

Bosnia & Herzegovina – Country Summary



European Bank

European Bank for Reconstruction and Development (EBRD)

2012 Electronic Communications Sector Comparative Assessment

Bosnia and Herzegovina

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O: EXECUTIVE SUMMARY

This report presents the results of an assessment of the legal and regulatory frameworks for the electronic communications markets in 31 current and prospective countries of operation of the European Bank for Reconstruction and Development (EBRD). The results indicate that the legal and regulatory risk associated in investing in the sector varies considerably from country to country. This investment risk is higher in some countries than others largely because they have not yet implemented many of the components of legal and regulatory best practice for the electronic communications sector that are now common features in lower risk countries.

The information society model used in the European Union (EU) already embraces proven best practices for the electronic communications sector. Clear policy objectives for high speed broadband for all EU citizens are implemented in fully competitive markets in all EU member states. The EU framework encourages investment and provides effective consumer and investor safeguards. Competitively neutral state subsidies are also available as part of the overall EU best practice framework in order to help private sector investment build networks into the more remote areas.

In this assessment countries with the highest legal and regulatory risk are those where the most important aspects of best practice are absent. Those aspects include:

- Slow progress in fulsome implementation of market liberalisation, characterised by policy and state-ownership conditions that still favour incumbent operators over new market entrants.
- Slow progress in the implementation by national regulators of effective competitive market safeguards. The necessary steps here range from the relatively simple introduction of number portability and the removal of tariff subsidies, to the more complex regulatory mechanism of obliging dominant incumbent operators to give new market entrants access to existing telecommunications infrastructures in order to provide a competitive choice of modern services to consumers.
- The lack of adoption by policy makers and regulators of modern spectrum management methods to ensure that sufficient spectrum is available to satisfy market needs. The lack of available spectrum in some countries is likely to become a major concern, given the very high market demand for modern high speed internet and data services (mobile and fixed broadband services).

The main recommendation of this report on assessment is for the countries which are lagging behind to accelerate the adoption of legal and regulatory best practice. Existing market players and new entrants will benefit from better laws and regulations that are now common features in low-risk countries. Modern digital technologies can free up the previously monopolistic networks and give better consumer choice, quality and value for money, as well as driving innovation. More specific recommendations are to:

- Improve the speed and effectiveness of high-level decision making in the electronic communications sector by ensuring that sector policy is precise, more clearly stated and relevant to a broadband-enabled society.
- Improve the independence of regulation in the sector so that the decisions of the regulatory agencies are taken on the merits in a manner which fairly balances the interests of sector stakeholders, principally the consumers and investors. This often involves use of a transition to a “lighter touch” in regulation, leaving the decisions to the market, via consumer and investor choice (though the timing of such a transition will depend upon the maturity of the market in question).
- Remove unnecessary market entry barriers, such as lack of available spectrum and the requirement to obtain a licence even when scarce resources are not used, to better support market growth.
- Implement the normally expected competitive market safeguards so that consumers have more market choices and also that operators have greater and fairer wholesale access to existing infrastructures.
- Support “broadband for all” policies, bringing the benefits of the information society to all citizens, including, where necessary, appropriate, non-distortionary, state subsidies to encourage private investors to expand high speed infrastructures into the more remote areas.

1: BACKGROUND AND OBJECTIVES

1.1 Background

Under the Legal Transition Programme of the European Bank for Reconstruction and Development (the “EBRD” or the “Bank”), the Bank's Legal Transition Team has focused part of its work on the development of detailed analytical assessments of the state of legal transition in a number of commercial and financial sectors of its countries of operation. These assessments benchmark the developments in these sectors in each country against recognised international best practices, providing analysis of the existing legislative framework, comparison of that framework with best practice and the identification of gaps and legal and regulatory reform needs.

During 2012, as part of this programme of assessments, the EBRD undertook an evaluation and comparative analysis of the electronic communications sector of 31 current and prospective countries of operation (the “Assessment”)¹. The electronic communications sector in this context refers to the market for the supply of electronic communications services, principally across fixed or mobile platforms, or a combination of both. The countries which are the subject of Assessment are: Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Egypt, Estonia, FYR Macedonia, Georgia, Hungary, Jordan, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Moldova, Mongolia, Montenegro, Morocco, Poland, Romania, Russia, Serbia, Slovak Republic, Slovenia, Tajikistan, Tunisia, Turkey, Turkmenistan and Ukraine.

To prepare this Assessment report, EBRD contracted international consultants Premiere Dynamics Limited² and Great Village International Consultants Inc.³ (the “Consultant”), with contributing assistance from Cullen International⁴ and other sector specialists⁵.

The results from the Assessment are available in this report and on the EBRD web site (www.ebrd.com/law).

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2 Premiere Dynamics Limited is an independent consultancy specialising in information and communications technology. Contact peter.lundy@btopenworld.com

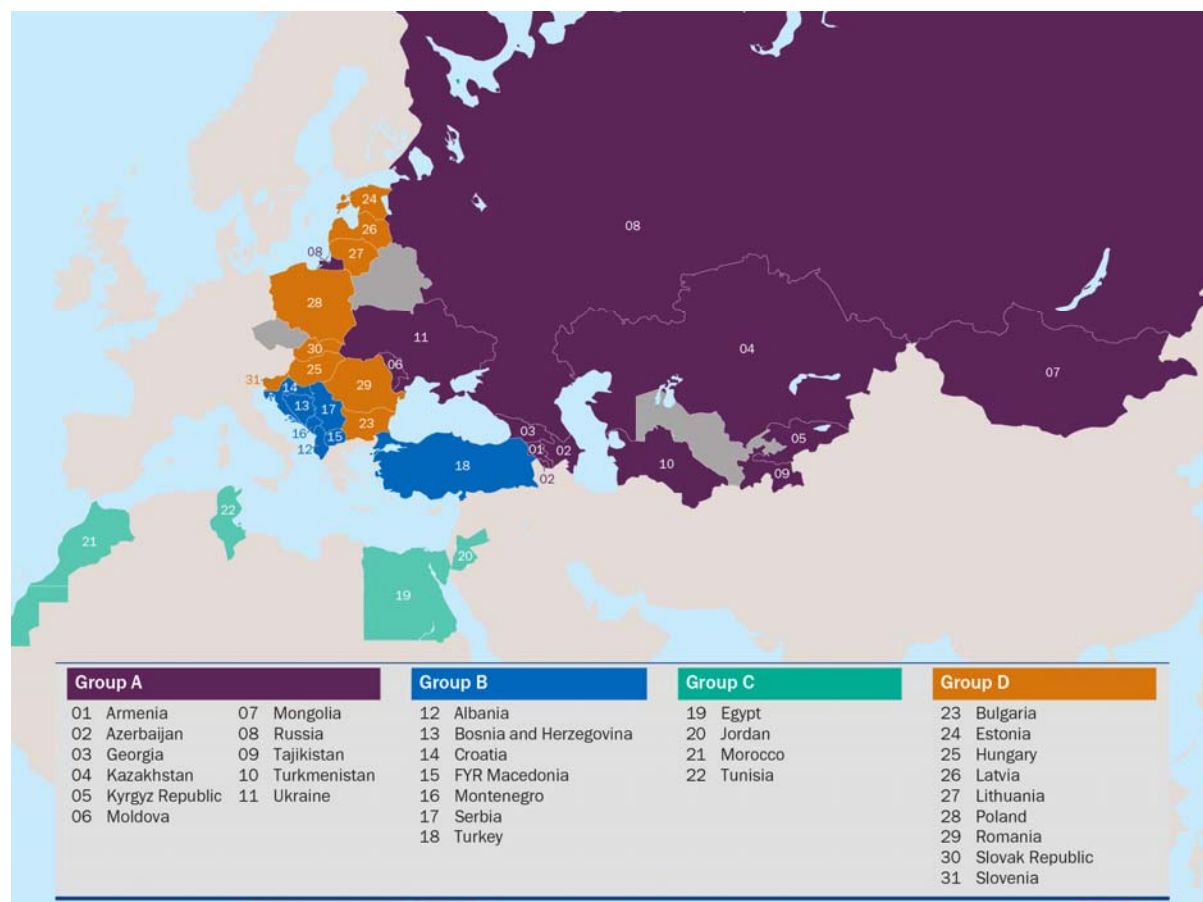
3 Great Village International Consulting Inc. (www.greatvillage.com) – contact wburnfield@greatvillage.com) provided legal analysis for Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Egypt, FYR Macedonia, Georgia, Jordan, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Montenegro, Morocco, Russian Federation, Serbia, Tajikistan, Tunisia, Turkey, Turkmenistan and Ukraine.

4 Cullen International SA (www.cullen-international.com) provided data and analysis on Albania, Bosnia and Herzegovina, Croatia, Egypt, FYR Macedonia, Jordan, Morocco, Montenegro, Serbia, Tunisia and Turkey. Contact Philippe.Defraigne@cullen-international.com

⁵ The Consultant also acknowledges the contributions made by the independent lawyers Ms Marina Gudtseva and Mr Dieter Kronegger, also Mr Djuro Otaseviov Law firm Nikolic Kolanovic Otasevic, Mr Steven Rawson of ICTLawyers and Mr Armen Ghalumyan.

1.2 Participant countries

The 31 countries participating in the 2012 Assessment are divided into four geographical groupings:



1.3 Objectives of the Assessment

The primary focus of the Assessment is to examine the conditions in place in the countries assessed that influence the decisions of investors in the electronic communications sector as to whether they will invest, or continue to invest, in the sector. The methodology of the Assessment is therefore an examination of whether the legal and regulatory frameworks for electronic communications in the Bank's countries of operation are sufficiently effective to secure fundamental sector transition and reform objectives. It therefore measures the state of play in the sector (such as level of approximation of local laws/regulations to recognised international standards, the level of implementation of regulatory reforms, etc.).

Through the Assessment, the EBRD also wishes to be in a position to assess the effectiveness of its technical cooperation efforts (in those countries where it has been active in this respect) as well as identifying new or additional technical cooperation that could be provided in furtherance of the Bank's mandate.

The specific objectives of the Assessment are:

- To define a best practice legal and regulatory framework that applies to a modern, competitive market for electronic communications.
- To compare the legal framework that exists in each participant country with defined best practice.
- To compare the implementation of the regulatory framework in each participant country with defined best practice.
- To produce a measure of legal/regulatory risk faced by investors in each country.
- To make recommendations that will move countries closer to a best practice legal and regulatory framework for the electronic communications sector.

1.4 The electronic communications sector

The focus of this report is the market for electronic communications, which includes fixed-line telephony and mobile communications services. The market also now includes broadband services, which provide consumers with digital capacity that enables voice, internet and broadcast services to be delivered to fixed connections (fixed broadband) and mobile users (mobile broadband).

The legal and regulatory frameworks which relate to the market that supplies and uses these services have undergone significant changes since the latter part of the 20th century. These changes have been driven by the rapid development of digital technologies and the internet. The traditional telecommunications and broadcast media services markets are being transformed by the influences of these technological developments. In particular, the traditional model of state-owned monopoly telecommunications and broadcasting supply has been largely replaced by the more sophisticated competitive supply of fixed and mobile services to meet the more sophisticated consumer demands for better quality services, mobility and higher speed of internet access.

The speed at which the electronic communications markets have been transformed has varied from country to country. One of the significant determinants of the speed of transition from monopolistic to competitive markets has been the progress made by each country's policy makers in adopting the enabling legal and regulatory frameworks. To put in place modern digital network infrastructures and competitive service delivery, the legal and regulatory frameworks need to be enablers, not barriers to investment. Investors, whether existing operators or new market entrants, require confidence in the legal and regulatory framework to induce them to invest. Since the wave of privatisations across the electronic communications sector in the 1990's and 2000's, the majority of investments in the sector are now private sector investments.

This Assessment takes an investor's perspective in examining the legal and regulatory framework for the electronic communications sector in each of the 31 participant countries. Where a country has a framework that is close to best practice, investors can be confident in the legal and regulatory conditions. With respect to these conditions, an investor can consider the electronic communications market to be low risk. Where the regulatory framework differs significantly from best practice, investors will be less confident and the risk will be higher, so the resulting investment is likely to be lower.

The results of the Assessment apply only to the electronic communications markets and in the context of the perceived investment risk in the legal and regulatory conditions applying to those markets.

2: ASSESSMENT METHODOLOGY

2.1 Taking an investor's view

The Assessment has studied the legal and regulatory conditions applying to the electronic communications sector in a wide variety of national markets. Investors take into account many factors before they decide whether to invest or not. This Assessment looks only at those factors which could influence their view on the legal and regulatory risk evident in the electronic communications sector in each country.

To conduct the Assessment, the legal and regulatory conditions have been examined in comparison with what investors would generally consider to be legal and regulatory best practice applying to the electronic communications sector. This approach attempts to put a value on how much legal and regulatory risk they face in each country, compared to a country where a best practice legal and regulatory framework is applied.

The countries with the highest implementation of best practice in the electronic communications sector present the lowest legal/regulatory risk to investors in that sector. The countries where best practice is not generally evident present the highest legal/regulatory risk to investors.

This section of the Assessment report provides a definition of legal and regulatory best practice in the electronic communications sector. It also describes the methodology for assessing the evidence of implementation in each country. In total there were eight components of legal evidence that were sought and five components of regulatory evidence, which together were used in the overall legal/regulatory risk Assessment.

This section also describes how numerical values have been placed on the degree of compliance of the country with the various benchmarks of legal and regulatory best practice, taking account of the eight legal components and five regulatory components. Lastly, the methodology describes how the various components have been weighted and combined to produce the overall legal/regulatory risk result.

2.2 What is legal and regulatory best practice in today's electronic communications sector?

The starting point for the legal and regulatory benchmarks used in the Assessment is the World Trade Organisation (WTO) 1997 reference paper⁶, which was used by WTO members to open their markets for telecommunications services. In addition to the WTO principles, the next descriptor of legal/regulatory best practice is the found in the European Union (EU), whose member states have implemented a harmonised and effective legal and regulatory framework since 1998 based on the 1997 WTO open market principles. Competitive markets now exist within each of the EU's current 27 member states.

The EU's legal and regulatory framework (or "*acquis communautaire*"- the accumulated legislation, legal acts and court decisions that constitute the body of European Union law) has been adopted in the legal acts in each EU member state.

Many non-EU countries have also decided to implement the EU framework. Croatia has already fully adopted the framework in full preparation for its anticipated entry into the EU in 2013. Another six countries included in the Assessment are either EU candidate or potential EU candidate countries (Albania, Bosnia and Herzegovina, FYR Macedonia, Montenegro, Serbia and Turkey). Their progress towards full implementation is monitored regularly by the EU's executive arm, the European Commission. The latest progress report "Supply of services in monitoring regulatory and market developments for electronic communications and information society services in Enlargement Countries⁷" has been used extensively in this Assessment because it describes all the detailed evidence of implementation across a range of legal and regulatory developments in all the EU candidate and potential candidate countries.

In some other countries, notably Armenia, Azerbaijan, Egypt, Georgia, Jordan, Moldova, Morocco, Tunisia and Ukraine, some progress towards the implementation of the EU legal and regulatory framework has

⁶ http://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_posturuguay_neg_e.htm

⁷ www.cullen-international.com/cullen/main.htm

been initiated including actions resulting from various bi-lateral/multi-lateral initiatives, namely the European Neighbourhood Policy⁸ (ENP) and Eastern Partnership⁹ (EaP).

In the remaining six countries of this Assessment (Kazakhstan, Kyrgyz Republic, Mongolia, Russia, Tajikistan, Turkmenistan) some features of legal and regulatory best practice have been adopted. For example, Russia has recently made significant amounts of spectrum available in order for competing operators to develop the market for high speed broadband services. In all countries, there are some features of best practice implementation, for example in ensuring that competing operators interconnect. However, many components of legal/regulatory best practice are not fully implemented in these countries. Notably absent are:

- A modern system of market definition and market analysis leading to proportionate market remedies for lack of competition.
- A modern cost basis for interconnection and infrastructure access charges.
- The removal of regulatory licensing barriers when there are no scarce resources involved.

The same evidence of progress towards legal/regulatory best practice for the electronic communications markets has been collected for all the countries of this Assessment.

