



## Comments on Public Finances in Mexico: 2019 to 2021

Villalobos López; José Antonio

Instituto Politécnico Nacional, Escuela Superior de Economía, México

E-mail: [jvillalobosl7500@egresado.ipn.mx](mailto:jvillalobosl7500@egresado.ipn.mx)

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### **Abstract**

This essay is presented with a deductive method orientation, a hermeneutic paradigm and a quantitative approach. The purpose of this paper is to highlight the role of public finances in our nation's Gross Domestic Product (GDP), where a quarter comes from the public sector. Federal public finances allow us to locate a quarter of Mexico's GDP from 2019 to 2021 and tax collection stands at 14.3% of GDP in the period, far from the average of 24.2% of GDP of the countries of the Organization for Economic Cooperation and Development, but also far from what is collected by Latin American nations such as Brazil, Argentina, Chile, and Colombia. The Mexican tax system is based on income and value-added taxes, both contributing 83.3% of tax revenues from 2018 to 2021. Eleven million members of the Mexican Social Security Institute (IMSS) contribute just under 40% of total national income tax.

**Keywords:** *Public Finances; Fiscal Policy; Government Budget; Taxation System*

### **Introduction**

The objective of this article is to highlight the fundamental role of public finances in the participation of the Gross Domestic Product (GDP) of our nation, where a quarter of it comes from the federal public sector, hence the importance of studying the two branches of public finances: revenues and expenditures. The reason for presenting this work was to answer the question: Who contributes, and what is done with the income that all Mexicans pay for public needs? Sometimes one gets lost in the multiple data available today, so I dared to try to make an analysis of public finances from 2019 to 2021.

The article presented was framed within the deductive method, since knowledge is given by reasoning and abstraction, following a hermeneutic paradigm, which is given by the observation of phenomena, presenting a quantitative type approach, since the most recent statistical information was sought to analyze a segment of reality.

Public finance investigates principles, mechanisms and application of policies that must be applied by the State to sufficiently obtain economic resources, which are to allow its operation and the provision of public services. For Córdoba Padilla (2014: XI): “The object of Public Finance, in its generic conception, is to examine how the State obtains its revenues and carries out its expenditures”.

The work presented here is divided into the two classic parts of public finance: public revenue and public expenditure. The first part deals with the two tax revenues that are fundamental to public financing: Income Tax (ISR) and Value Added Tax (VAT). A brief explanation is also given of the *Impuesto Especial sobre Producción y Servicios (IEPS)* -Special Tax on Production and Services- and the Mexican Petroleum Fund (FMP). These four items are the most important sources of public revenue for the Mexican nation.

The second part deals with public spending, describing its most essential components and how the federal budget is distributed. Within public spending, two major items that are essential for the economic and social development of the nation stand out: education and health. Information is presented on these critical concepts of the national public budget.

## **Development**

Fiscal policy is considered to be a discipline of economic policy that focuses on the management of a State's resources, which controls the levels of expenditure and income, through variables such as taxes and public spending, seeking to achieve the macroeconomic policy objectives to be promoted. Tax policy and income redistribution become two fundamental pieces of fiscal policy, and these two issues have been debated for a long time. In this regard, Adam Smith (1985: Volume III, p. 117-119), precursor of classical political economy, considers four fundamental principles for the implementation of taxes:

- The citizens of any State must contribute to its support, in proportion to their faculties.
- The contribution that each individual is obliged to pay must be certain, determined and in no way arbitrary.
- Every tax must be exacted at the time that is most convenient and convenient to the circumstances of the taxpayer.
- Any contribution that must enter the treasury of the State, should ensure that as little as possible of its income or wealth is taken from individuals.

The field of economic theory has undergone a transformation that implies the recognition of the political sphere to explain the relationships established between individuals and the State; from the great classics of economics (A. Smith, D. Ricardo, Stuart Mill), to L. Walras, N. Kaldor, A. Sen (Estrada, 2010: 4).

In reference to the classifications of public income, Riofrío Villagómez (1958: 54) mentions that three characteristics of the classifications should not be lost sight of: 1) Distinction between ordinary and extraordinary revenues; 2) Follow the basic distinction between contractual revenues and public law revenues (the former attributable to private or patrimonial law and the latter marked as obligatory in legal norms of public law); 3) Seligman's clear distinction must be followed, which divides contributions into three main groups: taxes, rates and contributions for improvements.

On this last point, the federal budget for public revenues considers duties (rates) as part of non-tax revenues, while in other countries they are considered as tax revenues or contributions.

