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Changing patterns in telecommunications procurement

By Enzo Pontarollo* and Laura Solimene**

Summary

The purpose of this paper is to analyse recent developments in the telecommunications sector procurement. Telecommunication has traditionally been considered to be a "natural monopoly": This situation has turned the procurement of telecommunications equipment into a monopsony and, as a result of such a market structure, telecommunications carriers have always been able to exercise a strong influence on their suppliers.

Nowadays, the telecommunications world is undergoing great transformations. As a consequence of the privatisation processes, the operators' procurement tends to become less and less "public", both from the institutional point of view and in terms of behaviour.

In particular, three alternatives emerge in this respect, namely a UK type of approach where the operator tends to minimise the equipment costs, and the procurement policy becomes a sort of "shopping around".

The second possible alternative implies the attempt to revive the French strategy of "conflictual partnership", in order to reinforce the competitiveness of the national industry.

A third alternative is outsourcing. In this approach the telecom operator relies on a subcontractor for acquiring software and equipment and even complete networks. The picture emerging from our analysis in the European Union shows a mixture of all three approaches.

1. Introduction

The purpose of the paper is to analyse recent developments in the telecommunications sector procurement.

Telecommunication has traditionally been considered to be a "natural monopoly", which not only included the management of the service, but also the entire network and its equipment.

This situation has turned the procurement of telecommunications equipment into a monopsony and, as a result of such a market structure, telecommunications carriers have always been able to exercise a strong influence on suppliers, pursuing various economic objectives both of macroeconomic (regulation of total demand, enhancing economic growth) and of microeconomic nature (regional balance, technical progress, development of small and medium-sized firms).

With the co-existence of these various objectives, the conduct of the public purchaser was complex. In fact he has constantly been torn between two different types of behaviour. The first one was essentially based on the rules of the market while the other was interventionist, aimed at implementing those policies which contribute towards the development of certain technologies or to support certain

companies which would otherwise be excluded by strict business logic.

In the past, as various researchers have shown, telecommunications operators have generally used their power to develop national technologies and to protect the domestic industry and the internal market. The results, however, have been very different: For example, Finland, Sweden, and the United Kingdom have all sustained the research efforts of their most powerful companies or national champions. However, while the Swedish experience of technological collaboration between Televerket and Ericsson has been successful, the same cannot be said for the UK.

Likewise, the different efforts to influence the "structure" of supply have been successful in France, but not in Italy.

These results are the outcome of different institutions and of a different ability to manage the policies mentioned above.

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Nowadays, the telecommunications world is undergoing great transformations, which will most definitively have a great impact on both buyers and suppliers: Liberalisation is weakening public monopolies, thus opening the way to competition among a number of operators. At the same time, as a consequence of the privatisation processes, the operators' demand tends to become less and less "public", both from an institutional point of view and in terms of behaviour. This accounts for the drastic reduction in investment. Moreover, the introduction in many countries of a "price-cap" has considerably affected the prices of communications services, and new technologies have led to a decrease in the purchase of hardware and to an increase in the demand for software.

Therefore, the manufacturing companies have seen a reduction in orders with no hope of an increase in the short term, a situation which is having a further depressive effect on prices.

In any case, the greatest influence on the carriers' behaviour is the increasingly competitive nature of the market in which they operate.

Competition is also fostered by the EU's Directives on procurement in the so called excluded sectors, among which the telecommunications sector is to be found (Dir. 90/531 and Dir. 93/38).

In the following, we will attempt to assess the effects that liberalisation, on one side, and the new legal framework, on the other, are having on the procurement policies of the main telecommunications operators in Western Europe.

2. The EU Directives on Procurement

The first step in the liberalisation of public procurement at the Community level dates back to the early 1970s: The Works Directive was approved in 1971 (Dir. 71/305) and the Supplies Directive in 1976 (Dir. 77/62).

These Directives, however, did not have any significant impact on a practical level: There were many ways of avoiding them; they did not permit legal redress in the event of violations; and they did not apply to utilities. As a result of these shortcomings, they were considered to be "paper tigers".

It was only in 1988 that the situation changed. This resulted from the approval of new and more effective norms, among which was the fundamental Utilities Directive 90/531 (Dir. 90/531). This has been replaced by the Consolidated Utilities Directive 93/38 (Dir. 93/38) which covers services.¹ The latter was to be implemented by July 1994.

The aim of this norm is to promote open and non-discriminatory procurement policies. Such norms apply to all the telecom operators, be they public or private, for contracts in excess of certain amounts: Five million ECU for works and 600,000 ECU for supplies and services.

