

The Mining Tax Law in a Comparative Perspective

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Abstract

The purpose of this paper is to research about the possibility to identify a legal dogma body in mining taxation and to show a certain disciplinary unity of Mining Tax Law, as a particular area of Tax Law with a strong link to Mining Law and Economic Law, among others characteristics. To do so, it explains specific problems, concepts, and categories that are usually dealt with by the law that regulate this industry. That is, use the method of legal doctrine in Comparative Law. This report is exploratory and does not pursue to present definitive or closed conclusions, because it is the first paper of a line of research that the authors have been working for some years. Given the extent allowed to this class of work, evidence of such disciplinary identity will be presented rather than adequately formulating a general theory of mining tax law.

Keywords: mining taxation; mining royalties; mining tax law; legal theory of taxation.

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1. Introduction

Mining taxation is not new,¹ but it has been scarcely considered by the legal doctrine as a scientific issue.

The specialists have usually commented on specific problems about MTL and from there they have made some reflections about legal concepts or legal categories. Apparently, in the same way that it happened ever with the Environmental Tax Law, the disciplinary development of the Mining Tax Law (MTL) is an area of taxation is not done yet.²

As in the rest of tax issues, there are different disciplinary perspectives for its study, among them, economic and legal (which in this field are complementaries), which should be highlighted for the purposes of this article.³ The papers about this matter are usually written by technicians, consultant, public policy research centers, government bodies, international organisations and NGOs,

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1. MACKINTOSH, M., *Mineral Taxation*, Alberta Law Review, Vol. XIII, 1975, pp. 90–99. This article compares the mining tax laws of Alberta, Saskatchewan y British Columbia. CONRAD, R., *Mining taxation: a numerical introduction*, National Tax Journal, December 1980, Vol. 33 (4), p. 443–449. It is an economic study about mining and its taxation.
2. HERRERA explains how this work was carried out with respect to environmental legislation, starting in 2000 by the German legal doctrine and then by the legal doctrine of the rest of Europe. HERRERA, P.M., *Derecho Tributario Ambiental. La Introducción del interés ambiental en el ordenamiento tributario*, Marcial Pons, Madrid, 2000, p. 12.
3. This is very similar to what has happened with environmental taxation, as HERRERA explains (op.cit., p.12), this legal area has been the subject of traditional study of various disciplines, including the economy, due to the polycentric nature of said object, and the doctrine of environmental tax law was formulated only since the 1980s.

which have different purposes, interests and orientation. However, given the scarcity of academic papers, we must use these documentary sources with the necessary care.

On the other hand, this paper assumes the existence of domestic regulations, but the authors are more interested in identifying some problems (or types of cases), concepts and categories exposed by specialists from different countries, susceptible to be found in different legal systems.

The deficit of previous scientific studies about this matter, from the comparative legal doctrine (legal dogmatics),⁴ brings as a consequence that the present work be exploratory.

This paper has an introductory purpose, and its primary objective is to show that there is an area of Tax Law that presents certain peculiarities regarding problems or types of legal cases, a body of legal norms, concepts, principles, categories, legal institutions, methods, that form an own scientific legal status⁵ and that could be called with scientific rigour, as Mining Tax Law.⁶

The previous description allows a better understanding of this phenomenon in particular, and with this obtaining a more accurate explanation, in addition to the utility for the application of Legislation⁷ to achieve the concretion of the legal formulas decided by the legislator.

In the following pages, this paper will seek to show the main singularities of mining taxation, from the perspective of its material object, its problems, principles, categories, etc. from the discoveries presented separately by the scholars, systematizing this information.

This report does not intend to offer a definitive or closed conclusions. Given the extent allowed to this class of publications, our objective is to show the evidence of such disciplinary identity more than formulating a general theory of mining taxation.

2. Elements and categories that conform the mining tax law

CHANDLER explains that one of the main problems in mining regulation is the management of taxes generated by the industry, for three reasons: because mining taxes are more difficult compared to other sectors given the complexity of multinational trade negotiations and the time lapse before the gains are achieved accumulate; because transparency is often difficult to succeed in this industry; and because the lack of transparency and the large sums of money involved have implications not only for the economy, but also for politics and society, generating temptations for rent-seeking behaviour and loss of fiscal discipline.⁸

4.

There is one kind of legal research prominent in professional legal writings, such as handbooks, monographs, commentaries, and textbooks of law, that implements a specific legal method consisting in the systematic, analytically evaluative exposition of the substance of private law, criminal law, public law, etc. Although an exposition of this kind may contain historical, sociological, philosophical, and other considerations, its core consists in the interpretation and systematization of valid law. More precisely, it consists in a description of the literal sense of statutes, precedents, etc., intertwined with many moral and other substantive reasons. One may call this kind of exposition of the law 'legal doctrine.' Legal doctrine is often called 'legal dogmatics.'

PATTARO, E. (Editor), *A Treatise of Legal Philosophy and General Jurisprudence*, Vol. 4, Scientia Juris, Legal Doctrine as Knowledge of Law and as a Source of Law, Dordrecht, New York: Springer, 2005, p. 1.

5. Identifying the theoretical core. VERGARA, A., *Sistema y Autonomía de las Disciplinas Jurídicas. Teoría y técnica de los "núcleos dogmáticos"*, Revista Chilena de Derecho, vol. 41 N° 3, pp. 957–991, 2014, p. 972 975.
6. Obviously, this idea has its basis in the General Theory of Law, as explained by authors such as VEGA, J., *La Teoría General Del Derecho: Concepto Y Desarrollos*, IUSTEL Base de Conocimientos Jurídicos, RI \$911368, [<http://0www.iustel.com.cisne.sim.ucm.es/v2/c1.asp#9>]. 1/9].
7. That means, offer theoretical models for the practical resolution of the current legal conflicts that arise in this field As it explained for VERGARA, A., 2014, op. cit, p. 983.
8. CHANDLER, J., *Energy and Natural Resources Law, Action Research Report IM4CD*, Centre for Mining, University of Western Australia, 2013 <http://im4dc.org/wp-content/uploads/2013/09/Mining-Regulation-and-Policy-Course1.pdf>.

ANDREWS-SPEED and ROGERS argue that the mining tax regulations have been changing their focus during the time, being the main preoccupation in the seventies and eighties, the attraction of investments, and progressively they were balancing the interests of the governments and the companies; in the nineties, the effort of the tax regimes was to adapt to the price cycles, and the importance of environmental and community aspects in the mining sector was growing; and until today, the old problem of tax collection continues prevailing especially in developing economies.⁹

Hereafter, we will mention the general and distinctive elements that integrate the disciplinary content of the MTL.

2.1. General aspects of Mining Tax Law.

2.1.1. The MTL is related to mining activity and minerals.

There are many fundamental aspects to understand the scope of the MTL, whose extensions are defined institutionally in each legal system.

The MTL is linked to an object (minerals and mine¹⁰), and a class of industry (mining activities of exploration,¹¹ extraction, processing, rehabilitation¹²) and to the legal disciplines of Tax Law and

MOORE & LUNDSTOL describe the scenario in terms of temptations to the corruption of those who participate in the public sector and in the private sector. MOORE, M. Y LUNDSTOL, O., *What Have We Learned About Mining Taxation in Africa?*, ICTD Summary Briefing N°1, International Centre for Tax and Development at the Institute of Development Studies <http://www.ictd.ac/publication/7-policy-briefings/113-what-have-we-learned-about-mining-taxation-in-africa>.

9. ANDREWS-SPEED, P. & ROGERS, C., *Mining taxation issues for the future*, Resources Policy, 25, 1999, p. 221.
10. For GÓMEZ, it would be a legal concept with a broad content, and includes the accumulation of organic or inorganic substances found in soil and subsoil that can be extracted and used industrially, including deposits of manure of marine birds, metalliferous sands, salt fields (or special salts mines), coal and hydrocarbon deposits (liquid or gaseous) and other fossil substances, except surface clays and others (the law includes the wastes from the mineral working processes). This author recognizes that both manure (marine birds) and oil are not mineral species, but legally they are incorporated into this category. On the other hand, the exclusion of superficial clays is due to the fact that in Chile they are normally found in agricultural lands, and their incorporation into mining legislation would generate many conflicts and problems. In other words, as this same author points out, the law will include certain substances or exclude certain substances from the category of minerals, regardless of their nature, and the criteria used are not of a technical nature. GÓMEZ, S., *Manual de Derecho de Minería*, Editorial Jurídica de Chile, 1ª ed. 1991, Santiago, pp. 25 and ff. According to FERNÁNDEZ, in the Spanish legal system, the term “mines” also presents technical difficulties, and his words are eloquent, insofar as he argues that Spanish courts have accepted a broad definition of a mine, including mineral deposits, facilities and the accumulated works for the discovery, capture and extraction of the substances, as well as for the ownership to be able to carry out such exploitation, that is to say, the mining concession. In short, despite the various arguments and definitions are shown, the object of legal protection is not the physically located deposit but an activity developed with mining techniques. FERNÁNDEZ, A. M., *Régimen fiscal de la minería, Propuestas para una actividad sostenible*. Doctoral Thesis, University of Seville, January 30, 2015, Prof. Dr. Francisco Carrasco González. pp. 86 and ff. <https://idus.us.es/xmlui/bitstream/handle/11441/25425/Régimen%20fiscal%20de%20la%20miner%C3%ADa.pdf?sequence=1&isAllowed=y>.
11. According to OSSA, the mining activity or “mining” is the “art of mining,” adding that “it is a complex set of operations whose purpose is to find, extract and process the mineral substances that offer economic interest,” stages of exploration, exploitation (extraction of minerals from the deposit) and the benefit (which, according to OSSA, “consists in treating the extracted substances to increase their concentration and free them of impurities”). OSSA, J.L., *Derecho de Minería*, 1999, 3ª ed., Editorial Jurídica de Chile, Santiago, p. 12. On the other hand, FERNÁNDEZ indicates that the phases of the mining project are the following: previous phase; exploration, exploitation; extraction of the mineral; rehabilitation and closure (FERNÁNDEZ, op. cit, pp.180–189). Finally, the New Zealand Tax Administration describes it as follows: Phases of exploration, exploration, development and exploitation. “Once all the ore that the mine can produce profitably is recovered, rehabilitation begins to make the land suitable for future use by others. Typically, good mine management will involve a rehabilitation programme that ensures, where practical, land rehabilitation is gradually undertaken over the life of the mine.” POLICY ADVICE DIVISION OF INLAND REVENUE AND THE NEW ZEALAND TREASURY *Taxation Of Specified Mineral Mining*, October 2012, Wellington, NZ. p. 7–10 <https://taxpolicy.ird.govt.nz/sites/default/files/2012-ip-mineral-mining.pdf>.
12. The rehabilitation of the zone intervened by mining is especially relevant, constituting another activity susceptible of being influenced by a tax policy, and although it is a matter of great complexity, it must, in any, case be carried out. ANDREWS-SPEED & ROGERS are clear: “Mining is one of mankind’s most environmentally destructive activities, often involving the modification of large tracts of landscape and the production of a proportionately high output of waste material. The idea that mining companies have the responsibility to manage and, to a great extent, pay for the

