2012
Electronic Communication Sector Comparative Assessment

Tajikistan – Country Summary
European Bank for Reconstruction and Development (EBRD)

2012 Electronic Communications Sector Comparative Assessment

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0: 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 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”). 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 Limited and Great Village International Consultants Inc. (the “Consultant”), with contributing assistance from Cullen International and other sector specialists.

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 Otakevich Law firm Nikolic Kolanovic Otakevic, Mr Steven Rawson of ICT Lawyers 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 and 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 present 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

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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
Assessment methodology

been initiated including actions resulting from various bi-lateral/multi-lateral initiatives, namely the European Neighbourhood Policy\(^8\) (ENP) and Eastern Partnership\(^9\) (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](http://ec.europa.eu/world/enp/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 services. 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”, 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 BEREC\(^{12}\)) 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.

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- Accelerating broadband access for all Europeans.
- Encouraging competition and investment in next generation access networks.

Components of EU 2003 and 2009 Regulatory Frameworks

<table>
<thead>
<tr>
<th>EU 2003 Regulatory Framework</th>
<th>EU 2009 Regulatory Framework</th>
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<tbody>
<tr>
<td>Framework Directive 2002/21/EC</td>
<td>Amended by:</td>
</tr>
<tr>
<td>Authorisation Directive 2002/20/EC</td>
<td></td>
</tr>
<tr>
<td>Universal Service Directive 2002/22/EC</td>
<td>Amended by:</td>
</tr>
<tr>
<td>Competition Directive 2002/77/EC</td>
<td>Not amended</td>
</tr>
<tr>
<td>Radio Spectrum Decision 676/2002/EC</td>
<td>Not amended</td>
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<td>-</td>
<td>BEREC Regulation EC/1211/2009</td>
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</tbody>
</table>

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.

## Legal benchmarks, weightings and components

<table>
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<tr>
<th>Weightings</th>
<th>Benchmarks</th>
<th>Components</th>
</tr>
</thead>
</table>
| 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

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 the 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

<table>
<thead>
<tr>
<th>Weightings</th>
<th>Benchmarks</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>Sector organisation and governance</td>
<td>The structure of the electronic communications sector, including ownership, regulation funding and procedures.</td>
</tr>
<tr>
<td>30%</td>
<td>Market entry for wired networks and services (including licensing).</td>
<td>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.</td>
</tr>
<tr>
<td>35%</td>
<td>Market entry for wireless networks and services (including licensing/authorisations).</td>
<td>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.</td>
</tr>
<tr>
<td>10%</td>
<td>Fees and taxation on electronic communications services.</td>
<td>The types of payments required from operators/service providers to the regulator or ministry in order to start and continue providing their services.</td>
</tr>
<tr>
<td>5%</td>
<td>Progress towards implementation of Information Society.</td>
<td>The country's environment for conducting business and providing services electronically</td>
</tr>
<tr>
<td>100%</td>
<td>Total weighting</td>
<td>The regulatory benchmarks together contribute 70% of the overall legal/regulatory risk assessment</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Weighting</th>
<th>Score used</th>
<th>Key Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>Legal assessment score</td>
<td>Legal framework</td>
</tr>
<tr>
<td>10%</td>
<td>Regulatory assessment score 1</td>
<td>Sector organisation and governance</td>
</tr>
<tr>
<td>20%</td>
<td>Regulatory assessment score 2</td>
<td>Market conditions for wired services</td>
</tr>
<tr>
<td>25%</td>
<td>Regulatory assessment score 3</td>
<td>Market conditions for wireless services</td>
</tr>
<tr>
<td>10%</td>
<td>Regulatory assessment score 4</td>
<td>Fees and taxation</td>
</tr>
<tr>
<td>5%</td>
<td>Regulatory assessment score 5</td>
<td>Information society progress</td>
</tr>
<tr>
<td>Total 100%</td>
<td>Combined legal/ regulatory risk</td>
<td>8 legal components and 5 regulatory components</td>
</tr>
</tbody>
</table>
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 site 14.

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 available 15.
- 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 A countries

**Regional overview**

The 11 countries studied (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan and Ukraine) have a total population of around 280 million (2010), with Russia the largest (142 million) and Mongolia the smallest (2.7 million).

The electronic communications market in Russia generates over 70 per cent of the total market revenues of the group, which were around €39 billion in 2011. The region’s markets differ by size, maturity, availability and quality of services. The conditions for investors are influenced not only by the geographical conditions and economic development, but also by the relatively slow pace of liberalisation and regulatory development, compared with the EU. Penetration of telecommunications services is low by EU standards, and in the cases of Kyrgyz Republic, Mongolia, Tajikistan and Turkmenistan, very low.

Mobile services play a far greater role in the region’s markets than in the EU. In the Group A region, there are now 5.4 mobile phone subscriptions for every one fixed-line, compared with 3.2 in the EU. In Mongolia, Tajikistan and Kyrgyz Republic, where fixed networks are the least developed, there are around 10 mobile phones for every fixed-line.

- Fixed-line penetration averages 25 per 100 population for the region, compared to an average EU penetration of 40/100 population. All countries are below the EU average, with Kyrgyz Republic and Turkmenistan having around one quarter of the EU average and Tajikistan and Mongolia less than one fifth.
- Mobile subscriber penetration in the region is 135/100 and exceeds the EU rate of 127. Russia maintains the highest rates at around 181/100 population and Kazakhstan (151/100 population) also has higher levels than the EU. The remaining countries are below the EU average, with Tajikistan and Turkmenistan the lowest at less than half the average for the EU.\(^{16}\)
- Broadband services are still at a relatively early stage, with an average penetration of total broadband subscriptions (fixed plus mobile) below 20/100 population compared with the EU level of 71/100 population. Armenia, Azerbaijan, Georgia and Russia have led the way, with total broadband penetration levels above 20/100 population. In Kyrgyz Republic and Turkmenistan, broadband penetration remains below 1/100 population.