To guarantee openness in the markets, the Directive laid down a compulsory set of purchasing procedures:

- Specifications, where relevant, must be based on European standards;
- Invitations to tender can be open to all bidders, restricted to selected applicants, or negotiated with chosen suppliers, but in all cases the process must be competitive;
- Advertisements in other publications must not include additional information or precede submission to the Official Journal;
- Minimum time-scales are given for receiving bids or expressions of interest, dating from the dispatch of the notice, and designed to allow all suppliers an opportunity to bid;
- Selection of bidders and contract-award must be based on clear, objective, and pre-stated criteria of an economic nature;
- In most cases, purchases are either for the lowest price, or the most "economically advantageous" bid. The latter can take into account a wide range of criteria such as delivery times, after sales service etc.

However, it must be noted that even though the Community Directive is rigorous and based on the principle of competition, it takes the specific characteristics of the sector into consideration. It contains for some clauses, exemptions, and exceptions, which make the mechanism less rigid. The first element of flexibility of the Utilities Directive stems from the fact that purchasers in the utilities sector can use qualification systems for suppliers. Under these systems, purchasers can hold lists of suppliers "qualified" as suitable contractors in terms of their technical ability or financial standing. Qualification systems must be advertised in the Official Journal, be potentially open to all applicants, and have fair and evenly applied criteria.

Utilities operating such systems need not publish a call to tender for individual contracts, but can simply select qualified suppliers from the list and award a contract according to the restricted or negotiated procedures. They are, however, required to publish contract award notices in the Official Journal.

Correctly used qualification systems are a means of reducing the costs of the purchasing procedure to both purchasers and suppliers. Purchasers are saved the costs of re-checking the credentials of suppliers for each individual contract, and, by eliminating suppliers at this stage, the significant costs of putting together a bid will only have to be borne by a few.

The second element of flexibility relates to bidding. The Directive compromises between the objective of eliminating discrimination with respect to suppliers and the peculiarities of the utilities, which implies co-operation

¹ In the following "the Directive" refers to this directive (93/38).

between the purchaser and supplier, especially from a technological point of view. To fulfil this aim the purchaser can choose the most appropriate procurement procedure (open, restricted, or negotiated).

In the case of an open procedure, all interested suppliers may submit tenders, in the restricted one, only candidates invited by the contracting entity may bid, while in the case of a negotiated procedure, the contracting entities consult suppliers of their choice and negotiate the terms of the contract with one or more of them. Such a procedure is still based on competition, as the supplier must be selected through "publicly known qualitative criteria". It allows a more constructive relationship between purchaser and supplier, from which the purchaser may gain added value, for example, through encouraging innovation.

There is no doubt that this form of purchasing grants a high degree of flexibility to the purchaser, enabling him to develop "procurement policies" and it is the most widely used form of competition among telecommunications operators. All the utilities use it to a large extent in conjunction with the restricted procedure. France Telecom considers it as the standard one, indeed the only possible, for supplies. Its flexibility is further increased by the possibility that the awarding of contracts is based on the "most advantageous tender". Apart from the price, the criteria in this case are the terms of delivery or completion, management costs, the expected return, quality, and after-sale service.

In this way the contracting entity's margin for manoeuvre is increased even though the purchaser is obliged to specify in the tender the awarding criteria used to evaluate the bids and their relative importance.

The inherent risk of such a procedure, however, lies in the fact that it can allow preferential awarding in relation to some suppliers which would be hard to contest legally. Indeed, even if the criteria are known, one has no knowledge of whether any weighting is attached to them, or indeed of how they are applied.

An analysis of the Official Journal shows that the contract award criteria used by utilities in their contracts were overwhelmingly favouring the "most advantageous bid", which in 1994 reached 98.7 percent of the total awards attributed.²

This largely discretionary power granted to the utilities is strengthened further by article 20, which provides for twelve cases in which purchasing can be carried out without adhering to the norms of competition.

Some of these exceptions relate to particular situations, such as: The lack of an appropriate offer; the existence of only one supplier; or for reasons of extreme urgency. Other exceptions are more significant and relate to situations "where a contract is purely for the purpose of research, experiment, study or development..." (article 20.b). A further and even more important exception is allowed "in the case of supply contracts for *additional deliveries* by the original supplier which are intended either as a partial

replacement of normal supplies or installations or as an *extension* of existing supplies or installations, where a change of supplier would oblige the contracting entity to acquire material having different technical characteristics which would result in incompatibility or disproportionate technical difficulties in operation and maintenance" (article 20.e).

