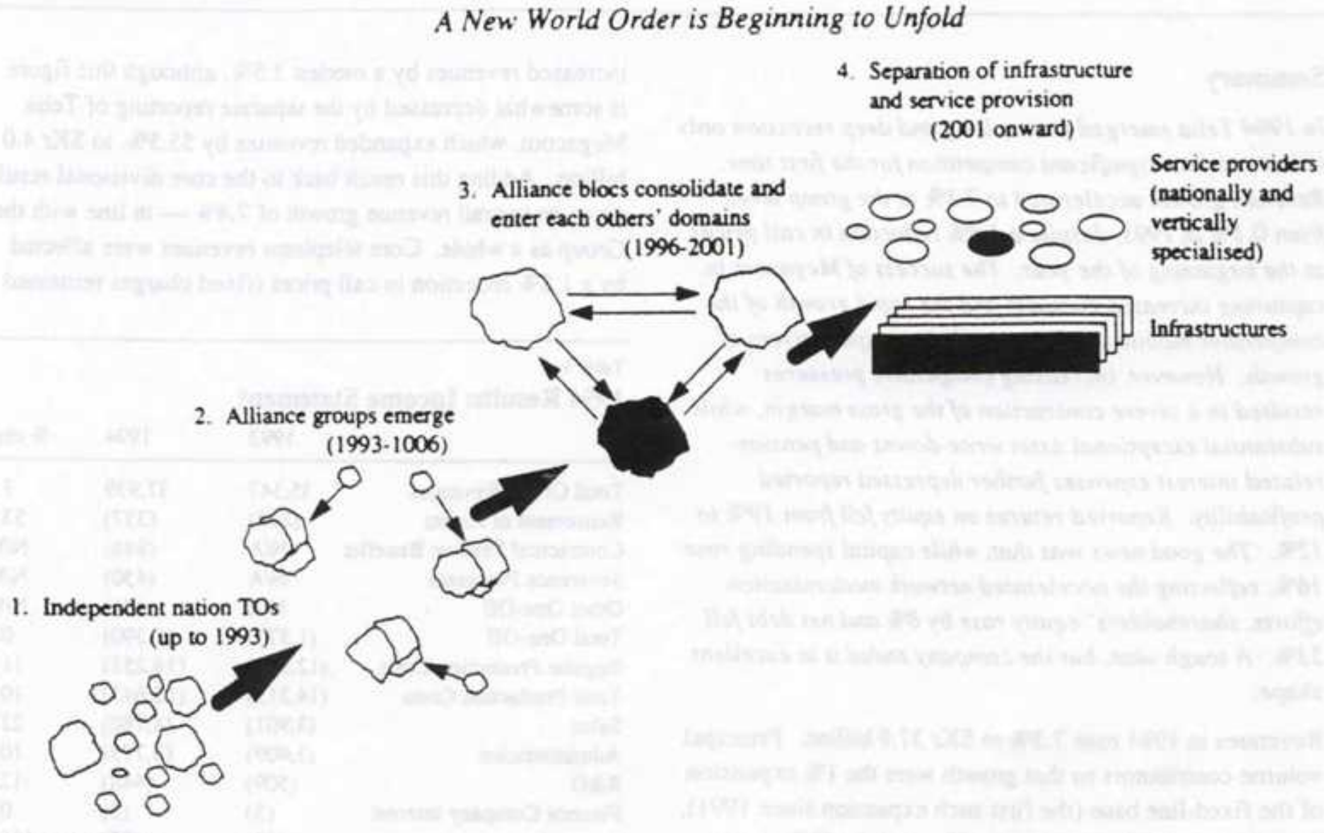
Figure 7

The Three Pillars of Change



Source: Company data, Morgan Stanley Research

Figure 8
Functional Separation



Source: Analysys

Although management's thinking is well advanced with respect to the future shape of the company, and although the company is close to being structurally capable of making the transition now, the political reality is that any radical reshaping of the company has to be delayed, for a number of reasons.