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\(^{16}\) The main mobile operators in the region generally charge very low retail on-net call tariffs, using high off-net call tariffs to compensate. This leads most customers to subscribe to two or three networks, which greatly increases the quoted penetration figures.
All countries now have legally liberalised markets. Armenia, Azerbaijan, Georgia, Moldova and Ukraine are now actively working towards alignment with the EU regulatory framework. In all countries of the region fixed-line services are still dominated by incumbents, while mobile services are fiercely competitive, with at least three mobile operators in each country (except Turkmenistan).

Broadband communications are showing the greatest growth potential in those markets that are becoming generally more competitive. All countries now have 3G mobile services. Commercial 4G/LTE services are reported to have been launched in Armenia, Kyrgyz Republic, Moldova and Russia17.

## Overall market summary – Group A Countries

<table>
<thead>
<tr>
<th></th>
<th>Armenia</th>
<th>Azerbaijan</th>
<th>Georgia</th>
<th>Kazakhstan</th>
<th>Kyrgyz Republic</th>
<th>Moldova</th>
<th>Mongolia</th>
<th>Russia</th>
<th>Tajikistan</th>
<th>Turkmenistan</th>
<th>Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>3.1m</td>
<td>9.0m</td>
<td>4.5m</td>
<td>16.3m</td>
<td>5.4m</td>
<td>5.4m</td>
<td>2.8m</td>
<td>142m</td>
<td>6.9m</td>
<td>5.0m</td>
<td>45.9m</td>
</tr>
<tr>
<td>Remaining state ownership in main fixed operator</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
<td>51%</td>
<td>80%</td>
<td>100%</td>
<td>100%/65% (note 1)</td>
<td>75%</td>
<td>95%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Market share of fixed incumbent (by revenue)</td>
<td>&gt;90%</td>
<td>&gt;90%</td>
<td>&gt;90%</td>
<td>&gt;90%</td>
<td>&gt;90%</td>
<td>96%</td>
<td>&gt;90%</td>
<td>66%</td>
<td>100%</td>
<td>100%</td>
<td>74%</td>
</tr>
<tr>
<td>No. of mobile network operators</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>72 (note 2)</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Penetration of fixed-lines per 100 population</td>
<td>19.5</td>
<td>16.7</td>
<td>31.3</td>
<td>26.2</td>
<td>9.4</td>
<td>33.1</td>
<td>7.0</td>
<td>31.7</td>
<td>5.3</td>
<td>9.7</td>
<td>26.5</td>
</tr>
<tr>
<td>Penetration of mobile subscribers per 100 population</td>
<td>104</td>
<td>95</td>
<td>99.5</td>
<td>151</td>
<td>101</td>
<td>104</td>
<td>74.6</td>
<td>181</td>
<td>52.3</td>
<td>62.5 (note 3)</td>
<td>121</td>
</tr>
<tr>
<td>Penetration of fixed broadband per 100 population</td>
<td>5.3</td>
<td>5.1</td>
<td>8.6</td>
<td>11.4</td>
<td>0.3</td>
<td>4.1</td>
<td>1.7</td>
<td>12.3</td>
<td>0.6</td>
<td>0.1</td>
<td>4.8</td>
</tr>
<tr>
<td>Penetration of mobile broadband per 100 population</td>
<td>18.6</td>
<td>19.9</td>
<td>27.7</td>
<td>8.6</td>
<td>0.5</td>
<td>4.1</td>
<td>5.6</td>
<td>12.2</td>
<td>0.8</td>
<td>0.1</td>
<td>4.8</td>
</tr>
</tbody>
</table>
### Assessment results

<table>
<thead>
<tr>
<th>Country</th>
<th>Internet usage per 100 population</th>
<th>Overall legal/ regulatory risk index as measured by the assessment (100 = lowest risk)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armenia</td>
<td>47</td>
<td>60</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>44</td>
<td>47</td>
</tr>
<tr>
<td>Georgia</td>
<td>28</td>
<td>78</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>35</td>
<td>47</td>
</tr>
<tr>
<td>Kyrgyz Republic</td>
<td>39</td>
<td>32</td>
</tr>
<tr>
<td>Moldova</td>
<td>62</td>
<td>66</td>
</tr>
<tr>
<td>Mongolia</td>
<td>11</td>
<td>54</td>
</tr>
<tr>
<td>Russia</td>
<td>44</td>
<td>54</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>10</td>
<td>42</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>2.2</td>
<td>11</td>
</tr>
<tr>
<td>Ukraine</td>
<td>34</td>
<td>55</td>
</tr>
</tbody>
</table>

Notes:
1) In Mongolia, the state owns 100 per cent of the national (wholesale) infrastructure provider and 65 per cent of the national (retail) service provider.
2) There are three national mobile networks and four regional players.
3) The mobile penetration figure for Turkmenistan is December 2010, prior to the closure of MTS, (which had 80 per cent market share). After discussions with government, MTS re-launched service in early September 2012 after having been granted new GSM and 3G licences.
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

The markets in the Group A countries vary considerably in their development, from the very low penetration countries of Mongolia, Tajikistan and Turkmenistan, where overall (fixed plus mobile) penetration remains under 100/100 population, to the relatively well-developed markets in Kazakhstan and Russia, where total penetration is over 150/100 population.