One important exception is "for contracts to be awarded on the basis of *framework agreement*..." (article 20.i). This involves agreements whose purpose is "to establish the terms in particular with regard to prices and, where appropriate, the quantity envisaged, governing the contracts to be awarded during a given period..." (article 1.5).

It is clear that the Directive regulates the procurement activities of utilities in a rigorous manner, but at the same time maintains their freedom of movement, a necessary condition for operators who require complex and sophisticated equipment.

If incorrectly used, however, such exceptions could make it possible to circumvent the norm through the use of the negotiated procedure at the most advantageous offer, thus weakening the effects of the Directives.

As far as exclusions are concerned, it must be noted that the Directive does not apply to activities which are directly exposed to competitive forces in markets where entry is unrestricted (preamble n.13). This includes deregulated sectors which have already felt the impact of competition.

The second exclusion relates to "certain service contracts awarded to an *affiliated* undertaking having as its principal activity, with respect to services, the provision of such services to the group of which it is part, rather than the offering of its services on the market" (preamble n.32), "provided that at least 80 percent of the average turnover of that undertaking ... derives from the provision of such services to an undertaking with which it is affiliated" (article 13).

Such exemptions have important implications especially in the area of software, which is assuming a greater role in telecommunications procurement.

From this brief outline it emerges that the Directive does not amount to a drastic break from the common practices of the utilities. In fact, with reference to procurement practices in Britain, A. Cox stresses that the utilities "are against adversarial, open and competitive supply chains in favour of a smaller supplier base and more long-term partnership relationships".³ The Directive should, rather, favour a gradual reduction of the more markedly protectionist policies until open competition is introduced into the utilities market. The liberalisation of voice telephony and of the infrastructure will have more drastic consequences for the procurement policies of the utilities.

² O'Loan (1995).

³ Cox (1994).

3. Technological innovation and the liberalisation of the markets

The telecommunications sector has undergone profound changes. The most important ones have been brought about by a series of technological advancements which have opened new horizons for the world of telecommunications.

These have led to the integration of progress in the information sector, and to the availability of systems with greater capacity. They have also led to the possibility of the direct transmission of various forms of numerical elaboration as a result of the progressive digitalisation of networks. The development and consolidation of the new transmission techniques of fibre optics, satellites, and wireless communications have made the phenomenon even more extensive.

These factors have had a great impact on telecommunications services, in that they have changed the pre-existing balance, modifying the very conditions of the supply of the service. On the one hand, the unit costs of transport have been drastically reduced. On the other hand, the demand for services is becoming increasingly high, both in terms of transport and higher capacity of information processing. At the same time the market for mobile services has boomed.

These phenomena have brought about an increase in competitive pressure for the incumbent operators. At first this involved value added services, long-distance communication, and mobile phones. Throughout the 1980s, a progressive reduction of the monopoly, with the exception of the local loop, occurred.

The beginning of the 1990s saw the development of a new phase in the liberalisation of the sector, which affected the market of local transmission services. This did not come about as a result of cost reductions in local networks, as was the case for long-distance transmission networks, but from the emergence of economies of scope between local transmission and the activities of new competitors such as:

- Long-distance network carriers which connect the large users by bypassing the operator of the local loop;
- Cellular network operators;
- Local Area Network (LAN) operators;
- Cable Television (CATV) operators;
- Electric network operators, etc.

In general these operators have used alternative technology which has been developed to provide services which are different from or complementary to that of fixed telephony (especially TV and mobile services). They have reached the point where they can even provide local services at an acceptable level of costs.

The development of such infrastructures created the opportunity for the immediate introduction of competition

Table 1

Investments of the main European telecommunications operators (local currency)

Operator	1990	1991	1992	1993	1994
<i>British Telecom</i> millions £	3,115	2,758	2,446	2,155	2,171
<i>France Télécom</i> millions FF	33,000	30,546	26,304	30,645	28,606
<i>Deutsche Telekom</i> millions DM	19,255	24,426	27,958	25,500	23,100
<i>Telecom Italia</i> billions Lire	9,715	10,750	9,478	7,529	8,300
<i>Teléfonoica</i> billions Pes.	692,8	601,4	419,4	356,2	381,9
Source: MDIS Publications.					

into the local loop, thereby eliminating or weakening the natural monopoly in the supply of access to traditional telecommunications services.

