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Restructuring Diversified Telecom Operators

by

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Abstract

The paper examines the divestiture trend among diversified major telecom operators using a combined agency and transaction cost economics approach. Our illustrative cases seem to support both the governance failure thesis of agency theory and the efficient governance theses of corporate finance and transaction cost economics. That is, manager-controlled companies tend to grow oversized and overdiversified before being transformed into more efficient scale and scope by actively intervening owners and bondholders. As the previous manager-controlled companies become increasingly owner-controlled, and as the essential assets shared by the various businesses become less specific and more redeployable, and as their intermediate services become more tradable, previous core businesses of integrated companies will gradually be divested and organized either as autonomous firms or as part of more specialized companies.

Introduction

Over the last 15 years major telecom operators have been undergoing more or less continuous change, technologically as well as strategically and structurally. Still, the challenges now facing these companies seem larger and more dramatic than ever before. Basic technologies are converging and rapidly improving in terms of functionality and processing capacity, reducing operating costs and stimulating the development of a host of new applications and services.

At the same time, numerous profit warnings and restructuring efforts indicate more or less clearly that previous corporate structures may no longer be sustainable. Prospective growth businesses such as mobile, broadband and Internet have increasingly been separated from remaining non-growth part of major telecom operators. The splitting of core businesses proceeds gradually, first as wholly owned separate subsidiaries, then as separate tracking stock companies, and finally as legally independent and separately listed general stock companies. Whereas different core businesses have been reorganized into separate, but still highly integrated subsidiaries in financially healthy companies such as Telenor, these have more often been divested or organized as independent stock companies in financially depressed companies such as AT&T, British Telecom (BT) and WorldCom (now bankrupt).¹

Admittedly, the last decade's expansion and contraction of major telecom operators resemble in many respects the preceding decades' rise and fall of the American conglomerates (Shleifer and Vishny, 1994). Many of the diversified

telecom operators now being restructured started out as cash-rich monopolists that subsequently expanded and diversified, after being deregulated and liberalized, into a large number of domestic and foreign markets, before they once again under the pressure of the capital market started the process of withdrawing and breaking themselves up into more specialized firms.² The growth was initially financed by their own monopoly profits, later by huge amounts of equity and debt that were attracted to a soaring telecom market.

If this trend were to continue, most telecom giants would in a few years' time be broken up into more specialized companies that either would no longer be interoperating with each, or would interoperate only within the framework of simpler interconnection contracts. Although few of the directly involved managers and employees seem to welcome such dramatic changes, divestitures and restructurings seem unavoidable due to plummeting stock prices and higher return-on-investment claims from increasingly impatient stockholders. Dissolving horizontal network integration while strengthening downstream services bundling and customer segmentation, seem to be the most favored solutions. Both preliminary financial difficulties caused by a depressed telecom market and more fundamental changes in the underlying economic conditions, may explain why.

After this introductory section, our theoretical framework is present in section two, encompassing the main elements of the above restructuring process. In section three, critical resource conditions affecting governance choices in general, and spin-offs in particular, are further examined. Recent restructuring

efforts by selected telecom companies are described and further analyzed and interpreted in section four. Section five summarizes and compares the findings with similar trends in other industries.

Governance Failure versus Governance Efficiency

Since restructuring efforts may reflect both governance failure (Jensen, 1986) and governance efficiency (Williamson, 1988), both theories will be needed to explain restructuring of major telecom companies, particularly the largest and most diversified of these. Both theories also recognize that corporations may drift into inefficiency before returning to a more efficient structure, but for different reasons and influenced by different forces. Whereas governance failure theory (Jensen, 1997, Shleifer and Vishny, 1994) regards the corporation as basically rigid and less adaptive and the capital market as the main correction force (e.g.; leveraged acquisitions, stock buybacks, hostile takeover, leveraged buyout, and divisional sales), the governance efficiency view (Chandler, 1962, 1977, 1990; Williamson, 1975, 1981) regards corporations as essentially self-corrective and capable of adjusting their structure to changing conditions in a somewhat delayed, but fairly responsive way.

For example, the rise and fall of the American conglomerates (large non-related diversified enterprises) over the 30-year period from the early 60 to the late 80s have been explained as the result of a series of governance failures (Shleifer and Vishny, 1994). In particular, the rise of conglomerates can partly be

explain by management compensation that depended more on growth and diversity than profitability, partly by aggressive anti-trust policy that indirectly motivated the rise of conglomerates by disallowing related and more profitable acquisitions, and partly by the capital market that valued both the rise and subsequently the fall of increasingly unproductive conglomerates. As the capital market gradually became aware of their mistake, most of the conglomerates were subsequently dissolved.

Consequently, and according to the governance failure thesis, we may expect dominant telecom firms to over-invest and over-diversify away from “plain old telephony” into new exciting growth businesses to the degree they (i) have access to large quantities of free cash, equity and bonds, (ii) are run by managers whose compensation depends more on size and growth than on profitability, (iii) are exposed to increasing competitive pressure in their traditional commodity businesses, and (v) operate under diffused and/or passive ownership regimes.

Alternatively, the rise and fall of diversified enterprises may be explained as productive governance structure adjustments to changing conditions, as outlined in the “structure follow strategy” postulate (Chandler, 1990) and transaction cost economics (Williamson, 1988). Thus, given that major telecom operators are organized as fairly efficient M-form companies (Williamson, 1981), the divestiture trend among major telecom operators may be explained by changes in critical resource conditions for economic organization. In particular,

the underlying productive scale and scope assets that initially supported the development of increasingly larger and more diversified companies may later have changed in favor of smaller and less diversified companies (Williamson, 1988). Initially, integrated corporations may have been used to economize on transaction costs which arise when incompletely specified transactions are carried out between actors who are bounded rational, opportunistic and *locked into* non-redeployable or non-tradable assets (Williamson, 1975, 1985).³ Later, as superior and non-redeployable resources become increasingly more redeployable, *unlocking* the respective assets (core businesses) and spinning them out into separate firms that specialize in the further development, production and sales of products and services to a larger group of downstream service providers, may be turn out to be a more productive solutions than holding on the integrated model and trading only with internal service providers.

