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**TITLE**

**E-COMMERCE AND PERMANENT ESTABLISHMENT CONCEPT  
ISSUES IN E-COMMERCE**

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## **LIST OF ABBRIVATIONS**

**EC** - Electronic Commerce

**PE** - Permanent establishment

**OECD** - Organization for Economic Co-operation and Development

**IT** -Information Technology

**WEF** - World Economic Forum

**ICT** - Information and Communication Technology

## INTRODUCTION

Nowadays, the role of technology, electronic commerce in particular, cannot be underestimated in terms of business activities, which in its turn raise a lot of legal issues among of others, which shall be thoroughly studied.

E-commerce is defined as the exchange of goods and services between (usually) independent organizations or persons supported by a comprehensive usage of ICT systems and a globally scandalized network infrastructure<sup>1</sup>.

In recent decades, the number of companies using the opportunity of on-line sales, service provision has soared rapidly, making e-commerce the potentially dominant platform (Kienan, 2001). So, we can affirm, that E-commerce has the great potential to be one of the 21<sup>st</sup> century economic trends. However, it must be considered that with every innovation come relevant challenges.

There are issues related to law, hacking, piracy, theft of information and web espionage that are limitations in terms of successful implementation of e-commerce as a concept, therefore there is a need to look through those issues as well, in order not to disregard these factors from equation of pros and cons<sup>2</sup>.

This paper aims to provide complex and conclusive view of opportunities and challenges that relate to the tax issues of e-commerce.

The problem question of this paper is

“Challenges of the Doctrine of Permanent Establishment in E-commerce: Armenian and International Perspectives”

The challenges of applying the permanent-establishment principle to ecommerce have gained special attention in the debate on e-commerce taxation and have been discussed extensively. As via E-commerce it is possible to sell the products or provide services around the world without physical presence in any particular country of the certain consumer. In this regard we can

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<sup>1</sup> Martin Kutz, Introduction to E-commerce, Combing Business and Information Technology, at 20 (2016)

<sup>2</sup> Davidson, 2009.

mistakenly assume that the premise of a permanent establishment rule does not apply to e-commerce, as the concept of fixed place for e-commerce can be generally located anywhere and the business can be conducted from everywhere, this is the reason why the concept of permanent establishment regarding to electronic –commerce is being discussed so much.

This thesis paper consists of an introduction three chapters, a conclusion, a bibliography and an appendix. In the first chapter we will discuss e-commerce, its various definitions, model types and characteristics, as well as Impacts of e-commerce on business: Armenian reality and prospective of e-commerce in RA, as well as we will overview on taxation issues of E-commerce.

In the second chapter we will discuss concept of permanent establishment under OECD model tax convention and commentaries on the articles of OECD model tax convention, as well as the concept of permanent establishment under Armenian legislation. In this chapter we will also discuss permanent establishment for the purpose of electronic commerce.

In the third chapter will discuss the proposals given by different authors to resolve the issue of permanent establishment regarding electronic-commerce.

Conclusion will be final part of this thesis paper, where the theoretical and empirical evidence are going to be assessed and results briefly discussed. The bibliography will provide an information on all the sources used for the paper, as well as there is an appendix, where the information on e-commerce development assessment can be found.

## **CHAPTER 1.**

### **E-COMMERCE**

#### **1.1 Definition, e-commerce models, main characteristics**

The last decade of the twentieth century was a period of radical change in the world economy, changing traditional perceptions of economic values, approaches and visions. The impetus for this change is the rapid development of information technology, which is closely linked to the global economy. Existing technologies for commercial transactions have changed radically. A new environment for business development has been created through e-commerce. To understand what e-commerce is in its essence, we first of all shall find out its definition, models (framework of subjects among which e-commerce can occur) and main characteristics.

There are several definitions for e-commerce, for instance:

"Electronic commerce is the ability to perform transactions involving the exchange of goods or services between two or more parties using electronic tools and techniques."<sup>3</sup>

According to the 2009 OECD definition which replaces the early definition from 2001, the term "e-commerce" includes any transaction for the sale or purchase of goods and services conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders<sup>4</sup>.

In this paper it will be defined as: E-commerce is the exchange of goods and services between (usually) independent organizations or persons supported by a comprehensive usage of ICT systems and a globally scandalized network infrastructure.<sup>5</sup>

As e-commerce transactions can occur between enterprises, individuals, governments, and other public or private organizations, the most common types of e-commerce models are the following:<sup>6</sup>

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<sup>3</sup> US Treasury Report 1996, note 35

<sup>4</sup> "Electronic and Mobile Commerce", OECD Digital Economy Papers, No. 228, OECD Publishing, Paris, 2013

<sup>5</sup> Supra note 1

<sup>6</sup> Supra note 4

1. Business-to-consumer (B2C) refers to the process of selling products and services directly between a business and consumers who are the end-users of its products or services. Most companies that sell directly to consumers can be referred to as B2C companies.
2. Business-to-business (B2B), also called B-to-B, is a form of transaction between businesses, such as one involving a manufacturer and wholesaler, or a wholesaler and a retailer. Business-to-business refers to business that is conducted between companies. Business-to-business stands in contrast to business-to-consumer (B2C) and business-to-government (B2G) transactions.
3. C2B – Consumer to business. In C2B business model an individual is allowed to sell goods and services to companies.
4. C2C – Consumer to consumer. A C2C business connects consumers to exchange goods and services and typically make their money by charging transaction or listing fees.

E-commerce is usually characterized by the following features<sup>7</sup>:

Potentially virtual—The presence of an enterprise in another country may be wholly based on the hosting of a website on a server located there.

Disintermediated and less labor intensive—The main enterprise no longer requires intermediaries in foreign countries to be able to conduct business there. Moreover, e-business activities require far less human intervention, if any, than that otherwise required to trade by in a traditional manner.

Global—The scope of market-penetration is unlimited and knows no borders.

Anonymous—Business is transacted on a non– face-to-face basis and therefore the seller and the consumer may not know each other.

## **1.2 Impacts on business: Armenian reality and prospective of e-commerce in RA.**

We believe, that the development of e-commerce is not an end in itself and it is to help to solve the problem of compliance of modern requirements in the market of information infrastructure in the Republic of Armenia.

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<sup>7</sup> V. Choudhary Electronic Commerce and Principle of Permanent Establishment Under the International Taxation Law, 2011

To have a view what is going on in e-commerce business in Armenia, we have interviewed with Mr. D. Harutyunyan, CEO of Globbing LLC, the leading international shopping platform in Armenia.

According to Mr. D. Harutyunyan, the population of Armenia makes active purchases on online platforms. Along with the widespread availability of the Internet, in recent years there has been a growing trend to order goods from abroad and according to the data provided by the Central Bank of Armenia the volume of online commerce in Armenia (via bank cards) in 2013 amounted to 2.9 billion drams, in 2014 - 5.5 billion drams. And in 2015 - 20.6 billion. Finally, in 2016 (the latest available data) the volume reached up to 23 billion.

According to the above-mentioned data provided by Mr. Harutyunyan, we can assume that, the index of logical growth of online volume in 2017, 2018, 2019 would be: 26, 28, 30 billion.

According to Mr. Harutyunyan in 2019, almost 15% of Armenia's households or 130,000 active users make online purchases, as for legal entities, as of March 2020, about 1000 legal entities are registered on the Globbing platform, 60% of which are active users. About 45% of the them are engaged in high-tech, IT and robotics, 20% are medical, 20% are fitness, spa, sports and entertainment, and the other 15% are engaged in other industries.

So having the above mentioned view what is going on in e-commerce in Armenia, we can conclude that the integration of the Republic of Armenia into the international e-commerce system is one of the priorities in the field of information technologies, which will stimulate the development of services provided by the commercial organizations. In this regard it is important to assess the readiness of Armenia's e-commerce. To understand the readiness of Armenian e-commerce, we have interviewed with one of the leading audit specialist, Mr. Levon Ghonyan.

