



Crypto currencies in the system of international private monetary law. Some issues of virtual assets taxation and accounting in Ukraine

Cripto monedas en el sistema de derecho internacional monetario privado. Algunos temas de impuestos y contabilidad de activos virtuales en Ucrania

POLATAY, Volodymyr [1](#); OVCHARENKO, Anastasiia [2](#); BONDARENKO, Iryna [3](#) & GAVKALOVA, Nataliia [4](#)

Received: 11/10/2019 • Approved: 26/01/2020 • Published 12/03/2020

Contents

[1. Introduction](#)

[2. Methodology](#)

[3. Results](#)

[4. Conclusions](#)

[Bibliographic references](#)

ABSTRACT:

The article analyzes the position of national courts on the issue, as well as foreign experience and current case law of the European Court of Justice. The aim of the article is to study the legal nature of crypto currency, for the purposes of taxation based on the analysis of foreign legal regulation experience, to reveal the most common problems in the field of taxation connected with the usage of virtual currencies and their tax assessment. The study is based on the methods of comparison, analysis, synthesis, generalization, and formal-logical method. The article provides the analysis of the legal nature of crypto currency for the purposes of legal entities Income Tax and VAT (Value Added Tax); the analysis of tax consequences of particular situations. Operations with crypto currency do not refer to currency operations. Defining VAT taxation principles, it is reasonable to take into consideration the specificity of crypto currency as "virtual assets", which combine a number of features common for services and means of payment, determining the specifics of their taxation in comparison with real goods and services. Virtual assets have transboundary character which brings the international private monetary law to a completely new level of legal regulation.

Keywords: crypto currencies, international private monetary law, taxation, accounting

RESUMEN:

El artículo analiza la posición de los tribunales nacionales sobre el tema, así como la experiencia extranjera y la jurisprudencia actual del Tribunal de Justicia de las Comunidades Europeas. El objetivo del artículo es estudiar la naturaleza legal de la criptomoneda, a los efectos de la imposición basada en el análisis de la experiencia de regulación legal extranjera, para revelar los problemas más comunes en el campo de la imposición relacionados con el uso de monedas virtuales y sus evaluación fiscal. El estudio se basa en los métodos de comparación, análisis, síntesis, generalización y método formal-lógico. El artículo proporciona el análisis de la naturaleza jurídica de la criptomoneda a efectos de las entidades jurídicas Impuesto sobre la renta, e IVA (Impuesto sobre el valor añadido); El análisis de las consecuencias fiscales de situaciones particulares. Las operaciones con moneda criptográfica no se refieren a operaciones monetarias. Al definir los principios de tributación del IVA, es razonable tener en cuenta la especificidad de la criptomoneda como "activos virtuales", que combinan una serie de características comunes para los servicios y los medios de pago, determinando los detalles de sus impuestos en comparación con los bienes y servicios reales. Los activos virtuales tienen un carácter transfronterizo que lleva el derecho monetario privado internacional a un nivel completamente nuevo de regulación legal.

1. Introduction

Crypto currency is a complex system of information and technological procedures that regulate the identification of owners and the fixation of the fact of their change. The functioning of crypto currencies is based on a decentralized issue and circulation mechanism. In the legislation of most countries of the world, including Ukraine, the status of crypto currency is not defined but the production and circulation of crypto currency in the country is not prohibited. The complexity of taxing and accounting for crypto currency-mediated transactions raises some difficulties. All of the above made the topic relevant and up-to-date.

The purpose of the article is to determine the content, legal nature of crypto currencies in the system of international private currency law, the peculiarities of taxation and accounting of such assets transactions, analysis of current case law, European experience on the subject.

2. Methodology

The methodological basis of the research are:

the analysis of current norms and laws of Ukraine and international currency legislation;

analysis of scientific works and researches of famous scholars in the field of currency laws dealing with crypto currencies.

3. Results

Monetary law exists at both national and international level. In addition, public and private features are inherent in this field. As for private international law, according to some scholars, in the doctrine of private international law, the term international private monetary law is practically not used, but the concept of "credit and settlement relations with a foreign element" is widely used. The concept of "private international monetary law" originated in German jurisprudence Getman-Pavlova, I. V. (2013)

By its very nature, crypto currency, initially having a cross-border character, will probably bring international private currency law to a new level of legal regulation. However, as any social relationship complicated by a foreign element, crypto currency relationships are based and "live" in national legal systems, subject to local regulation, including taxation and accounting.

