# NOTES ON RESEARCH, DEVELOPMENT AND INNOVATION (R&D&I) AND TAXATION SYSTEM IN CUBA

Apuntes sobre Investigación, Desarrollo e innovación (I+D+i) y fiscalidad en Cuba

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### Abstract

Research, development and innovation (R&D&I) play a significant role in the progress of a country. Taking this into account, the following lines make a recount of the regulation of R&D&I activities in Cuba through public policies and legal framework. Subsequently, tax incentives are analyzed as an indirect way of promoting these activities, with emphasis on exemptions from customs duties, profit tax and sales tax.

Keywords: R&D&I; public policies; tax incentives.

#### Resumen

La investigación, el desarrollo y la innovación (I+D+i) desempeñan un papel fundamental en el progreso de un país. Teniendo en cuenta ello, en las siguientes líneas se realiza un recuento de las políticas públicas y el marco legal establecidos para la regulación de las actividades de I+D+i en Cuba. Posteriormente, se analizan los incentivos fiscales como forma indirecta de fomento de estas actividades, haciendo énfasis en las exenciones de pago de aranceles, del impuesto sobre utilidades y el impuesto sobre las ventas.

Palabras claves: I+D+i; políticas públicas; incentivos fiscales.

### Summary

1. Introduction. 2. R&D&I in Cuba: between public policies and legal norms. 3. The Cuban tax system and R&D&I. 4. Conclusions. **Bibliography.** 

### **1. INTRODUCTION**

In this day and age, things like R&D&I play indeed, a significant role in any country's development plan, therefore by promoting R&D&I a state is placing a safe support on technological independence, competitiveness, as well as job creation and economic growth.

R&D&I activities require all kinds of resources for their implementation. Its financing becomes a key issue with any public policy aimed at boosting scientific and technical activity. It is true that determining the best way to finance science and technology-based activities is a complex matter, involving variables of various kind such as: political, economic, social and cultural. In a general sense, the financing of R&D&I through public funds can be carried out through two channels: through public spending or through the granting of tax benefits.

In Cuba, the design of an efficient and effective science, technology and innovation system has been a priority for the government in recent years. At the end of 2022, there were 258 science, technology and innovation entities in the country (including 143 research centers, 29 science and technology service centers, 72 development and innovation units and 2 science and technology parks) and 89,359 employees in science and technology activities. On the other hand, total expenditures in such activities amounted to 4785.3 million pesos (with a representativeness approximately of 47.64 % in R&D, 14.56 % in innovation and 37.77 % in other scientific and technological activities).<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Oficina Nacional de Estadística e Información, Anuario Estadístico de Cuba 2022, p. 338 y ss.

Some Cuban authors state the following:

"Uno de los desafíos es encontrar la mejor fórmula para el financiamiento de la ciencia, que logre la movilización de recursos financieros, tanto de fuentes nacionales –presupuestaria o empresarial– como de fuentes externas. El financiamiento de la ciencia es un proceso endógeno de cada economía, y proviene, aunque no únicamente, de los ahorros internos. Lo que se diseñe para la nueva etapa sobre financiamiento de la innovación debe distinguir entre la innovación disruptiva, a partir de hallazgos científicos, y la innovación incremental, imprescindible para aplicar tecnologías apropiadas y adaptadas a las condiciones del país".<sup>2</sup>

Thus, the main purpose of this article is to describe the fiscal benefits associated with R&D&I in Cuba, based on the review and analysis of different legal norms.

# 2. R&D&I IN CUBA: BETWEEN PUBLIC POLICIES AND LEGAL NORMS

NÚÑEZ JOVER and MONTALVO ARRIETE have stated that:

"El triunfo revolucionario de 1959 marcó un punto de giro para Cuba. Con respecto a la política científica y tecnológica, inició la etapa de 'promoción dirigida a la ciencia' (1959-1974). En dicho periodo se adoptaron medidas encaminadas a la creación de instituciones científicas y la preparación de sus investigadores; la creación de la mayoría de las carreras de ciencias e ingeniería; la incorporación de la investigación científica a las universidades; el despliegue de un proceso de intercambio internacional a través de la participación de científicos extranjeros en Cuba y la formación de profesionales cubanos en el exterior".<sup>3</sup>

<sup>&</sup>lt;sup>2</sup> (Authors' translation) "One of the main challenges is to find the best formula for the financing of science, accomplishing the effective deployment of financial resources, both from national sources –budgetary or corporate – and from external sources. The financing of science is an endogenous process for every economy, which derives from domestic savings, though from other sources as well. Whatever is designed for the new stage of innovation financing should distinguish between disruptive innovation, based on scientific findings, and incremental innovation, which is essential for applying appropriate technologies adapted to the conditions of the country". *Vid.* LAGE DÁVILA, A. y otros, "Grupo de Tesis 1. La ciencia y el desarrollo sostenible. Ciencia, economía y tecnología, en E. Torres-Cuevas; P. González-Díaz, P., Las ciencias en la construcción de la sociedad y la cultura cubanas. Tesis a debate, p. 39.