Being motivated by the report “Digital economy rankings: Beyond e-readiness” (Digital economy rankings 2010 Beyond e-readiness, 2010) Mr. Levon Ghonyan, who is the managing partner in leading Armenian audit firm [“Yerevan-Audit Consult” CJSC](#) has measured Armenia's e-commerce readiness in the specific categories listed below<sup>6</sup>:

- 1) **Business and ICT Environment:** ICT Environment measures the extent to which individuals and businesses can access the Internet and mobile networks, and do so



affordably with an assurance of quality, reliability and security. In evaluating the general business climate, sub-indicators provide a comprehensive and forward view of country's attractiveness as a trading economy and as a destination for business investment (Digital economy rankings 2010 Beyond e-readiness, 2010).

- 2) **E-government and Tariff/Non-Tariff Regulation:** The category evaluates governments activities in this area, and their ability to lead their countries towards a digital future. It also analyses the availability of digital channels to individuals and businesses for accessing public services, and to citizens for obtaining government information about civic issues and engaging in consultation with government officials. And finally, this category includes the assessment of tariff/non-tariff regulation: ease of cross-border trade and customs clearance (Digital economy rankings 2010 Beyond e-readiness, 2010).
- 3) **Human Resource Capital:** This category assesses the level of e-skills, education and overall workforce availability (Digital economy rankings 2010 Beyond e-readiness, 2010).
- 4) **Professional Management:** In this category indicators about level of Professional Management in Armenian companies are illustrated (Digital economy rankings 2010 Beyond e-readiness, 2010).
- 5) **Legal Environment and Regulation:** This group of indicators shows legal regulations in ICT sector (Digital economy rankings 2010 Beyond e-readiness, 2010).

According to Mr. Ghonyan, the main sources of data, presented below, are reports of the World Economic Forum (WEF) and the United Nations (UN). For rankings and indexes for 2014-2019 years the following sources were used: The Global Information Technology Report and Global Competitiveness Index by WEF.

According to Mr. Levon Ghonyan, ITU statistics are widely recognized as the world's most reliable and impartial global data on the state of the global ICT industry.

As the measurements indicators refer different aspects, in this chapter only legal environment and regulation indicator will be studied, the rest will be presented in the Appendix.

## Legal Environment and Regulation - Armenia

Armenia	Rank						
Index	2014	2015	2016	2017	2018	2019	Type of variation
Efficiency of legal framework in challenging regulations 1–7 (best)	2.9	2.8	3.2	3.4	3.4	3.9	Positive variation
Intellectual property protection 1–7 (best)	3.5	3.5	3.8	3.6	4.1	4.2	Positive variation
Laws relating to ICTs 1–7 (best)	4.6	4.4	4.2	N/A	N/A	N/A	Negative variation
Software piracy rate, % software installed	88%	86%	86%	N/A	N/A	N/A	Moderate variation

Source: WEF: The Global Competitiveness Reports 2014-2019

Based on the indicators related to legal environment, we can state that in Armenia laws relating to ICTs (electronic commerce, digital signatures, consumer protection) are becoming less developed: indicator decreased from 4.6 to 4.2 in 2016. In addition, software piracy rate is extremely high: 86%. However, legal regulation in intellectual property protection became more efficient.

According to Mr. Ghonyan, Armenia has an above average level of Internet and IT technology absorption by business, customers and Government. Armenia ICT Environment has the following barriers: low level of border clearance efficiency, logistics and complexity of tariff/non-tariff regulations, Government inefficient policy in ICT and e-government spheres, scarce of skilled workforce and non-sufficient quality of education, low level of professional management, decrease in ICT legal regulation and high rate of software piracy.

### 1.3 Overview on taxation issues of E-commerce.

Having vision of e-commerce development prospective in regard to the legal environment and regulation indicator, as well as, taking into consideration the peculiarities of e-commerce characteristics, it is obvious that one of the most challenging obstacles for further e-commerce development relates to taxation despite it being one of the first areas of coordinated policy actions towards the promotion of e-commerce development for the following reasons:

E-commerce ignores or even destroys territorial Borders<sup>8</sup>. The correct answer to the question is where E-commerce is happening "on the Internet." This is very artificial to pinpoint the location of e-commerce in geographical conditions beyond the Internet.

These features pose challenges for application of the current international tax regime to e-commerce. Problems vary in their source, nature and difficulties. So in this regard it is important to understand whether can the current international tax regime apply to e-commerce income, should the current international tax regime apply to e-commerce? Will countries accept application of the current regime to e-commerce income? Information Technology revolution spawned an endless new product, services and business practices which do not reflect the classic categories of transactions. A wide range of intangible products and services are traded with these new methods. This makes difficult to determine whether it is classified as "trade income" or "services income."

Besides that, the current source rules face an initial problem in applying to e-commerce because the rules are strongly territorially based, whereas e-commerce is not<sup>9</sup>.

The current baseline rules are based on two premises:1. These are the territorial borders of each countries and determine their legal jurisdiction; and 2. that each income is made in the territory single country. In this process, the original rules rely on use the physical concepts of territory and place. But all it's weakened in non-territorial e-commerce. Virtual nature of e-commerce gives very limited meaning in regard the territorial location of the e-commerce income. Especially e-commerce in intangible assets and services, which usually do not have physical place outside of the Internet challenge traditional concepts of territoriality.

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The challenges of applying the permanent-establishment principle to ecommerce have gained special attention in the debate on e-commerce taxation and have been discussed extensively<sup>10</sup>. Via E-commerce it is possible to sell the products or provide services around the world without

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<sup>8</sup> David Johnson & David Post, Law and Borders--The Rise of Law in Cyberspace, 48 STAN. L. REV. 1367, 1368-78 (1996).

<sup>9</sup> John Sweet, Formulating International Tax Laws in the Age of Electronic Commerce: The Possible Ascendancy of Residence-Based Taxation in an Era of Eroding Traditional Income Tax Principles, 146 U. PA. L.REV. 1949, 1960-72 (1998)

<sup>10</sup> Barrett Schaefer, International Taxation of ECIncome: A Proposal to Utilize Software Agents for Source-Based Taxation, 16 COMPUTER & HIGH TECH. L. J. 111, 124-40 (1999),

physical presence in any particular country of the certain consumer. It is quite possible to work without agents, as they can contact customers all over the world without any effort. In regard to the above mentioned, it can be concluded, that the premise of a permanent establishment rule does not apply to e-commerce, as the concept of fixed place for e-commerce can be generally located anywhere and the business can be conducted from everywhere. Residence-based taxation also faces challenges. The main challenge is to determine the residency of e-commerce corporations<sup>11</sup>. As for e-commerce it is quite difficult to determine the “central place of management and control” of such a corporation in order to determine its residency under traditional definitions.

The enforcement of the current international tax regime on e-commerce faces many difficulties<sup>12</sup>. The global nature of e-commerce makes it difficult to monitor e-commerce transactions for taxation purposes. The international cooperation between countries may be helpful, but there is may arise a conflict of interest between countries in regard to the taxation. Taking into consideration, that transaction is made inside of the Internet, it becomes difficult to reveal all kind of transactions and income, which in turn makes it nearly impossible to enforce tax duties. In this regard the second issue is that whether international tax regime is an appropriate regime for e-commerce income taxation. E-commerce touches inter-individual equity.<sup>13</sup> The current regime tries to allocate tax jurisdiction according to the economic allegiance principle in order to achieve fair distribution of the international tax pie among the countries involved.<sup>14</sup> It should be considered whether applying the current international tax regime to e-commerce income achieves economic efficiency, a concern that has warranted considerable discussion in the literature and has played a central role in designing the current international tax regime.<sup>15</sup>

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<sup>11</sup> DOERNBERG, 7, at 68.

<sup>12</sup> Charles McLure, Taxation of Electronic Commerce: Economic Objectives, Technological Constraints, and the Tax Laws, 52 TAX L. REV. 269, 317 (1997).

<sup>13</sup> Richard Musgrave, Tax Equity With Multiple Jurisdictions, in PUBLIC FINANCE IN A DEMOCRATIC SOCIETY: THE FOUNDATIONS OF TAXATION AND EXPENDITURE 210-14 (2000).

<sup>14</sup> Report on Double Taxation Submitted to the Financial Committee by Professors Bruins, Einaudi, Seligman, & Sir Josiah Stamp, League of Nations Doc. E.F.S. 73.F.19 20 (1923).

<sup>15</sup> Michael Graetz, Taxing International Income: Inadequate Principles, Outdated Concepts, And Unsatisfactory Policies, 54 Tax. L. Rev. 261 (2000).