Mining Law. This is not obvious, because it shows the contents and limits of the MTL.

As for the material object of the MTL, *i.e.*, the minerals, the semantic content of this category is discussed in the context of the science of mineralogy,¹³ so technically it could be better to observe the normative content according to the “types of cases” corresponding to an area of law, according to the legal doctrine or the legislation in each jurisdiction.¹⁴ Something similar is possible to say about the other aspects of MTL.

These concepts are basic since they make clear the scope of the regulations and also of the rights and powers attributed to the subjects of Law participating in the mining activity.¹⁵

2.1.2. Common Goods and Public Domain.

The mining wealth, and the impact of its exploitation on the environment bring us closer to the idea of common goods.¹⁶ Although mining wealth is a common good, legal formulas have been tried to protect mining exploitation and exploitation activities for reasons of economic efficiency or distribution of rights.¹⁷ The common goods have been transformed into public property by various legal formulas (public domain¹⁸). However, certain rights are also recognised to mining operators.¹⁹

The nature and legal status of public domain are subject to the conditions and characteristics of the mining property statute²⁰ that explain the links between the State and mineral resources.²¹

rehabilitation of mine sites during and after production is now widely accepted” (ANDREWS-SPEED & ROGERS, *op. cit.*, p. 222)

13. KLEIN & HURLBUT maintain that a mineral is a solid homogeneous by nature with a defined chemical composition (but usually not fixed) and an ordered atomic arrangement. KLEIN, C. Y HURLBUT, C., *Manual de Minerología*, Editorial Reverte, 4^ª Ed. 1996 Barcelona (traducción de Dr. J. Aguilar Peris; de *Manual de Minerology*, John Wiley & Sons, New York, 21^ª Ed.).
14. In Chile, for example, it has been argued that substances belonging to the mineral kingdom are different from the plant kingdom or the animal kingdom, and include liquid and gaseous hydrocarbons. URIBE, A., *Manual de Derecho de Minería*, Editorial Jurídica de Chile, Santiago, 1960, pp. 13 y 437. In addition, the Chilean Mining Code, article 1^º paragraph 1 (reproducing article 19 N^º24 paragraph 5 of the Political Constitution of Chile), defines the mines as the deposit of manure of marine birds, the metalliferous sands, the salt flats, the deposits of coal and hydrocarbons and other fossil substances, with the exception of superficial clays.
15. FERNANDEZ, *op. cit.*, p. 93. It is interesting to note that, depending on whether an economic activity is understood to be mining or not, it may be inside or outside of certain tax or regulatory regimes (environmental regulation, for example). For example, environmental regulations aim to subject the largest number of mining activities to environmental control, however, this may mean consolidating the financial balances of multiple stages of development of the mining business and thereby reducing the tax burden of the companies. See the concrete problem in its environmental perspective in RETAMAL, J., *Labor minera y protección del medio ambiente: criterios para una redefinición*, *Revista de Derecho UCN*. 2015, V.22, N^º1, p. 509.
16. MILESI, A., *De recursos naturales a bienes comunes: la minería a cielo abierto*. *Avá*, *Revista de Antropología*, 2012, N^º20, pp 33–56; FORNILLO, B. *¿Commodities, bienes comunes o recursos estratégicos? La importancia de un nombre*, *Nueva Sociedad*, Caracas N.º 252, (Jul/Aug, 2014): 101–117; IVARS, J., *¿Recursos naturales o bienes comunes naturales?: Algunas reflexiones*. *Papeles de Trabajo*, Centro de Estudios Interdisciplinarios en Etnolingüística y Antropología Socio-Cultural, 2013, N^º26, pp. 88–97. GORDILLO, J.L. (editor), *La protección de los bienes comunes de la humanidad*, Trotta, 2006, Madrid. The studies about the commons must be deeply considered in relation to the regulation and taxation of natural resources.
17. VERGARA, A., 2007, *El Problema de la Naturaleza Jurídica de la Riqueza Mineral*, *Revista de Administración Pública*, núm. 173, Madrid, mayo-agosto (2007), pp. 447–482
18. FERNANDEZ, *op. cit.*, p. 95 and ff., exposes the Spanish doctrine and uses foreign doctrine to explain this point.
19. This has been explained by VERGARA, A., 1992, *Principios y Sistema del Derecho Minero, Estudio Histórico-Dogmático*, Editorial Jurídica de Chile, Santiago, 1992, pp. 207 and ff., the domain or property of the State, and en pp. 337 and ff. el dominio del explotador; VERGARA, A., 2016, *Sistema de Derecho Minero, Una introducción a la disciplina*, Editorial Universidad Externado de Colombia, 2016, Bogotá, pp. 153 and ff. (of the State) and the mining operator (281 and ff.). URIBE, A., *Manual de Derecho de Minería*, Editorial Jurídica de Chile, Santiago, 1960, pp. 34 and ff.
20. FERMANDOIS, *op. cit.*, p. 416.
21. ZUNIGA, F. *Constitución y Dominio Público: Dominio Público de Minas y Aguas Terrestres*, *Ius et Praxis*, v.11, N^º2, 65–101.

The more disseminated theories are the theories of Eminent or Radical Domain and Patrimonial Domain, and it is possible to observe how some recent authors qualify the domain of the State over mines as a domain of nature “mixed” or “sui generis.”²²

This is a relevant issue to define some fundamental aspects of mining taxation, however it is not possible to expose here a full analysis but only a mention.

2.1.3. The legal regime of the mining activity or Mining Law, in its aspects of Public Law (regulations) as of Private Law (contracts, liability, financial instruments, etc.).

As we have indicated, the MTL is linked to Tax Law and also to Mining Law in all aspects of mining activity. The mining regulation is intertwined with mining taxation in a necessary link. One of the challenges of the MTL is the consideration of the regulatory aspects of the mining activity, because this affects, complements and explains the mining tax regime.²³

Another characteristic that must be considered is the strong link between mining activity (the large-scale mining, especially) with the national and international financial system, its instruments and contracts (trust and hybrids), including money loans, financial derivatives (futures, options, swaps, forwards, etc.). The financial mechanisms facilitate the business between the mining companies with resident companies in tax havens and facilitate operations to purchase mining machineries and services, among others.

The financial activity is so important in the global context²⁴ and specifically in the mining industry, that it could be said that the main business of mining companies is genuinely the financial business.²⁵ This has led to the establishment of some rules (such as those that set objective and subjective limits to the indebtedness, rules for transfer prices, tax havens, etc.), since they entail risks of tax evasion or tax avoidance.

2.1.4. The environment and sustainable development: Environmental Law and Environmental Tax Law.

As we have explained, it is necessary to observe that the extractive activities of natural resources, and specifically the mining activity, has a strong impact in the environment,²⁶ therefore, the link

22. Among those that can be called traditional theories are the following: occupation theory, accession theory, res nullius theory, eclectic or mine freedom system, regalian system, “domanial” or “dominal” system (ORTIZ, A. (1992) *Derecho de Minas*. Edit. Temis, Bogotá). See also: TALANO, E., *Curso de Derecho Minero*. Zavalia, Buenos Aires, 1999, pp. 29–40; VILDÓSOLA, J. (1999): *El dominio minero y el sistema concesional en América Latina y el Caribe*, Caracas, OLAMI, p. 107. <https://repositorio.cepal.org/bitstream/handle/11362/36627/3382026V700.pdf?sequence=1>.

23. KORINEK, J., *Mineral Resource Trade in Chile: Contribution to Development and Policy Implications*, OECD Trade Policy Papers, N°145, 2013, OECD Publishing, p. 20 https://www.oecd-ilibrary.org/trade/mineral-resource-trade-in-chile_5k4bw6twpf24-en

24. WIGAN explains that the financial derivatives industry is the most important economic activity in the world. This author also shows how these instruments are capable of changing the entire financial and accounting reality of a company, and consequently, its tax reality. WIGAN, D, *Financial Derivatives: Fiscal Weapons of Mass Destruction*, POLITIK, ÅRG. 16, NR. 4 (2013), p. 20.