Therefore, market segments which are based on competition have multiplied. In a matter of a few years, this should lead to the complete liberalisation of the sector.

The second element of change relates to the privatisation processes of operators which were monopolies. This change has already been brought about in the United Kingdom, and it is under way in many EU countries. In others, however, the process has met with much resistance.

The first consequence of both the processes of liberalisation and privatisation is the drastic reduction in investments. Liberalisation transfers the onus of investment onto the newly liberalised operators, while privatisation compels the incumbent to maximise efficiency by reducing costs, one of the most significant ones being investments.

This hypothesis is borne out in table 1, which refers to the main operators in Europe.

The main operators in the EU show a decrease in investment. This is very striking in the case of the United Kingdom and Spain. It is less so in the cases of France and Italy but it is still significant. Deutsche Telekom is the only exception, but this is related to the process of German reunification and the massive investment required in the eastern countries. However, since the peak of 1992, Germany has also shown a decline, which continued throughout 1995.

The reduction in investments involves to varying degrees all areas of activity, as is shown by the investment trend of British Telecom.

The reduction in the overall amount of investments stems from a number of different factors. Some of these are related to the completion of large investments into the digitalisation of switching equipment, whereas others are more structural.

Table 2

British Telecom's capital expenditure 1990–94
(millions £)

	1990	1991	1992	1993	1994
<i>Network</i>	2,631	2,393	2,176	1,676	1,724
Transmission	1,378	1,310	1,173	835	896
Switching	952	799	722	545	493
Other Network	301	284	281	296	335
<i>Computers/Office</i>	205	168	170	152	219
<i>Vehicles</i>	197	152	131	272	153
<i>Land/Buildings</i>	185	113	54	66	51
Source: MDIS Publications.					

Apart from the different attitude of the private shareholder, the modification of the regulation mechanism and the introduction of "price-caps" have noticeably affected the behaviour of operators.

In a shareholder system there is no close link between prices and investment, since investment can be financed by reducing shareholder profit, and not only by increasing prices for customers.

This involves a substantial change in the relationship with the suppliers, who experience a reduction in their orders, bringing about a depressive effect on prices.

4. The effects on procurement

It is necessary to examine the effects which these developments have had on procurement at a Community-wide level, even though there is a great lack of empirical evidence.

According to UNICE, "there has been no sudden or dramatic increase in cross-border trade as a result of the public procurement directives. The most effective way for suppliers to compete for bids in other markets is — as in the past — by means of local presence, e.g. subsidiaries or relationships with local suppliers".⁴

These findings are consistent with those found by the English Department of Trade and Industry in the summer of 1994.⁵ They assert that the impact of the new Directive may be more in terms of joint ventures, take-overs, the setting up of subsidiaries, and subcontracting — developments which cannot be easily discerned from the data. This might happen because, as public procurement opens up at a national level, the newly successful domestic suppliers are more prepared to use foreign sub-contractors or equipment of foreign origin.

There is some evidence for this in the French case, where successful suppliers are frequently consortia of multinationals, with a French company as lead contractor. This type of behaviour — using a domestic lead company — could be the commercial response to the various Direc-

tives, minimising the problems of cultural, language, or locational differences in the negotiating process.

However, these findings could also point to an important divergence between the procedures and the behaviour of purchasers. The Directives govern the former and were introduced precisely because public purchasers lack the commercial incentives and constraints of the private sector. But it is possible that while enforcing outward compliance with a set of procedures, the legislation will not achieve its primary aim of ensuring objective contract award.

This divergence does not imply deliberately chauvinistic purchasing. Indeed, the high level of domestic sourcing in Denmark and the UK, who seem generally willing to comply with the Directives, suggests this is unlikely to be the case. There are clear advantages to local sourcing when it comes to: Established reputation as an indicator of quality, long-term supply relationships, ease of communication and delivery, knowledge of established purchasing patterns, etc. All these are likely to become more important when purchasers also have to filter a large number of bids.

On the other hand, as was repeatedly argued throughout the UNICE Conference, these results should not be surprising, since the new EU law has only been applied for three or four years. "It is certainly too short a space of time to switch from a system of political contract award, which has developed in all Member States over more than 100 years, to competition-oriented thinking and behaviour. This is especially true since many people still find difficulty in adapting their thinking and practices to the new dimensions of a single European market without internal economic borders. True, the borders have been removed, but they still exist in people's minds. In a field like public procurement, which still involves important political interests, regulations alone will not succeed in making people realise that "home market" now means the whole of Europe".⁶

In broad terms, this appraisal also applies to the telecommunications sector, even though the changes seem somewhat faster here. The opening of the markets has increased the number of telecommunications operators. Each operator has developed its own policy, increasing the number of suppliers evaluated on their competitive performance.