<sup>&</sup>lt;sup>3</sup> (Authors' translation): "The revolutionary triumph of 1959 marked a turning point for Cuba, regarding scientific and technological policies, thus the 'science-directed promotion' stage began (1959-1974). During this period, certain measures were adopted such as: the creation

The authors also state that:

"En la década de los setenta se constató que la aplicación de los resultados científicos para resolver problemas de la producción y los servicios era un asunto de mucha complejidad. A partir de lo anterior, hubo variaciones en la política científica y tecnológica del país y se instituyó el 'modelo de dirección centralizada' (1975-1990), el cual apuntaba a completar el esfuerzo desde el lado del suministro con una estrategia hacia la introducción de resultados, basada en el uso de los resultados científico-técnicos".<sup>4</sup>

In 1976, a new constitutional period began for Cuba. As part of the postulates of the educational and cultural policy, the Constitution of the Republic (Article 38) established that creative and investigative activity in science was free. The State would stimulate and make research viable and it would also prioritize research aimed at solving problems that concern the interest of society and the benefit of the people. In addition, the State would encourage workers to become involved in scientific work and the development of science.

Thus, efforts were concentrated on the development of scientific research at universities since the 1980s, including new priorities for scientific and technological development, such as biosciences, biotechnology, pharmaceutical industry, high-tech medical equipment and the foundation of scientific-productive poles.<sup>5</sup>

The 90s marked great challenges for the Cuban government, the country entered a time of "crisis and reform". The 1976 Constitution was amended

of scientific institutions and also the training of their researchers; the creation of most of the science and engineering careers; the incorporation of scientific research into universities; the deployment of a process of international exchange through the participation of foreign scientists in Cuba and the training of Cuban professionals abroad". *Vid.* NUNEZ JOVER, J. y L. MONTALVO ARRIETE, "Política de ciencia, tecnología e innovación en Cuba: trayectoria y evaluación", *Universidad de La Habana*, No. 276, 2013, p. 21.

<sup>&</sup>lt;sup>4</sup> (Authors' translation); "In the 1970s, the application of scientific results to solve issues related to production and services turned out to be a matter of great complexity. As a result, there were variations in the country's scientific and technological policy and the 'centralized management model' (1975-1990) was created, which aimed at providing supplies based on scientific-technical results". *Vid.* NUNEZ JOVER, J. y L. MONTALVO ARRIETE, "Política de ciencia, tecnología...", *cit.*, p. 21.

<sup>&</sup>lt;sup>5</sup> *Ibidem*, p. 23.

in 1992, and it maintained the essence of the original postulate regarding educational and cultural policy.<sup>6</sup>

There was great emphasis on innovation and the role of the multiple research institutions in the economic recovery of the country. The gradual implementation of the new science and technological innovation system began, whose main purpose was to the production of goods and services, leading to a modern economy and its insertion in the international market.<sup>7</sup>

Cuba underwent a process of improvement of its economic model at the beginning of 2011. Several documents have been approved or updated up to the present, which constitute a programmatic platform for the changes that were about to take place. These documents are:

- Guidelines of the Economic and Social Policy of the Party and the Revolution (2011), updated for the period 2016-2021 and for the period 2021-2026;
- Bases of the National Economic and Social Development Plan until 2030: Vision of the Nation, Axes and Strategic Sectors (2016); and,
- Conceptualization of the Cuban Economic and Social Model of Socialist Development (2016).

All of them recognize the importance of promoting science and the development of technology and innovation, in a way that they can favor an increase of the efficiency, effectiveness and productivity in all spheres of society and forms of ownership. Likewise, the guiding role of the State is to lead and encourage that scientific and technological results are applied and generalized in production and services of all enterprises.

Against this backdrop, the regulatory production began to lay the new foundations for R&D&I activity in the country. At this point, it is valid to highlight that a total of seven legal norms were approved from 2011 to 2018, one Decree-Act and six Resolutions.<sup>8</sup>

<sup>&</sup>lt;sup>6</sup> *Vid*. Constitutional Reform Act, Article 6.