25. OTTO sustains that “mining companies are not in the business to produce minerals, rather they mine to produce profits.” OTTO, J., *Global changes in mining laws, agreements and tax systems*, Resources Policy. Vol. 24, N°2, 1998, p. 83

26. COTTARELLI, C. (coord.). *Regímenes fiscales de las industrias extractivas: Diseño y aplicación*. Preparado por el Departamento de Finanzas Públicas. Fondo Monetario Internacional, 15 de agosto de 2012. p. 16. <https://www.imf.org/~media/Websites/IMF/imported-publications-loe-pdfs/external/spanish/np/pp/2012/081512s.ashx>

An in-depth explanation of the environmental measures in the mining industry in various Asian countries, in a context of cultural paradigm shift, in a context of change of cultural paradigm, in which diverse legitimate interests are put in the legal balance when interest is generated to develop the mining activity by a mining exploiter, in: OTTO, J., NAITO, K. & PRING, G., *Environmental regulation of exploration and mining operations in Asian countries*, Natural Resources Forum 23, 1999, p. 332.

In America, OBLASSER & CHAPARRO, a similar study that also explains that it is a deepening process in development and that it requires observing multiple variables of regulation, registration, control, responsibility, taxation, financing,

between mining taxation and environmental taxation should be considered,²⁷ as an element associated with the structure of the taxation of mining activity. The impact of mining activity on the environment, the habitat and the substrate of human, animal and vegetal life have been highlighted in several studies.²⁸

At this point we understand that a critical objective of the regulation and taxation of mining is the recovery of the environment once the extraction process of the mine is closed.²⁹ The link between the different businesses associated with the mining activity is legally relevant, due to its fiscal and regulatory effects.³⁰ Another relevant point in these areas is the institution of the social license of the mining projects.³¹

Given the consequences on the environment (release of toxic substances, rock removal, mineral processing waste, powders and sewage waters, etc.), the mining projects must be subject to the environmental impact control regime, and tax policies should be oriented towards mitigating the said impact.³² FIGUEROA & CALFUCURA call to this factor as “depreciation of environmental services,” i.e., “the value of the environmental degradation.”³³

The extractive activities of natural resources (particularly, mining) are also associated to the cate-

etc. OBLASSER, A. & CHAPARRO, E, *Estudio comparativo de la gestión de los pasivos ambientales mineros en Bolivia, Chile, Perú y Estados Unidos*, United Nations Publications, CEPAL, Sep. 2008, LC/L.2869-P, <https://www.cepal.org/es/publicaciones/6333-estudio-comparativo-la-gestion-pasivos-ambientales-mineros-bolivia-chile-peru>.

27. MATUS, M., (2014): *Tensiones normativas en torno a la incorporación de impuestos en la regulación ambiental*, Ius et Praxis, 2014, vol. 20, Nº 1, p. 163–198; MATUS, M., *Particularismos e imposibilidades de los impuestos a las emisiones en la constitución política de Chile: estudio preliminar*, Rev. chil. derecho, 2015, vol.42, Nº3, pp.1035–1061; FANELLI, J.M., ET ALL, *La reforma fiscal ambiental en América Latina*, CEPAL, 2015 https://repositorio.cepal.org/bitstream/handle/11362/39782/S1501147_es.pdf. These papers explain the economic dilemma, reflected in the legal regulations of Latin America, between environment and competitiveness, given that the countries of the region are large producers and exporters of minerals, among other natural resources.

28. GARCÉS & RAPALINO describe a specific case, in Mexico, regarding mining exploitation. GARCÉS, M & RAPALINO, W. *La Consulta Popular como mecanismo de participación ciudadana para evitar actividades mineras*, Justicia Juris, 11(1), 2015, p 58.

29.

Mining is one of mankind’s most environmentally destructive activities, often involving the modification of large tracts of landscape and the production of a proportionately high output of waste material. The idea that mining companies have the responsibility to manage and, to a great extent, pay for the rehabilitation of mine sites during and after production is now widely accepted.

ANDREWS-SPEED, P. & ROGERS, C.D., op. cit., p. 222.

30. RETAMAL, J., op. cit., p. 509.

31. This institution is a consequence of the new form of participation of communities in democratic societies in the paradigm of sustainable development, even in the absence of legislation (SOLA, M., *La disputa por la licencia social de los proyectos mineros en La Rioja, Argentina*, Letras Verdes. Revista Latinoamericana de Estudios Socioambientales, Nº14, p. 27–47, 2013, p. 30). PRNO & SLOCOMBE show the problem of the origin, concept and process of the “social license to operate” in the mining sector, in the context of Canada. (PRNO, J. & SLOCOMBE, D.S., *Exploring the origins of ‘social license to operate’ in the mining sector: Perspectives from governance and sustainability theories*, Resources Policy, Volume 37, Issue 3, September 2012, p. 351. In Chile, the legal possibility of participation of local communities is described in ASTORGA, E., *Derecho Ambiental Chileno*, Thomson Reuter, Santiago, 2014, pp. 259–265, FERNÁNDEZ, P., *Manual de Derecho Ambiental Chileno*, Thomson Reuter, Santiago, 2013, pp. 200–210.

32. PATÓN, G., *Fiscalidad ambiental, responsabilidad social y desarrollo sostenible en América Latina: Propuestas para Perú*, Lima: ECB/ Thomson Reuters, 2016. The author focuses her study on the mining sector and the tax incentives granted to that industry.

33. FIGUEROA E. & CALFUCURA, E., *Growth and green income: evidence from mining in Chile*, Resources Policy 29 (3-4), 2003, p. 168.

gory of sustainable development³⁴ (right to development³⁵), and aspects of this are environmental sustainability,³⁶ human rights³⁷ and financial sustainability³⁸ (and the rights of native peoples with their environment³⁹). The specialists have shown the relationship of the mining activity of both sustainable development⁴⁰ and human rights.⁴¹

34.

There is debate on the interpretation of the Brundtland definition of sustainable development in the context of use of resources. According to Johnston et al., in 2007 there were some 300 interpretations. Two main lines of interpretation can be distinguished: (a) the “weak sustainability” interpretation and (b) the “strong sustainability” interpretation. Adherents to the “weak sustainability” interpretation argue that future generations should not have fewer consumption opportunities than the current generation and that natural resources may be exhausted on condition that they are replaced adequately by equivalent substitutes and human-made capital. However, adherents to the “strong sustainability” concept argue that the current generation should not deprive future generations from using natural resources.

HENCKENS, M., VAN IERLAND, C., DRIESSEN, P. & WORRELL, E., *Mineral resources: Geological scarcity, market price trends, and future generations*, Resources Policy 49, 2016, p. 102.

35. What is the Right to Development?

The right to development is an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized*.”

(Article 1.1, Declaration on the Right to Development)

The human right to development also implies the full realization of the right of peoples to self-determination, which includes, subject to the relevant provisions of both International Covenants on Human Rights, the exercise of their inalienable right to full sovereignty over all their natural wealth and resources.

(Article 1.2) http://www.un.org/en/events/righttodevelopment/pdf/rtd_at_a_glance.pdf.

SENGUPTA highlight that the right to development recognizes the unity and interdependence of the multidimensionality of human rights and fundamental freedoms considered in international conventions on human rights, that is, the aspects of civil, political, economic, social, cultural rights (SENGUPTA, A., *On the Theory and Practice of the Right to Development*, Human Rights Quarterly, The Johns Hopkins University Press, Vol. 24, No. 4 (Nov., 2002), pp. 838–841). *Declaration on the Right to Development, The General Assembly, UN, 4 December 1986 Article 1.1, Article 1.2*, cited above.

36. MUZONDO clearly describes the importance of taxation for the purpose of protecting the environment. MUZONDO, T., *Mineral taxation, market failure, and the environment*, IMF Staff Papers V.40, International Monetary Fund. Washington, Published by: Palgrave Macmillan Journals on behalf of the International Monetary Fund, Mar 1993, 40, p. 152 <http://www.jstor.org/stable/3867380>.

37. MUCHLINSKI, P., *Social and human rights implications of TNC activities in the extractive industries*, Transnational Corporations, Vol. 18, No. 1 (April 2009) 125–136; OTTO, J. (2017 A), How do we legislate for improved community development?, WIDER Working Paper 2017/102; OTTO, J., NAITO, K. & PRING, G., op. cit.

38. HERNANDEZ, I., *Tributación y Desarrollo en Perspectiva*, Revista de Economía Institucional, Vol. 13, N°24, 2011, p. 271.

39. REDDY, C. *The Taxation of Mining Payments to Traditional Owners: An Unfair Blunt Tool?*, 2 (2014) 29 Australian Tax Forum; O’FAIRCHEALLAIGH, C., *Indigenous people and mineral taxation regimes*, Resources Policy, Volume 24, Issue 4, December 1998, pp. 187–198; MAKAROV, L.P., *About tax on mining the useful minerals*, Metallurg, 6, 2001, pp. 18–19; SMITH, D. & NAITO, K., *Asian mining legislation: policy issues and recent developments*, CIM Bulletin, 91 (1017), 1998, pp. 70–77; MITCHELL, P. *Taxation and investment issues in mining*. Oslo: EITI, 2009, 27–31, <https://www.oecd.org/site/devaeo10/44282904.pdf>,

40. WAYE, A., ET ALL., *Sustainable development and mining. An exploratory examination of the roles of government and industry. Mining, Society, and a Sustainable World*, J.P. Richard, pp. 151–182, 2009, Springer, Canadá;

The implementation of sustainable development means the integration of activities in the following three key areas, namely: technical and economic activities ensuring economic growth; ecological, ensuring the protection of natural resources and the environment; social, meaning care for the employee at the workplace and community development in the area of the mining environment.