Tax policy has divided or classified contributions or taxes into two large groups: direct and indirect. The direct tax is levied on the economic capacity of the taxpayer, affecting his income or

patrimony directly, an example of these taxes is the income tax (ISR) and the real estate property tax. The indirect tax is levied on transactions, when the taxpayer who generates the consumer good does not pay it, but passes it on to the final consumer who finally pays the contribution, an example in our country of these taxes is the value added tax (VAT) or the special tax on products (IEPS).

Estrada et al (2018: 19-20) mentions that according to A. Smith, D. Ricardo, Buchanan, Brennan, Samuelson and Nordhaus, it can be inferred that the elements that identify and characterize taxes are: 1) They are coercive, i.e., the State sets them unilaterally; 2) They subtract a part of the private income of citizens, limiting their purchasing power; 3) There is no direct consideration subject to the payment thereof, taxes are intended to cover the general expenses of the State.

Non-tax revenues usually have their origin in the state activity that is identified with its patrimonial management, being able to be profits of public companies or in the consideration that the State receives for the provision of goods and services, which are provided in concurrence with the private sector, or in any case when the State deploys its activity on a commercial level (Estrada et al, 2018: 18). On the other hand, tax revenues are those that arise from the mandate of a law, which is why it is frequently said that they are obligations born *ex lege*, hence public tax revenues are linked to the principle of legality.

The main purpose of a tax system is to collect State revenues, taking into account the principles of equity, equality and proportionality. It has been demonstrated that the less inequality there is in the distribution of income, the more efficient collection systems become.

The progressive tax system or progressive taxation is the type of tax that grows in line with the tax base, so that the higher the taxpayer's economic capacity, the higher the percentage of taxes he will have to pay. Progressive taxes have been studied since the end of World War II, seeking a fairer distribution of income. In this sense, Estrada and González (2014: 5) have expressed that the progressive tax system is one of the methods of wealth redistribution, mentioning that for neoliberal economists such as Hayek that progressivity invoked the arguments used by Marx and Engels.

## 1. Public Revenues

It is important to point out that there is evidence pointing out that Mexico is one of the countries that receives the lowest tax revenues, which are insufficient to meet the numerous needs of public spending; so that the tax burden in Mexico is below that of the countries of the Organization for Economic Cooperation and Development (OECD), even of the countries of the American continent that are in similar conditions of development to our nation.

According to Tello Macías (2007:24-25), public revenue in Mexico has the following characteristics: 1) Insufficient collection; 2) Low coverage, untaxed (or insufficiently taxed) activities and non-existent taxes; 3) Fragility, high percentage of collection depends on the behavior of internal and external sales of oil and its products; 4) Distortion in the distribution of the tax burden, result of the reduced contribution of wealth taxation, where capital ownership is privileged over salaried work; 5) Poor tax administration, productivity is very low and there are high rates of evasion and avoidance; 6) Tax powers, collection and administration are highly concentrated in the federation; 7) Prices of public goods and services without profitability criteria.

Mexico is particularly behind in one of the most important taxes considered within tax theory: income tax (ISR), which was first used at the national level in 1921, while the United States already had a long history in the application of this tax. The per capita tax burden in 1925, when the first National Fiscal Convention was held in Mexico, was 21.36 pesos; while this indicator in countries such as

Argentina was 124.45; in Cuba 56.97; Chile 54.88; Uruguay 54.48; and Great Britain 104.72 (Calva et al, 2007:113).

Noting that our nation already had great disadvantages in terms of taxation since those years, López Rosado (1972; quoted by Calva et al, 2007:113) points out that the expression was coined in those years: “Our problem lies in the deficient systems that we inherited from the colony and that fortunately we are already beginning to think about correcting them”. To give some examples of the representation of tax revenues in Mexico, from 1935 to 1940 they represented 5.6% of GDP; from 1965 to 1970 7.2% of GDP; and from 2001 to 2005 10.7% of GDP (Calva et al, 2007: 114).

Starting with the analysis of recent quantitative information, in Table 1 we look at public sector revenues from 2019 to 2021.