<sup>&</sup>lt;sup>7</sup> Vid. Núñez Jover, J. y L. Montalvo Arriete, "Política de ciencia, tecnología...", cit., p. 24.

<sup>&</sup>lt;sup>8</sup> Such legal norms are Resolution No. 44 of 2012 (Ministry of Science, Technology and Environment), Regulations for the process of elaboration, planning, execution and control of science, technology and innovation programs and projects; Decree-Act No. 323 of 2014,

The new Constitution of the Republic is enacted in April of 2019, and its article 21 states that the State promotes the advancement of science, technology and innovation as key elements for economic and social development. It also implements forms of organization, financing and management of scientific activity; it encourages the systematic and accelerated introduction of its results in productive processes and services, through the corresponding institutional and regulatory framework.

The process of approval of legal norms aimed at establishing the legal framework for R&D&I in Cuba continued with the new constitutional support. As part of the framework of legal norms, we can mention one Decree-Act, one Presidential Decree, and one Agreement of the Council of State, four Decrees and fifteen Resolutions, for a total of 22 legal norms.<sup>9</sup>

Which establishes the provisions for the organization and operation of science, technology and innovation entities; Resolution No. 164 of 2014 (Ministry of Science, Technology and Environment), Regulations for the organization and operation of the National Registry of Science, Technology and Innovation Entities; Resolution No. 165 of 2014 (Ministry of Science, Technology and Innovation Entities; Resolution No. 165 of 2014 (Ministry of Science, Technology and Innovation No. 166 of 2014 (Ministry of Science, Technology and Innovation No. 166 of 2014 (Ministry of Science, Technology and Innovation No. 166 of 2014 (Ministry of Science, Technology and Environment), Which approves the rule for the operation of the Financial Fund for Science and Innovation; Resolution No. 58 of 2016 (Ministry of Finance and Prices), Which establishes the financial, budgetary, accounting and pricing procedure to be applied in the entities of the Science, Technology and Innovation System; and Resolution No. 2 of 2016 (Ministry of Labor and Social Security), Which establishes the salary system for workers in the Science and Technological Innovation activity who develop their work in the business sector.

These are: Decree No. 363 of 2019, Which regulates what relates to Science and Technology Parks and Science and Technology companies, which function as an interface between universities and Science, Technology and Innovation entities with productive and service entities; Resolution No. 4 of 2019 (Ministry of Science, Technology and Environment), Regulations on the Scientific Reserve; Resolution No. 286 of 2019 (Ministry of Science, Technology and Environment), Regulations for the organization and operation of the National Registry of Science, Technology and Innovation Entities; Resolution No. 287 of 2019 (Ministry of Science, Technology and Environment), Which regulates the process of organization, planning, elaboration, approval, financing, execution, evaluation and control of the System of Science, Technology and Innovation Programs and Projects; Resolution No. 434 of 2019 (Ministry of Finance and Prices), Which exempts from the payment of the Profit Tax the profits generated by the organizational unit created in the trading company Centro Internacional de La Habana S.A., the Science and Technology companies created in the Central Marta Abreu University of Las Villas and the Technological University of Havana, as well as the scientific-technological parks created in the universities of Computer Sciences and Matanzas, for the first five (5) years of their incorporation; Decree-Act No. 7 of 2020, Which establishes the basis for the design and operation of the Science, Technology and Innovation System; Decree No. 2 of 2020, On High Technology Enterprises; Decree No. 23 of 2020, On the Foundation of the University of Havana as a non-profit institution for the management of Science, Technology and Innovation; Resolution No. 50 of 2020 (Ministry of Science, Technology and Innovation), Regulations for the granting of the category of A great number of legal regulations on topics associated with R&D&I have approved in Cuba since the new Constitution. Undoubtedly, the legalmethodological basis of scientific, technological and innovation activity can be characterized as substantial.

It is still too early to assess the fulfillment of the objectives foreseen by the approved legal norms. The following topics have been identified as important:<sup>10</sup>

- Fostering a culture of innovation in the public and business sectors. Making the company become the driving force behind the demand for knowledge.
- Strengthen strategic alliances, the consolidation of innovation ecosystems and cooperation in science, technology and innovation with the purpose of developing the approved policies in a transversal, inclusive, integral, participative, egalitarian and equitable manner.
- Implement effective financial instruments to promote innovative and technology-based development.