DUBIŃSKI, J., Sustainable Development of Mining Mineral Resources, *J. Sust. Min.* Vol. 12, 2013, N°1, p. 1.

41. SOUTHALAN, J., *What are the implications of human rights for minerals taxation?*, Resources Policy 36 (3), 2011, pp. 214–226.

Finally, it is necessary to mention the commitment made by the United Nations, through multiple instruments, towards the sustainable development that this international organization has defined (in accordance with the World Commission for Environment and Development established by the United Nations in 1983) as a development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

2.1.5. Aspects of International Law in the mining business.

The mining business connects with International Law in some aspects, and we have already shown the category of sustainable development was born in the international arena.

This is also connected with the International Trade Law, the task of various international organizations (WIPO, OECD, WTO, etc.) and elements of private international law of a commercial nature (international standards on the movement of capital, activities of banks and stock exchanges, protection of investments, etc.).

Finally, other issues have to be considered, such as facets of International Tax Law, *v.g.*, agreements to avoid international double taxation, and in general the activity of the OECD in tax matters. The specialised doctrine has explained these matters.⁴²

2.1.6. The constitutional, tax, mining and environmental general regimes.

Another fundamental element of the MTL are the constitutional regimes in the tax, mining and environmental matters, be general rules or principles,⁴³ *v.g.*, in the case of taxation, the just tax burden.

A relevant point of view is the regional distribution of competences between national and subnational administrative bodies, given that the mining industry has a profound impact on the communities in the territories where it is being developed.⁴⁴ For this, has been argued that mining taxation should have a territorial component rather than a national component, as a formula to initiate or deepen fiscal decentralization.⁴⁵

42. DANIEL, P., KEEN, M. & MCPHERSON, CH., *The Taxation of Petroleum and Minerals: Principles, Problems and Practice*, Routledge, 2010; DANIEL, P., KEEN, M., SWISTAK, V. & THURONYI, *International Taxation and the Extractive Industries: Resources Without Borders*, Taylor & Francis, 2016; SMITH, J. L., *Issues in Extractive Resource Taxation: A Review of Research Methods and Models*, IMF Working Paper 12/287, 2012. <https://www.imf.org/external/pubs/ft/wp/2012/wp12287.pdf>; HULL, D.L., BERGEVIN, G. & LAUER, J., *op. cit.*

43. ORTIZ exposes four constitutional principles of Mining Law: principle of state ownership; principle of sustainable development; principle of payment of royalties or economic compensation; principle of prior consultation with ethnic communities differences. ORTIZ, A., *Manual de Derecho Minero*, U. Externado de Colombia, 2014, p. 40.

44. ANDREWS-SPEED & ROGERS (*op. cit.*, p. 224) comment on the different ways in which the administration of mining taxes and charges is dealt with (understanding that these are fiscal and quasi-fiscal systems) at different levels of the territorial division of the States, and how the funds collected are allocated at the national, regional or local level.

45. This is one of the aspects to which the paper of ORTO, J., *Fiscal Decentralization and Mining Taxation*, The World Bank Group Mining Department, March 2001, https://commdev.org/userfiles/files/1403_file_Fiscal_Decentralization.pdf particularly, p. 15.

2.1.7. In the mining regulation, the legal instruments of regulation and taxation are mutually dependent, which includes parafiscal levies or quasi-taxation,⁴⁶ regulatory taxation or regulatory mechanisms of a diverse structure.

Mining regulations deals with the field of Economic Law⁴⁷ and Tax Law, as well as the specialities of International Economic Law, International Mining Law, and International Tax Law.⁴⁸

As explained above, the taxation of mining is a speciality of the taxation of natural resources, and the exploitation of natural resources is linked to the legal system of environmental protection, which use two tools, the regulation and the taxation. It is necessary to distinguish between both kinds of tools and determine their possibilities and legal scope. As KELMAN explains, the distinction is not always easy. The same applies to natural resources, and its specific aspect of mining, given that there are areas of regulation and taxation.⁴⁹

DIETSCHKE affirms that the countries use a wide range of tax and non-tax instruments to achieve their objectives concerning to extractive industries in general and mining in particular.⁵⁰

2.2. Special aspects of Mining Tax Law

It is possible to affirm that mining taxation has three types of rules or norms: general tax regulations (constitutional and legal norms of common application); specific rules within the general tax scheme (transfer prices, accelerated depreciation, etc.); special norms of mining taxation or extractive industries (royalties, etc.).

The relevant point that underlies the speciality of mining taxation are the characteristics of the mining industry, which is indicated by SAIDU, for whom it is difficult to find them in any other industry: “capital intensity; long lead time (this leads to financial exposure for a considerable period prior to project start-up, the longer the lead time, the higher the probability of undesirable changes in the economic parameters for investment in a country with an unstable fiscal regime); high risk: geological risks, engineering risks, economic risks, political risks, etc. .; non-renewable resource; finite life: because of the finite life of mines, investors want to recoup their investment with profits before the end of the productive life of the mine; volatile markets; late payback.”⁵¹

OTTO observes that the States grant the mining sector a special tax treatment taking into consideration those attributes that distinguish it from other areas. Regarding the general principles, this author emphasizes that discrimination is usually carried out by type of mineral, investment levels, costs, nationality, export sales, post-production expenses in the mine closure stage.⁵²

46. “Parafiscalité: Prélèvements obligatoires, institués par voie d’autorité et affectés à des organismes distincts de l’État ou des collectivités locales, dans un but économique ou social (Bern.-Colli Extr. 1976).”
“Parafiscal charges or Parafiscal levies (or Parafiscal taxes) affected to a beneficiary, which is not the State.”

47.

Regulatory systems are complex and exploration and mining activities are usually subject to a wide variety of laws besides the mining law. Laws regulating foreign exchange, business formation, land, labor, water, environment and so forth may all be in a state of change and each will pose its own unique risks, or assurances, to foreign mining investors.

OTTO, J. (1998), op. cit. p. 82. The regulatory system changes according to the economic and institutional development of the country, as this author explains.

48. In this topic, it is useful to consider the analysis of HULL, D.L., BERGEVIN, G. & LAUER, J., op. cit., pp. 18 and ff.

49. KELMAN (1999)

50. DIETSCHKE E. ET ALL., *Minerals Taxation Regimes A review of issues and challenges in their design and application*, The International Council on Mining and Metals, London, UK, February 2009 <http://www.opml.co.uk/sites/default/files/Mineral%20Taxation%20Report.pdf>, p. 31.

51. SAIDU, B., *How Taxes, Royalties, and Fiscal Regime Stability Affect Mining Investment: A Comparison of Niger and Indonesia*, The Journal of Structured Finance, Fall, 2007, 13 (3), pp. 106,

52. OTTO, J. 2017 B, p. 3. For example, in terms of general principles of mining taxation, discrimination is usually carried

The tax rates of income taxes in the case of the mining industry are not uniform in all countries, as there are no precise guidelines on what could be a reasonable distribution between companies and governments. When regulating them, COTTARELO said, “careful attention must be paid to costs in all stages of production, beginning with exploration,” since “an efficient allocation of risks between the government and the investor can limit the benefits of a fiscal regime progressive in the case of some developing countries.”⁵³

However, for the generality of literature the most peculiar feature is constituted by the economic rents of the mining industry, sometimes referred to as “mining income.”

In this section, we will deal with the following aspects: the mining rent; the taxation of natural resources (as the general framework); mining taxation.

2.2.1. The economic rent of natural resources and mining.

BAUNSGAARD explains that the governments have recognized the potential of big economic rents of mining, and in the seventies, they tried to design a tax system able to link more precisely the tax burden to economic rents, through taxes of the rent of resources (*resources rent taxes*).⁵⁴

LEIVA summarizes the concept of the primary basis of special taxation (or additional) on natural resources in the following terms: “A particularity of the industries that extract natural resources is that they are prone to generate economic rents: extraordinary profits on the return necessary to induce companies to invest in them. In order to capture the rents for the State, many countries have special regulations, consisting of specific taxes, concessions or other mechanisms, a justified effort for reasons of efficiency, equity and sustainability.”⁵⁵ On the other hand, LEIVA adds “the elementary feature of the *economic utility* or *economic rent* is that it represents the utility that remains after paying all costs, including the cost of capital, its opportunity cost.”⁵⁶

Following this author, a country should worry about at least three aspects in relation to the management of natural resources and the transformation in wealth of its economic rent: generate it; catch it; invest it. Economic rent represents the economic value of natural resources, generated by scarcity, *i.e.*, its quality, limited volume, exhaustible nature, etc. In competitive markets, this economic rent does not exist, but only an accounting profit equal to the opportunity cost of capital. The capture of these rents by the State justifies a special treatment in this field for reasons of efficiency, equity and sustainability. The taxes reduce the distortions in the economy, are neutral because they do not change the decision of the economic agents.

The auction of resources concession whose value in theory would be equivalent to the rents that they produce is optimal, given that as economic rents constitutes a surplus value of production, it impedes that the market functions as a discriminating mechanism between efficient and inefficient companies, “the impossibility of generating competition *in* the sports field requires generating competition *for* the sports field.” Likewise, if the State fails to capture the economic rents, a space is given for rentierism, an activity that spends resources but does not contribute at all to the creation of wealth for the society. Finally, given that property over natural resources is usually public, and

out by type of mineral, investment levels, costs, nationality, export sales, post-production expenses in the mine closure stage.