Note in this respect that superior private knowledge and technology should only be considered a real potential source of value added (appropriable) to the degree value added can be protected against others' capture. Such protection may occur *naturally* to the degree private assets are (i) customized and therefore incompatible or useless for other firms, (ii) tacit and therefore difficult to communicate, or (iii) diffused and therefore difficult to assemble and prepare for sale or transfer. Additional protection can be achieved through legal patents or by acquiring complementary assets that happen to be monopolized or co-specialized to one's own assets (Teece, 1986).⁴

Although it will be rather difficult to transfer valuable private technology and knowledge that is specific, tacit, diffused or potentially leaky also to internal users without suffering some of the associated transaction costs (frictions and leakage), these difficulties will normally be harder and more costly to solve when knowledge is transferred to external customers under weaker contractual protection than to internal users under stronger corporate protection (Liebskind, 1995).⁵ In short, successful companies should only expand and diversify to the degree their superior, rare and inimitable assets (physical as well as human assets) are still in ample supply, but costly to trade or rent out to external customers (Barney, 1991). Conversely, when previously non-redeployable assets in the subsequent standardization phase are transformed into redeployable or tradable ones, fully integrated corporations may constitute a too complex, costly and protective governance form, and should rather be replaced by a simpler and less protective contractual one.⁶

Resource Conditions affecting Governance Choice

As above indicated, the recent expansion-contraction development of major telecom operators can be explained either as governance failure corrected by the capital market or as efficient adaptation of governance to changing asset attributes. This latter explanation clearly motivates a closer assessment of the changes in attributes of assets shared by previous core businesses, now

increasingly being defined as spin-off candidates, emerging from one or several of the following business areas:⁷

- (1) Network operation: operation of wireline and wireless networks carrying basic services such as voice, data and video, plus various ancillary and support services
- (2) Service provision: seller/resellers of basic network services, value-added services and various content, plus ancillary and support services
- (3) Content production: producers of information and entertainment (including media firms such as television, news papers, publishers, internet portals)
- (4) Additional IT-/data activities: producers of web-related product and services, service application providers, facility outsourcing, system integration, call center operation, consulting, plus various support.⁸

Whereas all diversified firms regard service provision (sales and marketing of basic telecom services) as integrated parts of their company, they differ in the degree they also would integrate alternative and increasingly competing networks, content production and associated IT-/data services.

Modern telecom networks may be regarded as consisting of several technology layers, from the lowest technical substrate level containing all the different lines, switches and routers that physically carry the signals over the network, via the bearer service layer and the transport layer, to the highest

application level that provide specialized voice, data or video services to end customers.⁹ Increasingly sophisticated service platforms now produce a vast number of enhanced and value-added services including convergence between alternative network technologies (e.g.; SMS messages forwarded from mobile handset to fixed SmartPhones). Whereas enhanced and value-added services over the same network require interoperability across technology layers (e.g.; high-speed Internet access enabled by xDSL modems connected to traditional local copper loops), convergence over specialized, but still separate networks requires interoperability across network technologies. Due to insufficient standardization, both higher-layer service operation and convergence services may need extra governance support such as a unified corporation to perform efficiently.

Now, by joining a larger diversified company, *excess* capacity in *valuable* and *non-contractible, shared* assets can be more *fully exploited*. In principle this may occur in any part of the value-chain from equipment production to final service provision. In particular it may occur in midstream production of *basic network services* as well as in downstream provision of *bundled services* to final users. Conversely, to the degree there is no such shared assets, or no excess capacity left, or to the degree such shared assets have become fairly contractible, integrated unit will benefit from leaving the integrated company. Being contractible essentially means that the transaction cost associated with renting the assets (long term) or buying their services (short term) is moderate to low, implying that shared assets are fairly redeployable and their services fairly easy

to specify and monitor. Denying these the opportunity to be spun-off would only cause extra governance costs without the extra value they otherwise could have created as independent firms or as integrated units of other more closely related diversified firms.

Since specialized firms from all the four business areas exist alongside similarly diversified integrated companies, net benefit from integration (synergy) cannot be that large. In some cases shared assets will simply be lacking which is more likely to characterize units belonging to different business areas (e.g.; network operation and content production) than units belonging to the same business area (e.g.; fixed network operation). In other cases the extra transaction costs associated with buying the service from external rather than internal asset holders will be rather small due to standardized interfaces. Due to interconnection regulations, even competing telecom networks have stayed fairly interoperable across standard open interfaces.

Such open interface standard will not only make different competing networks (and network operators) interchangeable. It will also make different contents producers that distribute information and entertainment over different networks more interchangeable. As a consequence, contracting may replace corporation as most efficient governance form in most parts of the value-chain, resulting in for example (i) competing virtual operators leasing excess capacity from the same external network, (ii) competing downstream service providers selling excess

capacity from the same external network, and (iii) competing content producer also buying distribution services from the same network.