For example, there is already a compelling commercial case for merging the fixed and mobile activities, for both cost efficiency and customer reasons: not only is there significant duplication of costs, but the customer increasingly views the fixed and mobile offerings as part of a single service. More important still, Telia's competitors are merging their fixed and mobile offerings — for example, Tele-2 and Comviq. Telia's Megacom already sells mobile services, but the regulator appears somewhat nervous about the potential for anti-competitive behaviour when cross-selling: Telia did offer briefly combined subscriptions for fixed and mobile, but the Anti-Trust Authority was strongly opposed, prompted by complaints from Nordictel and Comviq. Although there is nothing in the Telecommunications Law, or competition law, to disallow cross-selling, the reality is more subtle than the law, and against it.

Telia Group: Recent Results

Summary

In 1994 Telia emerged from a long and deep recession only to have to face significant competition for the first time. Revenue growth accelerated to 7.3% at the group level, from 0.1% in 1993, despite a 1.8% reduction in call prices at the beginning of the year. The success of Megacom in capturing increased business and the rapid growth of the competitive mobile market were the principal drivers of growth. However, increasing competitive pressures resulted in a severe contraction of the gross margin, while substantial exceptional asset write-downs and pension-related interest expenses further depressed reported profitability. Reported returns on equity fell from 19% to 12%. The good news was that, while capital spending rose 16%, reflecting the accelerated network modernisation efforts, shareholders' equity rose by 8% and net debt fell 53%. A tough year, but the company ended it in excellent shape.

Revenues in 1994 rose 7.3% to SKr 37.9 billion. Principal volume contributors to that growth were the 1% expansion of the fixed-line base (the first such expansion since 1991), the 2.1% growth in domestic traffic, and the 50% rise in mobile subscriptions. Combined, the Telecom Services and Network Services divisions of the parent company increased revenues by a modest 3.5%, although this figure is somewhat depressed by the separate reporting of Telia Megacom, which expanded revenues by 55.5%, to SKr 4.0 billion. Adding this result back to the core divisional result gives an overall revenue growth of 7.4% — in line with the Group as a whole. Core telephone revenues were affected by a 1.8% reduction in call prices (fixed charges remained

Table 8

1994 Results: Revenue Breakdown

(SKr million)	1993	1994	% chg.
Network Services	23,850	24,527	2.8
Telecom Services	8,084	8,524	5.4
Inter-Company & Other	(2,525)	(3,538)	40.1
Total Telia Parent	29,409	29,513	0.4
Subsidiaries			
Telia Mobitel	4,609	5,247	13.8
Telia Megacom	2,569	3,995	55.5
Telefinans	2,313	2,127	-8.0
Fastighets	1,818	2,223	22.3
TeleMedia	1,788	1,823	2.0
Telia Data	1,434	1,537	7.2
TeleRespons	1,027	998	-2.8
Svenska Kabel-TV	586	585	-0.2
Inter-Company & Other	(10,206)	(10,109)	-1.0
Total Group	35,347	37,939	7.3