In this case, the national rule of law works with an illegitimate object of regulation. That is why crypto currency, being the objective reality of cyberspace, has not received legitimization in most jurisdictions. However, in most countries it is not illegal.

Of course, crypto currency relationships can be defined as financing relationships and settlements between entities with a foreign element, but crypto currency is inherently autonomous, decentralized and cross-border. It has no jurisdiction and no clearly identified issuer.

Crypto currency technology is based on the principle of a database system shared between users, where each members has an access to it. In this case, each member participates in such a database in the creation and verification of the register of information, by filling with cryptographic keys. As a result of such actions of users computer capacities, the new blocks of information appear. Such blocks are crypto currency units - "coins" of Bitcoin, Litecoin, Ethereum, etc. that can be converted to any other currency and used in some countries as a means of payment Rasheva, N.Yu., Chirkova, O.I. (2017). According to the definition provided by the International Monetary Fund, virtual currency is the equivalent of value, expressed in a digital form, produced by private developers and denominated as a unit of account based on its own system of calculations [Virtual Currencies and Beyond 3].

In the researches of foreign scientists one can find the following classification of virtual currencies: (1) mobile fiat currency (used when making bank payments); (2) corporate value currency (reward for the loyalty of corporation clients, which is expressed in points, discounts, etc.); (3) the virtual world currency (to denote in-game money and online game assets); and (4) decentralized currency to which crypto currencies belong.

Thus, we can conclude that crypto currency is a digital product derived from the use of electronic payment systems created by individuals that are the subject to certain data transfer protocols in combination with cryptographic encryption methods. The main thing that distinguishes crypto

currency from other electronic funds (electronic money or cashless payments) is the autonomous, private nature of the issue, as well as the technological features of their production and putting into circulation. Information on all transactions made within these payment systems is publicly available.

The complexity of the legal status of crypto currency in Ukraine today is that Crypto currency does not fall within the definition of electronic money, which is provided in Article 15 of the Law of Ukraine "On Payment Systems and Funds Transfer in Ukraine", and also does not come within the definition of payment system which is contained in c. 29 of Article 1 of the above-mentioned Law (Verkhovna Rada of Ukraine. 29. 137) Crypto currency is also not a foreign currency in light of the requirements of the Law of Ukraine "On Currency and Currency Transactions", which came into force on February 7, 2019. It is not included in the list of foreign currencies according to the Foreign Currency Classifier and does not fall within the definition of civil rights objects that are listed in the Civil Code, not being an item (commodity), cash or cashless, non-documentary securities or property rights. In addition crypto currency does not contain any feature of a document in connection with which crypto currency cannot be recognized as a monetary substitute according to its definition in the Law of Ukraine "On the National Bank of Ukraine". After all, according to the legislative definition, "money substitute» is any document in the form of banknotes different from the currency of Ukraine, issued in circulation not by the National Bank of Ukraine and made for the purpose of making payments in trade, except for currency values (Law of Ukraine On the National Bank of Ukraine (1999) Despite the existence of numerous practices in the world of using crypto currencies as a measure of value, exchange and accumulation, its complex nature and legal uncertainty do not allow it to be identified with any of the related concepts (cash, currency, payment, electronic money, securities, money substitute, etc.). That is, bit coin and other crypto currencies are currently out of the legal sphere in Ukraine.

Analysing the various views of scholars on the legal nature of Crypto currency, we can suggest the essential features of crypto currency, which is reflected in following definition. Crypto currency is a decentralized system with a specific financial and legal nature, characterized by a high degree of liquidity, shared, but its stability is not provided by the state, unlike fiat money, and has no issuer (coins are generated by a separate group of mining users).