2.3 Definition of best practice for legal/regulatory principles and implementation in the electronic communications sector

The Assessment considers key components of the electronic communications legal and regulatory framework of the countries studied as measured against the same key components of international best practice. The context of the Assessment is the overall legal and regulatory risk faced by investors in the sector. This focus means that the key components selected are related to the reliability of the legal and regulatory framework (in terms of legal and regulatory certainty and risk) as perceived by investors. In their eyes, the legal and regulatory framework needs to provide an enabling, not a restricting environment. The framework needs to provide ease of market entry, with no artificial legal/regulatory barriers. The framework also needs effective competitive safeguards to ensure that incumbent dominant players do not have more rights than new entrants and do not use their market position to limit consumer choice or to erect barriers to competitors.

Legal and regulatory best practice therefore supports investment and competition. The WTO Reference Paper provides the starting principles for a best practice legal framework. The WTO framework has been chosen because nearly all the countries in the Assessment are members (or candidate members) of WTO and are therefore committed to open and liberalised markets.

The EU electronic communications framework provides the key features of best practice for the legal and regulatory implementation of the WTO principles. The EU framework has been chosen because the significant majority of the countries assessed have already adopted, or are making progress towards adopting it.

⁸ http://ec.europa.eu/world/enp/index_en.htm

⁹ http://eeas.europa.eu/eastern/index_en.htm

The WTO principles relating to the electronic communications sector

In 1997 a total of 70 countries agreed to open their markets for basic telecommunications services in a multilateral agreement. Since then, more countries have become WTO Members and/or signatories to the agreement on basic telecommunications services¹⁰. The agreement itself is complex and allows each signatory to define its own set of commitments, for example, which services can be open for international competition, the categories of business models that would be allowed and whether to extend these commitments to other countries or not, through “most-favoured-nation” clauses.

The WTO agreement also includes provisions for how this international competition should be regulated. This is done through a “Reference Paper”¹¹, which defines a set of regulatory principles for the establishment of fair market conditions. In the context of the trade negotiations that took place, the countries were given the choice of making a formal commitment to accept the Reference Paper. Most WTO Members made this commitment. From a legal point of view, a commitment to the Reference Paper means that it is part of the international treaty and therefore binding on the WTO Members.

The WTO Reference Paper itself is a short document that sets out rather broad and general principles that have achieved a high degree of consensus. Its main points are:

Competitive safeguards

- Prevention of anti-competitive practices.
- Safeguards, including with respect to the use of consumer and technical information and the removal of anti-competitive cross subsidies.

Interconnection

- Interconnection to be ensured.
- Public availability of the procedures for interconnection negotiations.
- Transparency of interconnection arrangements.
- Interconnection dispute settlement.

Universal service

- Obligations that are transparent and not anti-competitive.

Public availability of licensing criteria

- Timely decisions and reasons for denial.
- Publicly available licence conditions.

Independent regulators

- Independence from operators.
- Impartial decisions and procedures.

Allocation and use of scarce resources

- Any procedures for the allocation and use of scarce resources, including frequencies numbers and rights of way, will be carried out in an objective, timely, transparent and non-discriminatory manner.
- Published spectrum allocations.

¹⁰ The full name of the agreement is Scheduled Commitments on basic telecommunications services annexed to the Fourth Protocol of the GATS (15 February 1997)

¹¹ http://www.wto.org/english/tratop_e/serv_e/telecom_e/tel23_e.htm

The EU framework for electronic communications

Technology and market developments, particularly in the latter part of the 20th century in electronic communications, gave rise to the development of a new regulatory framework within the EU. Its main aim was to strengthen market competition by making market entry easier and by stimulating investment in the sector. In 1998 all EU member states brought into force European legislation to liberalise their electronic communications markets. Since 1998 a number of additions to the EU framework have been made to improve competition and investment and to encourage a single European market. These measures (which have the status of legal directives that have to be adopted by all member states) have collectively been referred to as the “EU 2003 regulatory framework for electronic communications” and the “EU 2009 regulatory framework for electronic communications”.

The EU 2003 regulatory framework for electronic communications consists of five directives and provides the legal and regulatory basis for the development of competitive markets for telecommunications services. The five directives are:

Framework Directive 2002/21/EC contains the legal basis for independent regulatory authorities which regularly analyse the electronic communications markets, based on the principles of European competition law, and adopt necessary remedies when they identify market failures.

Access Directive 2002/19/EC describes in more detail the obligations that national regulatory authorities may impose on operators with significant market power (SMP) to ensure competition. In particular, SMP operators can be required to grant access to their networks and services under non-discriminatory, transparent and cost-oriented conditions.

Authorisation Directive 2002/20/EC ensures that everybody can provide electronic communications networks and services without requiring a licence and without paying inappropriate fees or taxes. This framework of general authorisation ensures easy market access and creates a competitive environment.

Universal Service Directive 2002/22/EC ensures that a basic set of electronic communications services is available in the whole country, even where it would not be provided in an open and competitive market. This directive also contains many consumer protection provisions.

Privacy and Electronic Communications (e-Privacy) Directive 2002/58/EC protects the personal data of users and subscribers of electronic communications networks and services.

In 2009 the European Union amended the above directives, without changing the main objectives (directives 2009/136/EC and 2009/140/EC). The amended directives are collectively called the EU 2009 regulatory framework for electronic communications and include the following main reforms:

- The right of European consumers to change, in one working day, their fixed or mobile operator while keeping their old phone number.
- Better consumer information.
- Protecting citizens' rights relating to internet access by a new internet freedom provision.
- New guarantees for an open and more "neutral" network.
- Consumer protection against personal data breaches and spam.
- Better access to emergency services and 112 emergency number.
- Greater independence for national telecoms regulators.
- A new European Telecoms Authority (called BEREC¹²) that will help ensure fair competition and more consistency of regulation.
- New European Commission opinion on the competition remedies for electronic communications markets.
- Functional separation of operators as a remedy to overcome competition problems.
- Accelerating broadband access for all Europeans.
- Encouraging competition and investment in next generation access networks.

12 The Body of European Regulators for Electronic Communications <http://berec.europa.eu/>

Components of EU 2003 and 2009 Regulatory Frameworks¹³

EU 2003 Regulatory Framework	EU 2009 Regulatory Framework
Framework Directive 2002/21/EC Access Directive 2002/19/EC Authorisation Directive 2002/20/EC	Amended by: Better Regulation Directive 2009/140/EC
Universal Service Directive 2002/22/EC Privacy and Electronic Communications (e-Privacy) Directive 2002/58/EC	Amended by: Citizen's Rights Directive 2009/136/EC
Competition Directive 2002/77/EC	Not amended
Radio Spectrum Decision 676/2002/EC	Not amended
-	BEREC Regulation EC/1211/2009

2.4 Converting the best practice principles and frameworks into a set of assessment criteria.

The legal and regulatory principles and implementation frameworks of the WTO and EU have been referenced in this Assessment because they have been widely recognised as best practice. Nearly all the countries of the Assessment are WTO members or candidate countries and the majority have already adopted or taken steps toward the adoption of the EU regulatory framework.

Legislative benchmarks for best practice

The legislative benchmarks have been defined with reference to the WTO principles and the implementation experience of the EU regulatory framework.

There are eight key benchmarks used in the legal framework part of the Assessment, which are summarised in the table below. For each benchmark, the situation in each country is compared with legal best practice to provide a score. To make up the overall legal component of the Assessment, these individual scores are weighted by the percentage shown in the table.

These percentages have been chosen to reflect the importance attached to the benchmark by investors. For example, the legal requirement for a regulator to make independent decisions based on clear evidence-based market analysis is highly valued by investors, because it gives them confidence that the regulator is concerned only with the best interests of the market, not other political or bureaucratic interests. For this reason the components concerned with regulatory independence, market analysis and enforcement are given the highest ratings.

¹³ http://europa.eu/legislation_summaries/information_society/legislative_framework/l24216a_en.htm

Legal benchmarks, weightings and components

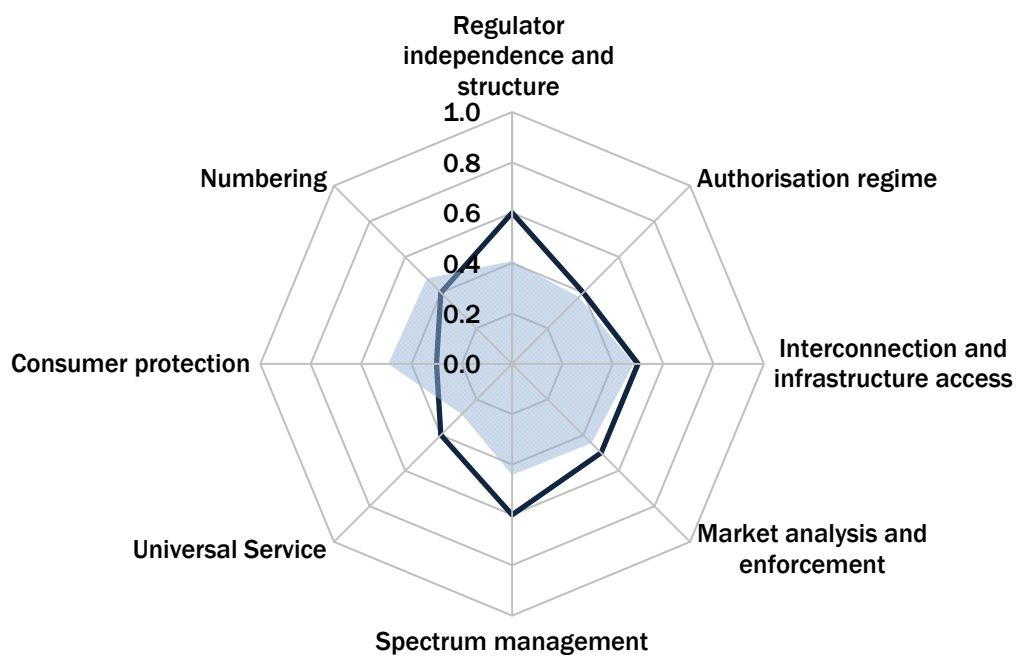
Weightings	Benchmarks	Components
20%	Regulator independence and structure	Separation of policy, regulatory and operational functions Structure and operation of the regulator
10%	Authorisation regime	Effective authorisation and licensing powers Where relevant, includes interim provisions transitioning from old to new legislative (particularly licensing) framework
10%	Interconnection and infrastructure access	Well defined interconnect, access, facilities sharing, and unbundling rights and obligations
20%	Market analysis and enforcement	Appropriate market analysis and other processes for designation of significant market power/dominance. Effective powers to impose and enforce additional obligations on dominant operators to prevent discrimination and abuse of dominance, including appropriate tariff regulation and other remedies. Effective dispute resolution powers and procedures Sufficient powers for the regulatory authority to enforce the law, impose fines or other effective penalties
10%	Spectrum management	Fully defined and effective spectrum management regime
10%	Universal service	Effective universal access/universal service powers and enabling framework Avoidance of competitive market distortions
10%	Consumer protection	Effective consumer protection provisions
10%	Numbering	Effective numbering administration
100%	Total weighting	The legal benchmarks together contribute 30% of the overall legal/regulatory risk assessment.

The legislative part of the Assessment is also intended to highlight situations where (as in many countries) the legislative regime lags behind the implemented regulatory environment in terms of alignment with international best practice. This typically occurs when national regulatory authorities or ministries have taken the lead in interpreting existing legislation (which can often be difficult and slow to amend) in a way that supports competition and market liberalisation and to promote higher investment in the sector.

The legal part of the Assessment is intended to provide a readable analysis that may be easily absorbed by investors, operators, international financial institutions, ministries, regulators and other key stakeholders.

Example of chart showing legal framework assessment results

Legal framework



Key: Extremities of the chart = International best practice
Subject country = Solid line
Regional average = Shaded area

Regulatory benchmarks for best practice

The regulatory benchmarks have been defined with reference to the WTO principles and the implementation experience of the EU regulatory framework. Firstly, it has been assumed in the Assessment that in every country the markets for electronic communications have already been legally liberalised. This assumption means that in the legal framework of the country there is already provision for the entry of competitors into the market for all electronic communications services, including the provision of a fixed-lines and local calls, national and international calls, mobile calls, leased lines, internet, broadband and broadcast services, all provided individually or in service bundles.

In some countries there are still some restrictions to what competitors can legally do, for example in some countries interconnection has to take place via a certain network operator. In other countries, international calls, or international internet links have to be routed via a single gateway or single operator, which negotiates the international arrangements. Where such examples of retained monopolies are still allowed in the law, the country can only achieve a low score on conformity to international best practice.

It is important to note that the regulatory part of the assessment is concerned only with the situation as it is found in practice. If there is a legal requirement that is not implemented by the authorities in a particular country, or not enforced properly, then the regulatory assessment is likely to be low.

A particularly important part of regulatory best practice is the implementation of ex-ante (anticipatory) measures to improve market competitiveness (for the benefit of consumers and suppliers in the future). This means that the regulator uses modern procedures to define and analyse relevant markets, based on evidence from the market. If this evidence leads to a finding that a particular operator or operators have significant market power, then the regulator should decide and implement proportionate market remedies (in the form of legal obligations on operators with significant market power) to ensure that this power is not used anti-competitively.

The EU regulatory framework includes best practices in the area of ex-ante regulation when applied specifically to relevant electronic communications markets. Best practice includes the enforcement of the market remedies expected by investors (in particular the competitive safeguards that ensure number portability plus wholesale infrastructure access, wholesale broadband access and local loop unbundling plus the cost-orientation of the charges for these wholesale services). These factors are included in the regulatory part of the assessment in the components concerned with market conditions for wired and wireless services.

The five key benchmarks used in the regulatory part of the Assessment are summarised below. For each benchmark, the situation in each country is compared with the components of the benchmark to provide a score. To make up the overall regulatory assessment, these scores are weighted by the percentage shown. These percentages have been chosen to reflect the importance attached to the benchmark by investors. For example, a very significant part of investment is currently occurring in services requiring frequency spectrum (including mobile services and fixed wireless services). This component ("market conditions for wireless networks and services") is therefore given the highest weighting.

Regulatory benchmarks, weightings and components

Weightings	Benchmarks	Components
15%	Sector organisation and governance	The structure of the electronic communications sector, including ownership, regulation funding and procedures.
30%	Market entry for wired networks and services (including licensing).	Ease of market entry by operators and service providers who base their services on metallic, as opposed to wireless (spectrum) based methods. The competitive conditions in the market - what the new entrant is and is not allowed to do.
35%	Market entry for wireless networks and services (including licensing/authorisations).	Ease of market entry by operators and service providers who base their services on wireless (spectrum) methods. This includes mobile services and fixed wireless services. The competitive conditions in the market - what the new entrant is and is not allowed to do.
10%	Fees and taxation on electronic communications services.	The types of payments required from operators/ service providers to the regulator or ministry in order to start and continue providing their services.
5%	Progress towards implementation of Information Society.	The country's environment for conducting business and providing services electronically
100%	Total weighting	The regulatory benchmarks together contribute 70% of the overall legal/ regulatory risk assessment

2.5 Putting the legal and regulatory scores into an overall risk assessment

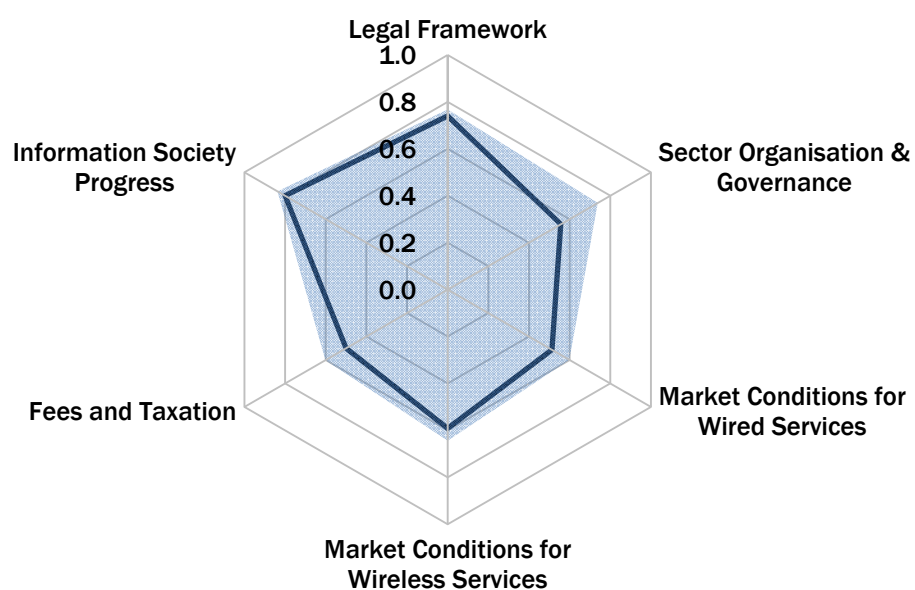
The eight components of the legal part of the assessment and five components of the regulatory part of the assessment are combined to form an overall legal/regulatory risk assessment. This produces an overall score, which aims to reflect the relative legal/regulatory risk faced by investors in the electronic communications markets in each country.