Table 1. Mexico Public Finances Summary 2019-2021. Millions of Pesos

|         |                       | 2 0 1 9   |        | % GDP | 2 0 2 0   |        | % GDP | 2 0 2 1   |        | % GDP |
|---------|-----------------------|-----------|--------|-------|-----------|--------|-------|-----------|--------|-------|
| 1       | Ordinary Revenues     | 5,384,984 | 100.0% | 22.2% | 5,339,991 | 100.0% | 23.1% | 5,960,945 | 100.0% | 23.9% |
| 1.1     | Oil revenues          | 955,698   | 17.7%  | 3.9%  | 605,859   | 11.3%  | 2.6%  | 1,156,487 | 19.4%  | 4.6%  |
| 1.1.1   | Federal Government    | 431,923   | 8.0%   | 1.8%  | 198,306   | 3.7%   | 0.9%  | 364,769   | 6.1%   | 1.5%  |
| 1.1.2   | PEMEX                 | 523,775   | 9.7%   | 2.2%  | 407,553   | 7.6%   | 1.8%  | 791,718   | 13.3%  | 3.2%  |
| 1.2     | Non-oil               | 4,429,286 | 82.3%  | 18.3% | 4,734,131 | 88.7%  | 20.5% | 4,804,458 | 80.6%  | 19.2% |
| 1.2.1   | Federal Government    | 3,574,157 | 66.4%  | 14.7% | 3,890,195 | 72.9%  | 16.8% | 3,952,226 | 66.3%  | 15.8% |
| 1.2.1.1 | Tributary             | 3,202,623 | 59.5%  | 13.2% | 3,338,876 | 62.5%  | 14.5% | 3,566,748 | 59.8%  | 14.3% |
| 1.2.1.2 | Non-Tax               | 371,534   | 6.9%   | 1.5%  | 551,319   |        | 2.4%  | 385,477   | 6.5%   | 1.5%  |
| 1.2.2   | Agencies/Compan.      | 855,129   | 15.9%  | 3.5%  | 843,937   | 15.8%  | 3.7%  | 852,232   | 14.3%  | 3.4%  |
| 2       | Total Net Spending    | 5,814,442 | 100.0% | 24.0% | 6,007,719 | 100.0% | 26.0% | 6,748,951 | 100.0% | 27.0% |
| 2.1     | Primary Spending      | 5,262,221 | 90.5%  | 21.7% | 5,321,634 | 88.6%  | 23.0% | 6,062,261 | 89.8%  | 24.3% |
| 2.1.1   | Program. Spending     | 4,371,645 | 75.2%  | 18.0% | 4,463,821 | 74.3%  | 19.3% | 5,139,777 | 76.2%  | 20.6% |
| 2.1.2   | Partic. Entities-Mun. | 879,344   | 15.1%  | 3.6%  | 843,545   | 14.0%  | 3.7%  | 917,233   | 13.6%  | 3.7%  |
| 2.1.3   | ADEFAS                | 11,232    | 0.2%   | 0.0%  | 14,268    | 0.2%   | 0.1%  | 5,252     | 0.1%   | 0.0%  |
| 2.2     | Financial Cost Debt   | 552,220   | 9.5%   | 2.3%  | 686,085   | 11.4%  | 3.0%  | 686,689   | 10.2%  | 2.7%  |

Source: Own elaboration. With information from *Secretaría de Hacienda y Crédito Público*: Public Account 2019, 2020 and 2021. Volume I General Results. Budgetary Revenues / Budgetary Expenditures.

We observe that total public sector revenues in Mexico represented 22.2% of GDP in 2019, 23.1% in 2020 and 23.9% in 2021, which means that the share of federal government budget revenues has been growing gradually in relation to the GDP registered in the country during the last three years.

Revenues considered from agencies correspond to the directly controlled entities: the *Mexican Social Security Institute (IMSS)* and the Institute of Security and Social Services for State Workers (ISSSTE); while revenues from productive enterprises come from Mexican Petroleum (PEMEX) and the Federal Electricity Commission (CFE). These four very important public sector agencies and companies in Mexico contribute 25.2% of total federal government revenues from 2018 to 2021.

In the last three years (2019 to 2021), tax revenues represent 3 out of every 5 pesos obtained by the federal government. One of the indicators to compare how any country is doing in relation to its public finances is to relate tax revenues to GDP. Our country captures tax revenues (excluding oil revenues) equivalent to 13.2% of GDP in 2019; 14.5% in 2020 and 14.3% of GDP in 2021.

In the opinion of Tello Macias (2007: 25), the tax burden in Mexico is very low, until 2005 it represented 15.4% of GDP, taking into account the contribution of PEMEX and if this contribution were subtracted, the tax burden would be less than 10% of GDP, below that of OECD member countries, which is 28% of GDP, Brazil 21.2%, Argentina and Chile 18%. With information from 2012, tributary revenues represented for OECD countries on average 24.7% of GDP, for the United Kingdom 26.7%, for Spain 20.6%, for France 27.6%, for Germany 22.5%, for Chile 20% and for Mexico 16.67%. (Sobarzo, 2017: II).