Source: Company data, Morgan Stanley Research

Table 9

1994 Results: Income Statement

	1993	1994	% chg.
Total Group Revenues	35,347	37,939	7.3
Retirement of Assets	(232)	(357)	53.9
Contractual Pension Benefits	N/A	(846)	N/M
Severance Payments	N/A	(450)	N/M
Other One-Off	N/A	(94)	N/M
Total One-Off	(1,377)	(1,390)	0.9
Regular Production Costs	(12,838)	(14,253)	11.0
Total Production Costs	(14,215)	(15,643)	10.0
Sales	(3,901)	(4,780)	22.5
Administration	(3,409)	(3,773)	10.7
R&D	(509)	(448)	-12.0
Finance Company Interest	(5)	(5)	0.0
Associates	(41)	(95)	131.7
EBITDA	13,267	13,195	-0.5
EBITDA Margin (%)	37.5	34.8	
One-Off Writedowns	(370)	(1,407)	280.3
Regular Depreciation	(7,403)	(7,212)	-7.2
Total Depreciation	(7,773)	(8,619)	10.9
EBIT	5,494	4,576	-16.7
EBIT Margin (%)	15.5	12.1	
Pension-Related Finance	(771)	(1,111)	44.1
Regular Financial Expenses	(770)	(510)	-33.8
Total Financial Expenses	(1,541)	(1,621)	5.2
Pretax Profits	3,953	2,955	-25.2
Tax	(806)	(719)	-10.8
Minorities	1	1	0.0
Net Income	3,148	2,237	-28.5
Net Margin (%)	8.9	5.9	
Return on Capital (%)	14.1	12.3	
Return on Equity (%)	19.2	12.3	
Return on Equity (Std. Tax) (%)	17.3	11.7	
Capital Investment	7,171	8,348	16.4
Equity	17,505	18,942	8.2
Net Debt	7,235	3,380	-53.3
Pension Provisions	13,792	14,615	6.0

N/A = Not available *N/M = Not meaningful*

Source: Company data, Morgan Stanley Research

constant).

Other significant contributors to overall revenue growth were Telia Mobitel, where revenues rose 14% to SKr 5.2 billion, and the in-house insurance business Fastighets, whose revenues rose 22% to SKr 2.2 billion. An analysis of revenue growth is found in Table 8. Total revenues of SKr 37.9 billion also included proceeds from the sale of Telia's 50% interest in Teli, the joint-venture with Ericsson (SKr 133), the size of which has not revealed by the company.

Despite the pick-up in revenue growth rates during 1994, gross profits (EBITDA) fell 0.5% to SKr 13.2 billion (Table 9). Most categories of expenditure rose at a double-digit rate. One-off expenses, principally early retirement and severance payments, remained broadly similar to 1993's level, at SKr 1.4 billion.

Regular production expenses — far and away the largest component of operating expenses — rose 11% to SKr 14.3 billion. It is not clear what the constituents of this cost category are, and the result is somewhat surprising given that, throughout the group, salary and social security costs fell 5% to SKr 10.1 billion, on a year-on-year decline in the workforce of 4.5%.

Marketing and sales expenses rose 22% to SKr 4.8 billion, reflecting a dramatic rise in the level of commissions paid to dealers for new cellular subscribers as well as the consequent mushrooming in the number of new connections. Cellular marketing expenses amounted to SKr 1 billion in 1994, compared with an estimated SKr 200-300 million in 1993.

Depreciation expenses rose sharply during 1994 as a result of a year-end decision to shorten the assumed useful life of its copper-based local plant: this accounted for SKr 1,195 million of increase in depreciation according to plan. NMT Mobile Equipment was also subject to a one-off write-down of SKr 148 million. Even excluding this latter one-off adjustment, depreciation according to plan represented 18.5% of gross fixed assets in 1994 — an extremely conservative rate by comparison with most other telephone operators.

Financial expenses rose 5.2% although, if one excludes the rise in pension-related expenses from SKr 771 million to SKr 1,111 million, underlying interest expenses actually fell by a third.

Telia Network Services

Revenues rose by 3% in 1994, compared with a 7% increase in 1993. The slower rate of growth, despite the strengthening economy, can be attributed to two factors in particular. First, 1993 had the benefit of an overall 3% price rise, while prices actually fell by 0.4% in 1994. The rebalancing of tariffs that took place in 1994 also had a depressant effect, encouraging greater usage at off-peak times. Second, competition began to make more significant inroads to Telia's customer base: according to my estimates, competition took approximately one percentage point off the division's revenue growth rate.

Operating income after depreciation fell by 19% in 1994, reflecting one-off charges totalling some SKr 1,944 million. These included redundancy costs and asset write-downs (as indicated in the group commentary above).