Calculation of the overall legal/ regulatory risk index

Weighting	Score used	Key Components
30%	Legal assessment score	Legal framework
10%	Regulatory assessment score 1	Sector organisation and governance
20%	Regulatory assessment score 2	Market conditions for wired services
25%	Regulatory assessment score 3	Market conditions for wireless services
10%	Regulatory assessment score 4	Fees and taxation
5%	Regulatory assessment score 5	Information society progress
Total 100 %	Combined legal/ regulatory risk	8 legal components and 5 regulatory components

Example of chart showing overall legal/ regulatory risk scores

Overall legal/ regulatory risk



Key: Extremities of the chart = International best practice

Subject country = Solid line

Regional average = Shaded area

Overall legal/ regulatory risk = 66 (0 is the highest risk, 100 is the lowest)

2.6 Information sources

The Consultant has drawn upon a variety of sector data and information, both inside and outside each country. Some background information was readily available and easily accessible for desk research. These sources included:

- The European Commission
- The International Telecommunications Union
- EBRD.

Together with the web sites of:

- National regulatory authorities
- National governments and their constituent ministries
- Official national data sources
- Local technical and general news and industry web sites
- Published operating company reports
- Other international organisations and consultancies.

For the Group A countries (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan, Ukraine, Georgia and Mongolia) and Group C countries (Egypt, Jordan, Morocco and Tunisia), we have relied on questionnaires sent to the national regulatory agencies in each country, backed up by discussions with ministries, national regulatory agencies and market participants.

For the Group B countries (Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Turkey) the required data was collected alongside the parallel European Commission project “Supply of Services in Monitoring Regulatory and Market Developments for Electronic Communications and Information Society Services in Enlargement Countries” This project was awarded to Cullen International in 2010. The latest monitoring report was published in July 2012 on Cullen International’s web site¹⁴.

For the Group D countries (Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia) we have relied on the various reports issued by the Body of European Regulators for Electronic Communications (BEREC) and The Communications Committee (COCOM), plus the official web sites of the national regulatory agencies in each country.

Where possible, face-to-face meetings were arranged with the national regulatory agencies in each country to add clarity to the understanding of the legal and regulatory frameworks and the status of implementation of key legal/regulatory features (such as number portability, access to infrastructure, interconnection arrangements, market analysis progress, availability of spectrum for sector development and status of information society implementation). Wherever possible, existing service providers were consulted to gauge their confidence in the applied legal and regulatory frameworks, and to assess the current investment priorities in the sector.

The specific information used in the assessment (for all countries) was as follows:

- The existing primary legislation current and published at the end of 2011, with amendments, where available¹⁵.
- The internet usage data from the 2010 ITU World Telecommunication/ICT Indicators database.
- Any secondary legislation relevant to the sector and published on the national regulatory agencies’ web sites, or made available directly from the sector regulator.
- The responses to the regulatory questionnaire (where returned) and/or the answers given during discussions with the regulator during face-to-face meetings or by email and/or telephone conversation.

¹⁴ www.cullen-international.com/other-services/studies.htm?lng=en (see Enlargement countries telecommunications monitoring – 3, 2011-2013.)

¹⁵ Efforts were made to obtain relevant amendments to national legislation impacting the sector, however in some cases all such amendments were not available or it was not possible to confirm that amendments obtained were comprehensive. In some cases official translations of legislation and regulations were not available so unofficial translations were used.

Assessment methodology

A draft summary report for each country was provided to the relevant national regulator for review and comment. Where comments were received from the national regulator on the draft report for their country, these comments were taken into consideration in finalising this report.

2.7 The regulatory assessment questionnaire

A questionnaire was designed by the Consultant, for completion by the national regulatory agencies in those countries where the required information on the implementation of the regulatory framework was not available directly from the national regulatory agency web sites, or from up-to-date reports produced by BEREC, the European Commission or Cullen International. This regulatory questionnaire contained a total of 65 questions seeking two types of data:

- Simple yes/no responses (so that the absence or presence of a particular condition could be determined, for example number portability).
- Descriptive data about the market and its regulation (for example, the level of regulated interconnection charges).

2.8 Data consistency

The data used in this assessment can assume to be (unless otherwise stated):

- For items of quantitative data (for example market penetration figures) the data are correct at the end of December 2011.
- For descriptive data about the implementation of a key regulatory measure, for existence of number portability) the data are correct up to the end of June 2012.

Special note on mobile broadband penetration

At present there is no consistent measurement method applied to mobile broadband penetration across all the participant countries. The standard definition used in the EU is the number of active users with data subscriptions separate from the voice subscription (or part of a bundle containing paid voice and data usage). In some Group A countries, the reported number of mobile broadband users is simply the number of subscribers who are served by broadband enabled technology (for example 3G), regardless of whether the subscribers have separate or bundled data subscriptions. Typically, when changing networks from GSM to 3G service capability, the service providers report that around 25 to 35 per cent of their existing voice subscribers take up a separate or bundled data subscription.

To ensure comparative data for mobile broadband subscribers, where the EU definition is not used by a country when reporting its mobile broadband subscribers, it has been assumed that the number of mobile broadband subscribers is 25 per cent of the total number of mobile subscribers being served by 3G networks

3: ASSESSMENT RESULTS

Following the collation and analysis of collected data, the results were assembled into two comparator sets: firstly, sub-regional comparison, dividing the 31 countries into 4 sub-regional groupings; and secondly, full cross country comparison, comparing all 31 countries individually against international best practice and against each other. The results of the sub-regional comparison can be found immediately below, while the full cross country comparison can be found towards the end of the Assessment.

The four sub-regional groupings used for regional comparison immediately below are:

- Group A countries comprise Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan and Ukraine.
- Group B countries comprise Albania, Bosnia-Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Turkey.
- Group C countries comprise Egypt, Jordan, Morocco and Tunisia.
- Group D countries comprise Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia.

Group B countries

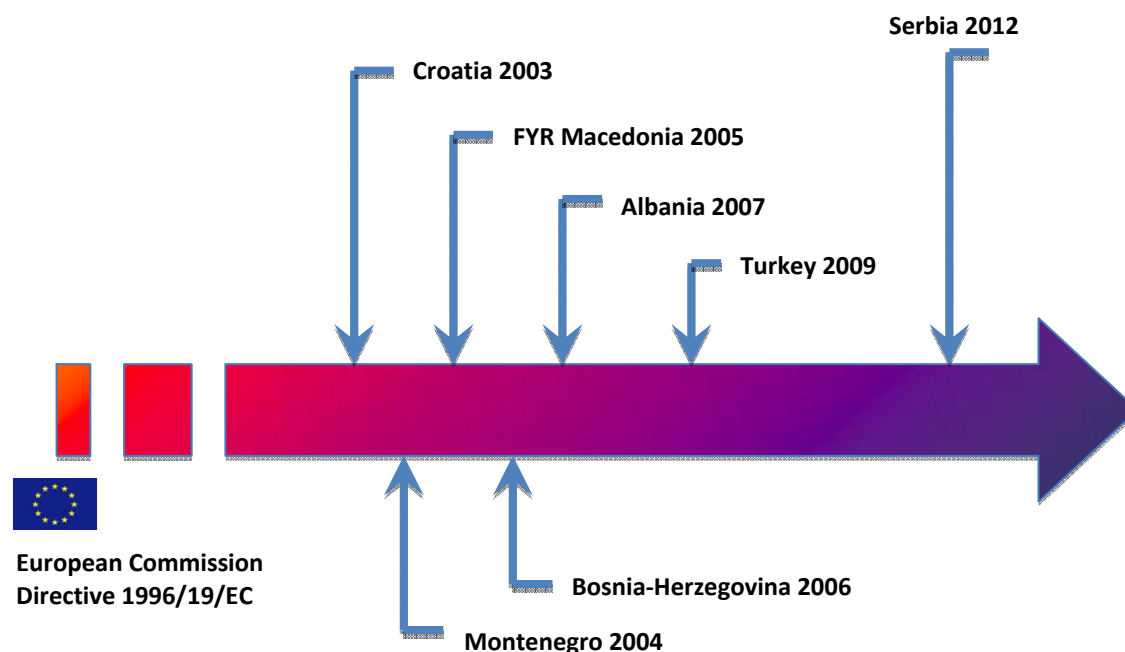
Regional overview

The seven countries assessed (Albania, Bosnia-Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Turkey) have a total population of around 95 million (2011), with Turkey the largest (74 million) and Montenegro the smallest (0.6 million). Apart from Croatia and Serbia, penetration of telecommunications services is low by EU standards, and in the case of Albania, very low.

Fixed-line penetration averages 23/100 population for the Group B countries, compared to an average EU penetration of 40/100 population. Fixed-line penetration reaches the EU average in Serbia and Croatia, but the remaining countries are below the EU average, with Albania having a rate of less than one third of the EU.

Average mobile subscriber penetration in the region is 97/100 compared with the EU rate of 127. Montenegro and Albania have the highest rates at around 185/100 population, Serbia also has higher levels than the EU (140/100 population). The remaining countries are below the EU average, with Bosnia-Herzegovina the lowest at 83/100.

Broadband services are still at an early stage, with penetration levels of total broadband subscriptions (fixed plus mobile) in all countries well below the EU level of 71/100 population. Croatia and Montenegro have the highest at around 27/100, Albania the lowest at around 6/100 population.

Legislative dates of market liberalisation in Group B countries

[source: Cullen International]

All countries now have formally liberalised markets, with their legislative and regulatory frameworks based on the EU regulatory framework. Fixed-line competition has only just begun in Serbia (where it was only liberalised at the start of 2012).

Mobile communications has been the main competitive growth market, with three licensed mobile operators in each country (except Albania with four).

Broadband communications are showing the greatest growth potential in markets that are becoming generally more competitive.

EBRD 2012 Electronic Communications Sector Comparative Assessment

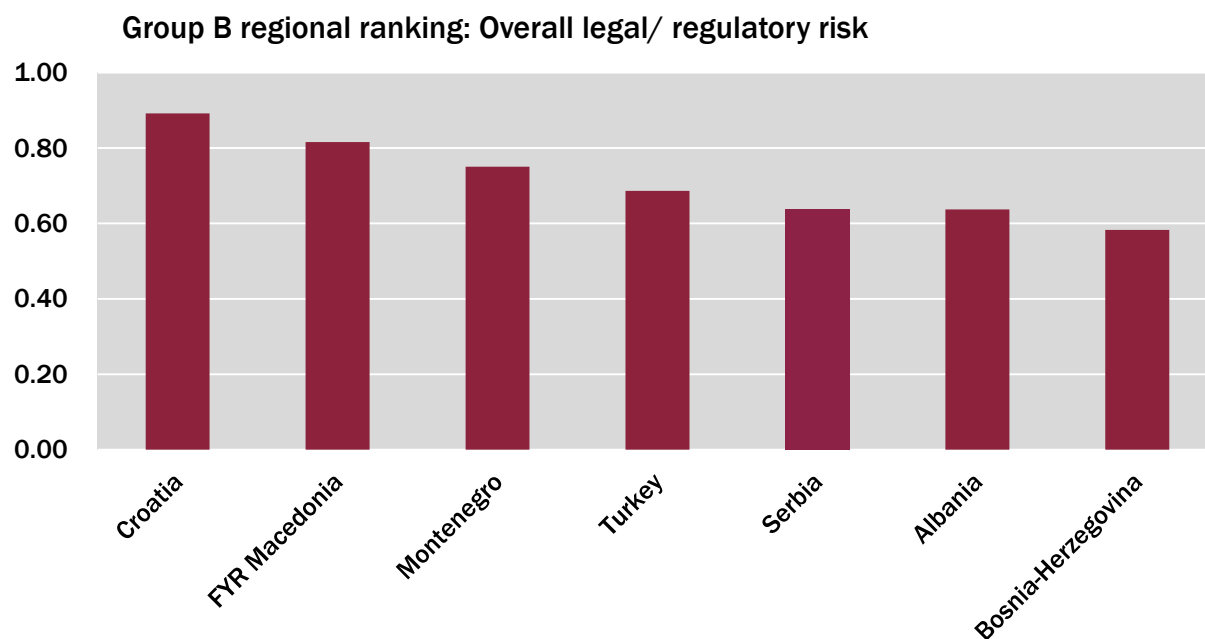
Assessment results

Overall market summary

	Albania	Bosnia and Herzegovina	Croatia	FYR Macedonia	Montenegro	Serbia	Turkey
Population	2.8m	3.8m	4.4m	2.1m	0.6m	7.3m	72.8m
Remaining state ownership in fixed operator	25%	90%/ 50%*	0%	35%	0%	100%	30%
Date of full sector liberalisation	2007	2006	2003	2005	2004	2012	2009
Market share of fixed incumbent (by revenue)	60%	96%	67%	78%	99%	100%	82%
No. of mobile network operators	4	3	3	3	3	3	3
Penetration of fixed-lines per 100 population	12	23.8	39.9	20.5	27.6	39.6	20.6
Penetration of mobile subscribers per 100 population	185	82.5	116	108	188	140	88.6
Penetration of fixed broadband per 100 population	4.9	11.2	19.4	13.7	13.6	13.4	10.3
Penetration of mobile broadband per 100 population	1.2	2.5	6.5	0.8	13.6	3.4	6.7
Internet usage per 100 population	48	42	59	52	50	56	44
Overall legal/ regulatory risk index (100 =lowest risk)**	64	58	89	82	75	64	69

[Source: Cullen International and EBRD analysis]

*BH Telecom is 90 per cent and HT Mostar is 50 per cent owned by the Federation of Bosnia and Herzegovina. Telekom Srpske is fully privatised.



100 is the lowest risk, zero is the highest

[Source: EBRD analysis]

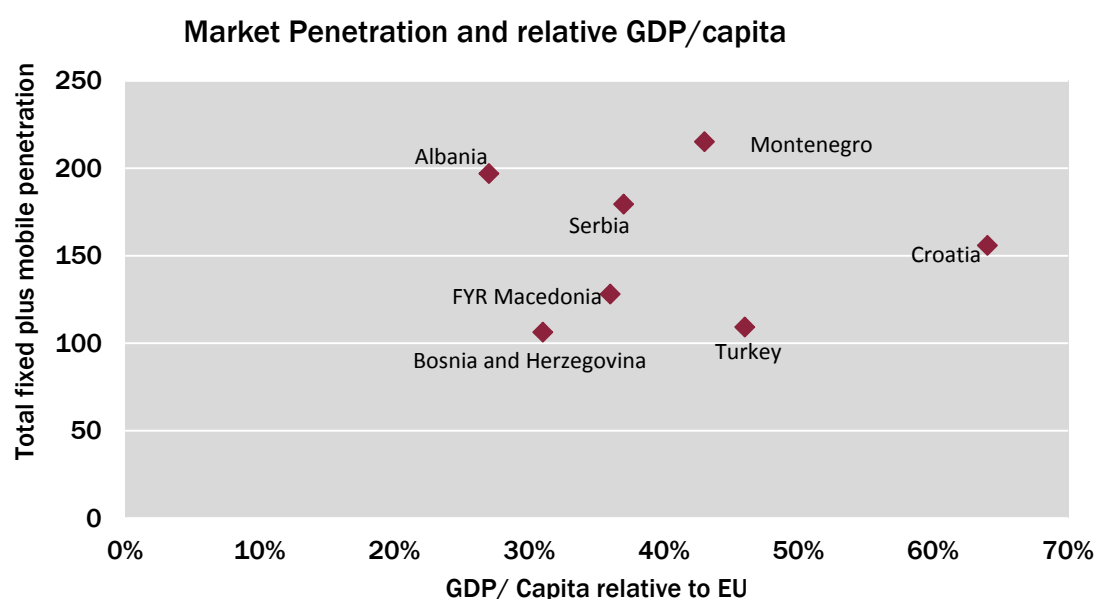
The Overall Legal/ Regulatory Risk Index is a summation of a number of components, as defined in section 2 of this report:

- 1) **Legal Framework.** This component assesses if the degree of conformity with a modern legislative framework for an efficient competitive market for electronic communications. (Weighting = 30 per cent.)
- 2) **Sector organisation and governance.** This relates to the structure of the electronic communications sector including ownership, regulation and the main regulatory procedures. (Weighting = 10 per cent.)
- 3) **Market conditions for wired networks and services.** This relates to the market entry conditions faced by operators and service providers who base their services on metallic, as opposed to wireless (spectrum) based methods. It also explores the competitive safeguards in the market - what the new entrant is and is not allowed to do. (Weighting = 20 per cent.)
- 4) **Market conditions for wireless networks and services.** These relate to market entry by operators and service providers who base their services on wireless (spectrum) methods. This includes mobile services and fixed wireless services. It also explores the competitive safeguards in the market - what the new entrant is and is not allowed to do. (Weighting = 25 per cent.)
- 5) **Fees and taxation on electronic communications services.** This relates to the types of payments required from operators/ service providers to the state and/or regulatory agency in order to start and continue providing services. (Weighting = 10 per cent.)
- 6) **Progress towards implementation of Information Society.** This relates to the country's environment for conducting business and providing services electronically. (Weighting = 5 per cent.)