Even though standard interfaces have eliminated most of the extra transaction cost associated with leasing and renting basic network capacity, significant transaction costs associated with downstream service bundling may still justify integration between services providers, and even network operators (Spiller and Ulset, 1998; Spiller and Zelner, 1997).¹⁰ Whereas one-stop shopping and unified billing may save the consumer some time and effort, to succeed with more comprehensive multi-media and multi-network bundling (voice bundled with data and video; wireline bundled with wireless networks) the total consumer cost/quality benefit must exceed significantly the benefit of shopping for better individual deals. That is, when service bundling is simple or the consumer highly sophisticated, the consumer will essentially carry out bundling himself. When service bundling is complex and difficult, or the consumer less sophisticated, bundling will be carried out by some outside bundling specialist, either organized as an independent bundler or as an integrated unit of one of the network operators, content producers or data services firms involved.

An integrated solution should then be preferred over a non-integrated one to the degree the respective contracting hazards are large. This may occur when (i) the respective products or services are real-time interactive and functionally interdependent to such a degree that individual service contribution to joint performance becomes almost impossible to measure (technical non-separable),

when (ii) service bundling has to be customized not only to the unique needs of customers but also to the unique features of different networks, or when (iii) private innovations or proprietary knowledge is involved in the operation of one component that easily may leak out to one or several of the other interacting component suppliers.

So far, however, insufficient technology convergence has apparently prevented comprehensive service bundling from happening. Insufficient convergence has made bundling very difficult to achieve not only for purely technical reasons, but also for transaction cost reasons. In the early development phase, converging technologies will be less predictable and their interfaces less standardized, making individual contributions to joint performance difficult to monitor and interoperability difficult to achieve. In this early phase, the level of seamless interoperability required for most telecom services would be virtually impossible to achieve without intensive cooperative adaptation between network operators and services providers. Normally, this would require an integrated governance solution. By combining low-powered incentives with extensive administrative control and resolving most disputes within the firm, corporate governance provides better support for cooperative adaptation than contractual governance (Williamson, 1999:313).

In the later phases of technology convergence, bilateral contracting across standard interfaces may provide sufficient coordination. Advances in network management technology, developed by upstream software firms, may then have

mitigated some of the measuring problem and transferred the leakage problem to the respective software suppliers, whereas standard interfaces may have eliminated the network-specificity problem. Not only basic network services, but also value-added and support services are increasingly being produced by convertible or standardized service applications (e.g., testing and measuring software), developed by upstream software firms rather than midstream network operators. In other words, service application controlled by software firms increasingly replace service capabilities controlled by network operators. As a consequence, downstream facility-less service providers, which specialize in buying individual network services from competing operators and selling these as attractive bundles to final customers, may gradually carry out final service bundling at least as efficient as facility-based operators.¹¹

Four illustrative cases

As shown below, recent candidates for separation and divestiture have been many, including not only a range of different basic network facilities and services, but also a number of related products and services (installation, IT-services, web hosting, system-integration, consulting etc.). To further clarify and assess the explanatory relevance of our two main theses, the following four restructuring cases will be examined more closely (AT&T, WorldCom, British Telecom and Telenor of Norway).

AT&T

After the regulatory enforced 1984-breakup, where the local exchange business were spun-off into seven local exchange companies (LEC)¹², AT&T continued as a combined equipment supplier and long-distance operator. It subsequently diversified into related computing and information businesses by buying the computer firm NCR, and by expanding into a full range of communication and information services including wireless calling, credit cards, online services, consulting and electronic commerce. Despite of impressive growth in stock value after the 1984-breakup (19% per year over 10 years), AT&T failed miserably in computing, and NCR was sold at great losses.¹³ It then also decided to withdraw from equipment business, probably for several reasons, partly to avoid accusation of favoring their own operations over competing long-distance and local operators, partly to benefit from international competition in equipment production. The spin-offs of NCR and Lucent were later combined with heavy investment into cable TV assets (TCI and MediaOne) and into wireless, all this to counter increasing competition and falling prices and profit margins in long distance voice traffic. With these assets AT&T intended to offer a raft of consumer services, from mobile services and local telephony to high-speed Internet access and digital television, to be made possible by the acquisition and modernization of a large chunk of America's cable system. At this time, no other

rival was in a position to offer such a rich bundle of services to US residents and companies.

Then less favorable things started to happen in the late 90s. With a rapidly increasing number of long-distance competitors (close to 500), prices started to tumble. Having bet \$100 billion in investment money on cable, management had to start showing some results before too late. As it turned out, it took more time and effort than expected to upgrade previously investment-starved cable networks to carry data and voice. Besides, vicious price competition had seriously obscured the long-distance part of the strategy. AT&T also failed in tying up agreements with other cable operators, such as Time Warner, to offer telephony over their networks, a key element of the strategy.

Neither did the investment community any longer fancy gigantism like it did under the foregoing telecom merger boom. Instead highly focused telecoms “pure plays” were favored, such as Nextel, a wireless operator coveted by AT&T, or Level 3, a wholesaler of bandwidth. AT&T’s started to trade at prices far below their sum-of-parts valuation, silencing the formerly vaunted one-stop-shop strategy. Although many investors still remained passionate about the prospects of wireless, broadband cable and the business-data markets, few were regarding AT&T as an attractive vehicle. With AT&T’s share price almost halved in less than a year, management came under huge pressure to do something drastically, and, above all, value creating. Hence the announcement of October 25th, 2002 to split the firm into four publicly held companies.¹⁴

Under the plan, the old core of AT&T became the business-services division, *AT&T Business*. It retained the right to trade under the “T” stock symbol and serve as the legal owner of the AT&T brand, the main fixed-line network and AT&T’s research labs. It also became the parent company of *AT&T Consumer*, holding the residential long-distance and WorldNet Internet access businesses. A new tracking stock was created for the consumer business, to be distributed among AT&T shareholders. *AT&T Wireless*, which already existed as a tracker stock, and *AT&T Broadband*, essentially the cable business, were fully spun out as publicly, traded entities.