There appears to be a stronger relationship than in other regions between the gross domestic product (GDP) per capita and the overall market penetration, as illustrated below.

Note: EU data (not shown on diagram): Total penetration = 167/100, GDP per capita relative to EU = 1.0
[Source: EBRD analysis]

The differences in GDP per capita appear to influence the per capita spending on telecommunications services, as illustrated below. The per capita spending of the highest spending countries is around four times that of the lowest spending countries.
Compared to other regions, there appears to be less correlation between market penetration and the length of time since markets were fully liberalised. Georgia, Moldova and Russia had relatively high (greater than 30/100 population) fixed-line penetration even before liberalisation. Kazakhstan, Russia and Ukraine have benefited from relatively high levels of mobile penetration since liberalisation. Mongolia and Tajikistan have not reached good levels of penetration despite liberalising their markets.

Ease of market entry varies considerably over the region. Georgia and Moldova have adopted a general authorisation scheme, as used in European Union member states and some candidate countries, making market entry simple. The other countries still operate a stricter licensing procedure. Technology neutrality for mobile licences only occurs in Armenia, Mongolia and Tajikistan. In Kazakhstan, Kyrgyz Republic, Russia, Tajikistan and Turkmenistan the more difficult conditions for obtaining access to the incumbent’s
Assessment results

infrastructure virtually force alternative operators to install their own networks in all locations. In Turkmenistan all operators have to use the incumbent’s international gateway. For access to rights of way over public and private property only Azerbaijan and Ukraine have procedures that offer reasonable timeframes. Secondary spectrum trading is only allowed in Georgia. None of the fixed incumbent operators (except in Armenia) have completed retail tariff rebalancing, thus deterring fixed-line telephony competitors.

The implementation of the normally expected competitive market safeguards has been generally slow across the region. In many countries there are few provisions for consumers to have a real choice, especially in their provider of fixed telephony and fixed broadband services. Number portability has only been fully implemented in Georgia, so that even where there is choice, consumers face the added disincentive of having to change their number if they want to change their service provider. The competitive telephony market enablers of carrier selection/pre-selection and wholesale line rental have only been fully introduced in Georgia.

The basic fixed broadband market enablers of local loop unbundling and wholesale broadband access have been implemented only in Georgia, Mongolia and Moldova. Mobile national roaming has only been introduced in Azerbaijan and Russia. Although the entry of virtual mobile operators is permitted in some countries, they have only so far appeared in Russia.
## Conditions for market access – Group A Countries

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Armenia</th>
<th>Azerbaijan</th>
<th>Georgia</th>
<th>Kazakhstan</th>
<th>Kyrgyz Republic</th>
<th>Moldova</th>
<th>Mongolia</th>
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<th>Tajikistan</th>
<th>Turkmenistan</th>
<th>Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td>General authorisation procedure</td>
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<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>☒</td>
<td>✔</td>
<td>✔</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Technology neutrality for fixed licences</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>☒</td>
<td>✔</td>
<td>✔</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>✔</td>
</tr>
<tr>
<td>Technology neutrality for mobile licences</td>
<td>✔</td>
<td>☒</td>
<td>✔</td>
<td>✔</td>
<td>☒</td>
<td>✔</td>
<td>✔</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Reasonable access to rights of way</td>
<td>☒</td>
<td>✔</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
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<td>☒</td>
<td>☒</td>
<td>✔</td>
</tr>
<tr>
<td>Infrastructure sharing mandated</td>
<td>Duct only</td>
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<td>✔</td>
<td>☒</td>
<td>☒</td>
<td>✔</td>
<td>✔</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>Duct only</td>
</tr>
<tr>
<td>Regulated interconnection charges</td>
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<td>✔</td>
<td>✔</td>
<td>✔</td>
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<td>☒</td>
<td>☒</td>
<td>❌</td>
</tr>
<tr>
<td>Access to international gateways</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<td>✔</td>
<td>☒</td>
<td>☒</td>
<td>✔</td>
</tr>
<tr>
<td>Spectrum granted on fair, transparent basis</td>
<td>✔</td>
<td>☒</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<td>✔</td>
<td>☒</td>
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</tr>
<tr>
<td>Spectrum secondary trading allowed</td>
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<td>☒</td>
<td>☒</td>
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</tr>
<tr>
<td>Fixed-line retail tariff rebalancing completed?</td>
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<td>☒</td>
<td>✔</td>
<td>☒</td>
<td>☒</td>
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<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

[Source: EBRD analysis]
## Implementation of competitive safeguards – Group A Countries

<table>
<thead>
<tr>
<th></th>
<th>Armenia</th>
<th>Azerbaijan</th>
<th>Georgia</th>
<th>Kazakhstan</th>
<th>Kyrgyz Republic</th>
<th>Moldova</th>
<th>Mongolia</th>
<th>Russia</th>
<th>Tajikistan</th>
<th>Turkmenistan</th>
<th>Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed number portability</td>
<td>✘</td>
<td>✘</td>
<td>✔</td>
<td>✘</td>
<td>✘</td>
<td>✘</td>
<td>✘</td>
<td>✘</td>
<td>✘</td>
<td>✘</td>
<td>✘</td>
</tr>
<tr>
<td>Mobile number portability</td>
<td>✘</td>
<td>✘</td>
<td>✔</td>
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<td>✘</td>
<td>✘</td>
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<td>✘</td>
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</tr>
<tr>
<td>Reference Interconnection Offer (Fixed)</td>
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<td>✘</td>
<td>✔</td>
<td>✘</td>
<td>✔</td>
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</tr>
<tr>
<td>Reference Interconnection Offer (Mobile)</td>
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<td>✘</td>
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<td>Local loop unbundling</td>
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<td>Wholesale broadband access</td>
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<td>✔</td>
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<tr>
<td>Carrier selection/ pre-selection</td>
<td>✘</td>
<td>CPS only</td>
<td>✔</td>
<td>✘</td>
<td>CS only</td>
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<td>Wholesale line rental</td>
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</table>