According to the most recent information published by the OECD (2022), tax revenues (excluding social security) in 2020 in relation to GDP, presents these figures for the following countries: Denmark 44.2%; France 24.2%; Italy 25.7%; Canada 24.5%; Germany 21.8%; Spain 20.5%; Great Britain 21.9%; Brazil 21%; Argentina 20.4%; Uruguay 17.8%; United States 16.8%; Nicaragua 18.2%; Chile 16.9%; Colombia 13.8%; Mexico 14.3%; being the OECD average 24.2%.

In the information presented, our country obtains from tax revenues 14.5% of GDP in 2020, while the OECD presents 14.3%, observing only a few thousandths of a percentage difference. In this important indicator, Mexico is below the average of OECD countries by 10 percentage points, which implies that in terms of tax revenue efficiency our country would score 6 on a scale of 10, or that for every 5 pesos obtained on average by OECD countries, our nation only obtains 3 pesos.

One of Mexico's trading partners (Canada) ranks in the average of OECD countries in terms of tax revenues relative to GDP, while the United States ranks 2.5 percentage points above Mexico. Of the Latin American nations, Brazil is the one with the best position, being above Mexico with 6.7 percentage points; Argentina, Uruguay, and Chile are also above our country in this indicator.

Table 2. Mexico's Federal Government Revenues 2019-2021. Millions of Pesos

|                              | Collected 2018 |        | Collected 2019 |        | %GDP  | Collected 2020 |        | %GDP  | Collected 2021 |        | %GDP  |
|------------------------------|----------------|--------|----------------|--------|-------|----------------|--------|-------|----------------|--------|-------|
| <b>TOTAL</b>                 | 5,115,111      | 100.0% | 5,384,984      | 100.0% | 22.2% | 5,339,990      | 100.0% | 23.1% | 5,960,945      | 100.0% | 23.9% |
| <b>Federal Governme.</b>     | 3,871,627      | 75.7%  | 4,006,080      | 74.4%  | 16.5% | 4,088,501      | 76.6%  | 17.7% | 4,316,994      | 72.4%  | 17.3% |
| <b>Non-pre-tax revenues</b>  | 3,329,880      | 65.1%  | 3,574,157      | 66.4%  | 14.7% | 3,890,194      | 72.9%  | 16.8% | 3,952,226      | 66.3%  | 15.8% |
| <b>Taxes</b>                 | 3,062,334      | 59.9%  | 3,202,623      | 59.5%  | 13.2% | 3,338,876      | 62.5%  | 14.5% | 3,566,748      | 59.8%  | 14.3% |
| <b>Income Tax System</b>     | 1,664,242      | 32.5%  | 1,686,618      | 31.3%  | 7.0%  | 1,760,461      | 33.0%  | 7.6%  | 1,895,507      | 31.8%  | 7.6%  |
| <b>VAT</b>                   | 922,238        | 18.0%  | 933,327        | 17.3%  | 3.8%  | 987,525        | 18.5%  | 4.3%  | 1,123,699      | 18.9%  | 4.5%  |
| <b>IEPS (Prod. Specials)</b> | 347,436        | 6.8%   | 460,496        | 8.6%   | 1.9%  | 460,674        | 8.6%   | 2.0%  | 399,154        | 6.7%   | 1.6%  |
| <b>Gasoline</b>              | 187,666        | 3.7%   | 297,479        | 5.5%   | 1.2%  | 299,597        | 5.6%   | 1.3%  | 222,895        | 3.7%   | 0.9%  |
| <b>Others</b>                | 159,770        | 3.1%   | 163,017        | 3.0%   | 0.7%  | 161,077        | 3.0%   | 0.7%  | 176,260        | 3.0%   | 0.7%  |
| <b>Imports</b>               | 65,543         | 1.3%   | 64,741         | 1.2%   | 0.3%  | 57,938         | 1.1%   | 0.3%  | 75,539         | 1.3%   | 0.3%  |
| <b>ISAN (New Cars)</b>       | 11,142         | 0.2%   | 10,497         | 0.2%   | 0.0%  | 8,366          | 0.2%   | 0.0%  | 11,296         | 0.2%   | 0.0%  |
| <b>Others (Acces.AEEH)</b>   | 51,735         | 1.0%   | 46,945         | 0.9%   | 0.2%  | 63,913         | 1.2%   | 0.3%  | 61,554         | 1.0%   | 0.2%  |
| <b>Non-Tax</b>               | 267,545        | 5.2%   | 371,534        | 6.9%   | 1.5%  | 551,319        | 10.3%  | 2.4%  | 385,477        | 6.5%   | 1.5%  |
| <b>Duties</b>                | 64,306         | 1.3%   | 82,997         | 1.5%   | 0.3%  | 72,563         | 1.4%   | 0.3%  | 90,834         | 1.5%   | 0.4%  |
| <b>Products</b>              | 9,809          | 0.2%   | 10,415         | 0.2%   | 0.0%  | 8,512          | 0.2%   | 0.0%  | 6,782          | 0.1%   | 0.0%  |
| <b>Leverages</b>             | 193,431        | 3.8%   | 278,122        | 5.2%   | 1.1%  | 470,244        | 8.8%   | 2.0%  | 287,862        | 4.8%   | 1.2%  |
| <b>Oil Revenues(FMP)</b>     | 541,747        | 10.6%  | 431,923        | 8.0%   | 1.8%  | 198,306        | 3.7%   | 0.9%  | 364,769        | 6.1%   | 1.5%  |