The telecommunications operators in a liberalised context are exempt from the application of Directive 93/38, because they are no longer public purchases. They carry out market procurement on the basis of agreements with general contractors who are usually suppliers of technology.

This pattern has tended to prevail in most European countries, both in the sector of mobile phones and that of CATV installation.

⁴ UNICE (1995).

⁵ DTI (1994).

⁶ UNICE (1995).

In some cases the outsourcing of services is almost complete, whereas in others operators have continued to purchase directly some materials, such as cables and other pieces of equipment, which are then installed.

The most striking example of outsourcing is that of TV Cabo Portugal, the company which manages the broadband networks and CATV service. In 1994 it launched a competition which involved connecting two million households. The tender was open, and the winner was charged with carrying out the whole operation (network infrastructure, the supply of equipment and cables for installation, the preparation of software for the network and customer services, as well as technical assistance).

As many as eleven different groups took part in the bid, including Alcatel, Siemens, Ericsson, Scientific Atlanta, and a number of other American companies.

In the end a short list of three operators was drawn up, out of which two winners were chosen. Sirti Portugal was assigned the task of cabling the cities of Lisbon and Coimbra, while the other winner was assigned the cabling of Porto. The winning factor was the price, as well as engineering capacity and the speed of carrying out the work.

We have a similar situation in France, where new operators have entered CATV. Time Warner, for example, is issuing fixed-price contracts for households. These include the provision of both the apparatus and cables and the planning of the network.

In Great Britain, so far, the companies which operate CATV have carried out the supply of equipment separately from the installation of the networks. Recently, however, there has been a tendency to employ two-year turn-key contracts. On a number of occasions operators have charged external companies with the planning of the network as well as the analysis of demand. This transforms the companies which carry out this function into partners of the operator.

The same phenomenon exists in the area of mobile phones: Each operator enters into an agreement with a main contractor, who sometimes becomes involved in the planning of the network and in its realisation, and who relies on other companies for some specialist tasks.

For the realisation of GSM in Italy, Telecom Italia Mobile (TIM) has entered into an agreement with Italtel and Ericsson, while installation is being carried out by Italtel Sistemi.

The second GSM operator, Omnitel Pronto Italia, has drawn up a turn-key contract with Nokia for the supply of equipment and network software. Nokia, accordingly, has assigned the installation of the networks to Sirti, which, however, does not have direct links with Omnitel.

Similar situations exist throughout Europe. In Germany, two private operators, the providers of D2 and E-Plus services, have both entered into turn-key contracts with Ericsson and Nokia.

In other words, the approach to procurement which seems to have emerged among the new liberalised operators involves two methods: The complete outsourcing of the construction of networks to either a producer of equipment (usually Ericsson, Nokia, or Northern Telecom for mobile phones) or to a network operator, such as Sirti. The approach is of maintaining a stable and longer-term "conflictual partnership" with a limited number of suppliers. This strategy is based on periodic tenders between a small number of pre-qualified suppliers, either domestic or foreign, using procedures compatible with the main provisions of the Utilities Directive.

The suppliers involved are nearly always the same ones, even though the partnership applies mainly to manufacturers, while outsourcing lends itself more to operators, such as Sirti, who have considerable experience in the installation of networks.

On the other hand, these two policies do not apply exclusively to the new operators, but also to the former monopolies, who have entered into partnership agreements with their suppliers for both deregulated and competitive activities.

The most significant example of this tendency is to be found in Italy, where Telecom Italia signed three partnership agreements with Alcatel, Ericsson, and Italtel-Siemens in October 1995. The aim of these agreements was to tackle competition. The suppliers were given wide responsibilities for the characteristics of products and services, quality standards, and times of completion.

In reality, the three companies will be informed about Telecom Italia's development programmes, so that products and services will correspond in the most efficient manner with required characteristics. The objective here relates to technological developments (such as the designing of a new generation user terminal). It entails an extensive exchange of information between the operator and the producer of the equipment.

The partnership agreement obviously opens the road to framework agreements for the supply of equipment and also includes forms of risk sharing. These agreements relate to activities which are not regulated (end user equipment, private switching systems, data transmission equipment); in other words, activities which lie outside Directive 93/38.