In this regard the third issue is that, whether existing international tax regime will be acceptable to the countries or not. The challenge is to renew or rebuild the international consensus concerning taxing international e-commerce income.<sup>16</sup>

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<sup>16</sup> Azam, 18, at 12.

## **CHAPTER 2.**

### **THE CONCEPT OF PERMANENT ESTABLISHMENT**

#### **2.1 Role of permanent establishment concept.**

Permanent establishment is one of the cardinal bases of all the DTAAs. Permanent Establishments is a key concept in International Tax. PE importance is conditioned by that circumstances, according to which it defines the scope of those factors in which the source state may acquire taxing rights over business profits generated by non-residents. It can be considered a threshold, which tells when and under which circumstances the non-resident would end up having tax liability or taxable presence in the other country.

The concept of PE shall be considered in the light of article 7 (1) of OECD model tax convention, 2010, for instance: Profits of an enterprise of a Contracting State shall be taxable only in that State unless the enterprise carries on business in the other Contracting State through a permanent establishment situated therein.<sup>17</sup> It can be derived from this article, that PE is an exception to the general rule for taxation of business profits, because the general rule for taxation of business profits under Article 7 is that - the business profits of the enterprise are taxable in the residence state of the enterprise. Only when that enterprise has a PE would the profits which are attributable to that PE be taxable in the PE state. Taking into consideration the above mentioned, we have concluded that in certain circumstances the non-resident may have taxable presence, so we need to go through of Article 5 of OECD model tax convention to find the definition of permanent establishment and reveal its essence.

#### **2.2 Definition of PE: Fixed place of PE**

According to Article 5 (1) of OECD model tax convention, 2010 for the purposes of this Convention, the term “permanent establishment” means a fixed place of business through which the business of an enterprise is wholly or partly carried on<sup>18</sup>.

This definition, therefore, contains the following conditions:

— the existence of a “place of business”, *i.e.* a facility such as premises or, in certain instances, machinery or equipment;

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<sup>17</sup> Article 7(1) of OECD model tax convention, 2010

<sup>18</sup> Article 5(1) of OECD model tax convention, 2010

- this place of business must be “fixed”, *i.e.* it must be established at a distinct place with a certain degree of permanence;
- the carrying on of the business of the enterprise through this fixed place of business. This means usually that persons who, in one way or another, are dependent on the enterprise (personnel) conduct the business of the enterprise in the State in which the fixed place is situated<sup>19</sup>.

Studying the commentaries on the articles of the OECD model tax convention, 2010 (herein after referred to as Commentaries), we can derive from it, that definition of a place of business is really very broad while not referring to a particular building or a particular factory while referring to any space which is at the disposal of the non-resident. Commentaries clarify the meaning of the expression “at the disposal” as well, which is not contained in the model tax convention by providing some examples without any definition. So in each case it is a subject to the assessment, in each case it shall be looked at the nature of the activities that are being performed in the source state. The other component deals with the word “fixed”. According to the Commentaries fixed must be interpreted in the sense of time, in terms of permanence and also fixed geographically.

Thus in the normal way there has to be a link between the place of business and a specific geographical point. It is immaterial how long an enterprise of a Contracting State operates in the other Contracting State if it does not do so at a distinct place, but this does not mean that the equipment constituting the place of business has to be actually fixed to the soil on which it stands. It is enough that the equipment remains on a particular site.<sup>20</sup>

According to the commentaries, in terms of permanence “fixed” shall be considered under six-month test. Activities which do not last for longer than six months usually shall not constitute a PE. But depending on special circumstances, activities of a very short duration may result in a PE because of the specific nature of these activities, again no specific guidance given, the exceptions are given. Exceptions will be discussed below.

In this regard case law also shall be examined. The German pipeline case illustrates the concepts of the permanent establishment definition in details<sup>21</sup>.

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<sup>19</sup> Commentaries on the articles of the OECD model tax convention, 2010

<sup>20</sup> Ibid.

<sup>21</sup> The German Pipeline case, decision of 30 October 1996, II R 12/92 BetriebsBerater 1997.

*The Facts are the following: A Netherlands company operated a transport system for the transport of other parties` crude oil. The company transported this oil to Germany by the way of underground pipeline that stretched over hundreds of kilometers in Germany. This pipeline also had fully automatic pumping stations along the pipeline, two of which were based in Germany. The Netherlands company had no employed personnel present in Germany to assist with the maintenance of the pipeline and pimping stations. The pipeline was operated controlled and maintained from the Netherlands<sup>22</sup>.*

*It was determined in the German pipeline decision that it is not required that the place of business be physically connected to the ground or visible above ground. The court held that the concept of a PE does not require a base above ground and the underground pipeline could still constitute a PE as it is using German resourced to operate. The court held that an underground pipeline constitutes a place of business and concluded that the underground pipeline created a PE for the Dutch company in Germany<sup>23</sup>.*

As it is mentioned above, the exceptions to permanent establishment shall be discussed. The exceptions are foreseen in the Article 5(4) of OECD model tax convention, according to which Notwithstanding the preceding provisions of this Article, the term “permanent establishment” shall be deemed not to include: a) the use of facilities solely for the purpose of storage, display or delivery of goods or merchandise belonging to the enterprise; b) the maintenance of a stock of goods or merchandise belonging to the enterprise solely for the purpose of storage, display or delivery; c) the maintenance of a stock of goods or merchandise belonging to the enterprise solely for the purpose of processing by another enterprise; d) the maintenance of a fixed place of business solely for the purpose of purchasing goods or merchandise or of collecting information, for the enterprise; e) the maintenance of a fixed place of business solely for the purpose of carrying on, for the enterprise, any other activity of a preparatory or auxiliary character; f) the maintenance of a fixed place of business solely for any combination of activities mentioned in subparagraphs a) to e), provided that the overall activity of the fixed place of business resulting from this combination is of a preparatory or auxiliary character.

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<sup>22</sup> Carolina Koornhof: The attribution of profits to permanent establishments created by cross-border pipelines (2014), can be reached at <https://pdfs.semanticscholar.org/dd52/acf335a23f15a29904b3c3bde4d34ef85078.pdf>,

<sup>23</sup> *ibid*



In this regard, it can be derived from the above mentioned, that the OECD model tax convention recognizes that in some specific situations the existence of a fixed place of business does not always contribute to the profitability of the enterprise, does not really contribute to carrying out core activities of the foreign enterprise. This means, that under normal circumstances there might be a fixed place of business, but that fixed place of business does not qualify as a permanent establishment if it meets the definitions of one of these exceptions mentioned above.

One of the most challenging issue in this regard is to distinguish between activities which might have a preparatory or auxiliary character and those which have not. According to the commentaries, the decisive criterion is whether or not the activity of the fixed place of business in itself forms an essential and significant part of the activity of the enterprise as a whole<sup>24</sup>. Each individual case will have to be examined on its own merits. The commentaries say, that in any case, a fixed place of business whose general purpose is one which is identical to the general purpose of the whole enterprise, does not exercise a preparatory or auxiliary activity<sup>25</sup>.

### **2.3. Definition of PE under Armenian legislation**

In RA tax legislation the definition of a permanent establishment is defined as following:  
Permanent establishment of a non-resident organization or a non-resident natural person

1. Permanent establishment of a non-resident organization or of a non-resident natural person in the Republic of Armenia (hereinafter referred to as “the permanent establishment”) shall be one of the places of business in the Republic of Armenia mentioned in this part, record-registered with the tax authority as a taxpayer as prescribed by Chapter 58 of the Code through which the non-resident organization or the non-resident natural person conducts entrepreneurial activity, irrespective of the period of performance of the activity:

- (1) any place of production, processing, consolidation, re-packaging, packaging and/or supply of goods;
- (2) any place of management;

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<sup>24</sup> supra note 19

<sup>25</sup> supra note 19

- (3) any place of geological investigation of the subsurface, exploration, preparatory works for extraction of mineral resources and/or extraction of mineral resources and/or performance of works, provision of supervision and/or monitoring services over exploration and/or extraction of mineral resources;
- (4) any place of conduct of the activity related to the installation, adaptation and exploitation of gaming machines, computer networks and communication channels, amusement rides, as well as related to transport or other infrastructure;
- (5) place of sale of goods in the territory of the Republic of Armenia, unless otherwise prescribed by part 3 of this Article;
- (6) any place of performance of construction activities and/or construction and installation works, as well as of provision of supervision services over performance of these works;
- (7) location of the representative office or the branch office, except for the representative office which exclusively performs the activity prescribed by part 4 of this Article;
- (8) location of an organization or a natural person carrying out brokerage activities in the Republic of Armenia on behalf of a non-resident organization or a natural person in accordance with the Law of the Republic of Armenia “On insurance and insurance activities”;
- (9) according to Chapter 5 of the Code or pursuant to legislation of a foreign state, location of the reporting participant of the joint activity performed within the framework of the contract on joint activity concluded with a non-resident organization or a non-resident natural person where this joint activity is carried out in the territory of the Republic of Armenia.