53. COTTARELO, op. cit., p. 18.

54. BAUNSGAARD, T, op. cit., p. 10

55. LEIVA, B., *¿Apropiación privada de renta de recursos naturales? El caso del cobre en Chile*, El Trimestre Económico, vol. LXXXIII (4), N°332, octubre-diciembre 2016, p. 549. Other authors describe the difficulties of the productive system in Africa that are clearly universal. ZACK-WILLIAMS, A., *Natural resources, economic rents and social justice in contemporary Africa*, Review of African Political Economy, 2016, V. 43 N°150, pp. 534 and ff.

56. LEIVA, B., op. cit., p. 552.

when it is not, there are well-founded reasons for it should be, those taxes would correspond to the payment of adequate compensation.⁵⁷

For MOORE & LUNDSTOL mining is different from other sectors of the economy because it generates substantial revenues, revenues that exceed the costs of extraction and a reasonable profit due to the inherent value of mineral assets. They add that there is a consensus that in principle such rents belongs to the country in which the minerals are found and that it should be compensated for the loss of non-renewable resources. In principle, a high proportion of such rent should and can be subject to tax, while mining companies should be rewarded for the high levels of political and economic risks associated with mining activity.⁵⁸ Despite efforts to explain the technical importance of a balanced tax (or a fair tax, if you want), in practice, there are incentives for companies to reduce their tax burden.⁵⁹

The idea of the “economic rent of natural resources” can be transferred to the “economic rent of mineral resources,” which is sometimes named as “mining rent.” The idea of the mining rent is fundamental to understand the specificity of the taxation of this activity. This rent is usually captured by the State via income tax and royalties, and not only by the latter.⁶⁰

2.2.2. The taxation of natural resources.

Another facet to consider is that mining taxation is a kind of taxation applied to natural resources and extractive activities, so the elements of a regulatory⁶¹ and tax framework of extractive activities of natural resources⁶² should also take into account at least in general terms. These fields are quite heterogeneous, and the attention should be paid to the general or transversal elements of the taxation of natural resources, the taxation of various extractive activities, and the specificity of each industry in particular, for example, the case of oil and gas and the case of metallic mining.⁶³

The main characteristics of extractive industries in tax matters are the following (the magnitude and combination of these characteristics distinguish extractive industries): high rents for their ex-

57. LEIVA, B., op cit, p. 553–554.

58. M. Moore and O. Lundstol, *What Have We Learned About Mining Taxation in Africa?*, ICTD Summary Briefing N°1, International Centre for Tax and Development at the Institute of Development Studies, <http://www.ictd.ac/publication/7-policy-briefings/113-what-have-we-learned-about-mining-taxation-in-africa>, p. 3.

For a non-renewable resource such as a mine, the accrued revenues result from the final sale of the mineral to a user. The accrued costs include all the current and capital costs associated with exploring for the mineral, developing the mine site, extracting the ore, and processing it to obtain the mineral in usable form.

BOADWAY, R. & FLATTERS, F., *The Taxation of Natural Resources: Principles and Policy Issues*, Working Paper, World Bank, V. 1, N°1, October 1993 <http://documents.worldbank.org/curated/en/974521468739320152/pdf/multi0page.pdf>, p. 7.

59. TORVIK, R., *Natural resources, rent seeking and welfare*, Journal of Development Economics, Vol. 67 (2002) 455–470.

60. OTTO, J. (2017 B), *The taxation of extractive industries. Mining*, WIDER Working Paper 2017/75, March 2017, World Institute for Development Economics Research (WIDER), United Nations University, p. 1 <https://www.wider.unu.edu/sites/default/files/wp2017-75.pdf>

61. The literature in general points out various regulatory instruments related to the exploitation of natural resources, which have varied over time and in places, such as the following: Competitive bonus bidding, auctions (e.g., *hydrocarbons*);

Fixed fees and bonus payments; Surface or usage fees; Production sharing contracts; State equity participation; Bidding for exploration or development rights; Regulated prices; Quantitative control of development rights; Quantitative control of exports; Stability agreements with the Government*; etc.

, T. & HELLIWELL, J., *Handbook of Public Economics*, Chapter 8 The taxation of natural resources, Volume 1, 1985, pp. 429 and ff.

62. BOADWAY, R. & FLATTERS, F., *The Taxation of Natural Resources: Principles and Policy Issues*, Working Paper, The World Bank, V. 1, N°1, October 1993 <http://documents.worldbank.org/curated/en/974521468739320152/pdf/multi0page.pdf>;

63. This topic, in a general way, is explained in BOADWAY, R. & FLATTERS, F., op. cit.

exploitation that exceed the normality; long periods of production; exhaustibility; constant price uncertainty, which in turn influences the profitability of exploration and extraction; volatile demand; high initial capital investments that imply high sunk costs and stranded costs; asymmetric information with the government; broad participation of multinational companies in many countries; involvement of state companies in some countries; existence of producers with great market power; strongly vertically integrated structures; etc.⁶⁴ However, there are some differences between the oil, gas and mining sectors⁶⁵: higher exploration cost of the first two; different corporate structures in those activities; kinds of contracts; etc.⁶⁶

It should be considered others peculiarities in the extractive industries (dominance of multinationals; rapid advances in technology, transport and communication; highly mobile capital; abuse of treaties; transfer prices; hybrid agreements; large spaces for evasion) and in the administration of taxes (fiscal rules not adapted; tax administrations with insufficient resources and overloaded of tasks in developing countries; scarcity of necessary equipment, experience or information, etc.).⁶⁷

SUNLEY & BAUNSGAAR mention reasons to establish taxes for the natural resources industry: the collection of economic rents and regular income; industrial policy; management of competitive and financial risks; taxes on foreigners (no residents); exercise of monopoly powers in world markets; conservation of resources.⁶⁸

Although the literature has detected a great diversity of tax regimes of these sectors (gas, oil, minerals) in the countries of the world, there are two main approaches for the design of fiscal schemes for the extractive industry, in order to capture ordinary income and economic rents:

- a) Contractual systems or contractual-based systems, which include, among others: production-sharing contracts or service contracts; Production Sharing Agreements -payment to share of production-; Risk Service Contracts -Payment to fixed fee-; Public Sector Equity Participation; and,
- b) Tax systems, that include: Cash Flow Taxation and Equivalent Cash Flow Taxation; Income-Based Taxes; royalties with granting of licenses (concessions) for exploration and exploitation (royalties Per unit tax -levied on output- and Ad valorem tax -levied on the value of the outputs).⁶⁹

2.2.3. Mining taxation and its specifics legal categories.

There is no intrinsic reason to prefer a tax-royalty regime or a shared production regime since they may contain similar rules and both can constitute a mixed system.⁷⁰ As in the case of taxation of natural resources, States can decide between many measures (contractual, regulatory and tax)

64. COTTARELLI, C., op. cit., pp. 12–15. In the same way: UNITED NATIONS, Committee of Experts on International Cooperation in Tax Matters. 20th Session. Subcommittee on Extractive Industries Taxation Issues for Developing Countries, Report of the Coordinator, Mandate of this Subcommittee, E/C.18/2014/CRP.3, 30 September 2014 [http://www.un.org/esa/ffd/tax/tenthsession/CRP3_%20Extractives.pdf].

65. For example, in the case of Peru, the differentiating details of the metallic mineral and hydrocarbon regimes are explained in: DE LA VEGA, B., *Taxation on mining and hydrocarbon investments / Tributación de inversiones en el sector minería e hidrocarburos*, Revista Derecho PUCP, 2014, N°72, p. 153–162.

66. COTTARELLI, op. cit., pp. 12–15.

67. UNITED NATIONS, Committee of Experts on International Cooperation in Tax Matters, op. cit.

68. SUNLEY, E. & BAUNSGAARD, T. *The Tax Treatment of the Mining Sector: An IMF Perspective*, p. 5 <http://siteresources.worldbank.org/INTOGMC/Resources/sunley-baunsgaard.pdf>

69. COTTARELLI (op. cit., p. 16). The apparent contrast between these two general systems is misleading. It is possible that in both systems (not only in the framework of contractual systems) there is a negotiation case by case. A third possibility is a payment in the form of physical infrastructure. Also, auction of rentals or property rights over the deposits. DIETSCH E. ET ALL., op. cit, pp. 30- 35; BOADWAY, R. & FLATTERS, F., op. cit., p. 28 y ss

70. SUNLEY, E. & BAUNSGAARD, op. cit, p. 7–8.

that permit it to achieve its fiscal and economic policy objectives.⁷¹ By the way, we will not discuss whether a particular contractual or regulatory formula or a specific levy constitute or not a form of tax, however there are authors who include in the category of taxes what other authors consider charges or regulatory levies. This specific debate should be analyzed in another paper.

OTTO suggests that the tax system should be viewed as a whole, and not evaluate only some of its components, for example, comparing only the royalty rates. In this regard, he comments on the “*mine fiscal model*” parameter, which is currently used in many countries because the tax modelling of projects helps to carry out the analysis of tax reform policies. The “*mine fiscal model*” allows a full evaluation, considering the impact of all taxes on a typical mine or model mine, and provides the ability to perform a sensitivity analysis of the impact of various scenarios on measures such as the rate of return internal and total effective tax rate.⁷²

In another point, there is three types of tax regulations: general rules (legal provisions applicable to all types of businesses); special rules (regulations legally reserved for mining); and very special rules (rules that by their nature are only susceptible to apply to mining or similar businesses).

A matter to be decided by the States refers to the use of general or special taxation for this economic sector⁷³ or to use multiple fiscal instruments.⁷⁴ Even though there are significant variations from country to country⁷⁵ and from time to time, in general, some types of measures are included among the taxation mechanisms of mining. They will be discussed in this section.

