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PART II
Chapter 6

Telecommunications Sector*

* For more information see: “Background report on Regulatory Reform in the Telecommunications Industry” available at www.oecd.org/regreform/backgroundreports

The national context for telecommunications policies

Telecommunications have been given a high priority by policy-makers in recent years and the sector has grown substantially in relative terms during this time. It increased its weight in GDP from 1.03% in 1985 to 3.82% in 1999, while the penetration of fixed telephone lines increased from 4.5 to 28.3 per 100 inhabitants as of end of 2001. However, Turkey still ranks far below the OECD average of 52.8 lines per 100 inhabitants.

Employment in the sector fell from a peak of 93 897 in 1993 to 73 177 in 1997. However, by end-1999 employment had begun to rise again, largely due to growth in the mobile sector. Telecoms revenue per employee more than quadrupled in USD during the 1990s but, again, remains among the lowest in the OECD area.

As in most OECD countries, Turkey's telecoms industry was a state-run monopoly. This regime continued until 1994, when Turkish policy-makers responded to major regulatory and structural changes occurring internationally, particularly among EU countries. The move to liberalisation began with legislation to remove telecoms services from direct government involvement by establishing Turkish Telecommunications Inc. (Turk Telekom) as a state economic enterprise. Up to 49% private ownership was provided for. At the same time the mobile telecoms market was opened to limited competition, with two operators starting business under revenue-sharing agreements with Turk Telekom in 1994. Internet service providers started to appear under service contracts with Turk Telekom. Further steps towards liberalisation lead to the issue of licences for mobile telephone services. The two GSM 900 operators were granted 25-year licences in 1998.

In January 2000, new legislation separated policy and regulatory functions by establishing an independent regulatory body, the Telecommunications Authority, the first sectoral regulator in Turkey. Most regulatory functions of the Ministry of Transport were transferred to the Authority. At the same time, Turk Telekom was placed farther from state control by granting it independence in business operations. It was also decided to end its monopoly in fixed voice telephony by 31 December 2003.

A further change was made in May 2001 through new legislation 4673 due to pressure from the International Monetary Fund (IMF), which included accelerated privatisation of Turk Telekom in its conditions for releasing suspended financial aid. This involved giving more authority to the Telecommunications Authority (especially in relation to licensing) and providing for full privatisation of Turk Telekom, but for a "golden share" to allow the government to address security and public interest concerns. The new law provided for up to 45% foreign ownership of Turk Telekom. The law also stipulates that the monopoly of Turk Telekom will end when more than 50% of Turk Telekom shares are privatised even before the end of 2003.

Following the passage of enabling laws in 1994, 1995 and 1996, privatisation efforts for Turk Telekom commenced with an analysis of the sector and the value of the enterprise, and development of a sales strategy. A 1998 proposal to the Council of Ministers was

for 20% of the shares to be sold to a strategic partner, followed by a public offering of 19%. The 20% block was offered by tender in June 2000, and then 33.5% in the second tender of December 2000. No bids were received at either tender.

Domestic and international factors contributed to the failure of the tender process. Investor concerns related to Turkey's general economic conditions, the competitiveness of Turk Telekom and other internal factors. Tenderers were required to include an international telecoms operator, but the limited management control attached to the tendered shares was unattractive to foreign investors. Some changes were made on the latter issue before the second tender, but these were seen as insufficient. Difficulties in attracting foreign partners were also related to the high debt levels many of these telecoms companies had incurred during 2000/2001, lead many companies to retreat from international expansion and investment. The new privatisation strategy of Turk Telekom is to be determined by the Council of Ministers.

Application for accession to the European Union

Turkey has been accepted as a candidate for EU membership (see Chapter 2). Preparation for accession has been a major driver of reform in telecoms as in other areas. Turkey has been working to align its law with those of the EU and attention is paid to ensuring newly enacted laws are consistent with EU law. The laws establishing the independent regulator and providing for the privatisation of Turk Telekom reflect this dynamic, as well as that of pressure from IMF. Telecoms regulations incorporate relevant EU decisions and directives. For example, the Tariff Ordinance conforms with the principles of efficient-cost basis, fairness, non-discrimination, transparency, and no cross-subsidisation, as provided by the EU Tariff Directive. Likewise, the Telecommunications Authority is preparing regulations on licensing, interconnection, national roaming, numbering, and number portability harmonised with the EU *acquis*.

In the short-term, Turkish priorities for alignment with the *acquis* relate to licensing and universal service and strengthening the capacities of the independent regulator. In the medium term they are to complete the transposition of EU legislation and implement comprehensive policy for the entire communications sector. In addition, the Competition Authority has emphasised the telecoms sector as a priority for harmonisation with EU competition practices and recommendations.

The recent economic crisis in Turkey and involvement of the IMF and World Bank have also had a direct impact on structural reform, in particular laws passed in 2000 and 2001 to allow in the end for 100% privatisation of Turk Telekom and the full opening of the fixed line market by 2004 or earlier if and when more than 50% of Turk Telekom's shares are privatised. These changes may not have been possible were they not conditions of release for IMF support loans.

Telecommunications market and participants

There is at present one fixed-line telephone operator (Turk Telekom) and four GSM mobile phone operators in the market. Turk Telekom's revenue grew by 60% (in TRL, or 8% in USD) between 1999 and 2000, driven primarily by expansion in its fixed telephony business. Fixed line retail call traffic decreased by 8.1% (domestic) and 7.6% (international calls) during 2001.