2. In the case of performance of works and/or provision of services in the territory of the Republic of Armenia not mentioned in part 1 of this Article a permanent establishment shall be the place where the works are performed and/or the services are provided by employees and/or other staff hired by a non-resident organization or a non-resident natural person where such activities are carried out in the territory of the Republic of Armenia for at least 183 calendar days in a tax year, starting from the

day of commencement of the entrepreneurial activity within the framework of one or more related projects.

For the purposes of this Article, related projects shall be those the contracts on which are considered to be interconnected or interdependent. Related contracts shall mean the contracts which meet all of the following conditions:

(1) under these contracts, the same works are performed for the same tax agent or an organization or a natural person related thereto or the same services are provided to the same tax agent or an organization or a natural person related thereto by a nonresident organization or a non-resident natural person or by an organization or a natural person related thereto;

(2) the period between the day of completion of performance of works and/or provision of services prescribed by one contract and the day of entering the other contract does not exceed the uninterrupted period of twelve months. Interdependent contracts shall mean the contracts which have been concluded between a non-resident organization or a non-resident natural person or an organization or a natural person related thereto and the tax agent or an organization or a natural person related thereto in which case non-performance of obligations by the non-resident organization or the non-resident natural person or the organization or the natural person related thereto shall affect the implementation of other contracts by given non-resident organization or non-resident natural person or the organization or the natural person related thereto.

3. In case of sale of goods at exhibitions and fairs organized in the territory of the Republic of Armenia, a non-resident organization or a non-resident natural person shall create a permanent establishment in the Republic of Armenia if the activity is carried out for more than thirty days.

4. Performance of preparatory and/or support activities carried out by a nonresident organization or a non-resident natural person in the territory of the Republic of Armenia other than the principal activities of a non-resident organization or a nonresident natural person shall not lead to creation of a permanent establishment if the activities are carried out for a period of less than three years. Moreover, preparatory and/or support activities must be carried out directly for the given non-resident

organization or the non-resident natural person and not for another organization or a natural person. Preparatory and/or support activities shall include:

- (1) utilization of any place exclusively for the storage and/or exhibition of the goods belonging to the non-resident organization or the non-resident natural person;
- (2) only purchase of goods at the permanent place of activity which does not involve their sale;
- (3) only collection, processing and/or dissemination of information, advertisement or research of the market for goods, works and services at the permanent place of activity which shall be carried out by the non-resident if this activity does not constitute the principal activity carried out by this non-resident.

5. Notwithstanding the provisions of parts 1 and 2 of this Article, where a nonresident organization or a non-resident natural person carries out entrepreneurial activity in the territory of the Republic of Armenia through the organization or the natural person considered to be a dependent agent, it shall be then considered that the non-resident organization or the non-resident natural person has a permanent establishment in the territory of the Republic of Armenia with regard to any activity which the dependent agent carries out for that non-resident organization or nonresident natural person. For the purposes of this Article, a dependent agent shall be the organization or the natural person who meets all of the following conditions:

- (1) it is authorized — based on the contractual arrangements — to represent the interests of the non-resident organization or the non-resident natural person in the Republic of Armenia, act on behalf and at the expense of the non-resident organization or the non-resident natural person, act and/or carry out certain legal actions;
- (2) the activity mentioned in point 1 of this part is not carried out within the scope of the activity of customs representative, specialized participant in securities market and other brokerage activities (except for insurance broker's activity);
- (3) its activity is not limited by the types of activities prescribed by part 4 of this Article.

6. Unless otherwise prescribed by part 7 of this Article, a non-resident organization or a non-resident natural person which renders services of providing foreign labor

force to an organization or a natural person carrying out its activity in the territory of the Republic of Armenia, including to a non-resident organization or a non-resident natural person conducting activities through the permanent establishment, no permanent establishment shall be created in the territory of the Republic of Armenia with regard to these services where:

(1) the labor force acts on behalf and in the interests of the organization or the natural person carrying out its activity in the territory of the Republic of Armenia;

(2) the non-resident organization or the non-resident natural person rendering services of providing foreign labor force does not bear responsibility for the results of the work performed by the labor force.

7. Where the activity carried out by a non-resident organization or a non-resident natural person in the Republic of Armenia has the characteristics of a permanent establishment prescribed by this Article, that non-resident organization or nonresident natural person shall be record-registered with the tax authority as a taxpayer as prescribed by Chapter 58 of the Code. Where the activity carried out by the nonresident organization or the non-resident natural person leads to formation of two or more permanent establishments which — pursuant to this Article and Chapter 58 of the Code — must be record-registered with the tax authority, only one of the permanent establishments shall be subject to record-registration. The non-resident organization or the non-resident natural person may — as a taxpayer and as prescribed by Chapter 58 of the Code — be record-registered with the tax authority also in the cases where the activity carried out thereby in the Republic of Armenia is not yet characterized as a permanent as establishment prescribed by this Article.

8. Where the activity carried out by a non-resident organization or a non-resident natural person in the Republic of Armenia is characterized as a permanent establishment as prescribed by this Article but that non-resident organization or the non-resident natural person has not been record-registered with the tax authority as a taxpayer as prescribed by Chapter 58 of the Code, the tax and fees calculation and payment regulations that are applicable with regard to a non-resident organization having no permanent establishment or a non-resident natural person having no

permanent establishment shall be applicable with regard to that non-resident organization or the non-resident natural person.

9. Where a non-resident organization or a non-resident natural person carries out an activity within the framework of a contract on joint activity in the territory of the Republic of Armenia, the activity of each of the parties to that contract shall lead to the formation of a permanent establishment in accordance with the provisions of this Article.

10. For the purposes of this Article, the start of performance of the activity of a nonresident organization or a non-resident natural person in the territory of the Republic of Armenia shall be considered:

(1) the day of occurrence of any of the following:

- a. conclusion of the contract on performance of works and/or provision of services in the territory of the Republic of Armenia;
- b. obtaining a permit to perform actions on their behalf in the territory of the Republic of Armenia;
- c. procurement of goods in the territory of the Republic of Armenia for the purpose of sales;
- d. performance of works and provision of services in the territory of the Republic of Armenia within the scope of the contract on joint venture;
- e. procurement of works, services for the purpose of performing works and providing services in the territory of the Republic of Armenia;

(2) the day of conclusion of the first employment or civil and legal contract with the natural person in the territory of the Republic of Armenia or the day of arrival of the employee in the Republic of Armenia for the purpose of fulfilment of the conditions specified in the contracts prescribed by point 1 of this part. Moreover, the day of commencement of performance of the activity by the non-resident organization or the non-resident natural person in the territory of the Republic of Armenia cannot be earlier than any of time limits prescribed by sub-points (a)-(e) of point 1 of this part;

(3) the day of entry into force of the document confirming the right of the nonresident organization or the non-resident natural person to perform the types of activity specified in points 3 and 4 of part 1 of this Article.

Upon presence of some of the conditions prescribed by this Article, the day of commencement of performance of the activity within the territory of the Republic of Armenia shall be the earliest time limit specified in this Article.<sup>26</sup>

There is an official clarification on the issue of the permanent establishment on services on exclusion of double taxation of income and property with other states and Republic of Armenia<sup>27</sup>, for instance:

1. The term "permanent establishment" means a fixed place of business through which the enterprise (in this case, a non-resident) wholly or partly carries on its business. Thus, for the establishment of a permanent establishment, the following conditions must be fulfilled simultaneously:

a. Existence of place of doing business,

b. the place of doing business must be "stable";

c. An entity's business must be conducted through that fixed place of business, which means that persons (personnel) dependent on the organization are doing business in the state where that fixed place of business is located.