[Source: EBRD analysis]
## Implementation of information society safeguards – Group A Countries

<table>
<thead>
<tr>
<th></th>
<th>Armenia</th>
<th>Azerbaijan</th>
<th>Georgia</th>
<th>Kazakhstan</th>
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<tr>
<td>Ease of setting up internet business</td>
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<td>✔</td>
</tr>
<tr>
<td>Legal basis for electronic documents and signatures</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<td>✔</td>
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<tr>
<td>Safeguards against cybercrime</td>
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</table>

[Source: EBRD analysis]

Licences are still required to establish internet businesses in some countries. The legal basis for data protection and electronic documents and signatures exists in most countries, but around half the countries do not have recognised safeguards against cybercrime.

Internet freedom in Central Asia, particularly in Turkmenistan is among the lowest in the world.
Some countries of the region apply special taxes on mobile telephony services. In Georgia there is a special excise tax on mobile operators at 10 per cent of revenues. The bill for the customer does not itemise this amount, the overall call charge is stated and then 18 per cent VAT is added. In January 2012 there was a new government decision to add €0.10 to all monthly call bills to pay for “free” emergency calls. Moldova has a tax on all mobile operators at 2.5 per cent of revenues. In Tajikistan there is a special tax of 3 per cent on mobile revenues and in addition, VAT has recently been imposed on incoming international revenue settlements. In Ukraine all mobile operators have to apply an additional retail charge of 7.5 per cent to subscribers’ bills, which is paid to the State Pension Fund.

The impact of these special taxes on mobile services puts several countries above the average for taxes as a proportion of the total cost of mobile ownership, as indicated by the 2011 survey for the GSM association18.

### Tax as a proportion of cost of mobile ownership

<table>
<thead>
<tr>
<th>Country</th>
<th>Tax as a proportion of cost of mobile ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan</td>
<td></td>
</tr>
<tr>
<td>Average*</td>
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<tr>
<td>Georgia</td>
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<td>Russia</td>
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<td>Ukraine</td>
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<tr>
<td>Uzbekistan</td>
<td></td>
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</tbody>
</table>

*Average of 111 countries surveyed

[Source: Deloitte Global Mobile Tax Review 2011]

### Regional summary and outlook

The past restrictions in market conditions for fixed telephony have resulted in substantial growth in mobile services, with the average mobile penetration at 135/100 population exceeding the EU27 average of 127/100. The restrictions in the fixed market remain in all countries except Georgia, Moldova and Mongolia such that access to the incumbent’s infrastructure is very restricted for competitors. This has given rise to significant investment in separate infrastructures, effectively by-passing the existing legacy networks. Mobile operators have also largely relied on their own separate infrastructures, adding to the overall cost of mobile services in the market.

The continuing increase in internet usage over the last five years has created very significant new demand for broadband services. With mobile usage dominating the sector and fixed-line access infrastructure limited, the main developments have been in investing in new mobile technologies.

The speed of investment in mobile broadband has been impressive in most countries of the region. Moldova became the first country in Europe to launch 14.4Mbps 3G mobile data services nationwide in 2009. Mobile broadband has already reached a penetration of 10/100 population across the market, although this varies considerably between the highest countries (Armenia and Azerbaijan) at around 19/100 population and the lowest (Kyrgyz Republic, Tajikistan and Turkmenistan) at less than 1/100 population. The mobile companies

see broadband revenue growth as the replacement for declining voice revenues, as voice call tariffs reduce from the prevailing high levels that were a general feature of mobile services in the region for many years.

The following chart shows the internet usage (percentage of population who regularly use the internet) compared with the penetration of broadband services. The black 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 all 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. In the chart above, the further towards the bottom right, the more potential there is for broadband growth. On this basis, Moldova has the most pent-up demand for broadband service with over 60 per cent of its population being internet users and with less than 15/100 population penetration of broadband. Similarly, there is significant broadband demand potential in Armenia, Azerbaijan, Russia and Kyrgyz Republic, which all have relatively high numbers of internet users, yet only low penetrations of broadband subscriptions. Only Georgia so far appears to have closed the gap. Given the right market conditions, the trend should follow the experience of the EU, where the gap between average broadband subscriptions (at 71/100 population) and internet usage (72 per cent of the population) has already been closed.

Significant barriers to broadband growth remain, especially in fixed 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 is now the most dynamic segment, with penetration rising fast and mobile operators reporting very significant increases in data traffic over their networks. This should stimulate investments in infrastructure, provided that the governments of the region can follow the recent Russian model of releasing significant new spectrum to meet the growing demand for fast broadband services19.