Limited competition has existed in the mobile sector since 1994, when a duopoly of Turkcell and Telsim was created. A tender for two GSM 1800 licences was launched in April 2000 where Is-Tim successfully bid USD 2.25 billion. This unexpectedly high bid was suspected to have been an attempt to prevent a fourth operator entering the market, as the tender for the fourth licence was to include a condition that the minimum bid must be equal to that paid by the third operator. In fact, no bid was made when the tender was held. The last entrant, Aycell (a subsidiary of Turk Telekom), was granted the fourth licence at the same price as Is-Tim. A unique and positive aspect of the Turkish mobile market is that, in contrast to other OECD countries, the incumbent company in fixed telephony entered the market only after other operators were well established.

Prospects for the mobile sector are brighter, as reflected in a rapid growth in the number of subscribers in recent years, although costs to consumers are high partly due to heavy taxes. The penetration rate reached 28.7% at the end of 2001. While Turkcell previously had a 70 to 75% market share in the duopoly market the entry of two new players can be expected to weaken this dominant position.

No decisions have yet been taken regarding (next generation) UMTS licences, but the Telecommunications Authority plans to announce the plan after conducting a market analysis.

The Telecommunications Authority is considering the possible introduction of asymmetric regulation by designating certain operators as having significant market power (SMP) and making them subject to additional obligations to control the exercise of their market power. This would be in line with the EU Open Network Provision (ONP) Directive.

Cable television services were tendered to private companies in 1991. These operate under 10 year revenue sharing agreements between the cable TV companies and Turk Telekom. There are 6 cable television operators, each with a local monopoly. Their infrastructure remains underutilised, with 900 000 subscribers compared with a capacity of 2.2 million.

Regulatory structures, institutions and processes

There are three main regulatory authorities: the Communications Supreme Board, the Ministry of Transport and the Telecommunications Authority. The *Communications Supreme Board* consists of the Prime Minister, Minister of Internal Affairs, Minister of Transport, Secretary General of National Security Council, Under-secretary of the National Intelligence Organisation and the President of the General Staff Electronic Communication. The Board, meeting a few times a year in case of a need, makes broad policy proposals to the Ministry of Transport in respect of wireless communication and monitor the progress in this respect. The Ministry of Transport provides secretariat services to the Board.

The Ministry of Transport is largely responsible for telecoms policy, with its former regulatory functions transferred to the Telecommunications Authority. The responsibilities of the Ministry are:

- to determine principles for establishing and developing telecommunications services in accordance with technical, economic and social and national security goals, and the overall public benefit;
- to determine telecoms service requirements and co-ordinate their provision;

- to regulate, investigate, and co-ordinate implementation of the communications services that fall outside the Telecommunications Authority's responsibilities;
- to participate in the activities of international organisations related to communications and to follow and ensure implementation of their decisions; and
- to monitor developments in the manufacture of communications equipment.

Created in January 2000, the *Telecommunications Authority* was the first sector specific independent regulator in Turkey. Its decision making body, the Telecommunication Board, comprises five members appointed by the Council of Ministers. They are legally protected from political interference, with limited grounds for dismissal available. The Authority issues licences, supervises operators and takes necessary technical and administrative measures against violations of the rules. Specific responsibilities include:

- To implement a frequency plan and ensure compliance by telecoms and broadcasting operators.
- To implement and to issue concession agreements, licences, and general authorisations.
- To regulate tariffs, contracts between service providers and users and interconnection and monitor compliance.
- To impose administrative fines on operators who breach certain regulatory and licence conditions.
- To determine and implement performance standards for telecoms systems and equipment.
- To investigate matters including anti-competitive behaviour, on its own initiative or upon complaints.
- To protect consumer interests.
- To provide opinions to all decisions of the Competition Authority relating to the telecoms sector, including those on mergers and acquisition, prior to their finalisation.
- To regulate interconnection, including determining which operators are responsible for providing interconnection, monitoring compliance and determining specific conditions and tariffs.
- To determine methods to decide tariffs, including those of leased lines, and price caps.

The Authority's responsibilities are in some ways broader than its counterparts in other OECD countries. In particular, it is authorised by law to take measures to protect national security, public order or public services as necessary. A regulator having such powers is unique in OECD countries. The exercise of such discretionary power can be highly political and is generally seen as the responsibility of elected authorities rather than an independent regulator. This mandate is too broad and should be reconsidered.

Licensing authority was transferred to the Authority in 2001 and includes determining the terms of licences, supervising compliance, and revoking licences. However, minimum licence fees are determined by the Council of Ministers on the regulator's proposal. For concession agreements, the Authority prepares plans for approval by the Council upon proposal of the Ministry of Transport.

The Authority is financed by testing fees, revenue from sales of publications, consultancy fees, fines and some budgetary funding as required. It is subject to inspection of the Court of Audits. It can investigate matters at its own initiative or upon complaint, request provision of information and documents and issue regulations or take other

administrative action. It must ensure interested parties can submit representations, which are publicly disclosed. It must also protect consumer interests.

The Authority has eight main functional departments, responsible for tariffs, licences and agreements, international relations and EU co-ordination, sectoral competition and consumer rights, spectrum management, spectrum monitoring and control, technical regulations and standards and sectoral research and strategies. It is staffed mainly by former Ministry of Transport and Turk Telekom staff. There are difficulties in obtaining staff with regulatory expertise, a matter that will become particularly pressing in view of the introduction of full competition in the fixed line market in less than two years.