|                                    |           |       |           |       |      |           |       |      |           |       |      |
|------------------------------------|-----------|-------|-----------|-------|------|-----------|-------|------|-----------|-------|------|
| <b>Entities/<br/>Companies</b>     | 1,243,484 | 24.3% | 1,378,904 | 25.6% | 5.7% | 1,251,490 | 23.4% | 5.4% | 1,643,950 | 27.6% | 6.6% |
| <b>Direct Control<br/>Entities</b> | 398,027   | 7.8%  | 426,603   | 7.9%  | 1.8% | 446,442   | 8.4%  | 1.9% | 467,435   | 7.8%  | 1.9% |
| <b>IMSS</b>                        | 345,395   | 6.8%  | 381,535   | 7.1%  | 1.6% | 390,150   | 7.3%  | 1.7% | 421,295   | 7.1%  | 1.7% |
| <b>ISSSTE</b>                      | 52,632    | 1.0%  | 45,068    | 0.8%  | 0.2% | 56,292    | 1.1%  | 0.2% | 46,141    | 0.8%  | 0.2% |
| <b>Product.<br/>Companies</b>      | 845,457   | 16.5% | 952,301   | 17.7% | 3.9% | 805,048   | 15.1% | 3.5% | 1,176,515 | 19.7% | 4.7% |
| <b>PEMEX</b>                       | 436,622   | 8.5%  | 523,775   | 9.7%  | 2.2% | 407,553   | 7.6%  | 1.8% | 791,718   | 13.3% | 3.2% |
| <b>CFE</b>                         | 408,836   | 8.0%  | 428,526   | 8.0%  | 1.8% | 397,495   | 7.4%  | 1.7% | 384,797   | 6.5%  | 1.5% |

Source: Own elaboration. With information from the Ministry of Finance and Public Credit:Public Account, Volume I General Results. Budgetary Revenues.

In table 2 we see in more detail Mexico's federal public revenues for the years 2018 to 2021, specifically we can see how tax revenues are broken down for these years.

Let's start with the oil revenues that come from the Mexican Petroleum Fund (Banco de México, 2020), which was created in 2013; as part of a new institutional arrangement in energy matters, with the purpose of guaranteeing that the resources derived from the exploration and extraction of hydrocarbons are administered with maximum transparency and for the benefit of future generations of Mexicans. It is a public trust, administered by *Banco de México*, as trustee, with the Ministry of Finance and Public Credit (SHCP) acting as trustor. The Mexican Petroleum Fund (FMP) has three main functions: 1) Administration of oil revenues; 2) Financial administration of hydro-carbon exploration and extraction contracts; 3) Administration of the long-term reserve.

The Mexican Petroleum Fund provides the federal government with 10.6% of national public sector revenues in 2018; 8% in 2019; 3.7% in 2020; and 6.1% in 2021. This decrease was probably due to changes in the international price of hydrocarbons, and in 2020 economic activity was reduced in such a way that it represented an even lower percentage than the revenues of the last four years.

On the other hand, income and consumption taxes constitute the essential core of the fiscal system in Mexico and contributed 82.4% of tax revenues in 2004 (Díaz, 2007: 178). In recent figures, the two core taxes of the Mexican tax system (ISR and VAT) together absorbed 83.3% of national tax revenues from 2018 to 2021.