19 See Russia Case Study “Spectrum for broadband expansion” in section 4 of this report.
EBRD 2012 Electronic Communications Sector Comparative Assessment

Tajikistan

TAJIKISTAN

At a glance

<table>
<thead>
<tr>
<th>Market penetration</th>
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<tbody>
<tr>
<td>Population</td>
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<tr>
<td>Fixed penetration*</td>
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<tr>
<td>Mobile penetration*</td>
<td>52</td>
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<td>Broadband penetration*</td>
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*Per 100 population

<table>
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<th>Key Institutions</th>
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<td>Policy and legislation</td>
<td>The Communications Service</td>
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<td>National regulatory authority</td>
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<td>Granting of spectrum</td>
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<td>Interconnection offers</td>
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<td>Wholesale broadband offers</td>
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<td>Mobile national roaming and MVNO</td>
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<table>
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<th>Information society</th>
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<td>Internet penetration per 100 population</td>
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<td>Ease of setting up internet business</td>
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<tr>
<td>Legal basis for electronic documents and signatures</td>
<td>✔</td>
</tr>
<tr>
<td>Safeguards against cybercrime</td>
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</table>
Market Liberalisation

The incumbent Tajiktelecom is still the only provider of fixed voice services, but alternative internet service providers use these lines, plus their own fixed wireless networks to provide competitive services. Basic fixed-line penetration is only 5.3/100 population and fixed broadband still less than 1/100 population.

In the mobile market, 11 licences have been issued, but recently the seven active companies have consolidated to four main operators. Mobile penetration has reached 83/100 population compared with a regional average of 135/100. All mobile operators have launched 3G services since 2006 and these are gradually expanding outside the capital Dushanbe. Indigo-Somoncom, backed by TeliaSonera, launched 4G services in Dushanbe in 2011.

Tajiktelecom is reported to be suffering badly since its exclusive right to international traffic was removed. Other operators have negotiated separate agreements with international parties to carry international traffic.

One of the mobile and internet providers reported that they intend to buy a broadcasting company in order to make triple-play more economic for them. Broadcasting requires a separate licence, however the regulator refuses to grant these. As a result, alternative telecoms operators are making deals with broadcasters to distribute their TV channels to overcome the licensing problem.

Chart 1: Market penetration of main services per 100 population in Tajikistan, compared with the Group A regional averages

Legal framework

The Law of the Republic of Tajikistan on Telecommunications (as amended in 2006 and 2008) includes few features that align with best practice. The law contains insufficient separation between policy, regulatory and operations functions, so the regulator lacks independence. The “Communications Service” (CS) is responsible for developing sector policy while the Authorised State Body for Supervision and Regulation in the Field of Telecommunications (ASB) is the regulator, responsible for implementing sector policy. ASB’s independence is compromised by its inclusion within the CS, which also manages the state’s ownership interest in the sector. The licensing powers of the ASB are addressed in the Law on Licensing, which subjects public telecoms networks to individual licences, not a general authorisation and notification regime. The law does not require a competitive tendering process for issuance of new licenses.

The Law on Telecommunications no longer includes any meaningful market analysis or SMP/dominance provisions after the 2008 amendments (ASB was previously responsible for preventing unfair competition and monopolistic activities). The Anti-Monopoly Body now exercises these functions under the Law on Competition, which presumes dominance at 50 per cent or higher market share and presumes non-
dominance at less than 35 per cent market share. The Anti-Monopoly Body also regulates infrastructure
access charges based on cost estimates and to encourage competitive markets. Tariff regulation and
approval powers of the ASB, including over interconnection tariffs, were eliminated as part of the
December 2008 amendments to the Law on Telecommunications. However, ASB is still separately
authorised under the Law on Consumer Protection to approve retail tariffs of dominant service providers.

The Law on Telecommunications imposes interconnection regulation on network operators holding
"significant dominant market power", with interconnection agreements requiring approval by the ASB.
Interconnection may be refused based on technical capacity limitations if fully justified. The law has
limited dispute resolution procedures. The ASB establishes procedures for settlement of disputes (between
telecommunications operators, or between telecommunications operators and the users of
telecommunications services) and is authorised to resolve disputes related to interconnection subject to
court appeal. However, in practice, ASB does not appear to use this power - disputes go to court instead.

Penalties are determined under the Administrative Violations Code, however fines are insufficient to deter
significant or recurring non-compliance by larger commercial service providers. Though the code also
permits license suspension or revocation sanctions, these remedies are typically impractical for larger
operators.

The State Committee on Radio Frequency Spectrum (SCRFS) is responsible for development and
implementation of uniform frequency allocation policy and ensuring radio equipment electromagnetic
compliance. The SCRFS establishes the National Plan of frequency allocation, develops spectrum
"recommendations and procedures", represents Tajik interests in international organisations, prohibits
inappropriate use of spectrum or radio equipment and requires spectrum users to obtain authorisations.
The structure, functions and authority of the SCRFS are further elaborated in the 2004 “Regulations on the
State Committee of the Republic of Tajikistan on Radio Frequencies”. A separate Law on Spectrum
requires a “contest” among multiple operators seeking spectrum. The law does not address spectrum
trading or provide specific powers to address radio frequency disputes.

Numbering administration is the responsibility of the ASB, which must agree numbering fees with the State
Anti-Monopoly Body. There are no specific provisions in the law on telecommunications regarding
development and implementation of the national numbering plan. There are no requirements that
numbering allocation be carried out using clear and non-discriminatory processes, or that numbering fees
be limited to the reasonable, incremental costs of number administration.

The universal service provisions of the law make provision of universal service programmes the function of
the government. No formal universal service fund exists, and universal service obligations are performed
informally by state-owned Tajiktelecom in the course of its normal range of operations. Tajiktelecom is not
formally compensated for the cost of these obligations.