While staff recruitment problems are common to many OECD regulatory authorities the Telecommunications Authority is particularly constrained by being able to recruit only from the civil service and by having salary level restrictions. These restrictions limit the Authority's independence and flexibility. For example, if it wishes to recruit a private sector expert, he or she must first pass the civil service examination and then be appointed to the lowest level in the Authority. Given likely increases in private sector staff demand, the Authority should at least have flexibility to recruit from outside the public sector. In the short term, use of outside consultants may be required. In the long run, it is essential to develop internal experts. The Competition Authority and the Energy Board have more flexibility in staffing.

Relationships between the Ministry of Transport and the Telecommunications Authority

Turkey is aware of the need for close co-operation between the two organisations, and has set out their relationships in the law. For example, the Authority prepares necessary plans regarding radiocommunication and telecommunications (e.g. a frequency plan), and presents them to the Ministry. The Authority is directly accountable in general to the parliament (Turkish Grand National Assembly). Some specific requirements are provided in the law, as seen above. In addition, the Authority is required by a new law of January 2002 to submit its annual report to the Council of Ministers.

Turkey has an administrative court system and parties contesting the Authority's decisions could turn to it for review of procedural or substantive review. Appeal to the administrative court does not automatically stop implementation of the original decision, this issue being decided case by case. This helps reduce tactical appeals aimed at delaying the implementation of decisions. However, one or two years, or more, can be needed to complete the judicial process and costs can be prohibitive to enterprises.

Telecoms regulators in many OECD countries use public consultation as an integral part of their decision making process. Consultation helps improve both transparency and regulatory quality. Both the Authority and the Ministry of Transport use a "green paper" approach extensively, consulting by publicising a draft policy or decision and inviting comments and suggestions. However, there is no legislated requirement for such consultation.

The Authority has also been working to establish a Telecoms Policy Council to assist it in developing strategies and making decisions. Its role and status are still under discussion. Membership is likely to include the regulator itself, Turk Telekom and other telecoms companies, cable companies, lawyers, etc. Such an advisory body has the potential to improve the quality of decisions and could also enhance transparency. However, a concern

is that there is currently no plan for consumer representation. Consumer involvement is essential, as consumers are often the most affected by the Authority's decisions.

Co-operation with the Competition Authority

The Competition Authority acts against anti-competitive practices in all sectors. Around one quarter of the Competition Authority's 80 staff specialise in the ICT sector which covers telecommunications. The Competition Authority has strong capacity to act in the telecoms sector.

Law 4502 provides a framework for co-operation between the Competition Authority and the Telecommunications Authority. The main requirement is that, when investigating matters in the telecoms sector, the Competition Authority must initially take into consideration the opinions of the Telecommunications Authority before taking any decision in relation to the sector, including mergers and acquisitions. The telecoms regulator may also request the Competition Authority's opinion to assist in ensuring its decisions on standard reference tariffs or that interconnections do not impede competition. Such statutory provisions help reduce uncertainty and prevent regulatory overlap, while also smoothing the exchange of confidential information for regulatory purposes. Notably, the two bodies are currently developing a protocol to address specific aspects of their working relationships.

Handling of consumer complaints

Turkey has limited formal provisions for dealing with consumer complaints in the telecoms sector. A general mechanism is the consumer rights councils run by district and provincial authorities, while the courts are also theoretically available. However, these procedures are too costly and time-consuming for most complaints and provide unsatisfactory outcomes, according to consumer groups. Complaints can be made to the Telecommunications Authority, which largely directs them to the telecoms operators who are the object of the complaint. Serious disputes that are not resolved by the operators are submitted to the Telecoms Board, which may or may not employ formal procedures. Notably, there is no formal mechanism for handling either general consumer complaints or industry complaints.

The regulator should establish complaints resolution procedures for consumers and users, following public consultation, and material on complaints and their resolution should be published regularly. Another possible means of improving complaints handling would be to encourage the development of an industry code of practice covering the industry's dealings with users. In this regard, the Telecommunications Authority has been working to establish a "consumer complaints centre" to improve consumer protections by clarifying and defining procedures for enforcement of consumer rights and for handling of consumer complaints. Furthermore, the Authority is currently preparing regulations to oblige operators to submit their standard consumer contracts for approval of the Authority. It is also working on new regulations to ensure protection of personal data consistent with EU Directive 97/66 and Draft Directive on Data Protection and Privacy on this matter.

Regulations and related policy instruments

To provide a telecom service in Turkey, a company requires an Authorisation Agreement, a Concession Agreement, a Telecom Licence, or a General Authorisation issued by the Telecommunications Authority. These are distinguished in law as follows:

- **Authorisation Agreement:** a contract between Turk Telekom and the Telecommunications Authority which sets out authorities, rights and obligations for the provision of telecom services.
- **Concession Agreement:** a contract between the Telecommunications Authority and an operator for the latter to provide telecom services and/or establish and operate infrastructure.
- **Telecoms Licence:** a permission by the Telecommunications Authority for the provision of telecom services and/or establishing and operating infrastructures.
- **General Authorisation:** a permission by the Telecommunications Authority authorising an operator to provide telecom services and/or to establish and operate infrastructures other than in other categories (ISP is an example).

A concession agreement is used when authorisation involves the allocation of scarce resources (*e.g.* frequency, satellite position, numbering); when granting particular or special rights and obligations to each operator is necessary; or when the service in question has to be offered by a limited number of operators for some reasons. A concession presupposes a nation-wide network.

Although the authority to license has been transferred to the regulator, the Ministry remains involved in concession agreements because they involve the allocation of scarce resources. The plans of authorisation regarding Concession Agreements are prepared by the regulator, then proposed by the Ministry for approval by the Council of Ministers. Minimum values of the licence fees are determined by the Council of Ministers on the regulator's proposal. Telecommunication Licence has two sub-categories; one is for when limiting the number of operators for local markets is necessary, and the other is when the limitation is not necessary. The Telecommunications Authority determines which of the form an authorisation should take.