2. The term "place of business" includes any premises, facilities or equipment used for carrying on the business of an enterprise, whether or not used solely for that purpose. A place of business may also be established where there is no space or where it is not required for doing business, but the organization has a small area at its discretion.

3. As a rule, a non-resident organization providing services (including consulting) through its employees or other personnel hired by the Organization under the programs is considered as having a permanent establishment in the Republic of Armenia, accepting a period exceeding six months in any 12 - during the month. At the same time, it is not necessary to carry out the activity without interruptions.

4. At the same time, taking into consideration the specifics of each contract concluded between a resident and a non-resident, a non-resident organization may be regarded as having a permanent establishment in the Republic of Armenia and performing its activity for less than 6 months, particularly when:

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<sup>26</sup> Article 27, Tax Code of the Republic of Armenia, (2016),

<sup>27</sup> Official clarification of the State Revenue committee, (2011)

- the geographical and commercial integrity of the projects is maintained;
- fifty and more percent of the annual gross income of a non-resident is formed in the territory of the Republic of Armenia;
- a non-resident organization established solely for the purpose of providing services in the Republic of Armenia.

Studying the structure and the principles of the above mentioned Article and the clarification, we can conclude, that the concept of permanent establishment under Armenian legislation is created having in the basis the principles of OECD model tax convention on the same issue. It is worth to mention that OECD commentaries in this case can also serve as a guidance to the interpretation of specific rules. In this regard it also shall be mentioned, that RA tax code is being continually amended.

#### **2.4 Permanent Establishment for the Purpose of Electronic Commerce.**

Another special issues that shall be thoroughly considered is the issue of PE of e-commerce. According to Mr. Ghonyan, the professional community is now discussing and criticizing the concept of permanent establishment regarding e-commerce, as many states argue that this concept does not meet the requirements of e-commerce, because it is quite possible to make sales and conduct activities in the source state without actually being subjected to taxation. The reason for it is that the permanent establishment concept which now applies to e-commerce usually does not lead to a permanent establishment.

EC may pose problems for the definition of permanent establishments that existing tax treaties do not address. While as yet unforeseen questions are bound to arise, the current debate over what constitutes PE can be broadly summarized in the following questions<sup>28</sup>:

- Whether a mere accessibility of a website from within a particular jurisdiction subjects the site owners to income tax in that jurisdiction?
- Whether the presence of a server would constitute a PE?
- Whether a consumer's computer constitutes a PE?
- Whether the provision of services by an Internet Service Provider (ISP) would constitute a PE?

Treaty negotiators will have to examine these questions to see how treaty concepts can be applied to new ways of doing business.

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<sup>28</sup> supra note 7



Website: The challenging issue is that, whether there is an ability to access the website from certain taxation jurisdictions. In OECD countries, existence of technical equipment is not enough to create PE. Article 7 of the OECD Model Treaty provides that an enterprise of a contracting state is generally exempt from tax on its profits derived from business carried on in the other contracting state unless these profits are attributable to a PE located in that other contracting State. Article 5 defines a PE. The Model Treaty also lists business premises which constitute PE and if we were to characterize these examples, it is likely that we would conclude that a physical presence of some permanence is common to all. Does a website or home page have a physical presence of some permanence?<sup>29</sup>

A website does not have physical presence, borrowing only the presence of the server where it happens to reside at the moment. There is not any necessity for employees, contractors to be present in the certain location for the maintenance of the site. To the extent that advertising and ordering functions are perforated, the website is analogous to mail order catalogue or a television advertisement, infomercial or home shopping channel. Mere solicitation, without more, does not create a PE under existing principles, and it should not, when effectuated through EC. To the extent that a customer can view stock or data, the website is analogous to a location being maintained solely for the purposes of storage, display or delivery. Moreover, under existing principles, electronic content that resides on a server only temporarily should not be a PE. For example, the construction rules reflect this concept of duration and require the presence of project activities, including the presence of a workforce, in-country for 12 consecutive months.<sup>30</sup> Servers<sup>31</sup>. A second, more complex, question arises regarding the location of computer file servers: should the mere presence of a server in a particular taxing jurisdiction be considered sufficient contact to constitute a PE? In most cases, the existence of a foreign owned server does not require employees to be present in the host country—traditionally a prerequisite for PE.

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<sup>29</sup> Diana J.P. Mckenzie, *Commerce on the Net: Surfing Through Cyberspace Without Getting Wet*, 14 J. MARSHALL J. COMPUTER & INFO. L. 247, 247 (1996).

<sup>30</sup> *Supra* note 7

<sup>31</sup> Matthew R. Burnstein, *Conflicts on the Net: Choice of Law in Transnational Cyberspace*, 29 VAND. J. TRANSNAT'L L. 75, 103 (1996)

The User's Computer as Permanent Establishment. The question of whether a computer turns as a PE can hardly be answered positively. This would lead to a situation where everyone who has a web page has a PE in every country. In addition, the question of enforcement would have remained unclear.<sup>32</sup>

The problems, arisen by this new type of economy, seem to be unresolvable, at least at this existing level of legal regulations and cooperation between countries, taking into consideration the possible conflict of interests.

Discussions regarding whether the mere use in electronic commerce operations of computer equipment in a certain state might constitute a permanent establishment or not are the subject to the different reports and etc. The Commentaries raise number of issues relating to the implementation of the Article 5 in regard to the e-commerce according to which each case shall be examined separately on its own merits taking into consideration number of factors.

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<sup>32</sup> David R, Law and Borders-The Rise of Law in Cyberspace, 48 STAN. L. REV. 1367 (1996).

## CHAPTER 3

### PROPOSALS

The mainstream view on the international taxation of EC is that the established rules can and should apply to electronic commerce.<sup>33</sup> The challenges raised by EC are simply complications for tax administration and not reflective of any defect in the substantive law, and so any changes should be consistent with traditional tax concepts.<sup>34</sup> The conservative approach recommends reforming international taxation according to four principles:

1. The existing rules and concepts should be preserved to the fullest extent possible.
2. All changes should treat similar income equally, regardless of whether it is earned through electronic means or through existing channels of commerce (otherwise known as the principle of neutrality).
3. No new taxes should be introduced pertaining to electronic commerce.
4. The problems of EC taxation should be resolved through international cooperation, and the current international consensus should be preserved.<sup>35</sup>

Switching to Residence-Based Taxation approach has also been voiced for the idea of switching from source-based to residence-based taxation.<sup>36</sup> One of the advocates of this evolutionary approach is the U.S. Treasury Department. It has noted that because the Internet makes it “difficult, if not impossible” to apply traditional source concepts to link an item of income with a specific geographical location, tax authorities should rely upon residence-based taxation since “almost all taxpayers are resident somewhere.”<sup>37</sup>

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<sup>33</sup> Stanley I. Katz, *International Taxation of Electronic Commerce: Evolution not Revolution*, 52 *TAX L. REV.* 655 (1997).

<sup>34</sup> Ibertina M. Fernandez, *Business, Tax Authorities Work Toward Consensus on Electronic Commerce*, 15 *TAX NOTES INT’L* 1658, 1658 (NOV. 24, 1997).

<sup>35</sup> OECD, *Electronic Commerce: A Discussion Paper on Taxation Issues* 4 (1998)

<sup>36</sup> Kyrie E. Thorpe, *International Taxation of Electronic Commerce: Is the Internet Age Rendering the Concept of Permanent Establishment Obsolete?* 11 *EMORY INT’L L. REV.* 633, 691-95 (1997).

<sup>37</sup> Joseph M. Dodge, *A Combined Markto-Market and Pass-Through Corporate-Shareholder Integration Proposal*, 50 *TAXL. REV.* 265, 267 n.4 (1995).