It is clear that the partnership agreements, which have been drawn up not only in Italy, but, for example, also by France Télécom, are very similar to the policies which openly competitive markets, such as the automobile and domestic appliance industries, are employing with their suppliers. These even involve forms of co-design and co-makingship.

However, it will be a while before such policies will be adopted in those parts of the telecommunications markets, which are still regulated. Old protectionist habits which are based on a logic which is at odds with that type of partnership will have to be given up.

5. Developments in the regulated sectors

The operators' first reaction to the approval of the Directive has been the delaying of its implementation through the use of long-term supply contracts. Many countries, especially Belgium, France, and Germany, but also Italy, have resorted to this device, by assigning orders through private negotiation.

This ploy was only used for a short time, and it was indeed followed by a more mature approach which acknowledged the very pragmatic nature of the Directive, and gives the purchasers a high degree of freedom. They can continue to use the old protectionist policies, but they can also recover margins of freedom in their relations with suppliers, and develop new and modern purchasing policies.

Initially, the freedom granted by the norm was widely used. This, as we have already seen, involved the use of negotiated procedures for the assignment of supply contracts to the most economically advantageous offer. At the same time, the exceptions allowed by article 20 have been widely used, especially those of sub-section "e" relating to additional deliveries and the extension of existing supplies or installations.

This exemption has of course been availed of in the procurement of switching equipment, where the operators have evidently continued to employ the traditional suppliers because of the homogeneity of the equipment. This is true especially for the completion of the digitalisation of exchanges, which, in Italy, involves about one third of them. The same holds true for the supplying of PDH (Plesiochronous Digital Hierarchy) transmission equipment, which is being progressively replaced by SDH (Synchronous Digital Hierarchy) equipment. The latter can take advantage of the enormous capacity of fibre optics and can provide excellent support for ATM (Asynchronous Transfer Mode) technology as a platform for broadband services.

There is obviously no sense in getting new suppliers for products that will be discontinued. It makes more sense to continue working with those with whom one has dealt with for many years.

The same applies to the software sector, in which many operators take recourse to associate companies, and are therefore exempt from the obligation of competition according to preamble number 32 of the Directive.

A third reason for exclusion relates to experimental supplies. In a phase in which there are a lot of innovations, a certain number of orders can be placed according to the exception. For example, the first phase of the Italian broadband cabling project was considered experimental, giving rise to orders for 1,000 billion lire: Fifty percent was assigned to a consortium consisting of Sirti-Italtel-Pirelli; Ericsson-Marconi-Tratos received thirty percent, and Alcatel was assigned twenty percent.

As a consequence of this, so far there has not been a significant number of Community-wide calls for competition.

From 1 January 1993 to 31 December 1994, for example, Telecom Italia carried out fifty-nine calls with ad hoc notices and sixty-eight with lists of qualified suppliers to a value of approximately 466 billion lire. In the same period, 160 contracts worth more than 3,100 billion lire were awarded under the exemption. The disproportion between the two figures is so evident that the Italian operator has felt the need to justify it in one of its internal documents as follows:

"The low number of Community-wide calls for competition held so far must be considered in relation to the gradual introduction of Community regulations, regarding which a transition period has been established for reorganisation; on the other hand, the more significant figure for contracts awarded under the exemption must be attributed largely to problems of a technological nature. A high percentage of telecommunications purchases present technological constraints, which make it impossible to change purchasing procedures in a short time ... such problems arise mainly in the area of switching, which involves equipment which is closely linked to the technology in use at the present".

The passing of time and a greater understanding of the opportunities offered by the Directive, however, have brought about further changes. Once again British Telecom has assumed a sort of leadership role.

Firstly, the British operator centralised its purchasing. In this phase it devoted much attention to the price variable, which was decisive in the final decision regarding the supply. This was followed by the elimination of suppliers who were deemed unable to fulfil the contracts. The third procurement phase of British Telecom entailed a wide use of framework agreements with a small number of operators, who have become closely involved in British Telecom's activities.

The situation regarding network construction and maintenance is significant: British Telecom carried out a European competition for the six regions of the country. Six companies were chosen, one for each region. Two-year contracts were drawn up: They show estimates of the volume of activity and are defined at fixed prices.

The tendency to carry out competitions for long-term framework agreements is increasing. Telecom Italia has opened two big competitions for the most interesting demand sectors, namely SDH transmission equipment and broadband networks.

The first competition covers supplies for 900 billion lire, while the second one is worth 5,000 billion lire, and is to be carried out over a number of years.