Despite splitting AT&T into four companies, the CEO of AT&T, Mr. Armstrong, insisted that the new firms would still be able to co-operate closely and accomplish the *bundling* that for so long has been the strategic main focus of the company. Many now definitely seemed to believe that AT&T had failed to reach their ambitious bundling goal (“one-stop-shop”), but Michael Armstrong, the company CEO, concluded differently: “*We never put a big emphasis on bundling all kinds of services, only those that travel over the same network. This confusion really frustrates me*” (Business Week Online, February 5, 2001).¹⁵

AT&T’s growth businesses will under the new structure have a more focused management whose performance can be measured against other, similar companies. They will decide their own strategies no longer controlled by ponderous head office committees. If they do deals with other AT&T companies, it will be on arm’s-length terms decided by market forces. This will help the

companies to attract the best executives, unencumbered by the fading long-distance business, and to create a more valuable currency than AT&T's old paper to fund investment and acquisitions. As a consequence, all the AT&T spin-offs were expected to do better.

It seems fair to say that the AT&T's break-up plan signaled a new industry trend. The vertically integrated model of telecoms that dominated the past decade is being scrapped and replaced by a model in which specialist companies, from Vodafone and Global Crossing to Cable & Wireless, compete horizontally, within their own fields of expertise. Other big telecoms companies also chose to go the way of AT&T such as BT, WorldCom and others faced with similar pressures (see cases below).

*British Telecom*¹⁶

Also British Telecom (BT) has over the last couple of years been deeply involved in the process of transforming their businesses portfolio and corporate structure, partly to exploit new opportunities, partly to overcome recent financial difficulties. Until recently, BT financial status resembled the one characterizing many other European incumbents at the start of the millennium. A series of huge investments in new business activities and expensive UMTS licenses, combined with the collapse of telecom market, had left the company not only heavily indebted, but also rather unfocused and increasingly unprofitable.

In April 2000 BT started the process of transforming the company into a structure more adapted to the new opportunities created by the development of Internet, e-commerce, mobile networks and broadband services. Four international businesses were created - *BT Ignite*, *BT Openworld*, *BT Wireless* and *Yell* - dedicated to each of the key technological areas in which BT would be investing for the future. BT Openworld became the mass-market Internet business, now delivering services to more than 1.3 million customers in the UK via BTinternet and BT Openworld broadband. BT Ignite was established as a broadband and protocol data and solution business with the aim of delivering a complete communication portfolio to business customers in Europe and around the world via Concert and other partners as appropriate. BT wireless was given the responsibility of the international mobile business focusing primarily on mobile data and next generation services. Finally, the international directories businesses were organized under Yell.

The fixed network businesses were separated into *Wholesale* and *Retail* divisions to allow more focused management and greater clarity in regulation. BT Wholesale should offer a large portfolio of wholesale products and value-added solutions to the intermediate market, including other licensed operators, mobile operators and service providers. BT Retail became the primary marketing, sales and distribution channel in the UK. Operating alongside the new businesses was Concert - BT's global venture with AT&T.

In the months to come, BT became increasingly convinced that the telecom industry was about to develop into a highly innovative and differentiated consumer service business. To avail themselves of the associated growth opportunities, the management decided to make their business operations more customer-focused, faster and more flexible. So on November 9, 2000, BT announced a radical and unprecedented restructuring of the company. This involved the creation of a new *BT Group Holding* company with their sister companies separately listed to unlock shareholder value. Initial public offerings (IPOs) were announced for BT Wireless (up to 25 per cent, second half of 2001), BT Ignite (100%, by end of 2001) and Yell (up to 25%, later). A new network-based company, with a working title of NetCo (separately listed, subject to regulatory agreement) was also announced whose customer base would be the intermediate market, including licensed operators, mobile operators and various service providers.

From this series of initial public offerings, and from the sale of a number of other businesses outside their focused markets of Western Europe and Japan, debt could now be reduced with at least £10 billion. This would both help to improve shareholder value and to encourage BT management to focus on its main customer groups. The BT Group Holding Company was designed to be lean, focused and light touch, making the people agile, and facilitating next round of acquisitions, joint ventures and listings. Although operating as separate businesses, BT Retail, BT Openworld, BT wireless, BT Ignite and Yell were

expected to work together to create complete solutions for their customers in the wireless, internet, broadband and e-commerce areas.

As it turned out, investors' sentiment toward telecom soured, and the grand plans for spinning the units off fell flat. The restructuring initiative was postponed, and the company's strategy and structure remained in disarray for several months. Gradually, the company managed to reduce its huge debt from £ 30 bn to £ 17.5 bn by selling various minority stakes in overseas operators and by rights issues. Its pan-European mobile arm, mmO2, was spun off and Concert, its international venture with AT&T, was also abandoned.

The new boss, Ben Verwaayen, continued the policy of retreating from loss-making foreign markets, spinning off peripheral units and narrowing the business focus. Regulator's instruction to organize specialized wholesale units separately from retail units, contributed to the same. Accordingly, management recently decided that broadband access should be offered as a bare-bone product to which outside Internet Service Providers (ISPs) could add their own information services. In wireless business, BT decided to act as a reseller of mmO2, rather than as an integrated mobile operator. Recently it was also decided that BT Ignite, operating in Europe, should concentrate exclusively on large companies, and avoiding previous consumers and small businesses. If it failed to yield result by March, 2003, BT Ignite should also be abandoned. BT had changed into a less diversified and less vertically integrated structure. With such

a restructured company, the new CEO hopes to reach its ambitious yearly growth target of 6-8%.¹⁷

*WorldCom*¹⁸

After a decade long relentless and audacious acquisition trail, the WorldCom stock deteriorated quickly as the booming telecom market went into bust. The company had recently bought the second largest long distance operators in the US, MCI, and was about to take over the third largest operator, Sprint, when anti-trust authorities decided to put an end to further major telecom acquisitions. Due to the company's dominant market position, the anti-trust authorities could from now on only accept acquisitions of smaller niche players. As it turned out, WorldCom had succeeded too well with its acquisition strategy, and had to be stopped for the sake of competition. Due to increasing competition in the preceding years, prices on long distance calls had been declining steadily. Now, the declining Internet shares caused similar decline in telecom shares, and WorldCom, the largest Internet backbone operator, was punished with a 70% record decline in half a year. The company's strategic position was consequently turned upside down. Now, the company that had achieved such gigantic size through stock financed acquisitions, now had to demonstrate its ability to survive as giant by operating efficiently.