High Technology Enterprises; Resolution No. 49 of 2020 (Ministry of Finance and Prices), Which establishes a differentiated tax treatment to High Technology enterprises; Resolution No. 128 of 2020 (Ministry of Finance and Prices), Which regulates the procedure for selffinanced activities of Science, Technology and Innovation that are approved in the budgeted units; Resolution No. 50 of 2020 (Ministry of Higher Education), Which authorizes the hiring of academics, researchers and students from research centers and universities by state-owned companies of computer applications and services, to work in researchdevelopment-innovation projects and other professional activities, prior agreement between the institutions; Resolution No. 4 of 2020 (Ministry of Labor and Social Security), Which establishes the salary scale for companies that hold the category of High Technology Company, depending on the work and rest regime they apply; Resolution No. 39 of 2020 (Ministry of Labor and Social Security), Which establishes the salary system for workers in the Science, Technology and Innovation activity; Agreement No. 156 of 2021 (Council of State), Provides for the creation of the National Innovation Council; Presidential Decree No. 262 of 2021, Approves the Regulations of the National Innovation Council; Decree No. 40 of 2021, Regulations of Decree-Act 7 of the Science, Technology and Innovation System; Resolution No. 209 of 2021 (Ministry of Science, Technology and Environment), Which establishes the procedure for the awarding of prizes related to science, technology and innovation; Resolution No. 211 of 2021 (Ministry of Science, Technology and Innovation), Which approves the status of Innovative Enterprise of the Republic of Cuba; Resolution No. 212 of 2021 (Ministry of Science, Technology and Innovation), Which establishes the amount of remuneration for an innovation or rationalization that produces favorable economic results.

<sup>10</sup> Informe de la Ministra de Ciencia, Tecnología y Medio Ambiente, Elba Rosa Pérez MONTOYA, "Transformaciones del Sistema de Ciencia, Tecnología e Innovación en Cuba", en E. Torres-Cuevas; P. González-Díaz, Las ciencias en la construcción de la sociedad y la cultura cubanas. Tesis a debate, pp. 105 y 106.

- Develop a National Index of Science, Technology and Innovation.
- Promote specific actions in the field of the digital society, with special attention to Electronic Government, remote work forms, privacy and data protection and the veracity of information.
- Create the conditions for a National Innovation System, which integrates the generation, assimilation and dissemination of knowledge and technology.

In this scenario, it is necessary to have a dynamic and flexible system to monitor, follow-up and evaluate the results, effects and impacts of the application of the regulatory framework for R&D&I in Cuba. The existence of stable channels of interaction and dialogue among all the actors of the Science, Technology and Innovation System is a success full factor to overcome the tensions, conflicts and pitfalls that may arise.

# 3. THE CUBAN TAX SYSTEM AND R&D&I

The State can promote R&D&I directly through public spending, for example subsidies, or indirectly through tax mechanisms. In order to stimulate the performance of certain activities or behaviors, the legislator may choose to establish R&D&I tax benefits. From this perspective, the extra-fiscal purpose of the tax becomes relevant.

For the business world, tax benefits offer three advantages: firstly, part of the resources allocated to R&D&I are recovered through tax reductions in the short term. Secondly, all production units that incur R&D&I expenses can benefit from the corresponding deduction depending on the tax concept. Thirdly, the processing costs are considerably reduced, in any case depending on the formal requirements that are established.<sup>11</sup>

When it comes to linking R&D&I with tax-deductible techniques, both the activity and the result are of interest. Legal rules can provide for tax incentives for activity (input incentives) and incentives for output (output incentives). In 2016, as many as 23 European Union (EU) Member States had implemented

<sup>&</sup>lt;sup>11</sup> *Vid.* TOBES PORTILLO, Paloma, "Incentivos Fiscales a la Investigación, Desarrollo e Innovación", *Documentos de Trabajo*, No. 17, 2003, p. 7.

some kind of incentive for R&D&I as an activity, while another 12 had introduced incentives on the output, this is the so-called patent box regimes.<sup>12</sup>

From another angle, in the framework of the settlement of a specific tax, tax incentives can be established in the determination of the tax base or the tax liability, as well as the reduction of the tax rate. Within the EU, 16 Member States grant tax credits or tax credits for R&D, while 14 Member States provide for incentives in the tax base (enhanced or tax allowances). While there are 9 States that establish accelerated depreciations, that is, indirect incentives.<sup>13</sup>

Looking at the Cuban environment, Act No. 113, "On the Tax System", was passed in 2012, based on the experience obtained with the application of the 1994 Tax Act and on new objectives to be achieved by the State in the process of updating the Cuban economic model. Act No. 113 ratified the concept of taxation of its predecessor, based on the traditional pillars of pecuniary benefit and coerciveness, supported by the principles of generality, equity of the tax burden and economic capacity (Articles 2 and 5 clause x).