Capital expenditure rose 22% to SKr 4,554 million, reflecting the decision to accelerate the modernisation of the telephone network. There are a number of elements of this plan. With an already high proportion of customers (81% at the end of 1994) connected to digital AXE exchanges, the plan is to connect all six million customer lines to AXE exchanges by 1997 — compared with the previous target of 2000. At a more profound level, Telia is accelerating its move towards bringing active intelligence into the backbone network, introducing broadband switching capability to allow multimedia services, and rationalising the network structure to improve flexibility and lower operating costs. This is being achieved through the progressive introduction of SDH and ATM technology throughout the network, in a programme started in 1993.

In parallel with the substantial upgrading of its basic network platform, Telia Network Services is investing substantially in customer service and support systems to allow a more focused, yet more flexible, method of meeting customer needs.

These two investment programmes represent extremely important initiatives on Telia's part, and are designed to maintain a substantial technology and service lead over actual and potential competitors.

Telia Telecom Services

The role of the Telecom Services division is to develop and market products and services for the Telecom Network division. To the majority of customers these products and services are physically sold, provided and supported by the eight regions; Telia MegaCom handles the selling function to large accounts, while installation and support is handed over to the regions. Telecom Services also markets and sells services developed by Unisource, and formulates business strategies for the Swedish and other Scandinavian markets.

By virtue of the functional separation of the network and service activities within the parent company, financial results from each division are heavily influenced by the rate adopted for inter-divisional transfers. As a result, the reported 35% decline in operating income in 1994, on an already low base (2% operating margin, compared with 18% for Network Services) can be seen, at least in part, as a reflection of Telia's determination to discourage service-based competition. Having said that, market share losses are real.

Telia MegaCom

Telia MegaCom was established in 1992 to service Telia's 90-plus largest customers in Sweden. It works closely with a number of other Telia units, such as Network Services and Telecom Services divisions, the eight Swedish regions, Unisource and Telia Mobitel. Megacom acts as the marketing and systems consultancy arm for the full range of Telia's products and services on an individual or packaged basis. Beyond the marketing of Telia's and Unisource's services, physical delivery and support for the services are provided by the principal parent company divisions within Sweden, and by the Unisource network outside the region.

Last year was very successful, with revenues rising 55% over 1993. As with the other operating units, relative profitability will be determined largely by the size of inter-company transfer charges. Assuming that 1994 figures are comparable in accounting terms with 1993 (in 1993, Network Services were billed by the regions, but by MegaCom in 1994), the sharp rise in operating income from SKr 82 million to SKr 273 million was attributable mostly to higher sales volumes and improved efficiencies.

MegaCom has made significant progress in its first three years and has perhaps captured as large a share of its major domestic customers' business as it is likely to: 1994 revenues of SKr 4.0 billion represent a full 10% of group revenues and approximately 14% of parent company revenues. Intensifying competition is a certainty at MegaCom's rarefied level of the market, and the 1994 Report & Accounts warns that revenues in 1995 may be flat, even if improved efficiency allows a further improvement in profitability.

Telia Mobitel

Mobile competition really took off in 1994 Sweden. With cellular tariffs already among the lowest in the world, and with cellular penetration already the highest, it was left to intensive advertising and a brief, but expensive, commission war to stimulate the market to new levels of growth and penetration. Comviq GSM opened the commission war in the spring of 1994, raising connection bonuses from SKr 1,000 to around SKr 4,000. This flowe through to the market in the form of sharply subsidised handset prices, which produced a dramatic increase in subscriber additions towards the end of the year. The NMT-900 service also benefited from the rise in selling

Table 10

Telia Network Services: Financial Highlights

(SKr million)	1992	1993	1994
Revenues	22,536	23,850	24,527
Income after Depreciation	4,959	5,506	4,456
Investments	4,430	3,742	4,554
Average No. of Employees	N/A	12,186	13,045