Splitting the company into two business segments was chosen as most preferred solution. WorldCom was responsible for growth activities such as

Internet, data services, web hosting and international businesses, and MCI for the supply of basic telecom services to consumers and small businesses, for wholesales of long distance capacity, and for dialed-up Internet access, all of which with positive cash flow potentials. The two companies were issued separate tracking stock. The revenue company MCI was supposed to pay dividend, whereas the growth company WorldCom was not. The purpose of the reorganization was to focus resources and management on implementing strategies more appropriate for the two segments, one being aimed at business customers and based on development of new services (innovative growth market), the other aimed at the consumer and retail market and based on exploitation of excess capacities (mature markets).

In other words, activities that recently were regarded as closely related, were after the telecom market collapse no longer regarded as closely related. Consequently, separate activities had also less need for closely integrated management and ownership. According to chief executive officer Bernard J. Ebbers: *"This plan is a triple-tiered win. For our shareholders, who will gain more targeted investment opportunities. For our customers, who will experience a more efficient operation attuned to their individual needs. And for our employees, who will be enabled to execute targeted business strategies that play to the strengths of each operation."*

Now, why was this plan first now and not before regarded as "a triple-tiered win". In this case, the explanation could not be growing debt load alone,

since the company's growth mostly had been financed with stocks, and the transformation did not include sales of larger units, only separation and restructuring. Is it possible that management had finally realized that the company had become too diversified and therefore would benefit from corporate separation and sharper focus? Although overdiversification had nothing to do with the subsequent market collapse, it could have affected the company's earning. Upon dramatic stock and revenues decline, top management always stands the risk of being fired by discontented owners and aggressive buyers. To prevent takeover, the management should rather design a strategy and organization that dampen the discontent by granting owners and the financial community closer supervision and stronger influence.

At the same time, one should expect that that the new strategy and structure would not only calm down the discontents, but also create real economic value for its shareholders. By divesting activities that are fundamentally different both in resource and customer respect, and by organizing these as independent tracking stock companies, the management hoped to attain specialization benefits without the accompanying coordination losses. According to CEO Ebbers: *"By issuing a tracking stock, the company will retain the advantages of doing business as a single company as we do today because each group will benefit from cost savings and synergies. These advantages include lowering overall borrowing costs by maintaining the credit rating of the combined company, retaining tax consolidation benefits, and allowing the businesses attributed to*

each group to capitalize on relationships with businesses attributed to the other group. These benefits would not be available if the two businesses were separated in a spin-off transaction."¹⁹ Increasingly, tracking stock companies were regarded as a new corporate structure by which additional gains could be achieved without much extra cost.

The tracking stock structure did not stop the company's stock from falling, however, and its much-heralded CEO was subsequently forced to resign on April 30th 2002. The company's capitalization value was then only USD 7 billion, a mere 4% of its value of its peak two years earlier.²⁰ Shortly after, the company announced the dismantling of its tracking stock structure to be replaced by a simpler one. Whereas the official reason was to please stockholders' desire for a simpler structure, a simpler structure may also help to centralize the decision authority required to accomplish the final break-up of WorldCom. A few months later, the company admitted its accounting fraud of wrongly capitalizing expenses of 7-8 bn \$, and filed for Chapter 11 bankruptcy protection from which they have not yet returned (as of January, 22, 2002).

Telenor

Like several of the other European telecom incumbents (such as the German, Dutch, Spanish, French, and British), also the Norwegian incumbent Telenor has chosen a rather expansive strategy to counter growing competition in their home

market. Unlike most of the others, however, its finances are pretty strong. Beauty contest saved them from using billions of NOK on UMTS auction whereas last year's stock emission plus recent sales options on their mobile operation in Ireland and Germany brought in billions of extra cash. Dramatic divestitures and restructuring is therefore less needed for this operator than for the other heavily indebted companies such as AT&T, WorldCom and BT. Still, a continuous series of modest reorganizations has characterized the company's development over the last 10 years, as they have adapted to changing technologies, regulations and market conditions.

As the time for privatization drew closer, private investors' demands for external monitoring and preference for "pure plays" could no longer be ignored. Growing competition from other long-distance operators, combined with regulatory enforced access to the local loop, also contributed to value-chain opening and to establishing a clearer distinction between core (fixed, mobile, cable, satellite networks) and non-core business (installation/IT services, media/catalogue) as well as between different core businesses (e.g. wholesale versus retail services; fixed network versus mobile, cable and satellite networks).

Telenor's first reorganization as general stock company was announced 4th of April 2001 with the aim of strengthening its profile as a customer-orientated, innovative company, better adapted to the telecommunications and IT markets of the future.²¹ According to the company's announcement, the background for the changes was the recognition that the telecommunications and IT industry were

now standing at a cross-roads, with stronger focus on content-associated and customer-adapted services and solutions.