In connection with the fundamentals of taxation, we must consider that the tax policy constitutes an important instrument of intervention of the mining sector, and for SARMA & NARESH,⁷⁶ has three objectives:

1. The first group of objectives comes from the role of the State to achieve the objectives of economic and social development, such as, to ensure that: the extraction of minerals be socially optimal and equitable; the mining sector contribute to public finances; and that mining tax

71. BAUNSGAARD, T, op. cit., p. 14.

BAUNSGAARD, T, op. cit., p. 15

72. OTTO, J. (2017 B), p. 2.

73. SARMA & NARESH, >The special character of the mineral sector and the dual nature of the role of the government lead to the dilemma, whether taxation of the mining sector should be different from the general system in terms of rate structure and administration.

SARMA, J. & NARESH, G., *Mineral Taxation around the World: Trends and Issues, Asia-Pacific Tax Bulletin January*, International Bureau of Fiscal Documentation,* 2001, pp. 2–10. <http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan008622.pdf>, p. 4.

74.

... as there are unavoidable trade-offs between revenue, risk and timing of the revenue receipts, use of multiple fiscal instruments is unavoidable combining judicially the three sets of objectives. One set of levies represents government's general tax power — basic income tax, import duties, export taxes, sales tax, value added tax, property tax, stamp duties. The second set comprises those that are levied to claim government's legitimate share as mineral owner — progressive profits tax, supplementary income tax at higher rates, and so on. Non-tax instruments such as royalties, product-sharing and equity-sharing are also used mainly for this purpose. A third group of levies is intended to achieve the environmental objectives. The choice among fiscal instruments depends on the timing of revenue, risk sharing, administrative convenience and political judgement.

SARMA, J. & NARESH, G., op. cit., p. 4.

75. Fiscal measures in some states of USA: mining license tax, production royalty, property tax; severance tax on metallic minerals; mining discounted cash flow; tax corporate income and other normal business taxes; Severance tax on metallic minerals and most fuel minerals; License tax on net value of ores mined; Net proceeds of mines and mining claims; Severance tax on metallic and non-metallic minerals; Severance tax on coal, crude oil, natural gas, bentonite, trona, sand, gravel, uranium, and other “valuable deposits”; Ad valorem production tax on mine mouth value. DOBRA, J. & DOBRA, M., *State mineral production taxes and mining law reform*, Resources Policy, Volume 38, Issue 2, June 2013, p. 166,

76. SARMA, J. & NARESH, G., op. cit., p. 3

system be characterized by principles of certainty, fiscal stability, administrative convenience and neutrality. The mining tax system has to be easy to administer, adaptable, easy to implement, etc.

2. The second set of fiscal objectives arises from the role of government as owner of minerals. The government requires to ensure to get a part of the mining benefits, so that if a valuable mineral is extracted the State should receive not only the tax regular but also an additional payment. In this matter, the most important thing is to maintain the neutrality of mineral taxes, unless the government desires to change the behaviour of economic agents to resolve conflicts of interest between the objectives of private agents and considerations of social welfare.
3. The third group of goals aims to minimize damage to the environment and ecological balance.

Given these three types of purposes for establish mineral taxation, the governments typically faces some specific problems in the fiscality of mineral resources:

1. How much or in which measure to tax. Here, the State must focus on a payment system that be socially optimal and equitable, and that in this sector should include the “mining rent” and the charge that corresponds to the state in its status of owner over mining wealth.
2. If it’s necessary a separated fiscal regime for the minerals sector. The general tax regime may not always be suitable for mining companies because involve high capital intensity and long gestation periods; but on the contrary, exempt mining companies from the general taxation may not be administratively appropriate or equitable. On the other hand, it is difficult to know whether to exempt mining companies from general taxes and only apply special taxes could be more neutral and less distortionary.⁷⁷
3. How to combine different charges in a multi-tax system.⁷⁸ It should be established a combination of three classes of fiscal instruments to capture the mining business rents according to the criteria of the time they are received, the risks, the administrative convenience or the political reasons: (i) A set of taxes or charges represents the general tax power of the State (basic income tax, import and export duties, sales tax, value added tax, property tax, stamp tax); (ii) The second set includes those taxes or non-tax instruments that are collected to claim the government’s share as owner of a mineral (progressive income tax, supplementary income tax to higher rates,⁷⁹ royalties, “product-sharing agreements,” “equity-sharing agreements”);⁸⁰ (iii) A third group of charges have environmental objectives.⁸¹

Given the features of the mining business, an essential aspect of the mining legislation is that it has to be based on principles of stability and certainty for investors, which ensure that conditions will not change substantially in the long term, especially in fiscal matters.⁸² This is achieved in multiple ways, and in high-development countries this is accomplished by the nature of its political institutionality. In relatively less developed countries, to promote investments, this is ensured

77. SARMA, J. & NARESH, G., op. cit., p. 3–4

78. SARMA, J. & NARESH, G., op. cit., p. 3–4

79. Especially two variants of income tax by cash flow (Cash Flow Corporate Income Tax -“the resource rent tax”- and Brown tax). SARMA, J. & NARESH, G., op. cit., p. 4.

80.

Product-based levies can ensure that the government receives at least a minimum payment for the exploitation of minerals while profit-based instruments reduce uncertainty in mineral contracts because they mean that the government shares in the returns from projects that turn out to be more profitable than expected.

SARMA, J. & NARESH, G., op. cit. 2001, 4

81. SARMA, J. & NARESH, G., op. cit., p. 3–4

82. BAUNSGAARD, T, op. cit., p. 18.

through stabilization contracts that include clauses of fiscal stability, or fiscal stability clauses contained in the project agreements, signed by the State with foreign investors. Even though this mechanism can have different forms, in any case its objective is to freeze some legal (regulatory) and tax aspects of the investment for a certain number of years and limit the discretionary powers of some public bodies in specific issues.⁸³

2.2.3.1. Mineral levies of a non-tax nature

SARMA & NARESH, describe some non-tax mineral levies common in different countries:

A) *Fixed fee.*

These authors indicate that usually is charged a fixed fee for the use of land for mining purposes, which may be an exploration rate or prospecting rate (land-use fee during prospecting: reconnaissance and prospecting license fee) that is charged for exploration and leasing mining or a license fee charged for the extraction of minerals (land-use fee during mining lease: mineral license fees and lease fee).⁸⁴

B) *Product sharing. Production-sharing arrangement.*

SARMA & NARESH explain that these mechanisms have for objective to make a partner of the benefits of the mining production, to the State in whose territory the mines are. In theory, the government and private investors are partners. The government contributes capital to the project in the form of the mineral body (mines) while private investors contribute to the exploration and development costs and the operation project. The government and private investors agree to share the production of the project, although the government can often requires private investors to commercialize the state portion of the product.⁸⁵

Its simplest model is a payment made by the mining company, in a fixed proportion of the extracted mineral, and then the State can sell. Another model is that the State shares production after investors recovered the costs of exploration and operating, including depreciation. This scheme requires the State has a “carried interest” more than a “working interest.”

The “carried interest” is the benefit that a private equity manager receives for the funds that he invests (in such terms the investment constitutes an asset management and not a liability investment) and the State integrates the capital of the mining company. The “working interest” implies that the investor is responsible for a part of the costs associated with the business.⁸⁶

C) *Equity sharing*

This mechanism consists that the State takes a participation in the capital of the company that exploits the mine, without paying the market value itself. This supposes a cost for the investor similar to an additional tax. If the government decides to take a capital position in mining projects, it has to use a “carried interest.” There are some costs associated with public ownership, such as using public money in it instead other priority expenditures, business risks, uncertain dividend payment in front of to the certainty of the collection of taxes, conflict of interest between the role of government as a shareholder and its role as regulator.⁸⁷

83. DIETSCH E. ET ALL., op. cit., 35

84. SARMA, J. & NARESH, G., op. cit., p. 8. *Surface rentals.* KORINEK notes that in some countries, a tariff is applied to economic activities that use land, such as extractive industries. Such rates are often based on the land area and are calculated by multiplying some standard rate for the type of activity by the area of land that is used. In some jurisdictions, this tax only applies to the public use of land. KORINEK, J., op. cit., p. 22

85. SARMA, J. & NARESH, G., op. cit., p. 4

86. SARMA, J. & NARESH, G., op. cit., p. 4

87. SARMA, J. & NARESH, G., op. cit., p. 4.

D) *Carried interest*.⁸⁸

OTTO points out that in the last two or three decades there has been a tendency to rely on legal rules and not on negotiated agreements to establish tax schemes for large projects. Negotiated mining agreements were necessary for countries whose economies were based on mining but rather lacked of an adequate legal system, however when the legal systems have matured, the need for agreements has diminished.⁸⁹

2.2.3.2. Royalties

The main basis of the royalties is that the mineral wealth is a non-renewable natural resource⁹⁰ (and that otherwise, the State loses definitively once these have been extracted), therefore an additional tax must be required on the mining rent⁹¹ that considers the fact that these resources belong to the country, which has no relation with competitive advantages for the mining company.⁹²

SARMA & NARESH defines the mining royalty as mineral levies of a non-tax nature. For GUJ⁹³ and BAUNSGAARD⁹⁴ the royalty is a kind of taxes.

OTTO argues that the meaning or the nature of mining royalty is a complicated matter. However, this specialist clarifies his position with the following assertions:

An important starting point in drafting the book was to define what is meant by the term 'royalty.' Our research revealed that there are many differing types of 'taxes' that are defined by various legal systems as royalties. The consensus definition reached by the eight eminent mineral economist authors of the book is: 'A royalty is any tax type that exhibits one or more of the following attributes: The law creating the tax calls that tax a royalty; The intent of the tax is to make a payment to the owner of the mineral as compensation for transferring to the taxpayer the ownership of that mineral or the right to sell that mineral; The intent of the tax is to charge the producer of the mineral for the right to mine the minerals produced; The tax is special to mines and is not imposed on other industries.