The law does not define a complete framework for consumer protection. It identifies the rights of users,
including: access to the public telecommunications network, timely and high quality services, user
compensation for losses from failure to provide telecommunications services and the opportunity to
complain to the ASB or the court when their rights are violated. The law requires confidentiality and privacy
of communications, compliance with quality of service requirements established by the ASB, the provision
of quality of service performance information and authorises the ASB to prohibit provision of poor quality
service. However, there appears to be: no minimum requirement for consumer contracts, no prohibition
against unjust consumer discrimination, no right to receive an itemised bill, no right of inclusion in or
exclusion from directory services, no harmonised numbers for harmonised services of social value, or a
limitation on long-term contracts.

The Law includes provisions regarding national security and emergencies, including identifying the
responsibilities of telecommunications undertakings and providing for operators to be paid compensation
for losses incurred due to use of their networks during such situations.
Chart 2: Comparison of the legal framework for telecommunications in Tajikistan with international practice and regional performance

**Tajikistan: Legal framework**

- **Regulator independence and structure**
- **Authorisation regime**
- **Interconnection and infrastructure access**
- **Market analysis and enforcement**
- **Spectrum management**
- **Universal Service**
- **Consumer protection**
- **Numbering**

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

**Sector organisation and governance**

The state owns 95 per cent of Tajiktelecom, the incumbent fixed-line provider and also 25 per cent of Megafon, with the other 75 per cent owned by the Russian Megafon company.

The Chairman of the CS is a ministry official and there is no division of responsibility between ownership, policy and regulation. The powers of the CS displace those of the ASB – particularly regarding “demonopolisation” and privatisation initiatives. ASB’s independence is compromised by its inclusion within the CS, which also manages the state’s ownership interest in the sector. CS is funded from the state budget.

There are no retained monopolies, but Tajiktelecom still receives a subsidy in the form of international traffic minutes from all operators to compensate it for the loss of its international incoming voice revenues.

The mobile sector is fiercely competitive, with up to seven active participants at one stage. These have recently consolidated into four main players. Market leader Babilon Mobile has a 37 per cent market share. Indigo-Somoncom (owned by TeliaSonera) has a 34 per cent market share, BeeLine (owned by Russia’s Vimpelcom) has 20 per cent, and Russian-owned Megafon has 9 per cent share.

Market analysis is the responsibility of the State Anti-Monopoly Body (AMA) and other functions, including numbering, are exercised by the ASB in cooperation with the (AMA). Spectrum regulation is largely the responsibility of the State Committee on Radio Frequency Spectrum. AMA does the market analysis and uses a simple 35 per cent market share rule to determine dominance. AMA then has to approve the designated operators’ retail tariffs. The cost calculations for the tariff setting are carried out by CS using an established methodology, but this is done in consultation with the operators in order to use their cost information.

Tajikistan is not a member of the WTO.
Regulatory conditions for wired services

The market is open to all but so far only Tajiktelecom has a national infrastructure, albeit with a very low penetration of basic services. Many alternative providers compete in the internet services markets, giving broadband access mostly via Tajiktelecom’s copper networks.

Some internet service providers install dedicated data lines into businesses in order to handle data rates higher than Tajiktelecom lines. Tajiktelecom and the mobile operators also lease dedicated lines to each other to expand their networks. Although these wholesale charges are supposed to be regulated, the arrangements between operators are often “cooperation” deals whereby one company leases main line capacity in return for being able to use the other’s access network. Tajiktelecom reported that around 20,000 of its local loops were unbundled to alternative service providers, mostly in Dushanbe.

There are no standard arrangements for granting rights of way over public or private property, and any arrangements for sharing infrastructure must be made between operators.

Tajiktelecom’s basic retail tariff is less than €1 per month, which is very inexpensive compared with international benchmark cost rates of around €14 per month.

For wholesale charges, call termination charges on the fixed network are included in Tajiktelecom’s reference interconnection offer and are very low. Its rates for local loop unbundling are around €7 per month, which is in line with EU benchmarks.

Regulatory conditions for services requiring frequency spectrum

Sufficient spectrum has been assigned to the operators and they can use it on a service and technologically neutral basis. The existing operators say that they have enough spectrum and use it for GSM, 3G, LTE and fixed Wireless. Operators have to get permission each time they want to open a new base station or new transmitter frequency. This permission can take some time (two to three months). If an operator does want a particular frequency it is taken back and given to other users if there is a demand.

Mobile call termination rates are applied to all operators at the rate of around €0.06 per minute. This is higher than the EU average. These rates are included in the mobile operators’ reference interconnection offers.

Number portability has not been planned, with all four main operators reportedly being against it. There have been no national roaming agreements and no attempts to introduce virtual mobile service providers, and there have been no plans reported for analogue to digital broadcasting switchover.

Payments required by operators

There are no administrative fees paid for the regulatory function, instead, yearly licensing fees are charged at 2.5 per cent of operator revenues. This goes into state budget.

There is a special tax of 3 per cent on mobile revenues. Until recently, incoming international revenue settlements were exempt from VAT, now it has been imposed. This has added significant costs to the mobile companies.

There is no universal service regime and contributions are required from operators.

There is a significant market distortion that gives Tajiktelecom compensation for loss of international incoming call minutes by adding € 0.03 per min to the termination rate for incoming international calls, which has to be paid to Tajiktelecom, even though its network is not used.

Information society safeguards

Internet service providers need a licence separately from telecommunications network licences. There is a liberalised approach to internet freedoms, although in March 2012 it was reported that the government blocked access to Facebook and several Russian language web sites for a short period of time.

There is a legal basis for electronic signatures, although there is little evidence that these are used in practice. Internet domain names have been liberalised and can be obtained from any internet service provider. Tajikistan has its own cybercrime rules and is not a signatory of the Council of Europe convention.