It may be concluded that crypto currencies have a specific nature, ability to perform the functions of the exchange, liquidity, divisiveness, lack of its own value, anchoring to a certain state and absence of a centralized issuer. That is, by its economic nature, crypto currency is a special kind of money without an issuer. With today's refusal of the gold standard, the strengthening of the processes of globalization and integration of the world economy, the development of information and computer technologies, crypto currencies are capable to perform the basic functions of money. It should be noted that in the vast majority of countries, crypto currencies are not recognized as an official means of payment and do not equate to electronic money Marian, O. (2014)

The complexity of the issue is the taxation of crypto currency-mediated transactions. The provisions of Article 165.1 of the Tax Code of Ukraine (hereinafter referred to as TCU) contain information about non-taxable income (Report for Congress (2014) Since, Article 165.1 The TCU does not exempt crypto currency buying and selling transactions from taxation, such transactions are subject to taxation if they receive an income. It should be borne in mind that in fact an individual is involved in the sale and purchase of crypto currencies in Ukraine, but the exchanges on which transactions are conducted are situated outside Ukraine, and therefore, the crypto currency itself is purchased outside the jurisdiction of Ukraine.

The purchase of crypto currency is not taxable because the mere fact of buying a crypto currency does not automatically mean you are generating an income. If a crypto currency was sold at a higher price than it was bought, then the positive difference in its legal nature is a passive income since a buyer did not directly influence the growth factors of crypto currency. However, the current provisions of paragraph 170.2 of the TCU do not recognize crypto currency as an "investment income" and "investment asset", and therefore the profits from such a sale cannot be taxed in accordance with the provisions of paragraph 170.2 of the TCU at a reduced rate of 5%. Such an income should be treated as "any income received by residents" and "other income from any activity outside the customs territory of Ukraine" in accordance with c.14.1.55 of the Tax Code, and therefore it is taxable on a general basis at the rate of 18% , stipulated by c. 167.1 of the TCU, as well as 1.5% of the military charge provided for by the transitional provisions of the TCU. Tax Code of Ukraine (2011)

Particularly noteworthy is the issue of taxing transactions using Crypto currency with the value added tax. Identification of crypto currency as a product or service for VAT purposes does not fully comply with the specifics of the legal structure of tax and specifics of crypto currency as an object. In connection with this, on October 22, 2015, the European Court of Justice (ECJ, hereinafter "the Court of Justice" (Skatteverket v David Hedqvist) referred bit coins to a contractual means of payment in the relations between the persons who have agreed to treat it this way. The ECJ has come to the conclusion that the rules also cover currencies or means of payment that are not a legal tender, provided that they are used as a means of payment (alternatives to a legal tender) and accepted by the parties in such capacity. Having examined the legal nature of bit coins, the Court found it not for goods / services (goods / services) but for payment (tender) for VAT purposes Skatteverket v David Hedqvist. (2015)

This decision influenced the formation of approaches of tax authorities of European states. We believe that when defining the principles of VAT taxation, it is reasonable to consider the specificity of crypto currency as a "virtual commodity (asset)", which combines a number of properties specific to services and means of payment that determine the features of its taxation in comparison with real goods and services. In 2016, two court rulings were filed in Ukraine in case number 820/5120/16, in which the first and the appellate courts declared illegal individual tax advice, according to which crypto currency transactions (E- dinarcoin) are subject to VAT. Thus, the courts, in substantiating their position, referred to 2015 European Court of Justice ruling in the Hedqvist case, mistaking it for the European Court of Human Rights decision and using it as a source of law Resolution of the Kharkiv Regional Administrative Court dated 13.10.16 (2016)

Despite individual decisions, in most cases crypto currency is regarded by the Ukrainian courts not as a means of payment, but as an asset, a contract of sale or supply, where the means of payment for goods (works, services) by the parties is defined by the courts as barter. In doing so, the courts emphasize that Bitcoin is not a thing within the meaning of Art. 179 of the Civil Code of Ukraine and has no signs of the material world, is not a product, has neither property rights, nor individual features. Since such an object of the contract cannot be identified, its signs of the material world are identified. The Court concludes that such an object cannot be subject to judicial protection

According to the current rules of Ukrainian legislation, the notion of "crypto currency" and the regulation of transactions with it do not fall under the regime of regulating the circulation of funds. As crypto currency does not exist in the form of banknotes, coins, bank account records, it cannot be recognized as money from the point of view of Ukrainian law. In addition, crypto currency is not a type of currency values in the interpretation of currency legislation of Ukraine. Crypto currency and transactions with it do not fall within the regime of regulation of circulation of electronic money because it is not issued by the bank, and therefore it does not contain one of the key features of electronic money. Crypto currency cannot be qualified either as money, other things or even property right of claim, because, firstly, it is not a means of payment and is not issued by the NBU. Secondly, it has no material expression. Thirdly, it does not give rise to claims.