The current legislation does not allow different provisions among operators except that fees could be differentiated reflecting different concession terms and conditions. Also, the Concession Agreements have been made publicly available upon request recently. However, the system of Telecommunication Licence accords the Authority with a discretionary power to determine the number of operators in a particular market. General Authorisation, despite the name, is in fact an individual licensing, and it is not clear how this is distinguished from the second type of Telecommunication Licence.

Best practice regulation in OECD countries is to use a licence only when a scarce resource is allocated and to use general authorisation otherwise. Turkey's licence regime could be streamlined by transforming Concession Agreements into a general Telecoms Licence with standardised and transparent conditions. In the medium term, Turkey should consider integrating different licence types "class licence" which gives free entry to all who can satisfy the general conditions. Notably, EU policy is to move member countries toward such a framework. In addition, the regulator should not have the authority to determine how many operators a certain market should have as this could be best left to the market forces.

An urgent task for the regulator is completing and fully implementing the current licensing system. The most urgent requirement, as the regulator itself is well aware, is to determine fully the minimum values of licence fees where this has not yet been done, which the regulator proposes and the Council of Ministers approves, so that telecommunications licences could be issued fully as soon as possible.

Internet service providers (ISPs) must obtain an individual General Authorisation under the current regime. This requirement is unnecessary since ISPs should have no specific or individual obligations, not to mention that there need be no limitations on the number of ISPs nor do they need allocation of scarce resources. Turkey should consider allowing them to operate without licence or authorisation requirements, as is the case in most OECD countries at present.

The six cable TV (CATV) companies currently in operation in Turkey operate under revenue sharing agreements with Turk Telekom because of Turk Telekom's monopoly rights allowing others to build their own networks only when Turk Telekom determines that it cannot build the network in question itself. The CATV companies have invested to build up their cable TV networks, but the ownership of these networks has been kept by Turk Telekom. On the other hand, these companies have exclusive rights in each operating area. However, the current legislation has enabled the Telecommunications Authority to issue Telecommunication Licences to CATV companies for establishing and operating their own networks. It means that after 2004 at the latest when the monopoly right of Turk Telekom ends, CATV services and networks will also be brought under full competition. This may change since the Authority is presently considering giving infrastructure licences to the CATV companies which would allow for full service and network competition in this market. They will also be allowed to offer voice telephony services and Internet access services using their networks. But they have to obtain a separate licence for the Internet access services. Whether or not additional licences will be needed to offer these services is yet to be determined.

Foreign ownership

Foreign ownership is restricted to 45% of Turk Telekom. Foreigners are allowed to own no more than 49% of telecoms operators that require Concession Agreements. Such restrictions result from a Constitutional Court ruling that the telecoms and energy sectors are strategic assets. Given the need for substantial foreign investment in the sector to speed market development, these restrictions should be abolished. Turkey's commitment to accession to the EU will, in any case, require their abolition. Foreign ownership restrictions are unnecessary for reasons of security, given the alternative instruments available to governments.

Rights of way

Telecommunication operators have an in principle right to use public roads and other public areas to laying cables without fee, as long as they do not permanently hinder the primary objective of the roads, etc. However, relevant authorities reserve the right to supervise excavation work and intervene if necessary. In addition, operators must obtain permission from the General Directorate of Highways when to lay cables in newly constructed toll roads.

Mobile operators must obtain authorisation from the local government, the Ministry of Environment, and/or the Ministry of Interior under environmental, zoning, and other laws and regulations in order to build base stations. This results in a long and costly process that should be simplified via a “one-stop-shop” procedure developed by the Authority to prevent right of way issues becoming an obstacle to market entry.

Regulation of interconnection

Even after Turk Telekom’s monopoly is abolished, many new entrants will be dependent on its networks to provide services to end users, while mobile operators also need roaming arrangements. Turkey is aware of the importance of establishing an interconnection regime, and has developed a regime in line with the EU Interconnect Directive. It is currently under preparation as the Interconnection Ordinance. Turk Telekom and other “interconnection providers” must provide interconnection based on the principles of equality, non-discrimination, transparency, cost-orientation, reasonable profit and under the same conditions and quality as they provide for their own services. If an agreement cannot be reached, the requesting party can apply for the intervention of the Authority. If the parties fail to reach an agreement with the Authority’s mediation the Authority sets the terms, conditions and tariffs of the interconnection. Mobile telecommunication is included in this interconnection regime.

Operators may incorporate in their agreements standard reference interconnection tariffs to be published by the Authority. The law also provides for interconnection agreements to be made publicly available. So far there is neither a reference interconnection offer by Turk Telekom nor standard interconnection tariffs published by the regulator. Turk Telekom has interconnection agreements only with GSM operators.

A general consensus has emerged in the OECD on the use of the Long Run Incremental Cost (LRIC) accounting methodology as best practice in price setting for interconnections as it emulates fully competitive market price levels. The Telecommunications Authority is now developing standard interconnection tariffs with this method covering mobile and fixed networks and it should shift the interconnection regime to one based on LRIC as soon as possible.