The company thus decided to focus on the following four core business areas: (1) *Telenor Business Solutions* combining activities aimed at the business market, earlier distributed through several business areas; (2) *Telenor Plus*, combining a major part of Telenor's portfolio for the private market into a single business area in the fields of fixed network telephony, Internet, TV and content services; (3) *Telenor Network*, a separate business area focusing on cost-effective production of the basic services and the wholesale of fixed network capacity, transport and access. (4) *Telenor Mobile*, covering mobile communications activities in Norway and abroad, as before. Remaining non-core activities consisted of Telenor Media, EDB Business Partner, Bravida (installation & IT service), Telenor Satellite Network and Telenor Research and Development.

The most significant change characterizing the new business structure consisted of a larger proportion of private customer services being combined into a single business area. This includes telephony solutions for the private market and Telenor Internet's activities in Norway, as well as TV and content services supplied by Telenor Broadband Services. Hopefully, this change would facilitate the realization of potential synergies existing across the present business portfolio and help to achieve more cost-effective operations.

The company warned, however, that additional activities might later be defined as non-core activities and subsequently spun-off as stand-alone

companies or sold out to other diversified companies. The process of cost-cutting, down-sizing and simplifying the structure have been going on ever since, aiming at a 4 billion NOK reduction in total operating costs by mid 2004, now forced upon them by impatient shareholders, increasingly dissatisfied with heavily deflated share prices. From January 1, 2003, this process was backed up by another regrouping of core activities, increasing the company's focus on streamlining and coordinating sales and marketing activities for the Norwegian home market.

Both financially troubled companies such as AT&T, BT and WorldCom and financially healthy ones such as Telenor pursue downscaling and downscoping to improve profit and shareholder value. Being supported with stronger finances, restructuring proceeds at a smoother and slower pace in Telenor than in other less fortunate companies.

Summary and Discussion

I have in this paper explored possible explanations for the observed restructuring and breakup tendencies among several major telecom operators, and our four case firms in particular. According to the combined agency & capital market view, dominant telecom operators may (under certain conditions) grow oversized and overdiversified before they subsequently are transformed through takeovers, demergers and division sales into smaller and more specialized "pure play" firms. According to the efficient governance thesis, diversified giants adaptively turn

themselves into smaller specialized firms as previous non-redeployable assets are later transformed into redeployable ones.

Simple case observations provide at least some support to the combined agency & capital market explanation. Threatened by increasing competition from newcomers and foreign incumbents, deregulated and liberalized telecom operators chose to grow and diversify, mainly through acquisitions, away from their “plain old telephony” business into more exciting growth businesses, including not only alternative network infrastructures such as mobile, cable and satellite, but also into activities related to media and content production, IT-systems, data services and Internet businesses.

The stock market supported this growth and diversification strategy with escalating stock prices. Gradually, however, it started to value the sum of “pure plays” significantly above its going concern value. As diversified operators were just about to respond by way of divestiture and IPOs, the telecom market collapsed and left many operators stuck with their indebted and increasingly less-valued “growth” businesses. That is, a similar “detour away from efficiency” as corporate America took from the early 60 to the late 80s (Shleifer and Vishny, 1994: 409), major telecom operators also took and almost completed over the last two decades (starting a decade earlier in UK and US than in Continental Europe). This time, however, it was not aggressive anti-trust policy that prompted the overdiversification mistake, but the growth optimism initiated by regulatory

reforms and magnified by the Internet Bubble Economy with generous stock options that made managers of expanding companies incredibly rich.

Although managers' equity ownership and stock options that were designed to prevent overdiversification were more common in the 90s than in the 60s, overdiversification still occurred once more. This time, significant equity ownership were either unavailable for managers of state-owned European operators, or the Internet stock market bubble produced opposite effects among British and American general stock companies. By the end of the 90s the Internet Bubble Economy had spread into the telecom world and grossly inflated the value of Internet-related diversified telecom operators. This also grossly inflated the value of managers' stocks and stock options, turning management compensation into a stronger growth and diversification force than ever before. Furthermore, rising share prices made debt financing easy which speeded up the acquisitive diversification process before the stock market started to send the opposite signal that the break-up value of diversified telecom operators were increasingly surpassing their going concern value.

Then the market collapsed faster than the companies managed to divest, and they got stuck with most of their indebted and increasingly lower-valued "growth" businesses. Now, extra money had to be raised through public offerings, stock emissions and sales of telecom businesses to pay back enormous debt that grew increasingly expensive as credit ratings were downgraded. In this situation, the last resort solution of breaking up diversified companies and selling

out lower-valued diversified parts may still be necessary to avoid insolvency and bankruptcy, at least for the most indebted ones.

In line with the efficient adaptation thesis, the above restructuring process may, despite all its financial losses, contribute to operational efficiency to the degree the respective assets shared by restructured units have become sufficiently redeployable, which they probably have. As discussed in the above “resource condition” section, both (i) technology advances in terms of digitization, computerization and automation of support transactions and (ii) regulatory enforced interconnections, unbundling and roaming agreements have contributed to standardization and opening of the value-chain. Standardization of technical interfaces between mutually interacting and contributing firms also implies standardization of the associated human support capabilities, particularly as the latter are transformed into computerized service applications, developed by upstream computer and equipment firms rather than by network operators. As a consequence, network resources become more redeployable, turning tacitness, diffuseness and leakage into less of a problem, at least for telecom operators, thereby facilitating corporate separation between specialized network operators as well as between network operators and complementary firms.