Thus, royalty can be based on a wide array of calculation methods such as: units of production, value (ad valorem), income, profit, economic rent and so forth.

Of course, when intending to change the royalty structure in a given country there are constraints, legal and other, that may prevent the government from implement-

88. SARMA & NARESH, sustain that

this term [Carried Interest] is used for arrangements in which the state uses its revenue to acquire (compulsorily) equity in the project. The revenue may be converted into equity as it accrues, or equity may be acquired in advance through a loan from the company, which can be repaid using the profit share accruing to the government. Carried interest has implications for the timing of the company's after-tax cashflows. The liquidity position of the company would be better if in lieu of taxes, the government is allowed to acquire equity.

SARMA, J. & NARESH, G., op. cit., p. 10 y ss

89. OTTO, J. (2017 B), op. cit., p. 2

90. FIGUEROA & CALFUCURA refer to "natural resources depreciation." FIGUEROA E. & CALFUCURA, E., op. cit., p. 168.

91. GUJ (p. 4) explains that income greater than production costs (economic rent), where production costs include normal profit, is the target of special tax regimes in the mining sector. The mining royalties, explains this author, are based on the mining income and public ownership of the deposits (GUJ p. 5). GUJ, P., *Regalías mineras y otros impuestos específicos a la minería. Mineral royalties and other mining specific taxes*. Australia: International Mining for Development Center, 2012 https://im4dc.org/wp-content/uploads/2012/01/UWA_1833_Paper-1_Spanish-version_Mineral-royalties-and-other-mining-specific-taxes.pdf.

92. LAGOS, G., HERVÍAS, P. & ANDIA, *Análisis de la tributación de las empresas mineras del cobre en Chile, Octubre, 1999*, Revista Minerale, Nov/Dic 1999, Vol 54, N°230, p. 38.

93. GUJ, P., op. cit., p. 4.

94. BAUNSGAARD, T, op. cit.

ing the most efficient royalty system. This is why changes based on negotiations and consensual agreements with existing industries are common and many times a legal necessity⁹⁵

The royalties constitute a payment made for the use of a property or natural resource (exploitation). KORINEK explains that royalties are applied to companies in the extractive industry because they exploit a non-renewable resource that they are not owners. In most countries, minerals are property of the State. Alternatively, the minerals are a property of the land's owner where the mines are located. Royalties are often considered a form of compensation for the transfer of property rights. This payment is calculated on the amount of minerals extracted, or on each physical unit of production or a percentage of the value of the extracted mineral.⁹⁶

They are among the most widespread additional mining levies in the world. Its advantage is the simplicity of its administration, however, they produce some dissuasive effect of business projects by increasing costs (the "high-grading" effect).⁹⁷

GUJ analyses royalties as particular mining taxes, and calls them royalties-taxes, in his words,⁹⁸ these taxes are applied on the net value of mineral resources minus production costs, including normal profits, calculated as near as possible to the point of extraction and not on any value added by further processing or transport to markets; and they are taxed at the project level, rather than at the entity level.

GUJ explains that the term "mining royalties" traditionally has been applied in mining legislation in reference to a specific mining tax, ad valorem, and in some cases, to mining taxes on a basis of accounting profit.

These special mining taxes, explains GUJ,⁹⁹ can be constituted as:

1. Royalties (specifics) based on units when the tax base is a physical unit (volume or weight). In this case, a fixed monetary rate applied to a fixed base, instead of a financial one, they are easy to administer but distort the economy. Generally, they apply to low-value bulk products. *Unit-Based Royalties* are based on the rate charged per unit of volume or weight. It is applied more frequently to minerals that are more or less homogeneous.
2. *Ad valorem royalties* based on the value of production (ad valorem). GUJ explains that in its simplest form, consists of a uniform percentage (the rate) of the value (the basis) of the mineral sold by the miner. Ad valorem royalties may be charged on two possible bases:
 - Value of sales (value in the invoice of sale), usually represented by the Net Smelter Return (NSR), Freight on Board (FOB), in foundry.
 - The gross value of the mineral-metal contained in the mineral product sold, multiplying the weight of the mining product sold by its ore grade according to the market price. *Value-Based Royalties* are paid despite profitability. This is calculated as the product of a royalty rate multiplied by the price of the mineral.

95. OTTO, J., *Expert Opinion on Mine Taxation*, Pertinent to the Sheshinski Committee II for the Review of Policy with Respect to Royalties on Natural Resources formed by the Israeli Ministry of Finance. For: Israel Chemicals Ltd. 4 November 2013. http://www.mof.gov.il/Committees/NatureResourcesCommittee/EmdotTzibur_Cil_ProfJamesOtto.pdf.

The quote corresponds to the following book: OTTO, J., (PRINCIPAL), C. ANDREWS, F. CAWOOD, M. DOGGETT, P. GUJ, F. STERMOLE, J. STERMOLE, AND J. TILTON. *Mining Royalties A Global Study of Their Impact on Investors, Government, and Civil Society*. The International Bank for Reconstruction and Development-The World Bank Washington. 2006, p. 55, <http://siteresources.worldbank.org/INTOGMC/Resources/336099-1156955107170/miningroyaltiespublication.pdf>, <http://documents.worldbank.org/curated/en/103171468161636902/Mining-royalties-a-global-study-of-their-impact-on-investors-government-and-civil-society>

96. KORINEK, J., op. cit.

97. SARMA & NARESH, op. cit., p. 4

98. GUJ, P., op. cit., p.4

99. GUJ, P., op. cit., p. 4

3. Royalty or tax based on profits (net income), in which the tax base is an accounting concept of the gain. A percentage rate is applied to a measure of accounting benefits made by the project. Profit-Based Royalties are based on the ability to pay, that is, a measure of profitability or adjusted income.
4. Royalty/hybrid tax. Based on the economic rent when the tax base is a direct measure of the profit or economic rent.
5. Tax based on the income of resources. Hybrid systems that combine a system based on profits or rents with an ad valorem system. According to GUJ, it consists in the application of a percentage tax rate on the economic rent produced by a project.
6. Other methods are on a series of tax bases, including production-participation contracts, common in the petroleum industry but not in mining.

2.2.3.3. The most common types of mining taxes in the world

BAUNSGAARD points out that a difference between the mining tax regime and the standard tax regime for income (income) of companies is the delineation of the entity subject to taxation (taxable entity) since this scheme normally pursues the consolidation of operations of the societies. In practice, it implies that if a company develops a mining project and opens another, it cannot decrease its taxable income due to the losses of the former. This scheme, called “ring-fencing,” seeks to protect tax revenues and is not subject to permanent deductions. It can be applied by different systems, territorially by the surface of the mining operation, or by the extraction process and not by processing and transport, etc. Depending on how it is applied, it will be more or less exposed to the risk of transfer prices between the companies linked to the mining project and to other planning schemes that reduce the tax burden.¹⁰⁰

In the words of OTTO, the “ring-fencing” model is a legal scheme that aims to apply taxes to the operations of a company independently and separately. This author argues that the trend is toward reducing the number of special fiscal incentives available to the mining industry (giving it a similar treatment to other economic sectors), being that in the past it was argued that the mining industry should receive special fiscal treatment due to its capital-intensive and inherently risky nature.¹⁰¹

Transfer prices are also an important element of mining taxation, as BAUNSGAARD shows, especially due to the fact that large mining companies belong to business groups with a presence in many countries (including low tax jurisdictions) and that they develop diverse activities related to the mining business. At the level of fiscal control, those companies that use financial derivatives are riskier than companies that use contracts of sale in the transaction of minerals. This author explains multiple operations or ways of using transfer prices to reduce the tax burden through transactions with related parties: loans with interest rates on the market price; use of large payments per administration; high costs of headquarters expenses; large payments for consulting; provision of capital goods and machinery via leasing; creation of a fictitious company to triangulate related loans; etc. Despite the difficulties of dealing with transfer prices,¹⁰² this author shows multiple

100. BAUNSGAARD, T, *op. cit.*, p. 7.

101. OTTO, J. (1998), *op. cit.*, p. 83

102.

Unfortunately, the progress made by tax authorities to stem fiscal leakages resulting from transfer pricing practices remains slow in both developed and developing economies. While input and output transfer pricing mechanisms are well known, the ability of governments to address these practices has remained weak. In this author’s opinion, most nations today have developed their mineral sector tax systems to achieve a ‘theoretical’ fair balance between national and investor interests, but transfer pricing linkages remain a major challenge that distorts actual revenue collection.