In relation to interconnection between mobile operators, national roaming has been an issue of dispute that necessitated the regulator’s intervention. Is-Tim (Aria) and Aycell, the two recent entrants to the Turkish GSM market, have not yet been able to conclude roaming agreements with Turkcell and Telsim. This is a major reason for the limited expansion of the coverage of the new entrants’ networks. The operators having been unable to resolve tariff disputes among themselves, the regulator was requested to intervene, and duly determined terms, conditions and tariffs for roaming in November 2001. However, the decision has been challenged by both sides and the case is still under judicial review. This case underlines both the importance of establishing standard interconnection tariffs based on LRIC and the need to ensure that regulatory decisions remain in force while court proceedings are undertaken.

Pricing policy

Price regulation in telecoms is a responsibility of the Telecommunications Authority. It can determine the means of calculation of tariffs and cap tariffs in certain cases, such as where cross-subsidisation is necessary to cover the cost of universal service obligation,

tariff rebalancing and tariffs of “dominant operators”. The law states that the Authority should avoid cross subsidisation between different services. An operator is subject to price regulation when it has a dominant position or significant market power. The determination of dominance or significant market power is made annually by the Authority and publicised.

The Tariff Ordinance defines two methods for tariff approval, namely cost-based and price cap methods. The Telecoms Authority has decided to use the price cap method for all services supplied by dominant operators from 2002. Detailed application procedures for the price cap method have been provided in the Price Cap Communiqué. For the moment, Turk Telekom is the only operator subject to price regulation. The method used to approve Turk Telekom’s tariffs is a Consumer Price Index – Productivity Factor (CPI – X) formula.

It is important that price regulation encourage tariff rebalancing to promote competition on the basis of efficient prices. The Telecommunications Authority has taken into account the need for rebalancing in its examination of Turk Telekom’s tariffs and rebalancing has progressed over several years. For example, the price disparity between local and the more distant call categories was 20 times in 1994 but narrowed to four times by 2000. OECD experience shows that the most effective way to achieve cost-based prices is through effective competition, rather than price regulation. However, in tariff re-balancing of residential services, the regulator must handle the sensitive issue of how quickly to manage the transition from less than cost prices. Excessive tariff control can reduce tariff flexibility, and since many new entrants use the incumbents’ price levels as a benchmark, such controls may reduce the impact of competition in pushing down prices. Therefore, constant review of market competition and price developments will be important, as will be efforts to streamline price control, when the Turk Telekom monopoly ends.

Quality of service

The Telecommunications Authority also regulates service quality. Service quality conditions must be included in Authorisation Agreements and in Concession Agreements under non-discriminatory terms. The regulator can include them in Telecoms Licences and General Authorisations if necessary. A common complaint among GSM operators concerns delivery of leased lines by Turk Telekom. The complaints include high prices, delayed delivery, physical quality of the leased lines, and arbitrarily changed conditions. Such problems shows the necessity of having Service Level Agreements (SLA) in place in Turkey that cover prices, delivery times, fault maintenance, and restoration. The regulator should consider requiring Turk Telekom to include such a SLA in their Reference Interconnection Offer.

Resource issues

The development of competition, and in particular in mobile communications, has increased demand for frequency spectrum in all OECD countries, including Turkey. Increasing spectrum demand increases pressure for improved spectrum allocation and more efficient spectrum use. Frequency planning responsibility lies with the Telecommunications Authority. It is also responsible for establishing rules and policy to control the issue of licences to radio operators. Most issues and decisions governing spectrum allocation are in direct responsibilities of the regulator. In respect to frequency

planning, the regulator has been working to align the National Frequency Allocation Table with the EU requirements.

The initial assignment of spectrum for mobile telecoms services was not competitively determined. The third GSM licence (GSM1800) was allocated on the basis of a competitive tender in April 2000. Following the failure of the competitive tender offer for a fourth licence, Turk Telekom (Aycell) was granted the licence at the same price as paid for the third licence.

UMTS (IMT-2000) licensing has been taking place in OECD countries recently, and a number have decided to conduct spectrum auctions. The extremely high prices paid in some countries (e.g. the United Kingdom Treasury earned USD 35 billion for five licences and Germany around USD 46 billion for six licences) have led to some reconsideration of methods of licence allocation, especially since some operators have decided not to participate in licence tenders where prices were viewed as excessive. Thus, some countries have chosen a comparative selection process ("beauty contest") over auctions, as in Ireland, or some form of a combination of the two methods, as in Italy. Nonetheless, a well designed auction process remains the most efficient and transparent way to allocate licences.

In Turkey, the UMTS licences will be Concession Agreements because they involve allocation of scarce resources. The Telecommunications Authority will announce detailed plans for introducing UMTS in 2002, The Authority has recently taken a decision on establishing a "UMTS National Coordination Board" with the presidency of the Authority and the participation of representatives from public organisations, operators and firms to take part in granting UMTS licences in order to conduct the relevant activities. The number of operators and method of allocation have not yet been decided. The economic conditions at the time of inviting applications could be a major factor.

Another point to be mentioned regarding the mobile sector is that the regulator sees the Mobile Virtual Network Operator (MVNO – essentially resellers of leased network services) as an important means to increasing competition. However, given that competition in the mobile market is not yet fully established, an early focus on MVNOs risks diverting regulatory resources from more important areas.

A fundamental problem with the mobile sector is that of heavy taxation. While competition in the sector has brought benefits to consumers, prices would be lower if not for the heavy taxation on operators and users. End users currently pay 55 to 60% of the invoice in tax, perhaps reflecting a perception that mobile telephone is still a luxury in Turkey. However, the relatively low penetration rate of fixed line telephony underlines the importance of low cost mobile telephones as a basic need in Turkey. Penalising the mobile sector is counter to the goals of telecoms policy in Turkey and should be reconsidered as soon as possible.