This legal provision expressly recognizes the fiscal and extra-fiscal purposes of taxation, according to which it is not only as a way to collect the necessary resources to finance public expenditures, but it also constitutes an instrument of general economic policy and responds to the requirements of the economic and social development of the country (Article 3), which legitimizes the adoption of tax measures aimed at stimulating sectors, activities and behaviors that contribute to R&D&I.<sup>14</sup>

Thus, the Tax Act recognizes the expenses of research and development activities in the year which they are incurred as deductible items of determining the taxable base of the Profit Tax (Article 88-j, Act. No. 113). This tax is payable by Cuban and foreign legal entities that obtain taxable profits, regardless of their form of organization or ownership regime.

<sup>&</sup>lt;sup>12</sup> Vid. GIL GARCÍA, E., "Los incentivos fiscales a la I+D+i", Tesis presentada para aspirar al grado de Doctora, p. 149.

<sup>&</sup>lt;sup>13</sup> *Ibidem*, p. 144.

<sup>&</sup>lt;sup>14</sup> LIMONTA MONTERO and REYNA PARGA have also studied the mechanisms to construct a special tax regime for developing sciences, technologies and innovation in Cuba. *Vid.* LIMONTA MONTERO, R. and D. REYNA PARGA, "Constructing a special tax regime for developing sciences, technologies and innovation in Cuba", *Insights into regional development*, Vol. 5, No. 3, 2023, pp. 122-135.

For Science and Technology Parks and for Science and Technology Companies that operate as an interface between universities and science, technology and innovation entities with productive and service entities, a special taxation regime is provided that favors and encourages research projects in the first five (5) years of operation.

Based on the above, the organizational unit created in the commercial company Centro International de La Habana S.A., the Science and Technology companies created in the Central Marta Abreu University of Las Villas and the Technological University of Havana, as well as the scientific-technological parks created in the University of Computer Sciences and the University of Matanzas are exempted from the payment of the Tax on Profits associated to the profits generated during the first five (5) years of its incorporation ("First Resolve", Resolution No. 434 of 2019, of the Ministry of Finance and Prices). Likewise, such entities enjoy the benefit of exemption from the payment of tariffs for the importation of parts, pieces and equipment in the first five (5) years of operation ("Second Resolve", Resolution No. 434 of 2019, of the Ministry of Finance and Prices).

In the case of High Technology Companies, a special tax treatment is established, which begins to be applied as from the date on which the entities are granted such category of companies and ceases to be enjoyed by decision of the official authority. The differentiated tax regime (First Resolve, Resolution No. 49 of 2020, of the Ministry of Finance and Prices) consists of:

- application of a tax rate of fifteen percent (15%) for the payment of the Profits Tax; it should be noted that the general tax rate provided for in the Tax Act is up to 35%;
- exemption from payment of Sales Tax when applicable;
- exemption from import duties on equipment and technology.

As for the University of Havana Foundation, the special tax regime consists of a permanent exemption from the payment of Profits Tax, Sales Tax, Service Tax and Customs Tax on equipment, supplies, raw materials, consumables and other materials necessary for the execution of its activities (Article 32, Decree No. 23). Notwithstanding the foregoing, the Minister of Finance and Prices may grant the Foundation total or partial exemptions, on a temporary or permanent basis, or may grant other tax benefits, in accordance with the provisions of the tax legislation in force, after having heard the opinion of the Ministry of Higher Education (Article 33, Decree No. 23).

As can be seen, the tax measures aimed at promoting R&D&I consist, in general terms, in the granting of subjective and temporary exemptions. Although the establishment of these benefits during the first years of operations of the entities is a good idea, once the period of validity has elapsed, it may no longer be attractive to carry out R&D&I activities. From our perspective, progress should be made in a system that combines exemptions with reductions in the tax base, deductions in the tax quota and reductions in the tax rate.

## 4. CONCLUSIONS

Cuba is a country that is committed to scientific-technical development, as evidenced by its Constitution. To this end, it has public policies that have been gradually implemented with the aim of ensuring that the use of the results of R&D&I translates into an improvement in the quality of life of the population and economic development.

Benefits for the promotion of R&D&I can be found in the Cuban legal tax system. These have been framed in the treatment of four (4) taxes: the Profits Tax, the Customs Tax and the Sales or Services Tax. The correct implementation of these taxes would contribute to achieve the objectives foreseen in the policies aimed at promoting R&D&I in the country. However, it is necessary for tax issues to have greater centrality in the decisions to be adopted for the promotion of R&D&I in Cuba.

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