OTTO, J. (2017 B), p. 3

ways to limit them.¹⁰³

Although there are a series of taxes commonly used in mining taxation, they differ in their structural aspects, from State to State, both in the rate and in the tax base.¹⁰⁴

According to DIETSCHE,¹⁰⁵ two kinds of taxes are typically applied (in addition to customs taxes):

- a) *Taxes In Rem*, “charges assessed against deposits of production inputs and services.”¹⁰⁶ *Royalty; Unit based and value based (ad valorem); Sales and excise tax; Payroll tax; Export duty; Import duty; VAT; Application / issuing / registration fees and stamp duty; Land rents; Withholding tax on loan interests and services; Property tax.*
- b) *Taxes In Personam*, “charges against some definition of revenues accruing to mining companies, net of qualifying costs”¹⁰⁷ *Corporate income tax; Profit tax on dividends: Royalty based on profit or income measure; Withholding tax on remitted dividends; Resource rent tax.*

1. Income tax (or corporate tax, income tax) is the most widespread tax instrument to tax mining activity, which is usually added specific taxes such as a higher rate of income tax and progressive tax to the benefits for minerals (stepped rate),¹⁰⁸ in cases where a mining project is supposed to generate significant profits.¹⁰⁹

The income tax (earnings) comprises a basic structure of rates (generally a single rate, but there may be several categories), some deductions, additional charges, tax incentives and withholdings on account of taxes. Fiscal policy often evolves through changes in the tax base instead of the tax rate.¹¹⁰

Depreciation on equipment and facilities is one of the most critical tax issues for the mining industry (accelerated capital cost allowances). Some countries admit accelerated amortization within a period not exceeding than three years.¹¹¹

Tax deductions for some costs: feasibility studies; costs of exploration, development, operation; long-term debt interests; royalty payments; tax deductions allowed for costs; taxes withheld on interest, dividends, technical assistance, import taxes of equipment, export taxes, special taxes such as sales on equipment and services, land use fees, taxes on workers' salaries, documentary stamp taxes.¹¹²

It is common to grant some tax incentives, such as: moving or carrying losses to other tax periods (sometimes distinguishing between capital losses of the others); tax holidays (moratorium on income tax and other payments during a certain number of years); tax credits for

103. BAUNSGAARD, T, op. cit., p. 21. MENDOZA, D., *La lucha del derecho internacional tributario contra la planeación fiscal agresiva*, Anuario Mexicano de Derecho Internacional, vol. XVI, 2016, p. 3. A multinational group through different techniques erodes its taxable base and transfers profits from a territory of high taxation, to another of low taxation.

104.

Taxes are generally assessed either on the quantity of the mineral deposit or against the inputs or actions needed to exploit it; or on some definition of the net revenue extracted from the minerals, usually revenue minus qualifying costs.

KORINEK, J., op. cit., p. 22

105. DIETSCHE E. ET ALL., op. cit., 31–43

106. DIETSCHE E. ET ALL., op. cit., 9.

107. DIETSCHE E. ET ALL., op. cit., 9.

108. SARMA & NARESH, op. cit., p. 4. In a similar perspective, KORINEK, J., op. cit., p. 22

109. BAUNSGAARD, T, op. cit., p. 7.

110. KORINEK, J., op. cit.,

111. SARMA & NARESH, op. cit., p. 4. In a similar perspective, DIETSCHE E. ET ALL., op. cit., 43; OTTO, J. (2017 B), pp.15–20.

112. SARMA & NARESH, op. cit., p. 4. In a similar perspective, DIETSCHE E. ET ALL., op. cit., OTTO, J. (2017 B), pp.15–20.

research and development; resource allowance and processing allowance (to ensure that the tax on mining is imposed only on the benefits of mineral extraction, and not on the profits of associated operations to mineral processing); foreign re-investment allowance and reinvestment deduction; loss carryback provisions, which are not found in many countries);¹¹³ resource depletion allowances and general and reinvestment tax credits.¹¹⁴

The tax stabilization provision or agreements on tax stabilization are also usual.

Finally, the Withholding Taxes is also common (on interest payments, dividends, salaries and fees paid to foreign consultants), and allow imparting tax credits with the country of domicile of the mining company, and sometimes it is accompanied by Double Taxation Agreements.¹¹⁵

2. Supplementary taxes. Their purpose is to obtain the part of the mineral that the State demands as its property. These may be additional or progressive levies on the income, or income tax from resources and the Brow tax (higher rate of income tax and progressive profits tax);¹¹⁶ resource rent tax¹¹⁷ and Brown tax).¹¹⁸
3. Import duties on equipment used in the mineral sector. Import tariffs are a general element of the tax system. However, in most countries, the import of equipments are exempt due to the characteristics of the mining business, since companies in the mineral sector depend on to a large degree of imported equipment and intermediate inputs for exploration, development

113. SARMA & NARESH, *op. cit.*, p. 7

114. It consists of a kind of negative royalty, based on annual extraction rates, then tax revenues are reduced by production instead of being increased, it can be based on cost or volume, and sometimes when exploration licenses are not deductible from the income tax base, or to deliberately encouraging the activities of exploration. Now it is rarely used. DIETSCH E. ET ALL., *op. cit.*, 43.

115. SARMA & NARESH, *op. cit.*, p. 7. In the same way, KORINEK, J., *op. cit.*, p. 22

116.

The advantage of imposing higher rates of income tax is that there is no need to design any special tax and the existing income tax system can be made use of. Income tax has the main advantage of sharing the risk, which the mineral companies prefer and therefore, is superior to the fixed fee or royalty system. However, income tax administration becomes more complex and the rate determination is not easy. Too high a rate delays and deters the projects, while too low a rate affects revenue flow. / In some other countries, the higher rates are applied progressively on a project by project basis. The PPT follows the same principle as an individual income tax. A more profitable project is taxed at a higher rate than a less profitable one. The usual method for this is to tax, at a higher rate, profits above a certain stipulated limit. The limit is prescribed in terms of capital. Whenever the profit-capital ratio rises above a certain threshold level, the higher rate is applied on the additional profits. / There are two variants of the PPT — one that takes into account capital after deducting accumulated depreciation, and the other that uses undepreciated capital. The second variant is less severe as deducting depreciation from the capital for assessing the extra tax increases the tax collected. Using the depreciated capital, however, makes the additional tax more neutral and it approaches the rent resource tax. / The PPT has its burden more clearly linked to profitability, and entails lower risk to investors than applying a uniform higher rate of income tax for all mineral companies. It also has an administrative advantage over some other profit-based taxes as it can use existing tax legislation without much modification. However, the problem of defining capital investment remains. In addition, relative to fixed fee and royalty, the PPT being an income tax, has the administrative disadvantage connected with the problems of definition and assessment.

SARMA & NARESH, *op. cit.*, p. 6

117.

The fact that the tax is based on cash flows, rather than income, means that there is no need to have rules for depreciation or for valuation of stock, two of the main sources of problems of income tax legislation. There is also no need to define capital as in the case of PPT. / In summary, the RRT can be used to capture mineral rents that are not collected by royalties and help fiscal stability by linking revenue to profitability. But it cannot be relied on as a major fiscal instrument.

SARMA & NARESH, *Op. Cit.*, p. 7. SUNLEY & BAUNSGAAR, p. 5

118. SARMA & NARESH, *op. cit.*, p. 7

and operational activities.¹¹⁹ It is a form of incentive.¹²⁰

4. Export taxes. They began to be applied by the States to increase incomes and by the difficulty of calculating the revenues of the mining companies.¹²¹
5. Sales taxes. In some countries, minerals are subject to an ad valorem sales tax at the first transaction point, but rather at other points later. This is similar to an ad valorem royalty rate and similar to the exchange of products. The sales tax and similar indirect taxes such as special taxes and royalties negatively affect the price of the product and the competitiveness of the industry. However, several countries impose a value-added tax (VAT). Even so, VAT on the equipment used in mining is usually benefited from a full refund (in the case of imports and acquisitions). It is also common the rate of 0% for the export of minerals by VAT.¹²² Existing a VAT regime of destination base of 0% rate, there will be a permanent claim for large reimbursements from the mining company to the State of residence for the VAT paid for the import and purchase of assets necessary for mining production, which implies a challenge for the tax administrations of the poorest countries (in addition to opening spaces for evasion if the goods subject to tax relief are not limited), which are not always in a position to manage themselves.¹²³
6. Stamp duty / tax. In this sector, the stamp tax applies to mining for leases or transfers of property. The level of collection is very variable from country to country.¹²⁴
7. Property tax. This is also an important tax whose aliquot is very variable country to country.¹²⁵

3. Conclusions

In a summary manner, we believe that it is possible to obtain at least the following conclusions.

- a. There is a legal and economic literature on mining taxation, which informs many relevant details of its field, but which does not generate a complete legal doctrine of the area. However, it constitutes a sufficient starting point.
- b. The literature on mining taxation exposes the characteristics and peculiarities of the said legal area, although not in a systematic way, but it permits to generate a matrix idea about the dogmatic core of Mining Tax Law.
- c. Mining taxation, in the legal field, should be called Mining Tax Law, which is a sub-section of Tax Law. The Mining Tax Law is made up of multiple legal components, which are chained, and its main elements belong to disciplines of Mining Law, and Economic Law and Tax Law.
- d. Within the most relevant categories of the MTL are those of “mining rents” and of “mining activity or business,” whose contents and characteristics justify a special way of regulating the fiscality in the mining area.
- e. Although there are multiple fiscal and parafiscal instruments in Comparative Law, and many ways to combine them, it is possible to establish a series of categories that can be used in all jurisdictions.

119. SARMA & NARESH, *op. cit.*, p. 8. In a similar perspective.; KORINEK, J., *op. cit.*, p. 22.

120. BAUNSGAARD, T, *op. cit.*, p. 10

121. KORINEK, J., *op. cit.*, p. 22

122. SARMA & NARESH, *op. cit.*, p. 8

123. BAUNSGAARD, T, *op. cit.*, p. 10

124. SARMA & NARESH, *op. cit.*, p. 8

125. SARMA & NARESH, *op. cit.*, p. 8

- f. In different countries of the world, there are regulations and legal doctrine that make reference to some specific elements of MTL or mining taxation, granting a degree of speciality in relation to the rest of the tax system.
- g. Although it may be difficult to compare tax burdens between countries, it is possible to configure a specific corpus of legal doctrine about mining taxation based on the categories of General Theory of Tax Law and comparative legal doctrine of Tax Law, and from that point, to make scientific comparisons between mining tax regimes of different countries.

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