The concept of a bit tax was first articulated in a paper co-authored by Arthur J. Cordell and Thomas Ran Ide titled “The New Wealth of Nations.”<sup>38</sup> The idea was further developed in successive writings by Cordell, a policy adviser to the Canadian government. In Europe, the chief advocate of research on the issue became Luc L. G. Soete, Professor of International Economics at the Maastricht University and director of the Maastricht Economic Research Institute on Innovation and Technology (MERIT). He and his colleagues at MERIT—Karen Kamp and Bas ter Weel—popularized the alternative approach to Internet taxation in a series of articles published in 1996-1998 and a book published in Toronto in 1997, probably the first book ever written on the interaction of tax laws and electronic commerce.<sup>39</sup> The bit tax idea gained even more attention in Europe in 1997 after the High Level Group of Experts chaired by Prof. Soete in its Final Report called on the Commission to ensure “more fundamental reflection and research on alternative taxation systems.

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<sup>38</sup> Oleksandr Pastukhov, International Taxation Of Income Derived From Electronic Commerce: Current Problems And Possible Solutions, 12 B.U. J. SCI. & TECH. L. 310 (2006).

<sup>39</sup> Arthur J. Cordell, T. Ran Ide, Luc Soete & Karin Kamp, The New Wealth of Nations: Taxing Cyberspace (Between The Lines, 1997).

## CONCLUSION

In this paper we have tried to reveal what e-commerce is, bringing its various definitions, major models and characteristics, according to which:

E-commerce is the exchange of goods and services between (usually) independent organizations or persons supported by a comprehensive usage of ICT systems and a globally scandalized network infrastructure.

As e-commerce transactions can occur between enterprises, individuals, governments, and other public or private organizations, the most common types of e-commerce models are the following: Business-to-consumer (B2C), Business-to-business (B2B), C2B – Consumer to business, C2C – Consumer to Consumer, B2G- Business to Government.

In this paper we have tried to reveal the view of e-commerce in Armenian reality and assess its development by interviewing with Mr. Harutyunyan and Mr. Ghonyan. We revealed, that along with the widespread availability of the Internet, in recent years there has been a growing trend to order goods from abroad and according to the data provided by the Central Bank of Armenia the volume of online commerce in Armenia (via bank cards) in 2013 amounted to 2.9 billion drams, in 2014 - 5.5 billion drams. And in 2015 - 20.6 billion. Finally, in 2016 (the latest available data) the volume reached up to 23 billion.

We revealed, that based on the report “Digital economy rankings: Beyond e-readiness” (Digital economy rankings 2010 Beyond e-readiness, 2010) we assessed Armenia’s e-readiness by measuring in the specific categories according to which Armenia has an above average level of Internet and IT technology absorption by business, customers and Government. Armenia ICT Environment has the following barriers: low level of border clearance efficiency, logistics and complexity of tariff/non-tariff regulations, Government inefficient policy in ICT and e-government spheres, scarce of skilled workforce and non-sufficient quality of education, low level of professional management, decrease in ICT legal regulation and high rate of software piracy. We also have made an overview of tax issues relating to e-commerce.

In this paper we have tried to reveal the essence of permanent establishment, studying the OECD model tax convention and Commentaries on the Articles of the OECD model tax convention, we have also studied case law regarding this issue as well as Armenian concept of permanent establishment.

We have concluded that there are various types of permanent establishments and that the OECD commentary provides quite good guidance as to how these different types of PE shall be interpreted. We have concluded, that the concept of permanent establishment under Armenian legislation is created having in the basis the principles of OECD model tax convention on the same issue. It is worth to mention that OECD commentaries in this case can also serve as a guidance to the interpretation of specific rules as well.

In this paper we have studied Permanent Establishment for the Purpose of Electronic Commerce. We have tried to reveal the current debate over what constitutes permanent establishment regarding e-commerce. We have revealed, that The Commentaries raise number of issues relating to the implementation of the Article 5 in regard to the e-commerce according to which each case shall be examined separately on its own merits taking into consideration number of factors, as well as we revealed that The commentaries provide and illustrate different scenarios to help to resolve this issue to a certain extent.

In this paper we have illustrated the different approaches by different authors to resolve the issue of permanent establishment regarding electronic-commerce.

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## APPENDIX

### Armenia's Connectivity

#### International Telecommunication Union (ITU)

ITU statistics are widely recognised as the world's most reliable and impartial global data on the state of the global ICT industry. We have used ITU, to illustrate Armenia's data accompanied with the post-soviet neighbour countries of the same economy scale (Georgia and Azerbaijan).

**Table 1: ICT Access and Usage Statistics**

	Armenia			Georgia (2018)	Azerbaijan (2018)	Dev-ing Countries (2018)	Dev-ed Countries (2018)
	2016	2017	2018				
<b>Mobile-cellular subscriptions per 100 inhabitants</b>	114.8	119	121.3	133.4	103.9	99.4	126.8
<b>Mobile-broadband subscriptions per 100 inhabitants</b>	51.7	69	75.9	45.2	59.5	61	115.1
<b>Households with a computer (%)</b>	64.7%	64.6%	64.6%	62.1%	64.1%	37.5%	81.6%
<b>Individuals using the Internet (%)</b>	62%	64.7%	64.7%	63.9%	79.8%	44.7%	84.9%

Source: Measuring the Information Society Report

It is visible from ICT access and usage statistics for period 2016-2018 years that the usage of mobile-cellular subscriptions (5.6% increase) and Internet (4.3% increase) increased significantly, which creates positive precondition for e-commerce popularization. Armenia is ahead of average for Developing countries in all four statistic positions.

#### Armenia's rank in ITU's ICT Development Index (IDI)

Rankings provide an opportunity to see the data in perspective and a starting point to look into ways to make positive changes.

“Measuring the Information Society” report (ICT Benchmarking tool for 177 countries - ITU, 2017) features ICT Development Index (IDI) - benchmarking tool to monitor information society developments

worldwide. The IDI capture progress made in regard to ICT infrastructure, use and skills (Measuring the Information Society Report 2019).

**Table 2: ICT Development Index (IDI) Rankings and Values**

Armenia						Georgia		Azerbaijan	
2015		2016		2017		(2017)		(2017)	
71 <sup>th</sup>	5.3	74 <sup>th</sup>	5.6	75 <sup>th</sup>	5.8	74 <sup>th</sup>	5.8	65 <sup>th</sup>	6.2

**Source: Measuring the Information Society Report**

Armenia has improved its rank value (7.8% increase) in 2015-2017, a three-year period. Although, it is behind neighbouring countries.

### IDI breakdown by indices

The ICT Development process, and a country's transformation to become an information society, can be depicted using the following three stage models (Measuring the Information Society Report, 2019):

Stage 1: ICT Readiness (Reflecting the level of networked infrastructure and access to ICTs)

Stage 2: ICT Intensity (Reflecting the level of use of ICTs in the society)

Stage 3: ICT Impact (reflecting the result/outcome of efficient and effective ICT use)

**Table 3: IDI Breakdown Rankings and Values**

	Armenia						Georgia		Azerbaijan	
	2015		2016		2017		(2017)		(2017)	
<b>IDI Access sub-index</b>  (rankings and values)	73 <sup>rd</sup>	6.3	71 <sup>th</sup>	6.5	72 <sup>nd</sup>	6.5	79 <sup>th</sup>	6.3	70 <sup>th</sup>	6.6
<b>IDI Use sub-index</b>	80 <sup>th</sup>	3.5	88 <sup>th</sup>	3.9	83 <sup>th</sup>	4.4	80 <sup>th</sup>	4.6	62 <sup>nd</sup>	5.6

(rankings and values)										
<b>IDI Skills sub-index</b>										
(rankings and values)	60 <sup>th</sup>	7.2	60 <sup>th</sup>	7.2	66 <sup>th</sup>	6.9	54 <sup>th</sup>	7.5	72 <sup>nd</sup>	6.7

**Source: Measuring the Information Society Report**

From this table above we can see the following:

**Access sub-index (readiness - level of infrastructure and access):** This sub index captures ICT readiness, and includes infrastructure and access indicators: Armenia was in 72<sup>nd</sup> place (2017) among 177 countries in the ranking list of IDI access sub-index. The change from 2015 is moderate: 3.6% increase in rank value (Measuring the Information Society Report, 2019).

**Use sub-index (intensity and usage):** This sub index captures ICT intensity, and includes three IST intensity and usage indicators: Internet users, Fixed (wired)-broadband and Mobile broadband. With regard IDI use-subindex, Armenia was in 83<sup>rd</sup> place in 2017: increase in rank value 27.3%. Although, it is behind neighbouring countries (Measuring the Information Society Report, 2019).