Crypto currency has no features of material world and has no intrinsic value, because value is determined by the number of goods and services that can be purchased for a given amount of crypto currency. Crypto currencies can be exchanged for goods and services at the agreement of the parties, but without defining crypto currencies as a legal tender and entering into the Register of payment systems. Debt collection determined by the parties to a transaction in the crypto currency in court in view of the established jurisprudence is difficult.

Moreover, accounting of virtual assets, especially crypto currency is quite problematic. Thus, according to the Law of Ukraine "On Accounting and Financial Reporting", assets are resources controlled by an enterprise as a result of past events, the use of which is expected to result in economic benefits in the future Law of Ukraine On Accounting and Financial Reporting in Ukraine (1999) Crypto currency is stored on an electronic medium, so it is controlled by an enterprise as a result of past events (transferring funds and receiving a certain amount of crypto currency instead), and is a resource that can be used to calculate with certain counterparties. Hence, crypto currency is an asset for accounting purposes. However, the issue of accounting for crypto currency remains poorly researched.

Therefore ongoing processes for the active integration of International Financial Reporting Standards (hereinafter - IFRS), including International Accounting Standards (hereinafter - IAS) and interpretations issued by the International Accounting Standards Board take place in Ukraine. According to the approach in the science of financial law and economic theory, crypto currency is classified as a group of intangible assets, that is, it is considered as a non-monetary asset that is

not tangible and can be identified.

Paragraph 8 of IFRS 38 specifies that "an intangible asset is a non-monetary identifiable non-monetary asset." Indeed, crypto currencies meet the criteria for intangible assets: they can be individually identified and sold; they are non-monetary assets; have no physical form; they are likely to bring future economic benefits. Crypto currencies are non-monetary in nature, since they do not fall under the definition of monetary assets in the same paragraph of the standard ("Cash and Assets Receivable in Fixed or Determined Amounts of Cash").

In accordance with the requirements of IFRS 38, the measurement of crypto currency as a tangible asset should be measured at cost and subsequently revalued, either at cost or at fair value. Considering the price volatility of crypto currencies and the fact that they are valuable mainly as a means of exchange, the logical method of accounting them after recognition is accounting for overvalued value. However, paragraph 85 of IFRS 38 Intangible Assets prohibits the revaluation of an increase in profit or loss, requiring an entity to recognize such an increase in other comprehensive income. This approach to valuation is used due to the fact that intangible assets are historically regarded as long-term investments designed to promote the economic activity of an enterprise. This interpretation goes against the nature of crypto currencies as highly liquid assets used for trading (as a means of payment) or for investment purposes.

In this regard, accounting for crypto currencies as financial instruments is more reasonable. The main types of financial instruments are financial assets, financial liabilities, equity instruments and derivatives. Five International Standards are addressed in International Accounting and Financial Reporting Standards, namely: IFRS 32 Financial Instruments: Presentation; IFRS 39 Financial Instruments: Recognition and Measurement; IAS 7, Financial Instruments: Disclosure; IFRS 9 Financial Instruments, Text of International Financial Reporting Standards (IFRS),

The accounting for financial assets in accordance with IFRS 7 is carried out in three groups: financial assets measured at fair value through profit or loss; financial assets measured at fair value in an aggregate revenue; financial assets measured at amortized costs. Financial assets measured at fair value through profit or loss are financial assets held for trading. According to IFRS 9, trade generally means an active and frequent purchase or sale, and financial instruments held for trading are typically used to profit from short-term price fluctuations or dealer margins. That is, from the standpoint of IFRSs, such financial assets include financial instruments held for profit as a result of short-term fluctuations in prices, rates, quotations and resale during the financial year. Such current financial instruments include crypto currencies.

It is worth noting that in an accounting system, transactions with Crypto currency can be reflected in the sub-account "Other current financial investments" or the sub-account "Equivalents of funds". This raises the question of whether crypto currencies can be attributed to cash equivalents. In accordance with paragraph 6 of IAS 7, cash consists of cash on hand and demand deposits. Cash equivalents are short-term, highly liquid investments that are freely convertible into known amounts of cash and have a low risk of change in value. This definition is contained in paragraph 6 of IAS 7 Cash Flow Statement. At the same time, the definition provided in IAS 7 "Cash Flow Statement" does not limit the category "cash equivalents" to financial investments only, but does allow them to include any short-term highly liquid investments. The statement of cash flows should provide data on cash flows for the period, classifying them as operating, investment or financial activities IAS 7 Cash Flow Statement . The same transaction may include cash receipts and payments that are classified differently.