In both cases two calls for competition have been launched, which will enable the selection of a number of winners with whom three-year framework agreements will be drawn up. The competitions should reveal the truth about the prices, as the number of lots to be assigned is less than the number of competitors who have qualified. The long-term nature of the contracts, on the other hand, should grant the companies great advantages relating to better planning of activities.

For example, twelve competitors came forward for the broadband competition, but four were excluded because they failed the requirements. Five winners will emerge out of the remaining eight. Since the supply has been divided into five lots, there will be less winners than competitors.

No supplier can supply more than forty percent of the total, and two technologies will be chosen. The following highly qualified consortiums will participate in the competition: Italtel-Siemens, Sirti, and Pirelli, with the technological support of Scientific Atlanta; Ericsson/GEC and Alcatel Italia. AT&T, Bosch, Philips, DSC, and SAT will also participate.

The same criterion has been followed for the competition for SDH transmission. Eight suppliers will be taking part, some of whom (AT&T, DSC, and Bosch) have never supplied similar equipment to Telecom Italia.

It is therefore possible that some of these big competitions will bring new suppliers to Telecom Italia. Indeed, SAT has already been granted the supply of ADSL (Asymmetric Digital Subscriber Loop) equipment. This development is not peculiar to Italy.

The German cable sector is one in which procurement has always been protected. However, AT&T, which installed a fibre optic production plant in Germany, obtained fifteen percent of the amounts put forward for competition in autumn 1995. The Swiss company Bruggs was assigned five percent.

It is also worth noting the developments in France regarding the realisation of the experimental information highway. Eight companies took part in the international competition, out of which Alcatel, SAT, Matra Ericsson Telecom, and Siemens were chosen.

It is the first time that Siemens has succeeded to enter the French market. This means that even countries which show the greatest resistance to change cannot ignore what has started to happen.

A general effect of all these changes is the sharp reduction in prices. We do not have data at our disposal to illustrate this effect, but to our knowledge it is widely believed to be the case. In fact, the reduction of investments in table 1 not only reflects a decrease in the amount of purchases carried out, but also reflects price reductions of equipment and software. One operator has informed us that it has renewed a contract for the maintenance of computer equipment and software with a thirty-five percent cost reduction in comparison to the previous year.

6. Conclusions

In a previous work which also examined the problems of procurement in the sector of telecommunications⁷ two different alternatives regarding the development of the procurement policies were described.

"The first is a UK type of approach, which gives priority to

the competitiveness of the operator. In this case the procurement policies tend to minimise equipment costs without taking the suppliers' problems into consideration. In other words, the strategy of the operator is geared towards the maximisation of efficiency, and so the traditional problem of national suppliers versus international suppliers is overcome and replaced by a policy of shopping around.

At last, the operator no longer restricts itself to the traditional suppliers. Its strategy consists of the integration of activities that are strategic and have a significantly increased value, and the closing of the privileged channels of the national industry.

The second possible alternative involves the attempt to revive the French strategy of "conflictual partnership" in order to reinforce the competitive capacity of the national industry. Some of the stronger manufacturers, who have good links with the operators, are pushing in this direction with a request for co-operation.

If BT, the Scandinavian and US operators aim towards an approach of the first type, it is likely that France and possibly Germany will choose the second one".⁸

In a matter of merely three years, it seems that the relevance of these alternatives has changed, and so they need to be adjusted.

The systematic preference for national producers is undoubtedly weakening. This stems more from the fact that it does not suit operators any longer, than from the desire to adhere to Directive 93/38. Operators, especially those established after the liberalisation of the market, need low-cost alternative networks, and so the price of supplies is very important to them. This also includes the maintenance costs of the networks, delivery times, and the time to market. But, in broad terms, they prefer turn-key solutions with a general contractor to a policy of shopping around.

On the other hand, the nature of partnership policies is also undergoing change: Instead of guaranteeing suppliers long-term business relations, purchasers are seeking preferential relations with suppliers who can guarantee reliability, with whom strong technical links can be established, and with whom it will be possible to share the risks of technological development. At the same time, however, the innovative mechanism occasionally opens "technological windows" which allow the operator to develop competition between all its present or potential suppliers. This has a dramatic effect on prices, since the possibility of entering a new market stimulates strong competition between the companies seeking the contracts and the possibility to become partners with the purchaser. This is what is happening at the moment regarding SDH transmission and it could also be the case for ATM centres.

⁷ Pontarollo (1994).

⁸ Pontarollo (1994), p. 96.