**Skills sub-index (education enrollment and literacy):** This sub index captures ICT capability or skills as indispensable input indicators. In this ranking Armenia was 66<sup>th</sup> in 2017. Though these indicators are proxy indicators used to measure country's level of human capacity and its ability to absorb and take advantage of ICTs. More targeted indicators would be ones that measured countries' ICT literacy. Reaching the final stage, and maximizing the Impact of ICTs, crucially depends on ICT skills. Economic growth and development will remain below potential if economies are not capable of exploiting new technologies and reaping their benefits. Armenia's rank values decreased - 3.2%, which shows challenges in e-literacy sphere (Measuring the Information Society Report, 2019).

### **Networked Readiness Index by World Economic Forum**

Through the evolved methodological framework of the Networked Readiness Index (NRI), The Global Information Technology Report measures the extent to which 139 economies take advantage of ICT and other new technologies to increase their growth and well-being.

**Table 4: The Networked Readiness Index**

	Armenia						Georgia		Azerbaijan	
	2014		2015		2016		(2016)		(2016)	
<b>Networked Readiness Index</b>	65 <sup>th</sup>	4.0	58 <sup>th</sup>	4.2	56 <sup>th</sup>	4.3	58 <sup>th</sup>	4.3	53 <sup>rd</sup>	4.3
<b>Environment subindex</b>	83 <sup>rd</sup>	3.8	78 <sup>th</sup>	3.9	78 <sup>th</sup>	3.9	56 <sup>th</sup>	4.1	74 <sup>th</sup>	3.9
<b>1st pillar: Political and regulatory environment</b>	104 <sup>th</sup>	3.3	107 <sup>th</sup>	3.2	116 <sup>th</sup>	3.2	73 <sup>rd</sup>	3.7	79 <sup>th</sup>	3.7
<b>2nd pillar: Business and innovation environment</b>	67 <sup>th</sup>	4.3	53 <sup>rd</sup>	4.6	50 <sup>th</sup>	4.6	55 <sup>th</sup>	4.5	74 <sup>th</sup>	4.2
<b>Readiness subindex</b>	51 <sup>th</sup>	5.1	44 <sup>th</sup>	5.3	43 <sup>rd</sup>	5.4	46 <sup>th</sup>	5.3	67 <sup>th</sup>	4.8
<b>3rd pillar: Infrastructure and digital content</b>	53 <sup>rd</sup>	4.6	57 <sup>th</sup>	4.4	61 <sup>th</sup>	4.4	65 <sup>th</sup>	4.4	74 <sup>th</sup>	4.1
<b>4th pillar: Affordability</b>	63 <sup>rd</sup>	5.4	31 <sup>th</sup>	6.1	18 <sup>th</sup>	6.3	15 <sup>th</sup>	6.4	71 <sup>th</sup>	5.3
<b>5th pillar: Skills</b>	47 <sup>th</sup>	5.4	54 <sup>th</sup>	5.3	51 <sup>th</sup>	5.4	64 <sup>th</sup>	5.1	68 <sup>th</sup>	5.1
<b>Usage subindex</b>	73 <sup>rd</sup>	3.7	65 <sup>th</sup>	3.9	65 <sup>th</sup>	4.0	72 <sup>nd</sup>	3.8	41 <sup>th</sup>	4.4
<b>6th pillar: Individual usage</b>	74 <sup>th</sup>	3.5	74 <sup>th</sup>	3.8	69 <sup>th</sup>	4.1	68 <sup>th</sup>	4.1	56 <sup>th</sup>	4.8
<b>7th pillar: Business usage</b>	82 <sup>nd</sup>	3.5	100 <sup>th</sup>	3.3	101 <sup>th</sup>	3.4	108 <sup>th</sup>	3.2	58 <sup>th</sup>	3.7
<b>8th pillar: Government usage</b>	76 <sup>th</sup>	4.0	45 <sup>th</sup>	4.5	46 <sup>th</sup>	4.4	54 <sup>th</sup>	4.1	35 <sup>th</sup>	4.7
<b>Impact subindex</b>	67 <sup>th</sup>	3.5	54 <sup>th</sup>	3.9	54 <sup>th</sup>	3.9	63 <sup>rd</sup>	3.8	46 <sup>th</sup>	4.0
<b>9th pillar: Economic impacts</b>	47 <sup>th</sup>	3.5	50 <sup>th</sup>	3.5	56 <sup>th</sup>	3.4	91 <sup>th</sup>	2.9	50 <sup>th</sup>	3.5
<b>10th pillar: Social impacts</b>	80 <sup>th</sup>	3.6	58 <sup>th</sup>	4.4	56 <sup>th</sup>	4.3	44 <sup>th</sup>	4.6	48 <sup>th</sup>	4.5

Source: WEF: Global Information Technology Report

It can be seen that:

- Armenia holds 56<sup>th</sup> place in 2016 by NRI among 139 countries. The country made significant progress from 65<sup>th</sup> place (7.5% increase).
- In Readiness subindex (readiness of a society to make good use of an affordable ICT infrastructure and digital content) Armenia is in 43<sup>th</sup> place (5.8% increase).

- In Usage subindex (Individual usage, Business usage, Government usage) Armenia climbed from 73<sup>th</sup> to 65<sup>th</sup> place (8.1% increase).
- In Impact subindex (Economic impacts, Social impacts) Armenia is in 54<sup>th</sup> place and made a 11.4% increase from 67<sup>th</sup> place since 2014.

Overall, we can clearly see that Armenia made progress in ICT environment adoption, but still it is far from preferable levels and in most of the aspects it is also far from regional neighbours. In next sections we will analyse in more details specific aspects of ICT environment.

We have selected particular indicators describing Business and ICT Environment from “The Global Information Technology Reports” (The Global Information Technology Report 2016) and “The Global Competitiveness Reports” for 2014-2019 years (The Global Competitiveness Report 2014-2019).

**Table 5: The Global Competitiveness Index**

Armenia													
Year		2014		2015		2016		2017		2018		2019	
Rank	Score	85 <sup>th</sup> / 144	57.1	82 <sup>th</sup> / 140	57.1	79 <sup>th</sup> / 138	58.5	73 <sup>rd</sup> / /137	58.9	70 <sup>th</sup> / 140	59.9	69 <sup>th</sup> / 141	61.3

Source: WEF: The Global Competitiveness Reports 2014-2019

The Global Competitiveness Index 4.0 assesses national competitiveness - the level of productivity. Armenia became obviously more competitive economically and has shown steady growth. The country was in 69<sup>th</sup> place from 141 countries in 2019 in comparison with 2014 when it was in 85<sup>th</sup> place. In five-year period Armenia improved its competitiveness score only by 7.3%.

**Table 6: The Global Competitiveness Indexes - Armenia**

Armenia	Rank						Type of variation
Index	2014	2015	2016	2017	2018	2019	
Competition in services 1-7 (best)	N/A	N/A	N/A	N/A	5.2	5.5	Positive variation
Financing of SMEs 1-7 (best)	N/A	N/A	N/A	N/A	3.7	4.1	Positive variation

<b>Attitudes towards entrepreneurial risk 1–7 (best)</b>	N/A	N/A	N/A	N/A	4.3	4.5	Positive variation
<b>Growth of innovative companies 1–7 (best)</b>	N/A	N/A	N/A	N/A	3.9	4.2	Positive variation
<b>Buyer sophistication 1–7 (best)</b>	3.4	3.8	3.5	3.8	4.0	4.1	Positive variation
<b>Intensity of local competition 1–7 (best)</b>	4.6	4.9	4.8	N/A	N/A	N/A	Moderate variation
<b>Accessibility of digital content 1–7 (best)</b>	5.3	5.3	5.3	N/A	N/A	N/A	No variation
<b>Internet &amp; telephony competition 0–2 (best)</b>	1.3	2.0	2.0	N/A	N/A	N/A	Positive variation
<b>Use of virtual social networks 1–7 (best)</b>	5.8	5.7	5.7	N/A	N/A	N/A	Moderate variation
<b>Firm-level technology absorption 1–7 (best)</b>	4.4	4.1	4.1	N/A	N/A	N/A	Negative variation
<b>Capacity for innovation 1–7 (best)</b>	3.4	3.5	3.8	N/A	N/A	N/A	Positive variation
<b>Business-to-business Internet use 1–7 (best)</b>	5.2	5.0	4.7	N/A	N/A	N/A	Negative variation
<b>Business-to-consumer Internet use 1–7 (best)</b>	4.4	4.3	4.4	N/A	N/A	N/A	Moderate variation
<b>Impact of ICTs on new services &amp; products 1–7 (best)</b>	4.7	4.6	4.5	N/A	N/A	N/A	Negative variation
<b>Impact of ICTs on new organizational models 1–7 (best)</b>	4.7	4.6	4.3	N/A	N/A	N/A	Negative variation
<b>Impact of ICTs on access to basic services 1–7 (best)</b>	4.3	4.3	4.3	N/A	N/A	N/A	No variation

Source: WEF: Global Information Technology Report and The Global Competitiveness Reports 2014-2019

Selected indicators and their variation from 2014 to 2019 show steady development in Business and ICT Environment. In fact, most of the indicators increased or remained stable during the analysed period.