Summary and outlook
Tajikistan

The modernisation of the telecommunications infrastructure is nearing completion, with 90 per cent digitalisation by the year ended 2011. Fixed and mobile subscriptions are still growing as the existing market players expand their networks, driven by the higher demand for internet and IPTV services. The generally competitive market and the liberalised approach to spectrum management give Tajikistan good growth potential.

Several market distortions remain, including the over reliance on operators to make their own deals, which inevitably results in lack of transparency and possible discrimination. There is special tax on mobile service revenues. The market players also have to make special payments outside the regulatory regime to compensate Tajiktelecom for its significant reductions in international call traffic revenues caused by competition.

The relative lack of regulatory intervention will inhibit significant investments outside the urban centres, which is required to bring modern services to rural areas. A strategic approach is required to policy, regulation and enforcement to set the government’s objectives and to create the conditions for competitive investments within a more universal electronic communications market.

With four mobile operators having 3G licences, and internet usage expanding quickly, the prospects for growth are good in the urban areas. Unless the regulatory conditions and state-ownership are reformed, investment in rural infrastructure will remain poor.

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

Tajikistan: Overall legal/ regulatory risk

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

Overall legal/ regulatory risk = 42 (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.
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)
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)
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.
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.
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.
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 A countries**
(Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan and Ukraine)

The main areas where best practice remains to be implemented to reduce the overall legal/regulatory risk are:

- **The legal frameworks** in a number of Group A countries require better provision for independent decision-making for sector regulatory agencies in terms of structure, source and sustainability of funding and decision-making procedures. The legal frameworks for licensing need to introduce general authorization regimes (removing the need for specific types of licence) and remove the need for a regulatory decision before market entry becomes possible (unless genuinely scarce resources are involved). The legal frameworks of many Group A countries also need to better ensure a more internationally consistent methodology is used for market analysis and determination of operators with significant market power, and follow-up with appropriate and proportionate market-based remedies to provide normally expected competitive safeguards. In general, the legal frameworks for spectrum management, universal service, consumer protection and numbering administration need further modernising to better incorporate up-to-date best practice. Georgia and Moldova are notably closer to best practice in these areas, ranking first and second in the Group A countries, while significant revision of sector and related legal frameworks is required in Azerbaijan, Kazakhstan, Kyrgyz Republic, Tajikistan and Turkmenistan to better ensure alignment with best practice.

- **The movement of sector organisation and governance** more towards best practice requires the creation of improved regulatory structures in Azerbaijan, Kazakhstan, Kyrgyz Republic, Russia, Tajikistan and Turkmenistan. Legal and regulatory risk would also likely improve if state shareholdings in sector operators were reduced in all countries (except Armenia, Georgia and Ukraine where full privatisation has already been achieved). In general in Group A countries, regulatory capacity needs strengthening to deal with more dynamic and increasingly competitive markets, and regulatory procedures need to become more transparent and predictable. Among the Group A countries, Armenia, Georgia, Moldova and Ukraine have achieved higher levels of implementation of best practice in sector organisation and governance, whilst significant changes will be necessary in Kyrgyz Republic and Turkmenistan to bring those countries closer to the higher ranked members of the group.
Conclusions from the assessment

- **Market conditions for wired services operators generally** appear least promising in the Group A countries, with significantly greater levels of legal/regulatory risk when compared with countries that have done more to implement best practice. Georgia appears to have the easiest market entry conditions and implemented the most competitive safeguards. Notably, the remaining countries still lack number portability in fixed services. All the Group A countries (apart from Georgia and Moldova) maintain some form of fixed licensing requirement and have yet to move to the more progressive general authorisation scheme seen in more advanced regulatory environments (such as the EU member or candidate countries), with some still requiring separate types of licences and permission from the regulator to enter wired markets. Additionally, access to public and private rights of way could be improved in all Group A countries, while interconnection and infrastructure access regulation has yet to match best practice, with better enforcement necessary in most countries to remove discrimination and to make use of modern cost models to set interconnection and access charges. The remaining barriers to access caused by ineffective wholesale markets in infrastructure appear to contribute significantly to lower than expected broadband penetration. Fixed line retail charges remain unbalanced in all Group A countries except Armenia.

- **Market conditions for wireless services.** Growth and competition remain strong in mobile markets, filling the gap caused by generally low fixed network coverage. To ensure this growth continues, and capacity matches demand, the transition to more a market-led spectrum management regime needs to be accelerated. Recent moves in Russia that have made significant new spectrum available to meet the growth of broadband are notable in this respect. In the other Group A countries, provision needs to be made for spectrum re-farming and trading, national roaming and for virtual mobile operators to enter the market (Russia alone amongst Group A countries has MVNOs). Increased flexibility as to the uses allowed for spectrum is also a key aspect of modern regulatory practice. However, in the Group A countries, spectrum usage is understood to be technologically neutral only in Armenia, Mongolia and Tajikistan. While making available further spectrum for exploitation by wireless services through the analogue to digital broadcasting switchover process is a key regulatory task, the switch off of analogue broadcasting appears to be being left to the last possible date (June 2015) in many Group A countries, thereby delaying valuable spectrum redeployment for broadband expansion, which is especially important in rural areas.

- **Fees and taxation.** Special taxes are imposed on operators or consumers in Georgia, Kazakhstan, Moldova, Tajikistan, Turkmenistan and Ukraine, arguably reducing the incentive to invest and reinvest. Where there is a legacy system for subsidising low-priced basic services from operators’ universal service contributions (for example in Kazakhstan) or (in some Group A countries) an informal requirement that the incumbent operator provide certain universal services without specific reimbursement, this should be replaced with an incentive-based funding system to support co-operative investment in broadband infrastructure into rural areas. In Armenia, Azerbaijan, Kazakhstan, Russia, Tajikistan and Turkmenistan the regulatory function is still directly reliant on state budget funds. The introduction of a system of sector-funded administrative fees would likely reduce the overall regulatory risk. In all cases, the overall transparency and predictability of operators’ fees and taxes needs to be improved.