Market commentary

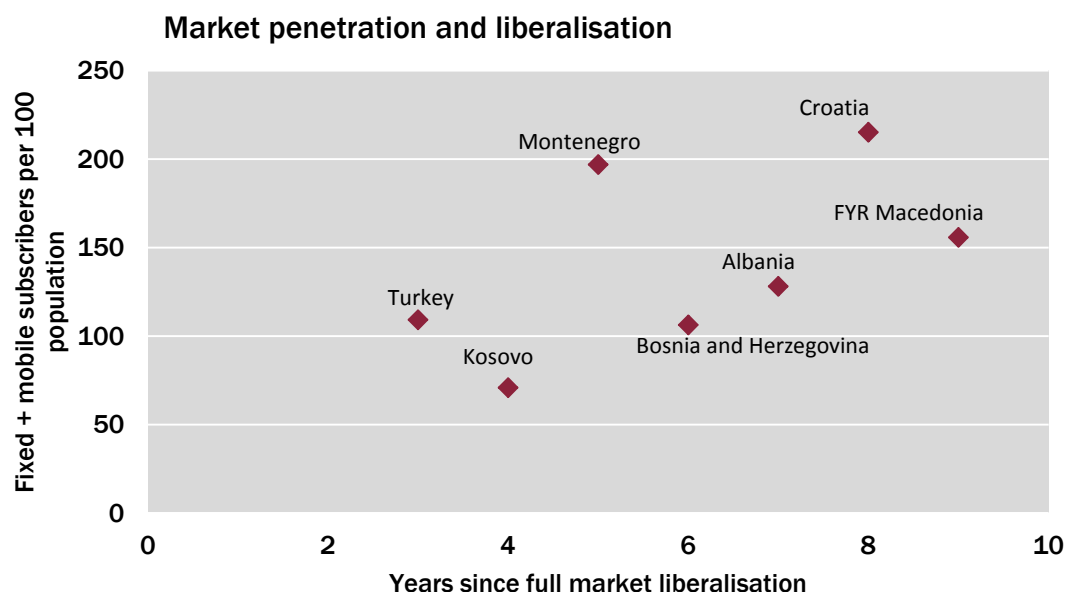
Apart from Croatia and Serbia, the fixed market has been poorly developed, with full market liberalisation occurring only within the last nine years. The mobile sector has filled the gap quickly, especially in the countries where competitive mobile services have been in place for at least 10 years (Albania, Croatia, Montenegro and FYR Macedonia). Bosnia Herzegovina and Turkey still lag behind in both fixed and mobile penetration.

Total market penetration (the sum of fixed and mobile penetration per 100 population) does not appear to correlate with relative wealth (GDP/capita) in the Group B countries, with (for example) Albania, Montenegro and Serbia all achieving very high market penetration despite having significantly lower GDP/capita than the EU average. This may be due in part to the use of multiple sim cards in some countries to reduce expensive off net calling and the purchase by tourists of sim cards for short term holiday use in several countries such as Montenegro and Croatia.



[Source: EBRD analysis]

Competition has been effectively implemented in all mobile markets, there are three active network operators licensed in each country, except Albania where there are four. Generally speaking, the liberalisation of markets does appear to have had an impact on overall market penetration, as shown below.



[Source: EBRD analysis]

Broadband services are showing significant growth, especially in Bosnia-Herzegovina, Montenegro and Serbia, where fixed broadband penetration has now exceeded the regional average following growth rates of over 10 per cent per annum in the last two years, fuelled by the extensive use of xDSL technology by the incumbent fixed operators.

Mobile broadband has only really advanced rapidly in Croatia and Montenegro, where 3G services have been available for over five years and penetration rates are already approaching EU levels. In the other countries, mobile broadband trails EU rates by some margin. The fastest growth in mobile broadband is in Albania (where 3G service was introduced only in 2010).

There is still a majority state ownership of incumbent operators in Bosnia-Herzegovina and Serbia, plus minority state holdings remaining in FYR Macedonia, Turkey and Albania.

Croatia has already adopted the EU 2009 legal and regulatory framework, with all relevant service provider safeguards and consumer protection mechanisms in place. The market will develop faster in the other countries when all the necessary competitive entry and safeguarding conditions are implemented.

Some reforms to the sector have already been introduced in the region, most noticeably in the improvement of market access conditions. All countries except Bosnia-Herzegovina have introduced general authorisation regimes, easing market entry conditions. In all countries, newcomers can gain access to existing international gateways and negotiate their own international settlement deals for voice and data traffic.

The main areas where better conditions still need to be enforced are:

- Access to public and private rights of way remains problematic in all countries, despite some recent legislative initiatives to improve procedures for granting construction permits.
- Passive infrastructure access (for example ducting) where only Croatia and Turkey have made this mandatory.
- Spectrum should be granted on a first-come, first-served basis, or by open and transparent comparative selection or auction procedure, without undue political interference. This is yet to be implemented in Albania and Bosnia Herzegovina.
- Basic spectrum liberalisation using re-farming of existing GSM bands and technological neutrality has yet to be implemented in Albania, Serbia and Turkey.

None of the countries yet allow secondary spectrum trading. None of the incumbent fixed-line operators have completed tariff rebalancing of their retail telephony services. The artificially low tariff charged for basic fixed-line service presents a significant entry barrier to potential competitors in the fixed telephony market.

Assessment results

Conditions for market access

	Albania	Bosnia and Herzegovina	Croatia	FYR Macedonia	Montenegro	Serbia	Turkey
General authorisation procedure	✓	x	✓	✓	✓	✓	✓
Technology neutrality for fixed licences	✓	✓	✓	✓	✓	✓	✓
Technology neutrality for mobile licences	x	✓*	✓	✓*	✓	x	x
Reasonable access to rights of way	x	x	x	x	x	x	x
Infrastructure sharing mandated	x	x	✓	x	✓	x	✓
Regulated interconnection charges	✓	✓	✓	✓	✓	✓	✓
Access to international gateways	✓	✓	✓	✓	✓	✓	✓
Spectrum granted on fair, transparent basis	x	x	✓	✓	✓	✓	✓
Spectrum secondary trading allowed	x	x	x	x	x	x	x
Fixed-line retail tariff rebalancing completed?	x	x	x	x	x	x	x

[Source: Cullen International]

Note: *UMTS services are allowed in the 900/1800 MHz bands but not LTE.

Some progress has been made by the electronic communications market regulators to introduce the normally expected competitive market safeguards. These safeguards include number portability plus a range of wholesale access devices to improve completion at the retail level in fixed, mobile and broadband services. Croatia and FYR Macedonia have all the normally expected market safeguards in place, with Turkey the next best market.

Assessment results

Progress on the normally expected range of competitive market safeguards is as follows:

- Number portability has been fully implemented in Croatia, FYR Macedonia, Montenegro and Turkey. Albania and Serbia have mobile, but not yet fixed number portability. Bosnia-Herzegovina has fixed, but not mobile number portability.
- All countries have reference offers for interconnection with incumbent fixed operators and mobile operators.
- To enable fixed broadband markets, local loop unbundling and/or wholesale broadband access have now been introduced in all countries.
- Competition in the voice markets has been improved by having carrier selection/pre-selection and/or wholesale line rental options in all countries except Serbia.
- In mobile services national roaming is either mandated or available on commercial basis.
- Mobile Virtual Network Operators are permitted in all countries except Serbia. So far, none have appeared as competitive market players.

Implementation of competitive safeguards

	Albania	Bosnia and Herzegovina	Croatia	FYR Macedonia	Montenegro	Serbia	Turkey
Fixed number portability	x *	✓	✓	✓	✓	x	✓
Mobile number portability	✓	x	✓	✓	✓	✓	✓
Reference Interconnection Offer (Fixed)	✓	✓	✓	✓	✓	✓	✓
Reference Interconnection Offer (Mobile)	✓	✓	✓	✓	✓	✓	✓
Local loop unbundling	✓	✓	✓	✓	✓	✓	✓
Wholesale broadband access	x	x	✓	✓	✓	✓	✓
Carrier selection/ pre-selection	✓	✓	✓	✓	✓	x	✓
Wholesale line rental	x	x	✓	✓	✓	x	✓
National mobile roaming	✓	✓	✓	✓	✓	✓	✓
Mobile Virtual Network Operators	✓	✓	✓	✓	✓	x	✓

[Source: Cullen International]

*Albania has a firm date to implement fixed number portability in September 2012

The governments of all countries have published strategy documents for the information society in general and eGovernment in particular. Progress with implementation has been good, with only Turkey and Bosnia still needing to adopt key elements.

Implementation of information society safeguards

	Albania	Bosnia and - Herzegovina	Croatia	Macedonia	Montenegro	Serbia	Turkey
Basic internet freedom of expression	✓	✓	✓	✓	✓	✓	x *
Ease of setting up internet business	✓	✓	✓	✓	✓	✓	x
Legal basis for electronic documents and signatures	✓	✓	✓	✓	✓	✓	✓
Legal basis for data protection	✓	✓	✓	✓	✓	✓	✓
Safeguards against cybercrime	✓	x	✓	✓	✓	✓	✓

[Source: EBRD Analysis]

Note: *There is a remaining concern in Turkey regarding censorship of popular web sites.

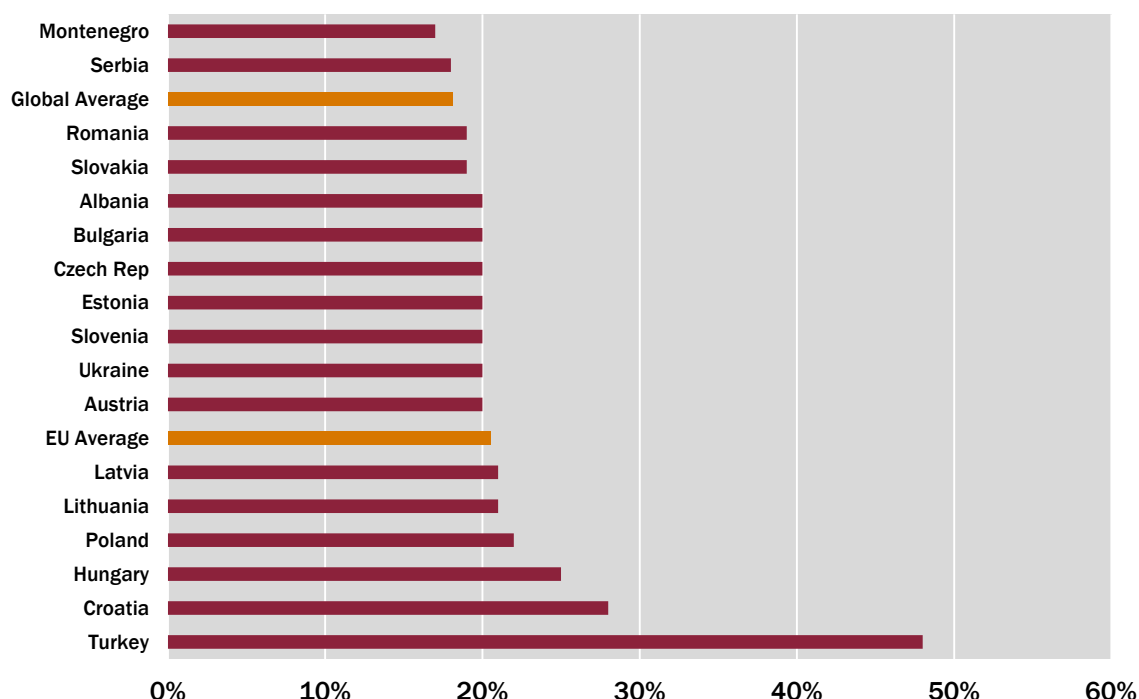
The normal fees paid by licensed operators are generally transparent and reasonable throughout the region. Initial licensing fees are zero in Albania, Croatia, FYR Macedonia, Turkey and Serbia. Montenegro and Bosnia-Herzegovina charge €1,000 or less. Annual licence fees are generally set as a percentage of the annual revenues of the operators, typically 0.5 per cent or less. Montenegro has an average of 0.8 per cent and fees are capped at €255,000 in Bosnia-Herzegovina and €250,000 in FYR Macedonia.

Fees paid for mobile licences at auction or beauty contest have been generally lower in Group B than other regions (averaging €3 per head of population over the last 10 years).

A worrying trend in recent years has been the propensity of governments to take additional taxes from the electronic communications sector, in particular the mobile operators. These taxes are usually in the form of simple percentages of revenues, rather than profits. In Serbia the tax was 10 per cent, and is itemised separately on all customers' bills. The Serbian government abolished the tax in 2011 following criticism from the mobile phone operators. In Croatia there has been a tax of 6 per cent on all mobile operators' revenues since 2009. This is imposed directly on the mobile operators with no transparency on customer bills. The Croatian government removed the tax from 1 July 2012.

Turkey's consumers are the most taxed. There is a special tax levied on electronic communications in addition to 18 per cent VAT, amounting to a further 15 per cent tax on fixed services, 5 per cent on internet services and 25 per cent on mobile services revenues.

Tax as proportion of cost of mobile ownership



[Source: Deloitte Global Mobile Tax Review 2011]

Note: Croatia removed the 6 per cent special tax on mobile operators' revenues on 1 July 2012.

According to the mobile operators, the imposition of high taxes affects the investment potential of the telecommunications sector with indirect repercussions on the country's GDP. Special mobile tax measures have also been heavily criticised by the GSM association¹⁶ and the European Commission. As most mobile operators in the region are foreign-owned, the imposition of special taxes is seen as an investment risk for foreign investors in telecommunications.

Regional summary and outlook

The fixed telephony market has an overall Group B regional penetration of 23 per 100 population, while the mobile market has grown to reach a regional penetration of 97 per 100 population. Both these are significantly below the average for EU countries, but the averages mask significant differences within the Group B region. Whereas Croatia and Serbia have matched EU average fixed penetration levels, all the other countries of the Group B region have significantly less fixed penetration.

Overall for the Group B region, the fixed-line market is declining at around 4 per cent per annum, while the mobile voice market is still increasing by around 5 per cent per annum. The broadband market is growing at 33 per cent per annum, with mobile broadband taking most of the new sales, as 3G services become more competitive across the region.

16 <http://serving.webgen.gsm.org/5926DA9A-2DD6-48E7-BAD4-50D4CD3AF30A/assets/taxreview0607.pdf>

Assessment results

The market growth leader is Albania, with annual growth (2011) in fixed-lines at +2 per cent, mobile subscriptions at +16 per cent and broadband at +46 per cent. FYR Macedonia and Montenegro also showed growth in all parts of the market, especially in mobile broadband. Most countries showed a doubling of mobile broadband penetration in 2011. Serbia's market remained sluggish, with a decline of 7 per cent in fixed-lines and a rise of only 3 per cent in mobile subscriptions and 14 per cent in broadband.