N/A = Not applicable *Source: Company data*

Table 11

Telia Telecom Services: Financial Highlights

(SKr million)	1992	1993	1994
Revenues	8,034	8,084	8,524
Income after Depreciation	515	305	198
Investments	N/A	92	154
Average No. of Employees	N/A	6,776	6,783

N/A = Not applicable *Source: Company data* incentives, with handset prices additionally benefiting from a widespread clearing of old NMT stock in December at substantially reduced prices. Mobitel added 391,000 new mobile customers, 53% of whom were GSM subscribers. According to our estimates, Telia's GSM service won 53% share of the growth in the GSM market in 1994, with Comviq winning 32% and Europolitan winning 15%.

The relatively low cellular prices that prevail in Sweden do not allow for a middle tier of service providers, such as exist in the UK and Germany. As a result, routes to market are via retail outlets (approximately 60% of Telia's sales), dealers (35%) and Telia shops (5%). Pressure from high-volume retailers may force the independent dealers out of the market: this presents an opportunity for Telia Mobitel to bring a greater share of retail sales in-house, as well as a challenge to face the inexorable move downmarket.

Despite the rapid acceleration in subscriber growth, stimulated by intensive advertising and low handset prices, the incidence of bad debt and fraud has been relatively low, thanks principally to Telia's own credit-checking procedures and the ready availability in Sweden of personal credit details. Bad debt reportedly represents less than 2% of revenues.

Telia Mobitel's paging and mobile data businesses were also further developed during 1994, principally via the development of new tariffs (the subscription-only MINICALL Privat paging tariff) and new applications (mobile office for mobile data). There are now some 150,000 paging users, and 12,000 Mobilux customers.

In recent weeks there has been a flurry of articles in the trade press on Telia's decision to begin trials of a combined GSM and DECT (Global System for Mobiles and Digital European Cordless Telephone) services. What is new about this development is the commitment to procure dual-mode handsets (from Ericsson), whereas other trials, notably by DeTemobil and Mannesmann Mobilfunk in Germany, have required users to switch phones when moving from in-building DECT use to the wider GSM environment.

In a separate but related decision, Telia also went public recently with the decision to merge its fixed and mobile networks. This has been expected for some time, and reflects the very high rates of penetration of both the fixed and cellular services in Sweden (68% and 18% respectively). It should be remembered that Telia has predicted that mobile phones would achieve 90% penetration in Sweden by 2000. This would only be achievable, however, if the traffic capacity of the local area DECT standard is combined with the coverage capability of the wide area GSM service, and if both are combined with the intelligence of the fixed network. To date, Telia has held back from stating any formal desire to merge its fixed and mobile network offerings, for fear of an immediate appeal from the competition to the Swedish Anti-Trust Authority. Now that the competition's own plans to follow this convergence path are so clear (Comviq GSM and Tele-2 are sister companies, while Europolitan is understood to have agreements in place with France Telecom), regulatory opposition is unlikely, in our view.

TeleMedia

This business was transferred to the Teliainvest group in August 1991, having been formed in 1991 through the merger of the former Teleinvest Group company Teleannons, with the Swedish Telecom division, TeleMedia.

The principal activity is the production of white and yellow page directories, in printed and electronic form, and the

Table 12
Telia MegaCom: Financial Highlights

(SKr million)	1992	1993	1994
Revenues	297	2,569	3,995
Income after Depreciation	N/AV	82	273
Investments	11	4	3
Average No. of Employees	366	504	681

N/A = Not applicable *N/AV = Not available*
Source: Company data

Table 13
Mobile's Share of Industry Growth, 1994

(000s)	Exchange Line Increment	Mobile Subscriber Increment	Total Growth	Mobile's Share of Total Growth %
Telia	59	515	574	89.7
Telecom Italia	375	1,033	1,408	73.4
Deutsche Telekom	1,300	1,195	2,495	47.9
PTT Telecom	198	105	303	34.7
France Telecom	700	220	920	23.9
Telefonica	584	154	738	20.8

Source: Morgan Stanley Research

sale of advertising space. In common with the directory operations of many telephone companies, TeleMedia is enormously profitable.