Numbering issues

The current National Numbering Plan used was developed by Turk Telekom in 1993. However, administration of numbering became the responsibility of the Telecommunications Authority in 2000 and the system is now under review. Call-by-call carrier selection and carrier pre-selection (CPS) services are not available, but the regulator is planning to introduce them as soon as the monopoly of Turk Telekom is over. These are important mechanisms to allow competition to take off quickly. Number portability is an

important means of promoting competition, making switching suppliers more attractive, but no regulation of this currently exists in fixed or mobile markets. The regulator should implement number portability in the mobile sector as soon as possible and prepare for its introduction to the fixed telephony market.

Universal Service Obligations (USO)

There is no explicit legal provision for universal service in Turkey, although the concept was introduced to Turkish law as “minimum service” in 2000. The requirement is consistent with EU standards. However, there is currently no implementing regulation on this matter. A key aspect is the financing of the obligation. OECD countries’ experience indicates two possible mechanisms. One is establishing a fund to which all operators contribute and from which the designated USO operator (or operators) is reimbursed. Experience has shown that this option avoids distortions in interconnection, tends to be more transparent and allows designating another operator, instead of the incumbent, to provide universal service in specific areas. The other option is that a supplementary charge is added to the interconnection charge. The second method is generally less transparent and efficient and should be avoided. Moreover, it is likely to be ruled out by a forthcoming EU Directive, making it unsuitable for Turkey.

Consumer protection

Consumer interests are best enhanced through effective competition, which will deliver lower prices, improved choice and better quality. However, there is a continuing role for government. While the government and the Telecommunications Authority have been working to ensure that consumers benefit from increased competition some issues remain, as noted above. These include an adequate complaints mechanism and improved information provision. The government and the Telecommunications Authority should increase their focus on consumer interests while implementing policies and regulations to promote competition among operators. Establishing and publishing quality of service indicators will also enhance consumer choice. Further, the regulator should establish concrete procedures and time limits for handling consumer complaints. The procedure should be speedy, simple, and inexpensive for ordinary consumers.

Regulatory streamlining

While sector-specific regulations are necessary to facilitate the transition of the market to full competition, they should be progressively withdrawn as the market becomes fully competitive. This requires regular review as the market evolves. The Telecommunications Authority should consider conducting and publishing a regular review of the market, which would both assist it in discharging its own responsibilities and highlight the benefits consumers are deriving from competition.

Convergence in communications markets

Convergence between the telecommunications and broadcasting sectors is advancing rapidly, posing regulatory challenges for many OECD countries. A number have begun studying the difficult issues of convergence and the implications for the legal and regulatory frameworks covering telecoms and broadcasting. Turkey should address this issue as soon as possible, in order to ensure timely regulatory responses.

Market performance

The rationale for regulatory reform is public benefit. This section assesses the performance of the Turkish telecoms industry in delivering benefits to users and consumers. The main elements of market performance examined are network development and modernisation, services based on leading edge technology and infrastructure, lower prices, better service, increased customer choice and benefit to users.

As the experience of OECD countries has shown, the market should show dynamic growth in terms of new entry, investment and development of services following full liberalisation. However, problems with market opening could slow growth and benefits to users. In this regard, needed regulatory measures, as discussed in the previous section, must be implemented in a timely manner. It is important that the full benefits of competition are realised and passed on to users. In the shorter term, as the telecommunications market is transformed from a monopoly to a competitive market, effective regulation will play a key role in ensuring this outcome.

Market development

The telecommunication sector increased its share in GDP from 1.37% to 3.82% during the 1990s and from 1997 – 1999 accounted for 2.2% of Gross Fixed Capital Formation. The number of telephone lines expanded from 6.9 million lines in 1990 to 18.1 million by 1999, more than doubling the penetration rate from 12 lines per 100 inhabitants in 1990 to 27 per 100 by 1999. However this compared to an OECD average of 46. Turkey retains among the lowest penetration rates in the OECD, ranking 27th in 1999.

Table 6 indicates that Turkey's public telecommunications investment weakened considerably in the late 1990s and only began to pick up as the threat of competition and privatisation of Turk Telekom began to become a reality.

Table 6. **Public telecommunication investment as a percentage of revenue**

	1986-88	1989-91	1992-94	1995	1996	1997	1998	1999
Turkey	65.2	28.9	31.5	24.4	17.0	17.3	11.8	19.5
OECD average	25.8	27.5	25.0	24.0	25.4	24.4	25.1	26.6

Source: OECD, *Communications Outlook 2001*.

In tandem with network expansion, Turkey rapidly digitalised its network and the rate of digitalisation of the fixed network was higher than the OECD average in the early 1990s. However it fell below the OECD average in the latter half of 1990s as the number of countries that completed 100% digitalisation increased. Turkey has had higher digitalisation rates of the mobile network, reflecting its relatively late introduction of the services.

The mobile telecoms market started with two GSM operators in 1994. The duopoly continued until early 2001, when two new operators commenced. Cellular mobile penetration has increased from 2.5 per 100 inhabitants in 1997 to 11.8 by 1999 narrowing the gap with the OECD average. By end-2001 the penetration rate reached 28.7 per 100 inhabitants, which is higher than for the fixed network.

Commercial ADSL services and cable modem based internet access services began in the latter half of 2001. Turkey had 884 574 CATV subscribers in 2000, a 73% increase since 1997, and the figure has reached to 908 000 at the end of 2001. The CATV penetration rate was 16% at the end of 2000.