### 1.1 Income Taxes (ISR)

Among the instruments available to a nation's fiscal policy, income tax (ISR) is fundamental in seeking a better distribution of income, which is why ISR is considered the most important contribution of Mexico's fiscal structure. The ISR represented 54.3% of tax revenues in 2018; 52.7% in 2019 and 2020; and 53.1% in 2021, with this it can be seen that the ISR represents a little more than half of tax revenues in Mexico during the last four years. It can also be seen that ISR represents close to one third of all federal government revenues during the last four years (32.2%).

The lag of income taxes is greater than that of other taxes in our country; by 2005, the average of the countries of the Organization for Economic Cooperation and Development (OECD) reached 13.4% of GDP, the countries of the European Union reached 14.1% of GDP, Canada reached 16.9% of GDP and the United States 14.1% of GDP, while Mexico barely reached 5.3% of GDP (Calva et al, 2007: 117).

With more recent information at the world level, the OECD (2022) reports that by 2020 the income and profit tax collected had this share in the GDP of each country: Denmark 29.9%; France 11.9%; Italy 14.2%; Germany 12%; Spain 10.7%; Canada 17.1%; United States 11.8%; Great Britain

11.8%; Brazil 7.1%; Argentina 5.4%; Chile 6.3%; Colombia 6.2%; Mexico 7.6%; and the OECD average 11.3%.

The information I generated in Table 2 gives the same ISR data in relation to GDP, as that managed by the OECD in 2020 (7.6%). For our country, in 2019, the ISR represented 7% of GDP; 7.6% in 2020 and 2021, which is more than two percentage points of GDP higher than the figure recorded in 2005. Among Latin American nations, Mexico narrowly surpasses Brazil, Chile, Colombia and Argentina in terms of income tax collection. But Mexico is still 3.7 percentage points behind the average of OECD countries in terms of income tax collection; let alone countries such as Denmark, Canada or Italy, which are more than twice as high as the country in terms of direct income tax collection, so there is still a long way to go in this area.

For Sobarzo Fimbres (2017: II) The lower capacity of Latin American countries to generate income tax is explained by two facts: 1) The presence of informal sectors is very large in these economies (exceeding 50% of the employed population); 2) Traditionally, unearned personal income (capital gains, rents, profits and income from the informal sector) represents 70% on average of personal income.

Now it is time to analyze the main types of income tax applied in Mexico. For many authors, the income tax applicable to wages is the most important contribution of the tax structure in Mexico, accounting for more than fifty percent of tax revenues from ISR.

Díaz González (2007: 192) comments that there are three modalities that can be used to combat tax evasion or increase income tax revenues: a) Increase tax rates on captive taxpayers to compensate for revenue leakage, with a higher tax rate; b) Broaden the taxpayer base and encourage those who are absent from the tax roll to be incorporated into it; and c) Increase control, sanction and auditing mechanisms to inhibit improper conduct.

The author of reference expresses that there are more than proportional increases in income tax collection when employment increases than with wage increases; therefore a policy that seeks to combat tax evasion would achieve better results in terms of tax collection than a policy oriented to make workers and their employers properly report their salary perceptions and even than a policy oriented to raise tax rates.

In Mexico there was a perception that entrepreneurs did not pay income tax. In this regard, Herrera Zárate (2009:119) shows that in 2005 Mexico obtained 29.5 percent of its total tax collection through the ISR: 28.4% of individuals and only 1.1% of legal entities (companies).

In Table 3, I present detailed information on the main taxes collected by the federal government in 2019 (SHCP, 2020), in 2020 (SHCP, 2021); and in 2021 (SHCP, 2022b). It can be seen that legal entities (companies) contributed 47.4% of the income tax collected in the period 2019 to 2021.