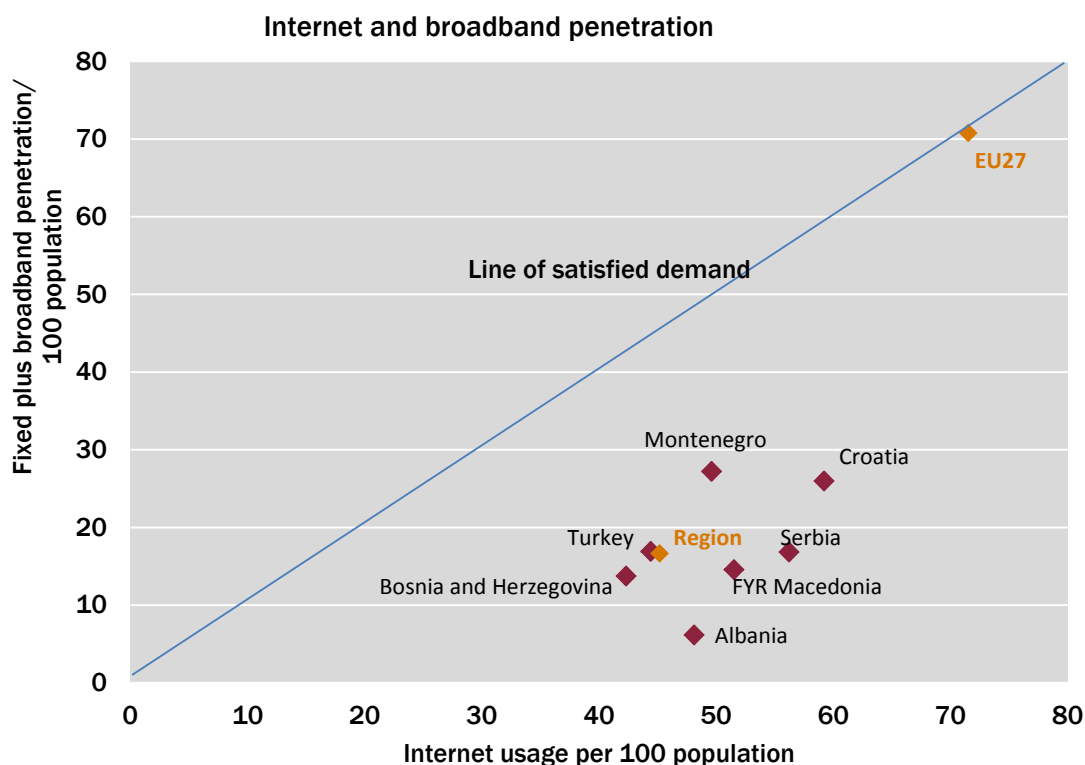
All the Group B countries are now introducing changes to their regulatory frameworks for the electronic communications sector to become aligned with the EU framework. The investment required to enable the Group B countries to catch up with the EU in terms of market efficiency depends on the level of demand and the speed of implementation of the required regulatory conditions. There is evidence of significant new growth in the Group B region for broadband services, following the recent EU experience. Although the existing penetration of fixed and mobile broadband is still significantly below EU levels, the growth in Group B is starting to accelerate, driven by high levels of internet usage and the roll-out of 3G mobile networks.

With the present rates of growth in competitive broadband markets, a key point will be reached where fixed broadband lines will overtake ordinary fixed-lines, a trend which is expected to spread across all Group B countries, following the same transition to broadband in the EU.

In the Group B region, new spectrum has generally not been released for mobile broadband as fast as other regions and only now is the Group B region experiencing take off in mobile broadband, with growth expected to remain strong over the next few years. New investment will be needed to cope with the very high data growth rates being experienced across network infrastructures.

New investment in high speed broadband networks has already started in urban areas, including fibre access networks, fixed wireless access and the launch of commercial 4G/LTE services. The key challenge for the region remains the creation of attractive investment conditions for building out these high speed infrastructures to rural areas.

The following chart shows the internet usage (percentage of population who regularly use the internet) compared with the penetration of broadband services. The blue line is where, in country average terms, the internet users' demand is fully met by broadband. All countries to the right of this line have latent demand for broadband services; that is where internet users have not yet been supplied with broadband.



[Source: EBRD Analysis]

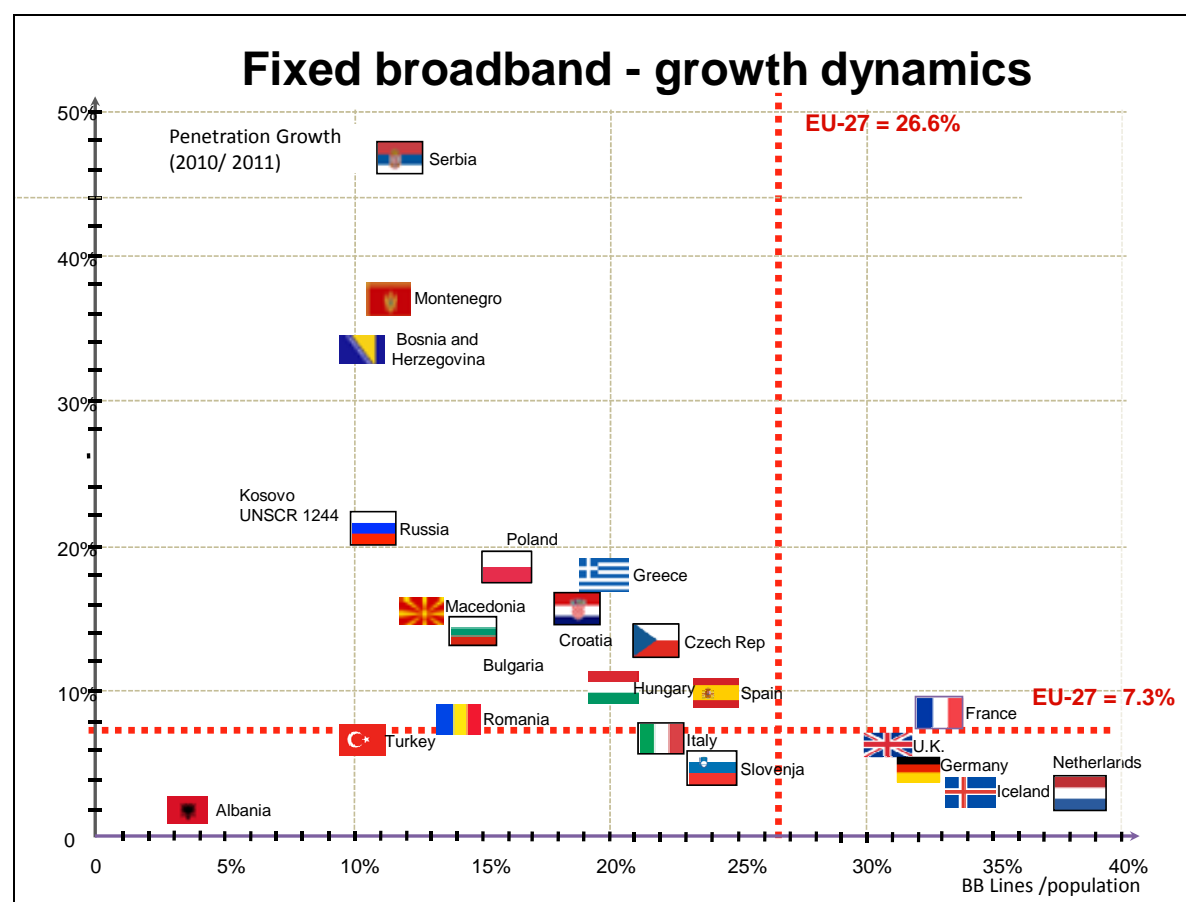
One way of estimating the potential for broadband growth and investment is by examining the extent of internet usage and comparing this with the penetration of broadband. All countries of the region have

Assessment results

greater percentage of the population using the internet than the penetration rate of broadband (all countries are to the right of the diagonal line). In the chart above, the further towards the bottom right, the more potential there is for broadband growth. Albania has the most pent-up demand for broadband service, with nearly 50 per cent of its population being internet users and less than 10 per cent connected via broadband. Similarly, there is significant latent potential in Bosnia, FYR Macedonia, Serbia and Turkey, which all have relatively high numbers of internet users, yet only low penetrations of broadband subscriptions. All countries have a significant gap with the EU, where on average, broadband subscriptions and penetration are significantly higher and demand is being satisfied by broadband.

Incumbents in most countries still tend to dominate in fixed broadband markets. By far the majority of fixed broadband connections are based on existing copper loops. Alternative infrastructures, such as cable TV and fixed wireless access networks are making inroads, mostly in the urban areas. The mobile broadband market continues to be the most dynamic segment and the penetration rate of dedicated 3G mobile data cards/wireless modems is doubling every year in most of the enlargement countries.

Assessment results



[Source: Cullen International]

This analysis of fixed broadband market growth during 2010 shows that Serbia, Montenegro and Bosnia-Herzegovina had the highest growth in penetration (vertical axis), while Albania and Turkey had the slowest. From a much lower penetration base in 2010 (horizontal axis), growth during 2010 (vertical axis) beat the EU average in most Group B countries. No Group B country has yet reached the EU average penetration rate, but Croatia, Montenegro and Bosnia-Herzegovina should catch up fast.

BOSNIA AND HERZEGOVINA

At a glance

Market penetration	
Population	3.8m
Fixed penetration*	24
Mobile penetration*	83
Broadband penetration*	13.7

*Per 100 population

Key Institutions	
Policy and legislation	Ministry of Communications and Transport
National regulatory authority	Communications Regulatory Agency

Market access	
General authorisation	x
Technological neutrality	✓
Rights of way	x
Infrastructure sharing	x
Granting of spectrum	x

Competitive safeguards	
Number portability	✓*
Interconnection offers	✓
Wholesale broadband offers	x
Mobile national roaming and MVNO	✓

*Fixed only

Information society	
Internet penetration per 100 population	42
Ease of setting up internet business	✓
Legal basis for electronic documents and signatures	✓
Safeguards against cybercrime	x

Market liberalisation

The national market was liberalised in 2002. At that point, the three incumbent operators in three different parts of the country received national licences:

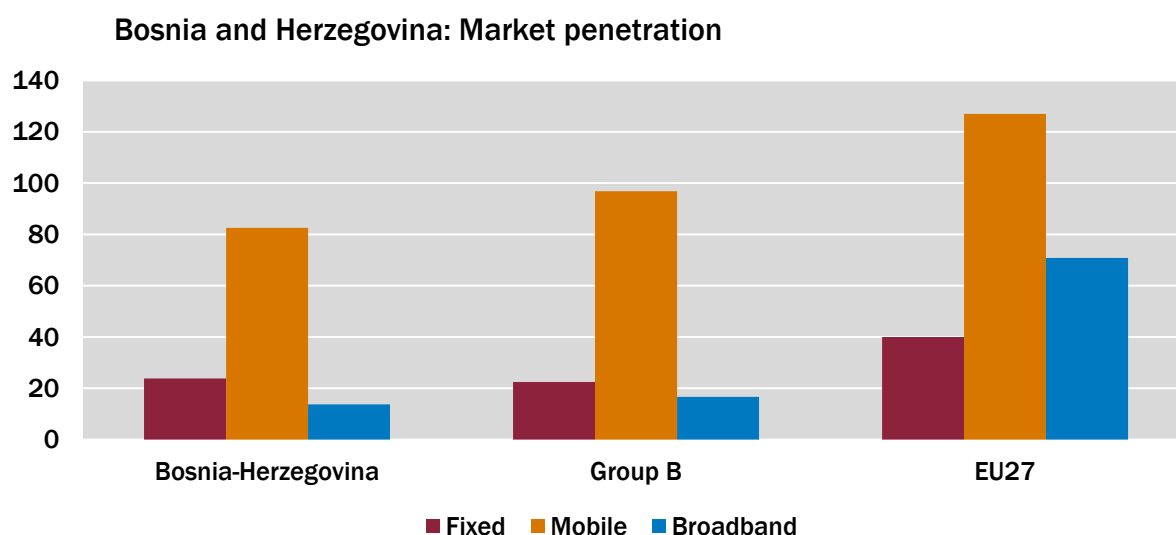
- BiH Telecom d.d Sarajevo (BA-bh), based in Sarajevo, Federation of Bosnia and Herzegovina.
- Hrvatske Telekomunikacije d.o.o. Mostar (BA-ht), based in Mostar, Federation of Bosnia and Herzegovina.
- Telekom Srpske a.d. Banja Luka (BA-ts), based in Banja Luka, Republika Srpska.

All three incumbent operators have been designated as having significant market power in the markets for fixed and mobile voice telephony services and leased lines, based on a 25 per cent market share criterion.

None of the three incumbents face much competition with regard to fixed voice telephony services, but there is strong competition from alternative cable and wireless networks offering broadband access. Each of the incumbents also offers mobile services nationwide. Fixed-line penetration is a reasonable 24/100 population, which is around the regional average, but still significantly short of the EU average of 40/100 population. Fixed broadband has grown at over 50 per cent per annum since 2009 and has reached a penetration of 11/ 100 population which is around the Group B regional average.

Mobile penetration has grown from 34/100 population in 2005 to 83/100 population in 2011. Mobile broadband is still at a very early stage, with 3G services being launched only in 2010.

Chart 1: Market penetration of main services per 100 population in Bosnia-Herzegovina, compared with the Group B regional averages



Group B average is for Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Turkey.

Legal framework

The main legislation governing the electronic communications sector in Bosnia and Herzegovina includes: the Law on Communications of Bosnia and Herzegovina, enacted on 21 October 2003 and amended on 19 September 2006 and 22 April 2010; the Law on General Administrative Procedure enacted on 25 June 2002; the Law on Consumer Protection enacted on 21 February 2006; the Law on Personal Data Protection enacted on 23 May 2006; and related legislation. The legislative framework largely conforms with EU framework requirements in several important areas, including interconnection and access to infrastructure, tariff regulation, market analysis, significant market power designation and the imposition of market remedies.

The Communications Regulatory Agency (RAK) appears to have adequate enforcement powers as well as monitoring, inspection and equipment certification powers. However, RAK should also be enabled to impose monetary penalties based on the percentage of the income made by a provider of

Bosnia and Herzegovina

telecommunications services, which could be a more meaningful sanction for larger operators that fail to comply with legal and regulatory requirements. RAK does not exhibit the level of independence under the law and related legislation required by the EU framework, especially in the procedures for the appointing of RAK's management and for approving its financial plans.

A number of components of the legislative regime require revision in order to fully align with EU framework, including the introduction of a general authorisation scheme for the provision of telecommunications services. The current legislation means that separate licences for different services are still required. The framework also requires comprehensive, objective and transparent procedures for the assignment of spectrum.

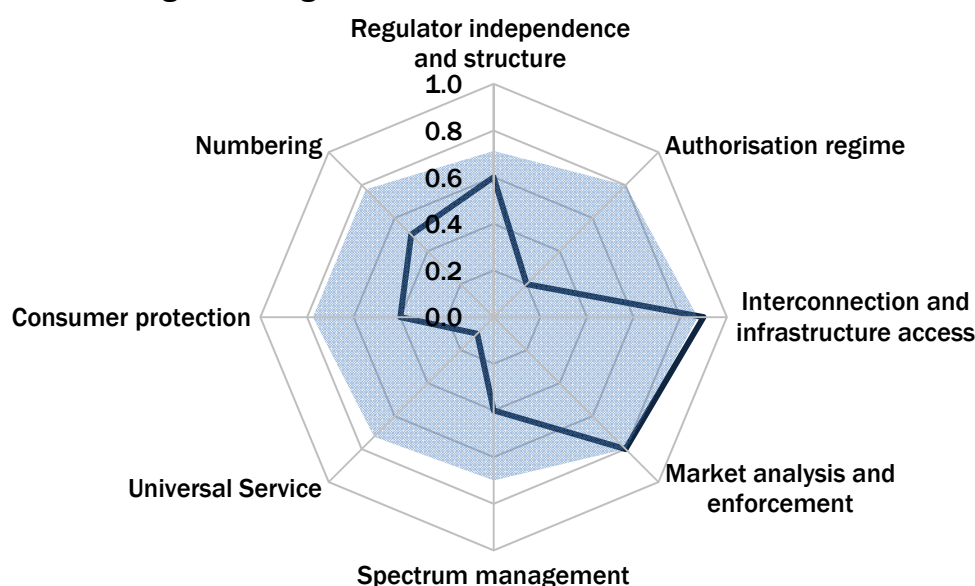
The universal service provisions do not conform to the EU framework, with no clear definition of universal services scope, no procedure for determining universal service operators or their right for reimbursement.