The core of all operations is the directory database, which has six million entries. The TeleMedia group refines and packages this directory information for various products and services to be sold outside the Telia group.

Within the directory media area, TeleMedia has an 80% share of the Swedish market. This business has been expanding at an annual rate of 12-15%, although the recession dampened advertising revenues in general, while the growth in TV and direct-mail advertising has led to a slight decline in directory advertising as a proportion of the overall advertising market. In addition, TeleMedia faces increasing competition from local and business directories. TeleMedia accounts for 7% of the total advertising market in Sweden.

The TeleMedia group has operations in Sweden, Norway and Finland. Three of the companies, Teleannons, Telefakta Sverige and Din Del, account for 90% of the total groups sales and number of employees.

Teleannons sells advertising space in the classified business section of the Yellow Pages. Telefakta Svenska AB is responsible for the telephone directories ('white pages'), producing 28 regional editions. Din Del deals with the local telephone directories, with 200 local editions. TeleMedia is also developing the CD-Rom telephone directory, which would put the telephone directory database on a compact disc accessible through a personal computer.

Reflecting TeleMedia's high share of the domestic Swedish market, the strategy for some years has been to expand internationally. TeleMedia International AB, newly formed in 1992, has built a presence in the Netherlands, Russia and the US, and is seeking various joint-ventures in countries such as Estonia and Latvia.

Table 14

Telia Mobitel: Financial Highlights

(SKr million)	1992	1993	1994
Revenues	4,355	4,609	5,247
Income after Depreciation	N/AV	886	463
Investments	712	765	734
Average No. of Employees	1,838	1,972	2,112

N/AV = Not available
Source: Company data, Morgan Stanley Research [??]

TeleLarm

This company develops product applications in five main business areas:

- Fire Alarms — Prevention, detection and alarms
- Access Controls — TV monitoring, advanced burglar alarms
- Security Systems — Security for the elderly
- Alarm Communications — Alarms to emergency services
- Credit Card Control — Credit Card verification

TeleLarm expanded significantly in 1991 through the acquisition of various foreign subsidiaries. Sales have subsequently doubled. The priority market for TeleLarm is Germany. The expansion included:

- An increase in its stake in Danish Flack Sikring to 10%.
- Acquiring 51% of Vale Royal.

Table 15

TeleMedia: Financial Highlights

(SKr million)	1992	1993	1994
Revenues	1,932	1,788	1,8.
Income after Depreciation	N/AV	177	215
Investments	34	24	101
Average No. of Employees	1,291	1,281	1,329

N/AV = Not available
Source: Company data

Table 16

TeleLarm: Financial Highlights

(SKr million)	1992	1993	1994
Revenues	605	741	788
Income after Depreciation	N/AV	39	54
Investments	70	54	40
Average No. of Employees	700	673	673

N/AV = Not available
Source: Company data

- Setting up a German subsidiary, Tele Larm Security GmBH (51% ownership).
- Acquiring 91% of the shares of Janus Security.
- Acquiring Multivision product rights.
- Establishing TeleLarm in Finland and the US.

TeleLarm now has nine subsidiaries in seven countries. The Swedish market has been affected by recession, particularly in the construction sector to which the security business is particularly sensitive. Major cost-reduction and streamlining initiatives during 1993 helped boost returns. Current efforts are devoted to improving product flow and marketing across the Swedish, European and US operations.