According to IFRS 7, Financial Instruments: disclosures, cash equivalents are withheld to meet short-term liabilities, but not for investment or any other purpose. In order for an investment to be classified as a cash equivalent, it should be converted freely into a known amount of cash and characterized by a small risk of change in value. Thus the investment is defined, of course, as cash equivalent only in the case of short maturity, for example, during more than three months from the date of purchase. Cash equivalents may be highly liquid debt financial instruments, subject to short-term maturity, or when purchased shortly before maturity or purchased for resale, which have a low risk of change in value and therefore their withholding will be the settlement of short-term liabilities when cash equivalents are, in their essence, an intermediate category between cash and current financial investments. Financial investments are assets held by an enterprise for the purpose of increasing profits (interest, dividends, etc.), increasing the value of capital or other benefits to an investor. Unlike financial investments, cash equivalents are cash-related because, like the latter, they are held to meet short-term liabilities rather than investment or for any other needs, but capable of generating some investment income, such as financial investments. By their very nature (as a means of maturity), crypto currencies are more opposed

to determining cash equivalents than financial investments. However, one of the significant features of cash equivalents is the low risk of a change in value. However, crypto currencies are highly volatile. Thus, unlike fiat currencies, fluctuations in a crypto currency exchange rate are very rapid, whereby the exchange rate of this currency depends only on supply and demand (the amount of demand depends on how many goods and services can be purchased for crypto currency, and supply is severely limited). For most crypto currencies, normal exchange rate fluctuations are within 20%, sometimes it reaches 50%, and the average annual volatility of many crypto currencies exceeds 100%.

We believe that the order of accounting of crypto currency in accounting depends more on a purpose of their use in the activity of an enterprise (accumulation for the purpose of further exchange for other currencies, use in current economic activity as a means of payment, use of crypto currency as a commodity in conducting activities of crypto currency mining, etc.) . If the core business of the company is related to trading or mining of crypto currencies, then it should be taken into account in the stock.

Cash equivalents are all assets that are characterized by a maximum degree of liquidity, are freely convertible into cash and which are not subject to a significant risk of change in value and for which the market is favorable. The enterprise defines the specific criteria for referring to this article independently, taking into account the requirements of normative documents in the accounting policy of an organization.

However, unlike financial investments, cash equivalents are not intended for investing. According to the above-mentioned, crypto currency used by an enterprise for payments for purchased goods, works, services has features of cash equivalents more than financial instruments. However, the high volatility of crypto currencies and unpredictable exchange rate jumps do not make it possible to equate them unequivocally to cash equivalents.

In these circumstances, we believe that crypto currency should be reflected in the statement of financial position as long-term or current financial investments (other financial investments) or cash equivalents (if used in an enterprise's current economic activity as a means of payment for purchased goods, works, services). It is advisable for business entities that use of crypto currency in business activity to choose crypto currency valuation strategy and to define it in the accounting policy of an enterprise in the order "On accounting policy" in accordance with accounting and financial reporting standards. The prospect of further research is to develop crypto currency accounting display, depending on how it is received by the owner (for example, by mining, exchanging for money or other assets, etc.).

4. Conclusions

Considering the analysis of current legislation, the authors conclude that the complex nature and legal uncertainty does not allow to identify crypto currency with any of the related concepts (cash, currency, payment, electronic money, securities, cash surrogate, etc.). Crypto currency, by its nature, is autonomous, decentralized, cross-border in nature, has no jurisdiction and no specific issuer. In the absence of legal regulation of transactions with crypto currencies taxation and taking into account a significant actual number of such transactions, budgets receive less revenues in the form of corporate income tax, personal income tax, military levy. The accounting of crypto currencies as financial instruments is justified. However, unlike financial investments, cash equivalents are not intended for investing, and crypto currency used by an enterprise for settlement has features of cash equivalents, however, high volatility of crypto currencies does not allow to unequivocally attribute them to cash equivalents. In such circumstances, further research on the issue of accounting for crypto currencies is required.