The law does not adequately address consumer protection with respect to confidentiality in communications, limitation of long-term contracts, protection against spam, consumer dispute settlement procedure or shorter deadlines for enacting number portability.

Other areas requiring adaptation are the procedures for numbering assignment, the enabling of rights of way for operators, prohibition on illegal interception, more clarity in dispute resolution, clear authority for RAK to make binding decisions, and clear obligation to publish such decisions.

There is also a need to improve the clarity and legal basis for implementing information society provisions. Full alignment of the legal framework would appear to require significant amendment to the existing Law on Communications and also the adoption of appropriate secondary implementing legislation.

Bosnia and Herzegovina's legal framework lags behind the other countries in the Group B region. The electronic communications law is mainly based on the EU 1998 regulatory framework and the country does not appear to have made much progress in drafting a new electronic communications law or cybercrime legislation. Against the background of continued discussions on broader division of powers between the entities and the state, separate electronic commerce and electronic signature laws have been adopted at state level and in the Republika Srpska and are not aligned with each other. The legislative processes were further slowed down by the delays in the establishment of the state level legislative and executive authorities following the general elections of October 2010.

Chart 2: Comparison of the legal framework for telecommunications in Bosnia-Herzegovina with international practice and regional performance**Bosnia and Herzegovina: Legal framework**

Key: Extremities of the chart = International best practice

Bosnia-Herzegovina = Solid line

Regional average = Shaded area

Sector organisation and governance

Of the three incumbent operators, only Telekom Srpske is fully privatised. The other two are still controlled by the Federation of Bosnia and Herzegovina, although HT Mostar is 39.1 per cent owned by T-Hrvatski Telekom, the Croatian incumbent operator, which is itself owned by Deutsche Telekom.

At government level, the Council of Ministers is responsible for adopting policies and the Ministry of Communications and Transport drafts policies and legislation. RAK was established in 2001 as a converged regulator for telecommunications and media.

Implementation of the EU regulatory framework is hindered by a lack of administrative capacity and resources both at the regulator and in the Ministry. The Council of Ministers has notably failed to formally appoint the Director General of RAK since 2007 and RAK council members since 2009. Authorities of RAK in respect of market analysis should be strengthened, in order to allow imposing of price caps and functional separation to SMP operators when necessary.

RAK has the power to resolve disputes in the electronic communications sector under short timescales, but appeals against regulatory decisions, which are decided by the State Court, can take several years.

A Competition Council was established in 2004, but it has no formal agreement with the RAK. Plans to establish an Agency for the Development of the Information Society have not been successful.

Bosnia-Herzegovina has signed a Stabilisation and Association Agreement with the EU, setting the need for the legal and regulatory regime to be fully aligned with the EU framework. The main requirement is for the regulator to continue with market analysis and to enforce the resulting regulatory obligations.

Bosnia-Herzegovina is undergoing discussions about its accession to the WTO.

Bosnia and Herzegovina**Regulatory conditions for wired networks**

Although local, national and data services were liberalised in 2002, international services were not formally liberalised until 2006. The authorisation regime is still based on individual licences, with separate licences for national, regional and local networks and for internet services. Cable TV services require two licences from RAK, a network licence for the provision of a public network and a service licence for content distribution services over a cable TV network. No decision has been taken on the introduction of a simpler general authorisation regime, although RAK has been consulting on a possibility to implement one for internet service providers.

Bosnia and Herzegovina has been slow with implementation of competitive safeguards. However, several important provisions have been introduced and implemented over the past two years. Carrier pre-selection finally became available in practice in 2009. Number portability for fixed networks was introduced in September 2011. Reference interconnection offers have been available for the three fixed incumbents for several years. Local loop unbundling has been introduced and wholesale charges are regulated.

Call termination charges on fixed networks are regulated, but are significantly higher than the EU average, despite decreases since 2009. The rates are €0.0089 per min for local termination, €0.0134 per min for single transit and €0.0179 per min for double transit. True cost-based figures have not yet been calculated.

The incumbents do not yet offer wholesale line rental or wholesale broadband access to alternative service providers.

Regulatory conditions for services requiring frequency spectrum

The three incumbent operators, who compete nationally, have equivalent spectrum blocks in all three bands. UMTS licences were awarded in 2009. Since 2010, the 900 and 1800 MHz allow the deployment of 3G services. The digital switchover plan is to be approved in Q1 2012, with a planned switchover date of 1 December 2014.

No licences for fixed wireless access have been awarded, but several operators offer wireless broadband services in the unlicensed 2.4 GHz and 5 GHz bands.

Number portability for mobile networks it is expected to become available during 2012. The first reference interconnection offers were published by mobile operators in April 2011 together with provisions enabling MVNO access. There is no direct interconnection between the mobile networks and all calls have to transit through the fixed incumbents. The mobile operators apply two termination rates, €0.092 per min from a fixed network and €0.115 per min from another mobile network. Mobile termination rates are significantly above the EU average level, and no cost-basis has yet been applied by the regulator.

Payments required from operators

In January 2011 RAK reduced annual licensing fees for operators of public fixed networks and for providers of public voice telephony services. Initial licence fees are very low. The annual fees for licensed providers of public networks are now €16,000 at national level, €3,000 at regional level and €1,500 at local level. These amounts, plus the relatively low numbering usage fees, are the main funding source for the regulator.

There are no universal service fund contributions to pay, and there are no special taxes applied to the electronic communications sector.

Information society safeguards

There is no legislation on cybercrime, electronic documents or eGovernment at state level. Laws exist at entity level. For example, Republika Srpska and the Federation of Bosnia-Herzegovina both have laws on electronic commerce and electronic signatures, which are not aligned with each other. The law also does not require prior authorisation, but market access might be hindered by the fact that the law requires providers to notify their services to a supervision body which has not been established.

Bosnia and Herzegovina does not yet have a provider for issuing qualified certificates for electronic signatures.

On domain name registration, an academic institution has the task of the national registry. There is no explicit legislation on domain name management. The Ministry of Communications and Transport intends

Bosnia and Herzegovina

to adopt a policy on the .ba top-level domain. There is a high charge of €40.90 in the first year, which reduces to €15.30 in subsequent years.

Bosnia and Herzegovina is the only Group B country which does not have a provision against illegal interception or explicit legislation on spam.

The Data Protection Authority is responsible for supervision. There is no explicit provision allowing a national authority to audit personal data security measures, although it might be possible that RAK or the Data Protection Authority can use some general inspection powers for that purpose.

In Bosnia and Herzegovina there is no cybercrime legislation at state level, but at entity level the Republika Srpska has some cybercrime provisions in its criminal code. Cyber-squatting dispute resolution is based on ICANN's Uniform Domain Dispute Resolution Policy.

Summary and outlook

A unique aspect of the Bosnia and Herzegovina market is the existence of three incumbent operators. While in theory this should produce a ready-made competitive environment (as each have national licences) they face little actual competition with regard to fixed voice telephony services, but strong competition from alternative cable and wireless networks offering broadband access. Each of the incumbents also offers mobile services nationwide. Mobile broadband is still at a very early phase.

Bosnia and Herzegovina is impaired by an apparent lack of coordination between different levels and institutions within its government, the struggle for competencies between the state and the entities and overall limited administrative capacity. This has hindered full alignment with the latest EU regulatory framework and weakened the position of the sector regulator RAK.

Nevertheless, RAK has made progress in implementing competitive safeguards and adopting regulations on market analysis based on the EU regulatory framework. So far, carrier selection/pre-selection and local loop unbundling has been introduced, allowing competitors to the respective incumbents to offer competitively priced fixed voice and broadband services. Number portability had to be enforced by fining eight fixed operators and has still not been implemented for mobile numbers.

Preparations have been made to support the launch of virtual mobile operators, which, if implemented in 2012, should see new service providers entering the mobile market in 2013.

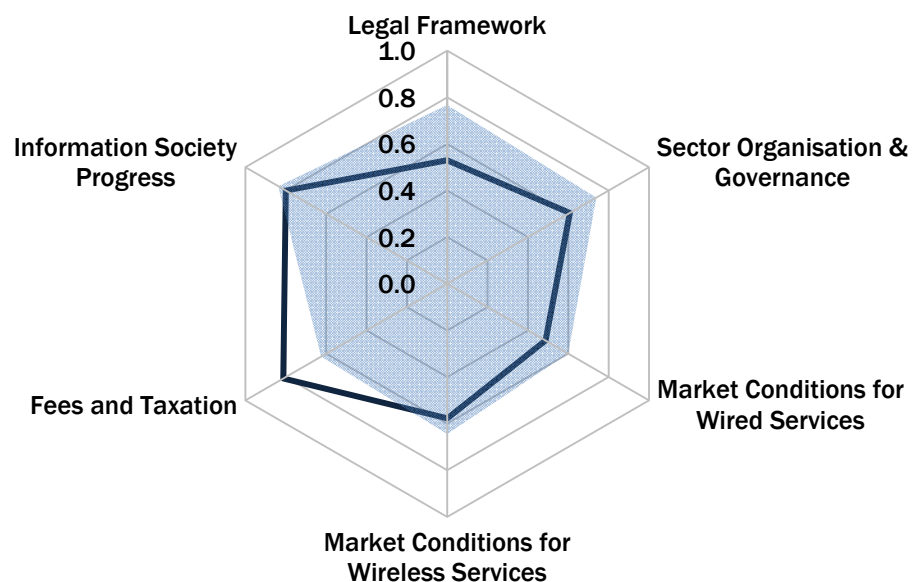
There is a high growth for fixed broadband services (over 50 per cent per annum growth for the last two years), fuelled by fixed wireless competitors to the incumbent service providers. Mobile broadband has been slow to develop, with 3G services only being launched in 2010, and mobile broadband penetration is well below the regional average. From a low base, mobile broadband grew 69 per cent in 2011, showing good potential.

Around 40 per cent of the population are already internet users, but total broadband penetration has so far only reached the regional average of around 14/100 population, well below the EU average.

Bosnia and Herzegovina

Chart 3: Comparison of the overall legal/regulatory risk for telecommunications in Bosnia and Herzegovina with international practice and regional performance

Bosnia and Herzegovina: Overall legal/ regulatory risk



Key: Extremities of the chart = International best practice
Bosnia and Herzegovina = Solid line
Regional average = Shaded area

Overall legal/ regulatory risk = 58 (100 is the lowest risk)

4: CONCLUSIONS FROM THE ASSESSMENT

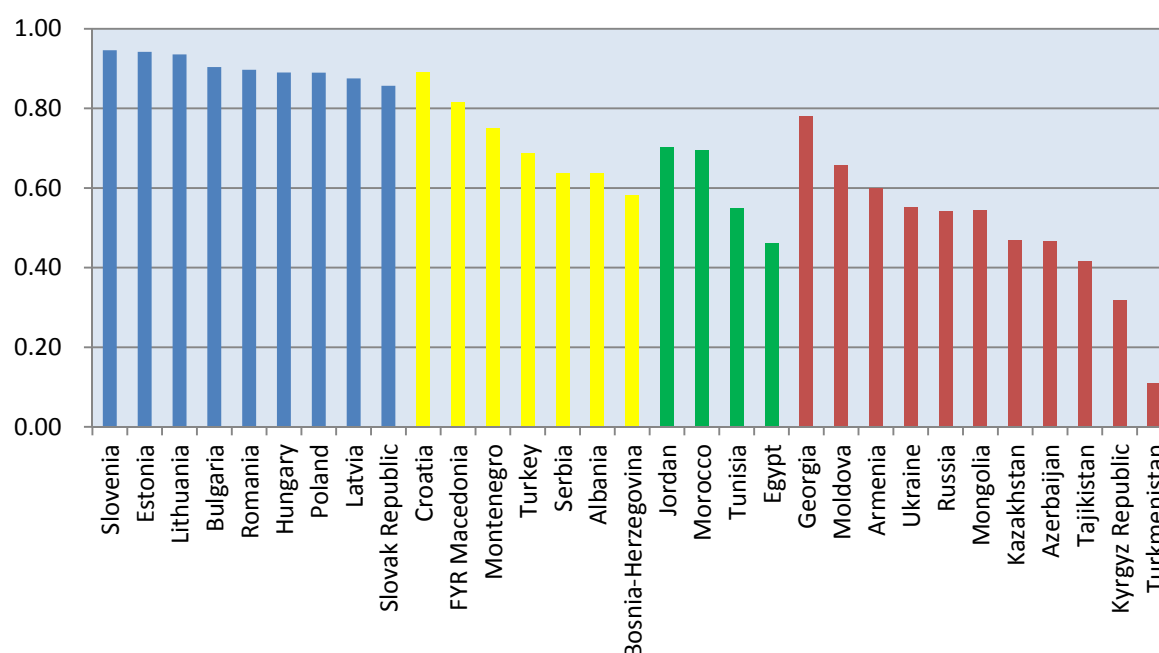
The overall ranking of legal/ regulatory risk for the 31 participant countries is shown in the following 7 charts.

- Regional rankings: Overall legal/regulatory risk
- Regional rankings: Legal framework
- Regional rankings: Sector organisation and governance
- Regional rankings: Market conditions for wired services
- Regional rankings: Market conditions for wireless services
- Regional rankings: Fees and taxation
- Regional rankings: Information society progress.

In this section, some broader conclusions are firstly drawn from the Assessment results, as shown in the regional rankings, with more specific conclusions regarding the improvement of conditions for investment in the electronic communications sector then following.

The criteria that were used to arrive at the ranked scores in the Assessment are described in section 2 of this report and are summarised at the foot of each chart below.

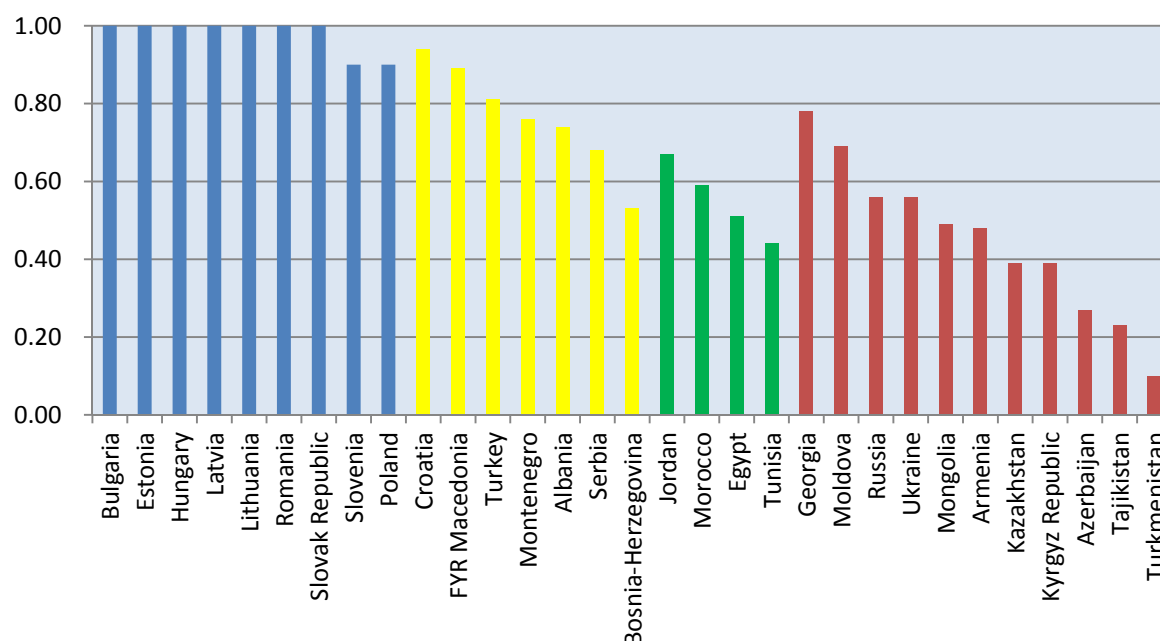
Regional rankings: Overall legal and regulatory risk



The Overall Legal/Regulatory Risk Index is a summation of a number of components, as defined in section 2 of this report.