Telia Group: The Outlook

Summary

The structural changes in the telecommunications industry have reduced the visibility and predictability of future earnings for all telephone companies. The maturity of the basic telephone service in Sweden and the advanced degree of market liberalisation make it unusually problematic to predict the future for Telia with any degree of certainty. Not only is the company likely to suffer a significant and rapid decline in its market share, but it will also experience rapid shifts in its revenue mix over the next two or three years, through the rebalancing of tariffs on existing services, and through the development of new services. By virtue of its already relatively high levels of operating efficiency and a strictly non-protectionist regulator, Telia can not be shielded — as many other operators can — from the full impact of declining market shares and gross margins. However, we can predict with reasonable confidence that revenues and earnings will continue to grow through this transition period.

As suggested at the start of this report, if the UK is the laboratory for telecommunications liberalisation, Sweden is the commercial field trial. The problem is that we are only a little more than one year into this great experiment (Tele-2 began switched service in March 1994), and there is simply insufficient evidence at this stage to be able to draw firm conclusions about the eventual impact of full-blown competition on Telia's future profitability. The same lack of earnings visibility that afflicts all telcos also afflicts Telia, except that the transition process is likely to be swifter in Telia's case.

It is worth assessing the various dynamic elements of competition in order to weigh, at least conceptually, the balance of positive and negative factors. A future report will attempt to quantify these effects.

Market Share The current relatively rapid rate of market-share loss reflects the openness of the Swedish market, and does not reflect any inefficiency on Telia's part. Indeed, quite the opposite: the constant threat of competition has helped ensure Telia's competitiveness, while Telia's high level of competitiveness has itself enabled the Swedish market to be formally liberalised.

Experience of the US long-distance market suggests that there is a floor — in the 60-70% range — below which the dominant operator's share is not likely to sink. Relative to the current rate, future share losses can therefore be expected to moderate.

Pricing Without doubt there are severe downward pricing pressures acting on large elements of Telia's core business: office PBXs programmed to route traffic automatically to the lowest-priced carrier of the day testify to the increasing commoditisation of many elements of the business. Reflecting this, overall price cuts of another SKr 700 million are expected in 1996, following a similar reduction in 1995.

However, I am reasonably confident that, after a relatively brief transition phase, price declines on long-distance and international services will moderate; that price packaging and bundled services will reduce the transparency for the user; and that service quality and customer support will increasingly differentiate between the offerings of different suppliers. Depending on organisational structures and competencies, this may or may not favour Telia's domestic relative to its international competitors.

Volumes It is axiomatic that telecommunications demand is price elastic, and that reducing prices will tend *mutatis mutandis* to stimulate incremental demand.

A very simple illustration of this in Sweden has been the intensification of competition in the cellular market. The launch of Comviq's new digital service led to an increase in advertising effort and an acceleration in demand for Telia's existing analogue service — quite contrary to initial expectations — as well as an acceleration in demand for the GSM service.

However, the stimulative effects of competition are particularly difficult to determine in Sweden, for the simple reason that the country already enjoys high levels of market penetration (70% for fixed lines and 20% for mobile), so a greater proportion of the inevitable market-share losses will be through churning the existing base, rather than through stimulating or meeting incremental demand.

New Applications and Markets Declining costs and expanding capabilities, which are the prime drivers of change in telecommunications, would suggest the possibility of a significant expansion of the market, in terms of both scale and scope. The fact that Telia's mobile service now accounts for the bulk of revenue growth, and that mobile traffic is now as important a source of revenue as Telia's international traffic, is clear evidence of the significance of new service offerings. It also provides some credence to management's forecast that half of the company's revenues by 2000 will be derived from services that do not yet exist. Although inherently unforecastable, the contribution from new services within the domestic market and from geographic expansion via Unisource promise to be significant over time.

Conclusion

Given the speed at which its markets are changing, there is an inevitable lack of visibility on future revenue and earnings trends. However, it is our belief that a company as well managed and positioned as Telia is likely to emerge from this transition phase as it entered it: a clear industry leader but, relatively speaking, much stronger.

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