- **Information society progress.** Azerbaijan and Ukraine appear to have already implemented the main safeguards for ease of internet service provision, electronic documents and signatures, personal data protection, liberalised domain name registration and protection against cybercrime. The other Group A countries need to complete the implementation of these information society safeguards to give the required confidence to investors. This is particularly the case in Mongolia and Turkmenistan.

**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
Conclusions from the assessment

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 coordination 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, 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
Conclusions from the assessment

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.

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 report20 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 Association21 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.

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21 see www.cellular-news.com/story/14210.php
Conclusions from the assessment

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.
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 A Countries
(Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan and Ukraine)

The revisions recommended in this region arise in part as a result of the legislative tradition and practices prevalent in the former Soviet Union (of which all of the countries of Group A were members – except Mongolia, which itself was influenced by Soviet legal practice) and the fact that the governments of many countries in the region still have substantial ownership interests in telecommunications operators and service providers.

Many Group A countries have a legislative framework built on general multi-sector legislation, typically including a general licensing law, administrative violations code, anti-monopoly law and other laws that apply in a similar fashion across many sectors. Key components of the electronic communications legislative framework, such as licensing (that under best practice would be incorporated into the electronic communications law) are often addressed in the more general legislation of these countries. This approach does not recognise the rapidly changing, competition-oriented and technology-focused needs of the modern electronic communications sector. A regulatory function with the multi-disciplinary legal, economic, financial and technical capacity to manage the sector is necessary to cope with the special complexities of electronic communications markets.

The reliance on multi-sector legislation also makes it difficult to amend legislation impacting the electronic communications sector, as the support of many different ministries and interests is required. While the specific amendments required to align with best practice differ for each country, the key characteristics that such legislative revision should be aimed at remains similar in most Group A countries (though note that Georgia and Moldova, in particular, have already implemented many of these practices).

The main reforms required are:

- Clearer separation of regulation, policy and operations functions. Market regulation with sufficient legal certainty requires legal, structural and financial independence for the sector regulator, including sufficient powers to enforce its decisions in the best interests of the market, working transparently with full market and public consultation.
- A firm legislative basis for the national regulatory authority to conduct regular analyses of the electronic communications markets, and impose obligations on operators with significant market power when the regulator identifies market failures out of that analysis, or to prevent competitive abuses. The regulator should have clear authority to require dominant operators to grant access to their networks and services under non-discriminatory, transparent and cost-oriented wholesale conditions. The regulatory emphasis should be to enable more competitive market conditions, so that market investment and retail tariff decisions are left to the market.
- Provision for transition from an individual licensing regime to a framework of general authorisation and notification, in order to reduce barriers to new entrants.
- Adequate provision for management and administration of rights of use for spectrum and numbering resources. The legal framework should allow for decisions to be made quickly, transparently, in a non-discriminatory manner to support investment in new technologies, which will particularly aid the roll-out of services in rural areas.
- Provisions ensuring that an adequate range of affordable basic services are available to all residents, including functional internet (via universal service obligations)
- To the extent possible within each country’s legislative framework, laws impacting the electronic communications sector should be consolidated into one electronic communications law framework rather than in numerous multi-sector laws.

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

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

<table>
<thead>
<tr>
<th>Group A Countries</th>
<th>Regulator independence and structure</th>
<th>Authorisation regime</th>
<th>Interconnection and infrastructure access</th>
<th>Market analysis and enforcement</th>
<th>Spectrum management</th>
<th>Universal service</th>
<th>Consumer protection</th>
<th>Numbering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tajikistan</td>
<td>Improve structural, financial and operational independence of sector regulator. Move towards the creation of a separate and independent regulator</td>
<td>Transition from individual licensing to general authorisation framework</td>
<td>Provide effective infrastructure access framework. Enhance Reference Offer requirements.</td>
<td>Provide market analysis framework based on SMP. Authorise regulator to conduct market analysis and impose remedies on SMP operators. Provide meaningful penalties.</td>
<td>Provide clearly defined term of spectrum rights. Shorten deadline for spectrum decisions. Require open, objective, transparent, non-discriminatory, proportionate procedures for granting rights and setting fees</td>
<td>Establish formal universal service framework with compensation for net costs of operator. Designate agency responsible for implementation.</td>
<td>Enhance consumer protection provisions.</td>
<td>Require national numbering plan and adequate numbers. Require open, objective, transparent, non-discriminatory, proportionate procedures for granting rights and setting fees</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Group A Countries</th>
<th>Sector organisation and governance</th>
<th>Market conditions for wired services</th>
<th>Market conditions for wireless services</th>
<th>Fees and taxation</th>
<th>Information society safeguards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tajikistan</td>
<td>Move towards the creation of a separate and independent regulatory agency Reduce state ownership.</td>
<td>Introduce simple notification scheme and implement transition arrangements for existing licences. Implement fixed number portability. Implement all normally expected competitive safeguards. Improve rights of way. Complete tariff rebalancing.</td>
<td>Implement mobile number portability. Allow national roaming.</td>
<td>Introduce system of administrative fees. Remove special tax on mobile services. Introduce funding mechanism to support universal broadband.</td>
<td>Further liberalise internet service provision. Protection against cybercrime.</td>
</tr>
</tbody>
</table>
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