- 1) **Legal Framework.** This component assesses if the degree of conformity with a modern legislative framework for an efficient competitive market for electronic communications. (Weighting = 30 per cent)
- 2) **Sector organisation and governance.** This relates to the structure of the electronic communications sector including ownership, regulation and the main regulatory procedures. (Weighting = 10 per cent)
- 3) **Market conditions for wired networks and services.** This relates to the market entry conditions faced by operators and service providers who base their services on metallic, as opposed to wireless (spectrum) based methods. It also explores the competitive safeguards in the market - what the new entrant is and is not allowed to do. (Weighting = 20 per cent)
- 4) **Market conditions for wireless networks and services.** These relate to market entry by operators and service providers who base their services on wireless (spectrum) methods. This includes mobile services and fixed wireless services. It also explores the competitive safeguards in the market - what the new entrant is and is not allowed to do. (Weighting = 25 per cent)
- 5) **Fees and taxation on electronic communications services.** This relates to the types of payments required from operators/service providers to the state and/or regulatory agency in order to start and continue providing services. (Weighting = 10 per cent)
- 6) **Progress towards implementation of Information Society.** This relates to the country's environment for conducting business and providing services electronically. (Weighting = 5 per cent)

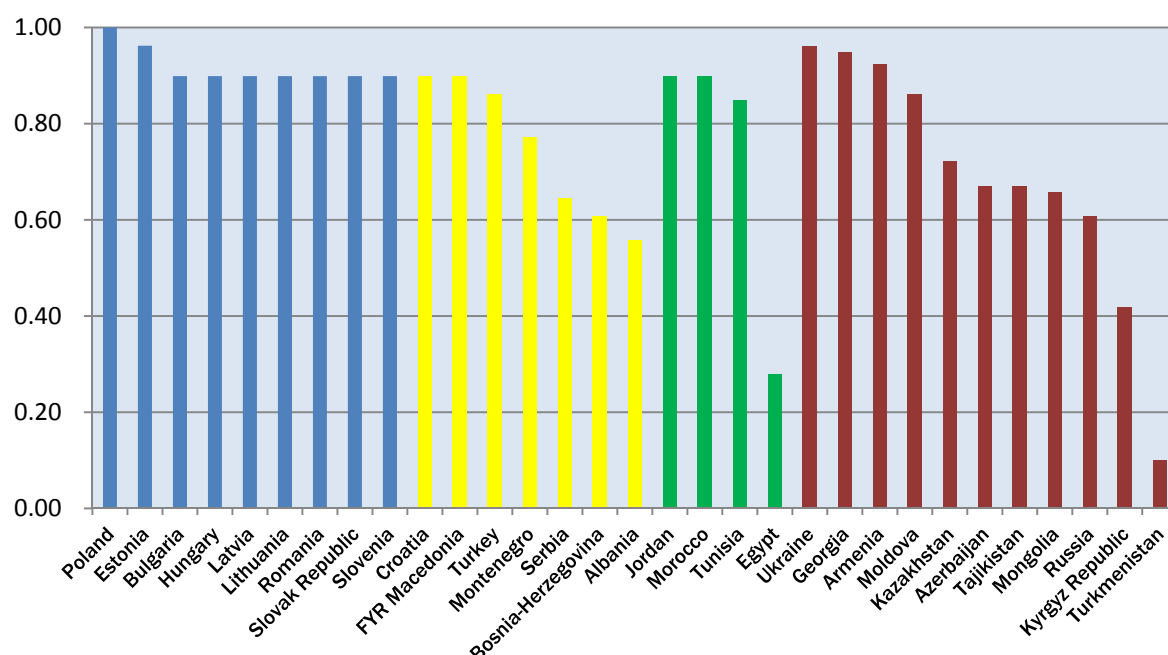
Regional rankings: Legal framework



The **legal framework** score is a summation of a number of components, as defined in section 2 of this report. The legal benchmarks together contribute 30 per cent of the overall legal/regulatory risk assessment. The key components are:

- 1) **Regulator independence and structure.** This examines the legal basis for separation of policy, regulatory and operational functions, plus the structure and operation of regulator. (Internal weighting 20 per cent)
- 2) **Authorisation regime.** This examines the legal basis for authorisation and licensing powers and where relevant, includes interim provisions transitioning from old to a modern legislative framework. (Internal weighting 10 per cent)
- 3) **Interconnection and infrastructure access.** This examines the legal basis for a well-defined interconnection, access, facilities sharing, and for unbundling rights and obligations. (Internal weighting 10 per cent)
- 4) **Market analysis and enforcement.** This examines the legal basis for market analysis and other processes for the designation of significant market power, the effective regulatory powers to impose and enforce additional obligations on dominant operators to prevent discrimination and abuse of dominance, plus effective dispute resolution powers and procedures and the powers for the regulatory authority to enforce the law, impose fines or other effective penalties. (Internal weighting 20 per cent)
- 5) **Spectrum management.** This examines the legal basis for a fully defined and effective spectrum management regime. (Internal weighting 10 per cent)
- 6) **Universal Service.** This examines the legal basis for an effective universal access/universal service regime and enabling framework. (Internal weighting 10 per cent)
- 7) **Consumer protection.** This examines the legal basis for effective consumer protection using international best practice. (Internal weighting 10 per cent)
- 8) **Numbering.** This examines the legal basis for effective numbering administration. (Internal weighting 10 per cent)

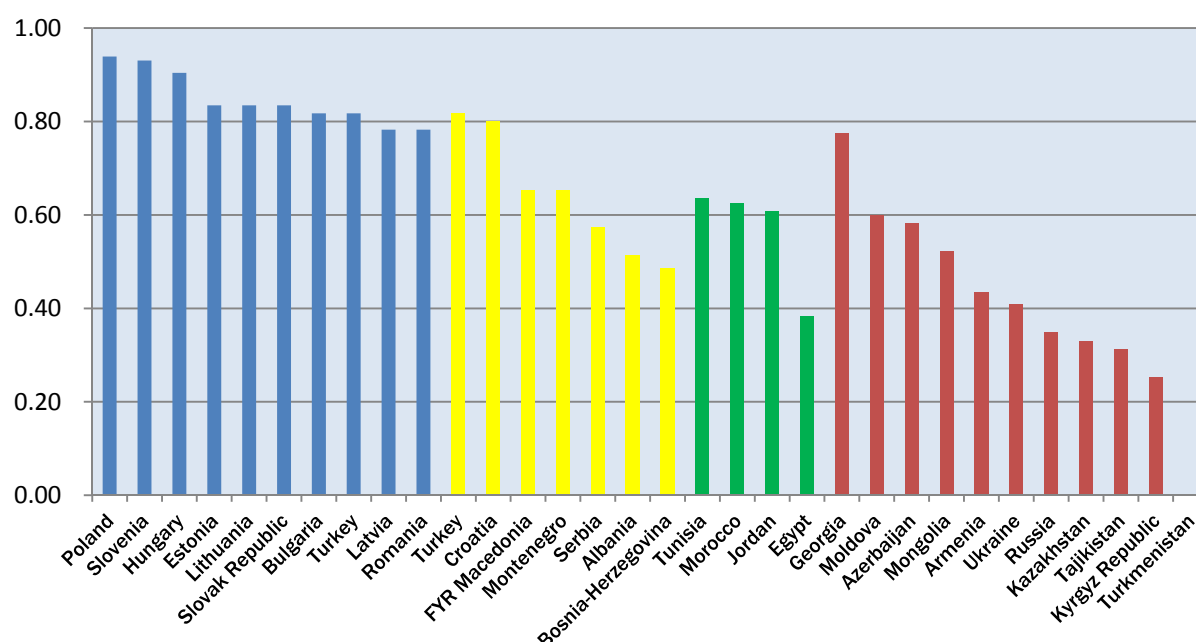
Regional rankings: Sector organisation and governance



The **sector organisation and governance** score involves a total of 13 individual elements (as defined in Section 2 of this report). The assessment considers the structure of the electronic communications sector including ownership, regulation structure, funding and the regulatory procedures enabling competitive market development. The individual factors include a clear division of policy and regulatory functions, remaining state ownership or retained rights, appointment of regulatory officials, dispute resolution, appeals procedures, public consultations, publication of regulatory decisions, the relationship between the sector regulator and the competition authority, resources of the regulatory agency, funding, plus the country's membership of WTO.

The organisation and governance benchmarks together contribute 10 per cent of the overall legal/regulatory risk assessment.

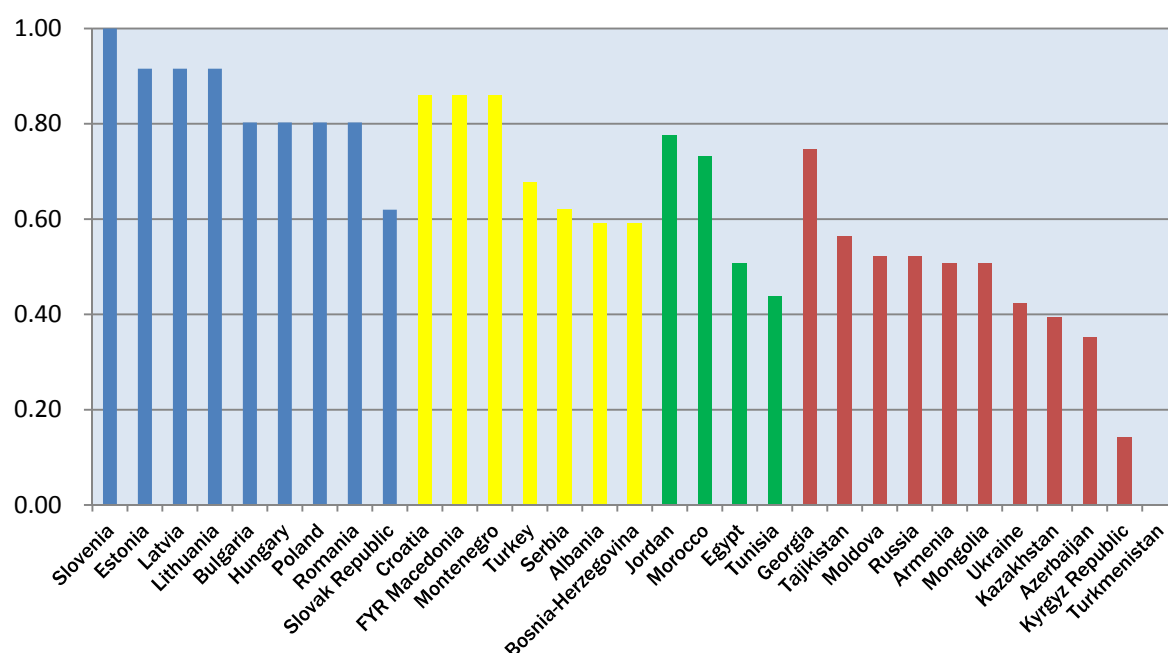
Regional rankings: Market conditions for wired services



The score for **market conditions for wired services** involves a total of 17 individual elements (as defined in Section 2 of this report). This part of the regulatory assessment looks at the competitive conditions in the market for operators and service providers who base their services on metallic, as opposed to wireless (spectrum) based methods. The assessment focuses on the implementation of good market entry conditions and normally expected competitive market safeguards. The list of includes the implementation of a general authorisation regime, with simple notification procedures eliminating any requirement for explicit decision by the regulator, technology neutrality, reasonable timeframes for obtaining rights-of-way permits from private or public property owners, the mandating of passive infrastructure sharing (ducts, poles, towers, masts, buildings and other facilities), alternative operator access to passive network elements owned by an existing operator at fair, cost-related charges, completion of fixed-line retail tariff rebalancing, implementation of fixed number portability, carrier selection, carrier pre-selection and wholesale line rental, access to the fixed incumbent's international gateways, the publication of reference interconnection and unbundling offers, the regulation of interconnection charges, the regulation of local loop unbundling charges and the existence of a significant number of the incumbent's unbundled local loops, the availability and extent of wholesale broadband access, the existence of a competitive triple play market.

The benchmarks regarding market conditions for wired services together contribute 30 per cent of the overall legal/regulatory risk assessment.

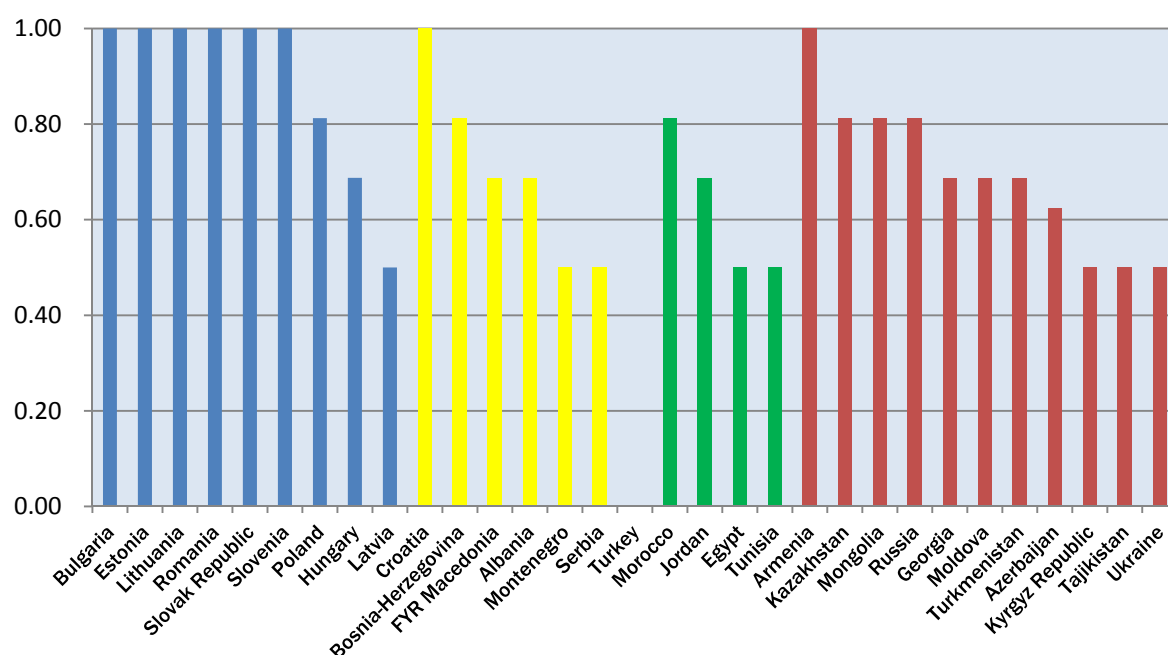
Regional rankings: Market conditions for wireless services



The score for **market conditions for wireless services** involves a total of 10 individual elements (as defined in Section 2 of this report). This part of the regulatory assessment looks at the competitive conditions in the market for operators and service providers who base their services on wireless (spectrum) based methods, including mobile and fixed wireless services. These factors consider the implementation of good market entry conditions and normally expected competitive market safeguards. The list includes the granting of spectrum to applicants on a first-come-first-serve basis or, if spectrum in particular bands is scarce, by a transparent public contest (for example, public auction or beauty contest), the technologically-neutral use of spectrum, the allowance and existence of mobile virtual network operators, the re-farming of the 900 and 1,800MHz frequency bands, the allowance of secondary spectrum trading, interconnection charges regulation (mobile call termination and origination), publication of reference interconnection offers by mobile operators, the requirement for national roaming.