In particular, Armenia has an extremely competitive local market, especially in the service sector. Entrepreneurs have a high appetite for entrepreneurial risk (in 2019: 28<sup>th</sup> place from 141 countries) and access to finance. In addition, new innovative companies grow rapidly with increasing capacity for innovation.

As a matter of fact, high level of Internet and social networks usage make easy access to digital content and strong impact of ICT on basic services.

### E-government and Tariff/Non-Tariff Regulation

The following analyses highlight indicators describing e-government, tariff/non-tariff regulation and logistics performance.

**Table 7: E-government and Tariff/Non-Tariff Regulation Indexes - Armenia**

Source: WEF: Global Information Technology Report and The Global Competitiveness Reports 2014-

<b>Armenia</b>	<b>Rank</b>						
<b>Index</b>	2014	2015	2016	2017	2018	2019	Type of variation
<b>E-Participation 0–1 (best)</b>	0.0	0.5	0.5	0.6	0.6	0.6	Positive variation
<b>Prevalence of non-tariff barriers 1–7 (best)</b>	N/A	4.9	4.7	4.6	4.3	4.4	Negative variation
<b>Complexity of tariffs 1–7 (best)</b>	N/A	N/A	N/A	N/A	3.8	4.2	Positive variation
<b>Border clearance efficiency 1–5 (best)</b>	N/A	N/A	N/A	N/A	2.6	2.6	Moderate variation
<b>Importance of ICTs to gov’t vision</b>	4.4	4.2	4.1	N/A	N/A	N/A	Negative variation
<b>Government Online Service Index, 0–1 (best)</b>	0.3	0.6	0.6	N/A	N/A	N/A	Positive variation
<b>Gov’t success in ICT promotion</b>	4.6	4.4	4.3	N/A	N/A	N/A	Negative variation
<b>ICT use &amp; gov’t efficiency</b>	5.0	4.8	4.5	N/A	N/A	N/A	Negative variation

2019

We can see that Armenia has implemented most of the public services online, but there is a lack of efficiency and strategic vision in ICT sector and its promotion. Moreover, there is no significant progress and visible negative trends in tariff/non-tariff regulation and customs clearance, which critical for cross-border trade.

### **Logistics Performance Index**

The World Bank’s Logistics Performance Index (LPI) measures on-the-ground trade logistics performance in 163 countries - helping to understand the challenges they and their trading partners face in reducing logistical barriers to international commerce.

**Table 8: Logistics Performance Index of Armenia**

Year	Overall LPI (out of 4.19)		Customs (out of 4.09)		Infrastructure (out of 4.38)		International shipments (out of 3.83)		Logistics quality and competence (out of 4.26)	
2018	2.6	92 <sup>nd</sup>	2.6	81 <sup>th</sup>	2.5	86 <sup>th</sup>	2.7	95 <sup>th</sup>	2.5	97 <sup>th</sup>
2016	2.2	141 <sup>th</sup>	1.9	148 <sup>th</sup>	2.2	122 <sup>nd</sup>	2.2	146 <sup>th</sup>	2.2	137 <sup>th</sup>

Source: The World Bank

Despite the barriers in tariff/non-tariff regulation, it is obvious that Armenia has made progress in logistics: in 2018 logistics quality fulfillment rate was 58.6% among 163 countries, international shipments: 69.1%; infrastructure: 56.6%; customs: 62.8%.

### Human Resource Capital

In the section below we have selected indicators describing quality of education and labor market.

**Table 9 Human Resource Capital Indexes - Armenia**

Armenia Index	Rank						Type of variation
	2014	2015	2016	2017	2018	2019	
Extent of staff training 1-7 (best)	3.4	4.7	3.5	3.6	3.6	3.7	Positive variation
Skillset of graduates 1-7 (best)	N/A	N/A	N/A	N/A	3.8	3.7	Negative variation
Digital skills among active population 1-7 (best)	N/A	N/A	N/A	N/A	4.4	4.5	Positive variation
Ease of finding skilled employees 1- 7 (best)	N/A	N/A	N/A	N/A	3.9	4.0	Positive variation
Ease of hiring foreign labour 1-7 (best)	N/A	N/A	N/A	N/A	5.0	5.2	Positive variation
Internal labour mobility 1-7 (best)	N/A	N/A	N/A	N/A	3.9	3.9	Moderate variation
Diversity of workforce 1-7 (best)	N/A	N/A	N/A	N/A	4.1	4.2	Positive variation
Quality of educational system 1-7 (best)	3.7	3.5	3.5	N/A	N/A	N/A	Negative variation
Quality of math & science education 1-7 (best)	4.2	4.2	4.4	N/A	N/A	N/A	Positive variation
Knowledge-intensive jobs, % workforce	24.1%	26.9%	26.9%	N/A	N/A	N/A	Positive variation

Source: WEF: The Global Competitiveness Reports 2014-2019



As we can clearly see from the indicators above, share of workforce employed in knowledge intensive activities is critically low: 26.9 % (2016), quality of education is decreasing: in 2016: 3.5 from 7 maximum value. Furthermore, skillset of graduates is far from expected by Employers and as a result there is a lack of skilled employees, especially with math and science background education. Although, there is at this point only one solution: hire foreign labour.

### Professional Management

The section that follows illustrates indicators about level of Professional Management in Armenian companies.

**Table 10: Professional Management Indexes- Armenia**

Armenia	Rank						
Index	2014	2015	2016	2017	2018	2019	Type of variation
Reliance on professional management 1–7 (best)	3.8	3.8	3.9	4.2	4.3	4.3	Positive variation
Willingness to delegate authority 1–7 (best)	N/A	N/A	N/A	3.9	4.1	4.1	Positive variation
Quality of management schools 1–7 (best)	3.4	3.5	3.4	N/A	N/A	N/A	Moderate variation

Source: WEF: The Global Competitiveness Reports 2014-2019

From figures above, we can conclude that top management of Armenian companies became more professional and more qualified by 13% in six years' period. In addition, there is an increase in willingness to delegate to subordinates. Although, overall quality of managerial education stays low.

### Concluding remarks: Armenia E-readiness Assessment

In the period of 2014-2019 Armenia has slowly improved its score in Global Competitiveness Index only by 7.3% and in 2019 it is on 69<sup>th</sup> place from 141 countries. It has also increased its Networked Readiness Index, but the improvement is also moderate: from 4.0 (7 is maximum) to 4.3 in three-years period (7.5% increase). ICT Development Index increased from 5.3 in 2015 to 5.8 in 2017, but Armenia has fallen in ranking from 71<sup>st</sup> to 75<sup>th</sup> place, which means that it has increased much slower, than other rival countries.

Armenia has an above average level of Internet and IT technology absorption by business, customers and Government. Although, Armenia ICT Environment has the following barriers: low level of border clearance efficiency, logistics and complexity of tariff/non-tariff regulations, Government inefficient

policy in ICT and e-government spheres, scarce of skilled workforce and non-sufficient quality of education, low level of professional management, decrease in ICT legal regulation and high rate of software piracy\*.

The data was mainly provided by Mr. Levon Ghonyan.