Nowadays, crypto currency is an objective economic phenomenon that needs to create optimal legal conditions for its development as soon as possible. The uncertainty of the legal status of virtual assets leads to the fact that individuals and legal entities that own virtual assets are effectively deprived of an effective way of protecting their ownership of such assets. Having a cross-border nature, crypto currency takes international private currency law to a whole new level of legal regulation. However, as any public relations are complicated by a foreign element, crypto currency relations "live" in national legal systems, subject to local regulation. There was an urgent need for legal regulation of the relations that arise when conducting transactions with crypto currencies. In order to fill the budgets, it is necessary to consider persons who use crypto currency as a means of payment and storage, as well as trading venues that receive income from the respective transactions, as taxpayers, to establish clear requirements for licensing their economic

activities related to crypto currency circulation and requirements for accounting and taxation of crypto currency transactions and mining activities.

Bibliographic references

Getman-Pavlova, I. V. (2013) Private International Law: A Textbook for Masters Yurait Publishing House [in Russian].

Rasheva, N.Yu., Chirkova, O.I. (2017) Legal basis of electronic currency (on the example of bitcoin) Management in modern systems. 1(12) [in Russian].

Virtual Currencies and Beyond: Initial Considerations. Retrieved: <http://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2016/12/31/Virtual-Currencies-and-Beyond-Initial-Considerations-43618> [in English].

Law of Ukraine On Payment Systems and Funds Transfer in Ukraine (2001) Information of the Verkhovna Rada of Ukraine. 29. 137 [in Ukrainian].

Law of Ukraine On the National Bank of Ukraine (1999) Information of the Verkhovna Rada of Ukraine. 238 [in Ukrainian].

Marian, O. (2014) Are Cryptocurrencies Super Tax Havens? 112 [in English].

Regulation of Bitcoin in Selected Jurisdictions. Report for Congress (2014) The Law Library of Congress, Global Legal Research Center. LL File № 2014-010233 [in English].

Tax Code of Ukraine (2011) Information of the Verkhovna Rada of Ukraine. 13-14. 15-16. 17. 112 [in Ukrainian].

Court of Justice of the European Union, Judgment in Case C-264/14 Retrieved: <https://curia.europa.eu/jcms/upload/docs/application/pdf/2015-10/cp150128en.pdf> [in English].

Resolution of the Kharkiv Regional Administrative Court dated 13.10.16 (2016) Retrieved: <http://reyestr.court.gov.ua/Review/62079235> [in Ukrainian].

Law of Ukraine On Accounting and Financial Reporting in Ukraine (1999) Information of the Verkhovna Rada of Ukraine. 40. 365 [in Ukrainian].

Text of International Financial Reporting Standards (IFRS), including International Accounting Standards (IAS standards) and Interpretation (IFRS Interpretations, IFRS), as amended by International Accounting Standards Board, as amended. Retrieved:

<https://www.minfin.gov.ua/news/view/mizhnarodni-standarty-finansovoi-zvitnosti--pereklad-ukrainskoiu-movoiu---rik?category=dohidna-politika&subcategory=buhgalterskij-oblik> [in Ukrainian].

IAS 7 Cash Flow Statement Retrieved: http://www.minfin.gov.ua/document/92421/MC50_7.pdf [in Ukrainian].

1. PhD in Law, Associate Professor, Department of Private International Law and Comparative Law, Yaroslav Mudryi National Law University, Pushkinskaya str., 77, 61024, Kharkiv, Ukraine

2. PhD in Law, Assistant Professor, Department of Financial Law, Yaroslav Mudryi National Law University, Pushkinskaya str., 77, 61024, Kharkiv, Ukraine

3. PhD in Law, Associate Professor, Department of Financial Law, Yaroslav Mudryi National Law University, Pushkinskaya str., 77, 61024, Kharkiv, Ukraine

4. . Doctor of Economics, Professor, Department of Public Administration and Regional Economics, Simon Kuznets Kharkiv National University of Economics, Nauky avenue, 9-A, 61166 Kharkiv, Ukraine. Email: gavkalova@gmail.com

Revista ESPACIOS. ISSN 0798 1015
Vol. 41 (Nº 08) Year 2020

[[Index](#)]

[In case you find any errors on this site, please send e-mail to [webmaster](#)]

revistaESPACIOS.com



This work is under a Creative Commons Attribution-NonCommercial 4.0 International License