Development of competition

As noted, full liberalisation will not arrive until 2004 unless privatisation of majority shares of Turk Telekom is realised earlier. Alternative fixed communication infrastructures have not been developed, yet CATV companies operate using Turk Telekom's infrastructure. In the GSM mobile sector some benefits have accrued to consumers and users. These have mainly been seen as price decreases and an expansion in the range of services. For example, when Aria entered the market, existing operators offered 18% reductions in access fees and 50% reductions in call charges. Resolving roaming disputes and introducing number portability will further enhance competition.

Price levels in other countries provide an important benchmark to assess the relative performance of telecoms markets. The OECD compares prices of a basket of telecoms services for residential and business customers in each of the thirty OECD countries. Turkey is ranked 28th both for the business basket and for the residential basket as measured in terms of purchasing power parities.

One characteristic of the prices in Turkey is that fixed part of the price is the lowest among OECD countries. However usage charges are high. Turkey has moved to rebalance its fixed telephony tariffs, but there is further room to adjust the tariffs to reflect costs.

International telecommunication prices

Turkey had one of the highest international collection charges in the OECD as measured in US dollars in the early 1990s. They fell substantially over the latter half of the 1990s, largely due to indirect competition, *e.g.* from call-back services. Despite this improvement, the charges remained among the highest in 2000. The OECD basket of international telephone charges as of November 2001 shows that Turkey has international charges of around three times of the OECD average both for business and residential calls.

Table 7. **OECD basket of international telephone charges, November 2001**

	Business excluding tax		Residential including tax	
	USD	USD PPP	USD	USD PPP
Czech Republic	0.78	1.90	1.02	2.48
Hungary	0.92	2.10	1.48	3.36
Ireland	0.51	0.55	0.70	0.76
Portugal	0.71	1.08	0.96	1.46
Spain	0.78	1.01	1.12	1.46
Turkey	1.51	3.98	1.89	4.98
USA	0.52	0.52	1.48	1.48
OECD average	0.89	1.27	1.22	1.75

Source: OECD and Teligen.

The availability of leased lines and their price levels are important for the development of competition since new entrants initially rely on these circuits to develop service. Leased circuits are also important for the development of Internet services. Turkey's tariffs for leased lines are only slightly higher than the OECD average, and so performance in this regard is relatively good.

Turkey's prices for cellular mobile are among the highest of the OECD countries, in part due to tax treatment, as noted above. Turkey's price level ranked the 21st in August 2000 and 28th in November 2001.

The total number of Internet subscribers in Turkey was estimated at around 2.4 million at end-2001, a penetration rate of 5.5%. This represents major growth from around 0.3 million at end-1999. The number of Internet hosts per 1 000 grew 175% in the six months to January 2000, and reached 3.3 per 1 000 in October 2000. However, Turkey still belongs to a group of the lowest penetration rates of Internet hosts.

Turkey has the lowest Internet access charges among OECD countries for both peak and non-peak times. However, the number of subscribers remains small. This seems to be the result of the low penetration of fixed line telephony, relatively low incomes, and limited Turkish language content.

Quality of service

Turkey had a high rate of fault incidents on telephone lines during the 1990s. Fault rates were 56 per 100 lines per annum in 1998, despite progress over 1990s. On the other hand, the percentage of faults repaired within 24 hours in Turkey is high at 90 to 95%.

Conclusion

Turkey will be the last OECD country to take the step to full liberalisation of telecoms markets. However, the regulatory regime has a number of important strengths, particularly due to the emphasis the government and the regulator have placed on the importance of market forces in recent years. Turkey has made major changes to institutional and regulatory arrangements to prepare for the creation of competitive markets. These include creation of the first sector-specific independent regulator and transfer of regulatory functions to it, establishment of the Competition Authority, introduction of a licensing regime, an interconnection regime, price cap regulation and universal service obligations.

As full liberalisation approaches, the regulator must complete the task of putting in place a sound regulatory framework. The Telecommunications Authority is aware of the need to implement detailed regulations in virtually every aspect of the sector. The fact that the regulator is aware of the different regulatory needs is itself a strength and is indicative of a regulator working in the right direction despite limited resources.

Another strength of the regulatory regime is the extensive use of public consultation in decision-making processes by both the Ministry of Transport and the Telecoms Authority, despite there being no legal obligation to do so. This improves transparency and the quality of decisions, ensures smoother implementation, and strengthens the independence of the regulator. The planned establishment of the "Telecommunications Policy Council" will further improve the quality of the regulator's decision-making if it does not exclude consumer representation and other stakeholders. The government should further strengthen public consultation by providing a legal basis for it and requiring decisions to be published.

As in other OECD countries, liberalisation of the telecoms market has increased the involvement of the Competition Authority in the sector, necessitating closer co-operation and co-ordination between the Competition Authority and the telecoms regulator. This will become more important as the sector opens to competition. In this respect Turkish law provides a good framework for working relationships between the two institutions. The protocol of co-operation, currently under development, is important in this respect.

Competition in the GSM mobile sector has improved and has brought benefits to consumers in terms of relatively low prices compared with other areas. Despite heavy taxation, the penetration rate has already surpassed that in the fixed-telephony market. Although actual competition is still limited because two new GSM operators entered the market only in March and December 2001, and the fifth entry is not foreseen in the immediate future, competition is expected to be strengthened through further regulatory measures such as in roaming and in number portability, bringing further benefits in terms of price and service.