Inside “pure plays” companies, however, such as mobile, broadband, satellite, data service and online firms, there may still remain significant amounts of less-transferable resources and capabilities to be shared among related activities. Such shared intra-firm assets are less contractible because they are not

easily separated from contributing individuals and groups (sticky), because they cannot be visualized, observed or clearly articulated and taught (tacit), because productive knowledge is dispersed over a larger number of operating individuals or groups (diffused), or because private technology easily leak out to potential competitors through the products and/or services developed in collaboration with outside partners (leaky). Although stickiness, tacitness, diffuseness and leakage always is a problem, it is reasonable to expect that sticky and tacit knowledge will be easier to teach, diffused knowledge easier to assemble and transfer, and leaky technology easier to protect when the receiving units not only share common firm-specific information codes, knowledge, norm and values, but also common control apparatus and unifying incentives.

Moreover, this type of corporate restructuring is not unique to the telecom sector. It can also be observed in other system-products industries such as in the computer industry and the car industry. That is, when standardization implies that an increasing number of production firms start using the same basic technology and production resources, efficiency is maximized by letting upstream suppliers specialize in the development and production of component and sub-systems, selling their intermediate products to outside competing assemblers and distributors, rather than to their own captive downstream units. As activities are increasingly outsourced to upstream component suppliers and even to downstream assemblers, previously integrated production companies are increasingly turned into specialists in design, branding, marketing and customer

service. Competitive advantage of individual firms may reside in the outside market in terms of market dominance or favorable reputation, or inside the company in the form of specialized resources or capabilities. To qualify as potential sources of competitive advantage the candidate resources must be valuable in the sense of being capable of producing a significant cost or quality improvement over competing products or services. Then to capture the associated potential profit, the conditions for controlling a semi-permanent monopoly must apply. In particular, the respective resources should not be accessible from alternative sources, no close substitutes should exist and imitations should be very costly to make.

References

Barney, J. 1991. Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17: 19-120.

Chandler, A.D. 1998. *Strategy and Structure*. Cambridge, Mass.: The MIT Press
Paperback Edition, 20th printing, (1st edition: 1962).

Chandler, A.D. 1977. *The Visible Hand. The Managerial Revolution in American Business*. Cambridge, Mass.: Belknap/Harvard University Press.

Chandler, A.D. 1990. *Scale and Scope: The Dynamics of Industrial Capitalism*.
Cambridge, Mass.: Belknap/Harvard University Press.

Chandler, Alfred D. 1994. The Functions of the HQ Unit in the Multibusiness Firm, in Richard Rumelt, Dan E. Schendel og David J. Teece: *Fundamental Issues in Strategy*. Harvard Business School Press, 323 - 360.

Chew, Donald H. (ed.), 1997. *Studies in International Corporate Finance and Governance Systems. A Comparison of the US, Japan, & Europe*, New York: Oxford University Press.

Martin, David. 2003. *Competition in Corporate Networking: the challenge from systems integrators and strategies for operators*, Analysis Report, January 2003.

National Research Council (NRENAISSANCE Committee). 1994. *Realizing the Information Future. The Internet and Beyond*. Washington, D.C.: National Academy Press.

Jensen, Michael. 1986. The agency cost of free cash flow: Corporate finance and takeovers, *American Economic Review*, 76, No. 2, 323-329, May

Jensen, Michael. 1971. Corporate Control and the Politics of Finance. *Journal of Applied Corporate Finance*, 4, 13-33.

Jensen, Michael. 1997. The modern industrial revolution, exit, and the failure of internal control systems, in Donald H. Chew (ed.), *Studies in International Corporate Finance and Governance Systems. A Comparison of the U.S., Japan & Europe*, New York: Oxford University Press.

Liebeskind, J.P. 1995. Knowledge, Strategy and the Theory of the Firm, *Strategic Management Journal*, 17, Winter Special Issue, 93-108.

Shleifer, A and r. W. Vishny. 1994. Takeovers in the 1960s and the 1980s: Evidence and Implications. In Richard Rumelt, Dan E. Schendel og David J. Teece: *Fundamental Issues in Strategy*. Harvard Business School Press, 403 - 422.

Spiller, Pablo T. and Bennet A. Zelner. 1997. Product Complementarities, Capabilities and Governance: A Dynamic Transaction Cost Perspective, *Industrial and Corporate Change*, 6,3, 561-594.

Spiller, Pablo T. and Svein Ulset, 1998, Organizing Global Seamless Networks. Contracts, Alliances and Hierarchies, in Erik Bohlin and Stanford L. Levin (Editors), *Telecommunications Transformation: Technology, Strategy, And Policy*, Amsterdam: IOS Press.

Teece, David J. 1986. Profiting from Technological Innovation, *Research Policy*,15, (December): 285-305.

Williamson, O.E. 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: Free Press.

Williamson, O.E. 1981. The Modern Corporation: Origins, Evolution, Attributes. *Journal of Economic Literature*, December: 1537 – 1568.

Williamson, O.E. 1985. *The Economic Institutions of Capitalism*. New York: Free Press.

Williamson, O.E. 1988. Corporate Finance and Corporate Governance, *Journal of Finance*, 43, 3, 567-591.

Williamson, O.E. 1999. Public and Private Bureaucracies: Transaction Cost Perspective, *The Journal of Law, Economics, & Organization*, 15, 1, 306-342

¹ Still, the number and types of core activities will vary dependent on the industrial tradition and historical development of each company. Core businesses are typically more numerous and diverse for large incumbents than for smaller new entrants.

² Note that being oversized or overdiversified is not a function of absolute size and diversity, but depend on whether the respective scale- or scope assets are more efficiently developed and utilized inside the larger integrated company than in some outside units selling their intermediate products and services to downstream producers/assemblers across a contractual market interface.

³ Interdependency is a more general term for such lock-ins. Interdependency characterize mainly vertical buyer-seller relations when investment in relationship-specific assets is needed to accomplish least-cost supply, but to some degree also horizontally related activities when fuller utilization of less-tradable shared resources is needed to accomplish least-cost production, marketing and sales of a broader range of related products and services. The less

relationship-specific the vertically specialized assets and the less tradable the horizontally shared resources, the less benefit can be derived from integrating the respective activities under one unified company, and the more often integrated companies will be replaced with alliances and supply contracts.