In the regulated sectors the "framework agreement" is the best solution to balance the new objectives of purchaser with the competition rules envisaged by the Directive. Moreover, the Directive is used by the operator to justify a more competitive procurement to the traditional supplier.

This "framework agreement" can be viewed as the natural evolution of the partnership: On one side telecommunications operators and suppliers share risk and benefit related to the research and development of new products/technologies, on the other, the suppliers have guaranteed orders for a couple of years, after which they will have to take part in a new competitive tender.

It is clear that appealing to periodical bidding, when the "framework agreement" has expired, makes prices more competitive. In fact, the race for the award of the contract, and therefore for gaining a stable business relationship with the telecommunications operator, becomes difficult. This development can be called "limited partnership" and it is widely used in the transmission sector for the supply of the new SDH equipment. It is forecasted in the switching market for ATM technology.

The operators strategy is wide. They attempt to bind the strategic suppliers to them with the aim of developing a common technology. In order to gain a competitive advantage in the long-run the operators' partners are mainly coming from the high innovation sector. In other words the operators' behaviour becomes more sophisticated with respect to the past and it can be described as a choice of selected partners through a shopping around policy to find the more reliable ones.

Sometime, in particular for the construction of networks, the operators choose an outsourcing policy. The introduction of a more complex system from the technological point of view, pushes the operators to look for suppliers who are able to supply not only the apparatus but who are also able to support them with planning, installation, and maintenance. The new entrants in the market of telecommunications services rely more on a "complete outsourcing" as they are always pushed to face competition from the incumbent operators, and often they come from other industries and, therefore, they also lack the competence to manage the network.

All these changes on the demand side have an impact on suppliers.

Firstly the development of outsourcing requires the manufacturers to widen their competencies: From the simple supplier of products they are becoming able to assist the operators in all the phases connected with the utilisation of their products. The bidding for the award of contracts pushes the suppliers towards the creation of agreements or consortia among firms with complementary competencies. As a consequence the role of a "system integrator", who is responsible for all the activities of the consortium, is assuming a great relevance. Secondly, the "limited partnership" offers the manufacturing industry only a short-term guarantee of supply, and does not offer the possibility of long-term preferential business relationships. As a consequence the manufactures must respond quickly to the operators' needs and are compelled to reposition themselves with respect to market and technology. With reference to this last change, the European telecommunications manufacturing industry is depending more and more on the duopoly of Alcatel/Siemens for switching of fixed networks, as Ericsson is seriously re-examining its position in this sector.

However, it is important to underline that the strategies described above are a breakthrough with respect to the past, but at the same time they signify the beginning of an era of greater policy changes, the evolution of which is not clear yet.

The telecommunications operators are still in a transitional period and this will continuously modify their purchasing strategy. The great dynamism and the variety we found among the different operators induce us to think that the decisive influence on the procurement patterns will come from the full liberalisation of the sector, which all countries will reach sooner or later. Moreover, the role of industrial policy in this market will reduce its impact. The internationalisation of the market and the creation of strong alliances among operators and powerful multinationals will take us far away from the traditional picture we were used to in which the governments were trying to achieve, through public procurement, important objectives of industrial policy.

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Zusammenfassung

Die Entwicklung der Beschaffungspolitik von ehemaligen Telekommunikationsmonopolisten

Gegenstand des vorliegenden Aufsatzes ist die Analyse neuerer Entwicklungen von Beschaffungsformen im Telekommunikationssektor. Telekommunikationsdienste wurden traditionell als „natürliches Monopol“ angesehen, so daß die Beschaffungsmärkte monopsonistische Strukturen aufwiesen. Die Anbieter von Fernmeldediensten hatten daher gegenüber den Zulieferern eine starke Stellung. Als Folge von Privatisierungsprozessen unterliegen Einkäufe der Telekommunikationsfirmen nicht mehr dem „öffentlichen Beschaffungswesen“. Im Zuge der Neuordnung der Märkte bilden sich drei Formen der Inputbeschaffung heraus: ein „UK-Typ“, bei dem der Anbieter von Telekommunikationsdiensten versucht, seine Ausrüstungskosten zu minimieren; ein zweiter Typ leitet sich aus dem französischen Ansatz der „konfligierenden Partnerschaften“ ab und läuft darauf hinaus, die Wettbewerbsfähigkeit der nationalen Wirtschaftszweige zu stärken. Der dritte Typ schließlich besteht aus dem Auslagern von Einkäufen bis hin zur Erstellung kompletter Anlagen an Sub-Unternehmer.