Although the Turkish regulatory framework provides the potential for the creation of a competitive and efficient market, some regulatory issues need to be addressed. The Telecommunications Authority, which started to function only in August 2000, has far to go to complete the necessary regulatory structure for a fully liberalised telecoms market. With massive demands on limited human resources, the regulator should make use of external expertise and draw on best practice regulation already in use in the EU. The constraints on staff recruitment have limited its capacity to take necessary measures promptly. Lack of adequate resources may also compromise its independence. It should be allowed to recruit freely and be given more flexibility in salaries payable. This will strengthen it and help ensure high quality regulations.

The monopoly structure within fixed line telephony has limited the growth of the market and hence the benefits to users. This is evident from the low penetration rate of fixed line telephone access and low take-up of Internet services despite low prices. The government should accelerate market opening if possible before 2004. At minimum they should allow for licensing and network construction before 2004 so that new entrants will be in a position to offer services immediately once full liberalisation takes place.

Full privatisation is an important part of the liberalisation process in Turkey. To enhance the likelihood of finding an appropriate strategic investor for Turk Telekom the government's direct involvement in Turk Telekom's managerial decisions through the golden share should be eliminated. Moreover, foreign ownership restrictions on telecommunications operators are unnecessary and should be abolished. Such conditions will slow investment and access to new technologies and increase the cost of capital to domestic firms. The Turkish telecommunications market needs much more foreign investment.

Finally, imposing a tax of 55-60% on GSM mobile users will have negative consequences on the sector and the economy. The government should reduce tax rates on mobile users. Any revenue loss would be partially compensated through increased revenues from increased mobile subscriptions as a result of the lower costs to users.

Policy options for consideration

1. Ensure that regulations and regulatory processes are transparent, non-discriminatory, and applied effectively.

- The licensing regime should be streamlined using a general authorisation framework, rather than individual licensing.

Although the licensing regime is recently adopted, there is much scope for streamlining it. In particular Concession Agreements should be integrated into the Telecommunications Licence. The Telecommunications Authority should not have the discretionary power to decide the number of market entrants. The General Authorisation should be transformed into a general regulatory act so that new entrants only need fulfilment of general conditions and registration rather than individual licensing.

- An interconnection framework for fixed and mobile services based on a long run incremental cost methodology is needed. This needs to be linked with a cost allocation model applied to the incumbent.

A best practice interconnection framework for the mobile sector is needed and should be prepared in advance of market liberalisation for the fixed market.

- Service Level Agreements should be established and enforced.

Turkey should have Service Level Agreements (SLA) in place covering prices, delivery times, fault maintenance, and restoration to underpin access agreements between the incumbent and new entrants.

- Regulation for line sharing and bitstream access should be put in place as part of a wider framework for full unbundling.

Although full unbundling will be necessary once the voice market opens to competition, at this stage a framework should be implemented for line sharing and bitstream access to enable ISPs to compete on equal terms with the incumbent in the provision of Internet access.

- The Telecommunications Authority should establish concrete procedures for handling consumer complaints. It should ensure that operators implement and make public a code of practice for consumers. Operators should be required to have transparent procedures for complaints handling.

Most consumer complaints are dealt with *ad hoc*. This creates consumer uncertainty. Developing concrete procedures would reduce uncertainty and improve transparency.

2. Reform regulations to stimulate competition and eliminate them except where clear evidence demonstrates that they are the best way to serve the broad public interest.

- Revenue sharing agreements of CATV operators with Turk Telekom should be changed to non-exclusive licences. Transfer of CATV networks to the operators from Turk Telekom with just compensation should be undertaken rapidly.

In many OECD countries CATV operators provide the closest alternative networks to the incumbent's local loops. Allowing CATV companies to own and operate their own networks will stimulate Internet access and will form the basis for future competition.

- Price rebalancing should be completed as soon as possible. The costs of providing universal service should be reimbursed from a universal service fund derived from market participants.

Price rebalancing must be completed before fixed telephony opens to competition. A methodology agreed to by the industry should be used to determine the cost of providing universal service. If the regulator determines that costs are high, taking into account any benefits that may accrue from providing universal service, a funding system should be implemented to provide compensation. If this is required, a universal service fund to which market players contribute should be used.

- Foreign ownership restrictions should be reviewed, taking OECD best practice and the needs of EU accession into account.

Foreign ownership restrictions inhibit an open, efficient and dynamic market. Foreign capital is important for the achievement of universal service and the rapid development of the sector. Foreign capital is often linked with new technologies and best practice management. Governments have other, more cost-effective tools, which can be used to address concerns regarding network security and the national interest.

- Internet Service Providers should not be required to obtain a General Authorisation (individual licence).

Requiring ISPs to obtain a Telecoms Licence is unnecessary. Turkey should allow them to operate through a system of registration, as do most OECD countries.

3. Review, and strengthen where necessary, the scope, effectiveness and enforcement of competition policy.

- Explicit and concrete provisions governing forbearance and withdrawal from sector specific regulation should be considered. The Telecoms Authority should review the market regularly to evaluate the state of competition and determine when and how sectoral regulation can be withdrawn.

Even though the current necessity is the introduction of various regulations in the market, the requirement to streamline regulations and forbear from regulation, when and where appropriate, will continue to be an important task for the Telecom Authority. The market reviews of the regulator are an important initial step in this process. These should be strengthened.

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From:
OECD Reviews of Regulatory Reform: Turkey 2002
Crucial Support for Economic Recovery

Access the complete publication at:
<https://doi.org/10.1787/9789264176010-en>

Please cite this chapter as:

OECD (2002), "Telecommunications Sector", in *OECD Reviews of Regulatory Reform: Turkey 2002: Crucial Support for Economic Recovery*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264176010-8-en>

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