Table 3. Collection of Main Taxes in Mexico 2019-2021. Millions of pesos

|                                   | 2 0 1 9          |               | 2 0 2 0          |               | 2 0 2 1          |               |
|-----------------------------------|------------------|---------------|------------------|---------------|------------------|---------------|
| <b>Income Taxes (ISR)</b>         | <b>1,687,830</b> | <b>100.0%</b> | <b>1,762,913</b> | <b>100.0%</b> | <b>1,895,696</b> | <b>100.0%</b> |
| Legal entities                    | 803,643          | 47.6%         | 832,120          | 47.2%         | 898,767          | 47.4%         |
| Individuals                       | 45,757           | 2.7%          | 43,307           | 2.5%          | 50,051           | 2.6%          |
| Withholdings to foreign residents | 54,687           | 3.2%          | 58,196           | 3.3%          | 58,306           | 3.1%          |
| Withholdings on salaries          | 783,744          | 46.4%         | 829,291          | 47.0%         | 888,572          | 46.9%         |
| <b>ISR By Sector of Activity</b>  | <b>1,687,830</b> | <b>100.0%</b> | <b>1,762,913</b> | <b>100.0%</b> | <b>1,895,696</b> | <b>100.0%</b> |
| Manufacturing industries          | 295,874          | 17.5%         | 292,592          | 16.6%         | 342,234          | 18.1%         |
| Financial services and insurance  | 197,723          | 11.7%         | 221,300          | 12.6%         | 185,370          | 9.8%          |

|  |                |               |                |               |                  |               |
|--|----------------|---------------|----------------|---------------|------------------|---------------|
| Business support and waste management                                  | 175,591        | 10.4%         | 181,106        | 10.3%         | 145,340          | 7.7%          |
| Professional and technical services                                    | 138,251        | 8.2%          | 132,832        | 7.5%          | 135,399          | 7.1%          |
| Government and international organizations                             | 122,397        | 7.3%          | 141,818        | 8.0%          | 153,689          | 8.1%          |
| Wholesale trade  | 113,427        | 6.7%          | 119,279        | 6.8%          | 151,396          | 8.0%          |
| All other activities   | 644,567        | 38.2%         | 673,986        | 38.2%         | 782,268          | 41.3%         |
| <b>VAT By Sector of Activity</b>                                       | <b>933,327</b> | <b>100.0%</b> | <b>987,525</b> | <b>100.0%</b> | <b>1,123,699</b> | <b>100.0%</b> |
| Manufacturing industries   | - 267,111      | -28.6%        | - 205,670      | -20.8%        | - 266,617        | -23.7%        |
| Financial services and insurance                                       | 104,115        | 11.2%         | 112,016        | 11.3%         | 115,493          | 10.3%         |
| Business support and waste management                                  | 136,427        | 14.6%         | 105,341        | 10.7%         | 86,998           | 7.7%          |
| Professional and technical services                                    | 76,548         | 8.2%          | 85,498         | 8.7%          | 82,860           | 7.4%          |
| Other  | 203,784        | 21.8%         | 295,732        | 29.9%         | 337,165          | 30.0%         |
| Ancillary (Customs, States)  | 679,565        | 72.8%         | 594,608        | 60.2%         | 767,800          | 68.3%         |
| <b>IEPS</b>  | <b>481,918</b> | <b>100.0%</b> | <b>460,674</b> | <b>100.0%</b> | <b>399,154</b>   | <b>100.0%</b> |
| Gasoline and diésel  | 297,479        | 61.7%         | 299,597        | 65.0%         | 222,895          | 55.8%         |
| Alcoholic beverages and beer   | 57,361         | 11.9%         | 52,312         | 11.4%         | 57,395           | 14.4%         |
| Tobacco products   | 42,484         | 8.8%          | 43,849         | 9.5%          | 45,657           | 11.4%         |
| Caloric beverages and food   | 64,337         | 13.4%         | 50,173         | 10.9%         | 45,667           | 11.4%         |
| Others   | 20,257         | 4.2%          | 14,743         | 3.2%          | 27,541           | 6.9%          |
| <b>INCOME TAX. Number of taxpayers filing tax returns with payment</b> |                |               |                |               |                  |               |
| Total  | 4,067,542      | 100.0%        | 4,007,232      | 100.0%        | 4,187,906        | 100.0%        |
| Legal entities   | 670,341        | 16.5%         | 694,162        | 17.3%         | 752,183          | 18.0%         |
| Individuals persons  | 3,075,244      | 75.6%         | 2,983,500      | 74.5%         | 3,084,679        | 73.7%         |
| Others   | 321,957        | 7.9%          | 329,570        | 8.2%          | 351,044          | 8.4%          |
| <b>VAT. Number of taxpayers filing returns with payment</b>            |                |               |                |               |                  |               |
| Total  | 2,044,676      | 121.1%        | 2,006,666      | 113.8%        | 2,152,211        | 113.5%        |
| Legal entities   | 497,995        | 29.5%         | 508,956        | 28.9%         | 534,808          | 28.2%         |
| Individuals persons  | 1,546,681      | 91.6%         | 1,497,710      | 85.0%         | 1,617,403        | 85.3%         |

Source: Own elaboration. With information from Secretaría de Hacienda y Crédito Público: Reports on the Economic Situation, Public Finances and Public Debt: Fourth Quarter 2021: II. Collection indicators. Years 2019, 2020, 2021.