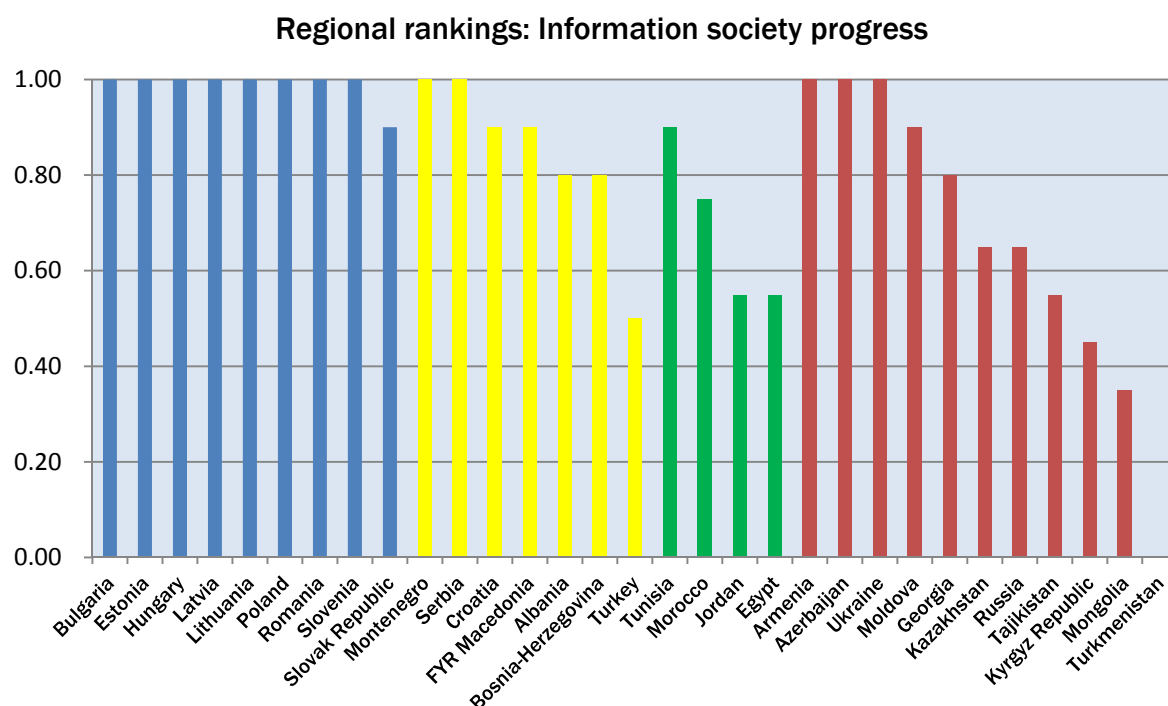
The benchmarks regarding market conditions for wireless services together contribute 35 per cent of the overall legal/regulatory risk assessment.

Regional rankings: Fees and taxation



The score for **fees and taxation** involves a total of 4 individual elements (as defined in Section 2 of this report). This part of the regulatory assessment looks at the types of payments required from operators/ service providers to the regulatory authority or ministry in order to start and continue providing the operators' services. The individual factors include the cost basis of the administrative fees to be paid to the regulator or ministry, the arrangements for operators/ service providers to pay into a universal services fund, the imposition of any special taxes for electronic communications services (besides the normal corporate or VAT taxes) plus the clarity, stability and transparency of the full system of payments required from operators/service providers.

The benchmarks regarding market conditions for wireless services together contribute 10 per cent of the overall legal/regulatory risk assessment.



The score for **information society progress** involves a total of 4 individual elements (as defined in Section 2 of this report). This part of the regulatory assessment looks at the country's environment for conducting business and providing services electronically. The individual factors include the ease of starting a wide range of internet services without any prior authorisations, a liberalised approach to the freedom of expression and information, the legal framework for recognising electronic contracts and signatures, liberalised domain registration (i.e. not limited to a single domain registrar), a functioning legal framework for protection of personal data plus adoption of an internationally recognised convention on cybercrime.

The benchmarks regarding market conditions for wireless services together contribute 5 per cent of the overall legal/regulatory risk assessment.

General conclusions from the Assessment results

The regional rankings show that there are varied levels of implementation of legal and regulatory best practice across the 31 countries included in the Assessment. In general:

- Group A countries (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan and Ukraine) display higher overall legal/regulatory risk, though the levels of that risk vary widely amongst those countries.
- Group B countries (Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Turkey) are increasing harmonisation with EU member states thereby reducing the overall legal/regulatory risk.
- Group C countries (Egypt, Jordan, Morocco and Tunisia) also have varying though declining levels of overall legal/ regulatory risk.
- Group D countries (Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia) have already reduced the overall legal/regulatory risk significantly by largely adopting best practice.

The following paragraphs describe the main areas where key aspects of legal/regulatory best practice remain to be implemented amongst the country groupings. A summary of the recommendations for each country is given in section 5 of this report.

Group B countries

(Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Turkey)

- **The legal framework** in most Group B countries has been significantly overhauled in recent years to incorporate best practices, through adopting the EU 2009 framework (Croatia) or the EU 2003 framework (Albania, FYR Macedonia, Montenegro, Serbia and Turkey). Notably, Bosnia and Herzegovina has, so far, only implemented the EU 1998 framework. Consumer protection provisions in particular need strengthening in most Group B countries to the level now adopted by Croatia from the EU 2009 framework.
- **Sector organisation and governance.** Apart from Croatia and Montenegro, there is still some state ownership in main operators in the Group B countries. Although all countries have structural separation of policy, ownership and regulatory functions, further improvements to the financial or operational independence of the sector regulator are needed generally to improve the independence of regulatory decision making.
- **Market conditions for wired services** are moving towards best practice for Group B countries, with only Bosnia and Herzegovina yet to implement a general authorisation scheme with simple notification for market entry. Fixed number portability has been implemented, except in Albania and Serbia. Fixed-line retail tariff rebalancing has yet to be achieved in any Group B country. Rights of way into public and private property do not appear strong enough in the Group B countries. With respect to measuring the competitiveness of markets, all countries use the EU best practice for market definition, analysis and determination of significant market power. However, the remaining competitive market safeguards need to be enforced/re-enforced, in particular through stronger infrastructure access and sharing provisions and cost oriented wholesale charging based on modern cost models.
- **Market conditions for wireless services** with best practice is increasing in Group B countries, with evident strong competition and growth in mobile markets. Mobile number portability is fully implemented in all Group B countries, except Bosnia and Herzegovina. National roaming is present in all countries, and although the regulatory enablers for virtual mobile operators to enter the market are generally in place, MVNOs exist only in Albania and Montenegro. The switch off of analogue broadcasting is being left to 2015 in Albania, FYR Macedonia, Serbia and Turkey, delaying valuable spectrum redeployment for broadband expansion, especially in rural areas.
- **Fees and taxation.** A special tax is imposed in Turkey and operators also have to pay a contribution to a universal service fund. In other countries, the fees paid are generally low, although the level of transparency and predictability of operators' required payments needs to be improved to give better confidence that operators only pay the true administrative costs of the regulatory function.
- **Information society progress.** Good progress has been made in Group B countries in implementing the required information society safeguards. Bosnia and Herzegovina still needs to implement

Conclusions from the assessment

adequate cybercrime protections, Albania and FYR Macedonia have not yet liberalised domain name registration.

Improving conditions for investment

The continuing high demand for broadband services will attract investment, provided that the enabling legal and regulatory frameworks provide the easy market entry and competitive safeguards now expected by investors, following the reforms introduced throughout the EU. The best practice legal and regulatory conditions are already in place in Croatia, which will join the EU in 2013. In total, 25 of the 31 countries assessed in this report have either adopted substantial components of the EU regulatory framework for electronic communications, or have committed through their agreements with the EU to its adoption. The remaining 6 countries (Kazakhstan, Kyrgyz Republic, Mongolia, Russia, Tajikistan and Turkmenistan) have implemented some reforms, but the overall legal/regulatory risk will remain higher in these countries until the best practices that are features of the EU framework are adopted. The speed at which a country adopts legal and regulatory best practice is critical to investment confidence.

The following features of the EU framework are a priority with respect to the attraction of investment, especially in building the high capacity network infrastructures required to meet the very high growth in broadband demand from consumers.

Spectrum liberalisation:

Key aspects of spectrum which the countries of the region should focus on are:

- Spectrum should be made available to meet demand, as determined by the market. To achieve this, spectrum management needs to be better coordinated across the telecommunications and broadcasting markets and the regulatory process needs to be independent, fair and transparent in order to ensure that the economic value of the national spectrum resource is optimised.
- At the moment, most countries use a legacy process of spectrum management, which is over-reliant on analogue technology methods and political considerations. The planned switchover from analogue to digital broadcasting is already underway. The analogue switch-off must be completed by mid-2015, at the latest, to comply with international obligations. In some cases (for example Croatia and Georgia) suitable spectrum for is already available but the necessary cross-border co-ordination will delay the exploitation for broadband expansion because the same frequencies are used for analogue broadcasting in neighbouring countries. In parallel with the digital switchover plans, spectrum management must be modernised, in order to ensure the best economic outcomes that are available from the “digital dividend” made possible by the release of the spectrum previously used by analogue terrestrial broadcasting.
- The release of this analogue broadcasting spectrum will make available a very large amount of valuable “digital dividend” spectrum that can be exploited by electronic communications providers to the expected growth in broadband services. If this challenge is met in all countries over the next 2-3 years, then the demands of rural, as well as urban citizens can be met with more cost-effective investment, giving better quality and value for money to consumers.

Infrastructure sharing

Since market liberalisation, new entrants have generally invested in separate telecommunications infrastructures to bring their services to local and national markets. In the mobile sector, each country has (typically) three network operators that have built three separate networks each with its own switches and transmission masts. There has been some exploitation by mobile companies of the existing network infrastructures generally controlled by the incumbent fixed operator. However, where these legacy networks have used older technologies, or where the network has insufficient capacity, the mobile companies have invested in their own dedicated transmission network infrastructures.

New entrants to the fixed access markets (telephony and broadband) have also generally built alternative network infrastructures, starting in the larger cities where the higher demand can justify these new investments. Although investors should have the freedom to invest in their own infrastructures, in many cases, the costs associated with this duplicative infrastructure deter investment, especially in areas where demand has yet to develop, or where the costs of building the infrastructure are currently high.

Overreliance on separate duplicative infrastructures (the “infrastructure competition” model) results in the expansion of modern services being generally slower and more expensive than necessary, due to the construction of redundant network infrastructure. This leaves many geographical areas underserved,

Conclusions from the assessment

because the investment case for separate infrastructures is not sufficient to create good market conditions. To ensure that network investment is more responsive to demand, operators should be allowed and encouraged to exploit infrastructure sharing options, to improve the commercial case. This issue will be particularly important in meeting the demand for new broadband services (fixed and mobile). The commercial case for multiple investments in urban areas is already strong, with high consumer and business demand. The commercial case for expansion of high capacity infrastructure to meet the demand in more rural areas is greatly improved when options for infrastructure sharing are considered,

Key aspects of infrastructure sharing which the countries of the region should focus on are:

- Modern digital technologies allow several channels to use the same infrastructure, for example the Asynchronous Digital Subscriber Line (ADSL) technology can provide two services over one copper loop. In many countries, the regulatory conditions have been slow to adapt to provide for new market entrants to share the existing infrastructures that are in place in order to give the end consumers a choice of retail service provider under fair competitive market conditions.
- Many of the barriers to infrastructure sharing have come from the incumbent fixed operators, with their legacy of monopoly markets often under state control. Although the building of separate network infrastructure investment may make commercial sense in high density urban areas, it becomes less attractive as the network expands. This results in poorer service and lack of choice for rural citizens.
- In most of the countries assessed, fixed network penetration has been historically low, so substantial investment in access technologies (both fixed and mobile) will now be needed to meet the demands from consumers for new services. Where demand will justify investment in only one high-capacity infrastructure, as in most rural areas, the need for infrastructure sharing is most pressing.
- In all parts of the network, a fully open and competitive market needs the option of infrastructure sharing, so that investors can make a free choice between making new investments or leasing capacity from other existing networks. In this way, the introduction of new services in a competitive market can take place faster, in response to demand. Regulators in the EU have introduced market oriented obligations on existing network operators to make their capacity available on a fair, transparent basis at wholesale charges that are related to incremental costs and acceptable rates of return.
- These standard regulatory tools can and should be introduced in countries outside the EU to create effective wholesale markets that can bring faster introduction of competitive broadband services, especially in rural areas. The new wave of next generation networks and access (NGN and NGA) investments will be maximised if the best practice infrastructure access and sharing regulations are implemented. This will result in more choice to consumers without the added expense of (for example) multiple radio masts and multiple fibre investments where they are not needed.

Conclusions from the assessment**Special tax burdens on operators**

The Assessment has identified examples where special taxes are imposed on the electronic communications sector. Special taxes are imposed on mobile operators in Egypt, Georgia, Hungary, Jordan, Moldova, Tunisia, Turkey, Tajikistan and Ukraine. According to the mobile operators, the imposition of high taxes affects their investment plans with indirect repercussions on the country's GDP. A recent Global Mobile Tax Review report¹⁷ stated that;

“High taxes on mobile services run counter to government’s commitments to improving access to communications. At the World Summit on the Information Society in 2003, 175 countries signed up to a commitment to give more than half the world’s population access to information and communications technologies by 2015.....the direct impact of reducing mobile phone specific taxation is, in most cases, almost fully counterbalanced through indirect taxation and growth impacts.”

Special mobile tax measures have also been condemned by the GSM Association¹⁸ and the European Commission. The GSMA report concluded that;

“In some cases, lowering taxes on mobile communications could actually increase government's total tax revenue in the longer-term. Each new mobile phone user would generate an additional US\$25 a year in service tax revenues at the current levels of taxation on usage.

“Eliminating all telecom-specific and other special taxes would boost the number of mobile users in the 19 affected markets by 34 million by 2010 and mobile voice traffic in these markets by 25%.

“Of the 50 countries in the study, Turkey levies the highest rate of taxes on mobile communications - nearly 44% of the cost of owning and using a mobile phone is made up of taxes. That represents an average of US\$73 in taxes each year for each user.”

The imposition of special taxes remains a significant investment risk for investors in telecommunications.

Summary of key priorities for improvement of the investment climate:

- Full spectrum liberalisation
- Analogue to digital broadcasting switchover
- Non-discriminatory access to rights of way
- Removal of existing market entry barriers
- Implementation of the normally expected competitive safeguards (including number portability, infrastructure access and sharing)
- Removal of special tax burdens on operators.

17 <http://serving.webgen.gsm.org/5926DA9A-2DD6-48E7-BAD4-50D4CD3AF30A/assets/taxreview0607.pdf>

18 see www.cellular-news.com/story/14210.php

5: RECOMMENDATIONS

The following recommendations arise from the Assessment, in particular the conclusions related to the need to adopt legal and regulatory best practices. These recommendations therefore aim to indicate specific measures which, when introduced, can to reduce the overall legal/regulatory risk associated with investments in the electronic communications sector.

Group B countries

(Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Turkey)

Albania, Croatia, FYR Macedonia and Turkey already align closely with legislative best practice for the electronic communications sector. Croatia has already fully adopted the EU 2009 regulatory framework for electronic communications and all other Group B countries are working towards its adoption.

Although Turkey has introduced a general authorisation scheme, it did not abolish some old concessions (authorisations and licences) held by existing operators until expiry (up to 2029), annulment or termination (though the Turkish regulator has committed to align them with EU requirements). Full transition to the new authorisation regime is required in order to create equal competitive conditions. In addition, Bosnia and Herzegovina still applies an individual licensing regime rather than the general authorisation framework.

Specific recommendations for amendment to the legal and regulatory frameworks in each country are given in the table at the end of this section.

A summary of the main recommendations arising from this Assessment is given in the tables below.

Recommendations

Recommendations for Bosnia and Herzegovina

Recommendation table I: Summary of priority recommendations to improve the legal framework

Group B Countries	Regulator independence and structure	Authorisation regime	Interconnection and infrastructure access	Market analysis and enforcement	Spectrum management	Universal service	Consumer protection	Numbering
Bosnia and Herzegovina	Improve structural, financial and operational independence of sector regulator	Transition from individual licensing to general authorisation framework			Introduce comprehensive legislative regime for spectrum management, including requirement that spectrum be assigned on competitive basis.	Provide comprehensive universal service framework	Enhance consumer protection provisions to meet EU 2009 framework	Require open, objective, transparent, non-discriminatory, proportionate procedures. Reduce deadline for number portability

Recommendation Table II: Summary of priority recommendations to improve regulatory implementation

Group B Countries	Sector organisation and governance	Market conditions for wired services	Market conditions for wireless services	Fees and taxation	Information society safeguards
Bosnia and Herzegovina	Reduce state ownership.	Introduce simple notification scheme and implement transition arrangements for existing licences. Implement all remaining expected competitive safeguards. Improve rights of way. Complete tariff rebalancing.	Implement mobile number portability		

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