⁴ Patent rights may have different functions. It may protect the technology from leaking out to competitors or other companies, or it may facilitate trading by making it possible to license out the user right on more or less exclusive conditions.

⁵ To be sure, the merger and acquisition wave in the late 90s was based on the widespread belief that expansion, diversification and service bundling would help telecom companies capture extra profit. Such profit will, however, not exceed profit from specialized production and unbundled services unless the essential resources shared by these products and services are both superior and proprietary at least for some time before being copied or imitated by competitors.

⁶ Many incentive and control mechanisms used for management of internal transaction will resemble those used for external transactions, but in different strength combinations. Under corporate governance incentives are typically weaker and administrative controls stronger than under contractual governance. Some mechanisms are qualitatively different, especially the roles of the court having the final say only for external, not for internal transactions where the firm itself (represented by top management) will serve as its own ultimate court of appeal.

⁷ As they increasingly are disintegrated, spun off and privatized, core businesses with underlying critical assets and resources are also increasingly being internationalized, including the accompanying risks of foreign acquisition and the subsequent flagging out of headquarters and central staffs.

⁸ Ancillary and support services are included as integrated parts of each of these four services categories. Whereas some of these such as installation, maintenance, network repair, office renting, cellular tower services, and other infrastructure elements are increasingly considered non-core and consequently outsourced to specialist suppliers, others such as marketing, ordering, billing, diagnostics, and customer service are more often considered core support activities and closely integrated with basic core activities in either network operation, service provision, content provision or IT-/data services.

⁹ This kind of architecture separating service offerings from infrastructure facilities, has by the National Research Council's NRENAISSANCE Committee (1994) more generally been described as Open Data Network with four levels: ... *"i) at the lowest level is an abstract bit-level service, the bearer service, which is realized out of the lines, switches, and other elements of networking technology; ii) above this level is the transport level, with functionality that transform the basic bearer service into the proper infrastructure for higher-level applications (as is done in today's Internet by the TCP protocol) and with coding format to support various kind of traffic (e.g., voice, video, fax); iii) above the transport level is the middleware, with commonly used functions (e.g., file system support, privacy assurance, billing and collection, and network directory services); and iv) at the upper level are the applications with which users interact directly. This layered approach with well-defined boundaries permits fair and open competition among providers of all sorts at each of the layers"*.

¹⁰ Whereas bundling of final services takes place downstream at the retail interface, "bundling" of the upstream production capabilities (hardware/software and key expertise) takes place at the production assembly stage, where the respective network resources are bundled or configured into more complex interactive systems that produce the demanded service attributes

in terms of reliability, functionality, capacity, content delivery quality, additional support and cost.

¹¹ According to David Martin (2003), a freelance telecoms analyst at the British telecom research and consulting group Analysis: *"Unless operators take steps to counteract the trend towards using systems integrators for all corporate networking needs, the opportunity for telecoms operators to expand into higher value-added service provision may soon disappear."*

¹² These are also called Baby Bells, or Regional Bell Operating Companies (RBOCs).

¹³ This supports the prediction put forward by Michael Jensen (1991:16) about the likely effect of the legal shut-down of the US corporate control market: *"As a result, takeover today are likely to revert to the pattern of the 60s and the 70s, when large companies used takeovers of other companies to build corporate "empires". The recent AT&T acquisition of NCR is an example. And if the past is a reliable guide, many such acquisitions are likely to end up destroying value and reducing corporate efficiency."*

¹⁴ "On October 25th, 2000, AT&T announced plans to create a family of four new companies, each operating

under the "AT&T" brand, committed to uniform standards of quality and continuing to bundle each other's services through inter-company agreements. Under the company's restructuring plan, which it expects to complete in 2002, each of its major units will become a publicly-held company, trading as a common stock or a tracking stock." (see:

<http://www.att.com/restructure/>)

¹⁵ According to the AT&T CEO, Michael Armstrong: "The strategy was about bundling services that travel over the same network. For example, on our wireless network, we bundled a local wireless call, a roaming charge, and a long distance call—and charged a flat rate for it. That redefined the whole industry. In cable, we took a broadcast analog video business and

transformed the network into a high-capacity, digital interactive network, and we're bundling digital TV, high-speed Internet access, telephone service, and we're testing video on demand. That's bundling communications services "on net". What some people thought they heard was that we would put your cable bill on your telephone bill, or put your telephone bill on your cable bill, and they called that bundling. I guess you'd call that cross-network bundling. That kind of bundling doesn't keep customers or attract customers to any degree. We never put a big emphasis on bundling all kinds of services, only those that travel over the same network. This confusion really frustrates me." (Business Week Online, *Armstrong on the Record*, February 5, 2001).

¹⁶ This account is based on the company's homepage (www.bt.com) and articles in various newspapers and magazines.

¹⁷ According to information provided by The Economist, April 11, 2002, "The Verwaayen ahead".

¹⁸ This account is based on "Breaking up is fashionable to do...", Public Network Europe, December 2000/January 2001, Vol. 11, No 1, and "WorldCom to Realign Businesses, Create Two Tracking Stocks" from WorldCom's home page: <http://www.worldcom.com>.

¹⁹ See <http://www.worldcom.com> : WorldCom and MCI. Frequently Asked Questions, Q6 (July, 2001)

²⁰ See The Economist, May 4th 2002, "Yesterday's man", p 69.

²¹ This account is based on: "Telenor strengthens its efforts directed at customers and the market", Press releases, Telenor, April 4, 2001