In Mexico, the employed EAP as of December 2021 is 56.9 million people, of which 24.8 million are working in formal economic activities (43.5% of the total), of them the Mexican Social Security Institute (IMSS, 2022) presents 21 million in April 2022 (84.7% of formal jobs in the country).

Of the 21 million people registered in the IMSS (2022), 4.8 million earn less than 5,850 pesos per month, which is equal to 2 *Unidad de Medida y Actualización* (UMA) -Unit of Measure and Update-, being these exempt from ISR discount, other 5.2 million contribute up to 3 times UMA (8,775 pesos) generating a maximum ISR of 7.5% on their earnings. Therefore, I conclude that 11 million IMSS contributors contribute with nearly 40% of the ISR collected in Mexico ( $0.85$  of  $0.47= 40\%$ ), the most important contribution in our country.

As for the sectors that generate income tax, the manufacturing industries contributed 17.5% in the last three years (2019 to 2021). But the manufacturing industry presents the feature that does not cover



VAT during the last three years, presenting negative numbers in this tax. The sum of ISR in the three years is 930.7 billion pesos and the negative VAT is 739.4 billion pesos, leaving a difference of 191.3 million pesos in favor of the Mexican treasury.

Continuing with that information, from 2019 to 2021 financial and insurance services generated 11.3% of ISR; business support and waste management 9.4%; professional and technical services 7.6%; government and international organizations 7.8%; and wholesale trade 7.2%. In the income tax collected in the nation, we have that a little more than 752 thousand legal entities (companies) file tax returns with payment, meaning 18% of the ISR taxpayers in the country as of December 2021; date in which there were 4.2 million ISR taxpayers filing tax returns with payment in Mexico.

Since ISR and VAT are the main taxes of the national fiscal policy, they can become complementary, since the base of one can serve in general as the base of the other tax (with exceptions). ISR is a direct tax levied on the income of individuals and companies; it is not transferable and, due to its progressive nature (the higher the income, the higher the rate), it is more equitable. VAT is levied on purchase and sale transactions and is transferable; it is always paid by consumers regardless of their income level, so it is considered a regressive tax, since it treats people with different income levels equally (Tello, 2007: 7).

Regarding the progressive nature of tax systems in relation to equity, Paul Samuelson (1976; quoted by Estrada, 2010: 22) states that philosophically, a free people is not willing to sign a social contract that allows to leave intact the inequality left by the actions of markets; on the contrary, individuals choose to establish progressive tax systems, based on their ability to pay.

## 1.2 Value Added Tax (VAT)

Now it is time to analyze the other major component of federal contributions: the consumption or value added tax. In terms of distributive equity and economic efficiency, it is necessary to try to maintain an adequate combination of direct (ISR) and indirect (VAT, special taxes on products) taxes. VAT is an indirect tax on the consumption of goods and services, applied to the different stages of the economic cycle: production, distribution, commercialization, and importation.

It is often said that VAT tends to be a regressive tax, because it taxes consumption equally without taking into account the buyer's ability to pay, falling on a very high fraction of the income of low-income households.

However, in a study they conducted in Colombia, Estrada et al (2018: 133) in their results with empirical evidence demonstrated the opposite, the VAT structure in that country with differential rates and products of the family basket excluded, allowed that most of the resources collected by that tax came from the higher income deciles, i.e., higher income households paid proportionally more VAT, similarly, the Kakwani indices confirm the progressive behavior of this tax, given that the difference between the distribution of consumption and the tax burden was positive in three exercises, while the Reynolds-Smolensky indices, although with values very close to zero, indicate that the distribution of consumption was more equitable after the application of the VAT.

In this regard, among the most common studies to measure the progressivity of taxes are the estimation of the Kakwani index and the Reynolds-Smolensky index. In this regard, Vargas (quoted by Centro de Estudios de las Finanzas Públicas, 2020: 3) expresses on the subject: "The Kakwani and Reynolds-Smolensky indexes are commonly used to analyze the consequences of tax reforms on the progressivity and redistributive capacity of taxes. However, the interpretation of these indices can only be used in reforms where tax revenues remain constant".

At the international level, the OECD (2022) shows that in 2020 the ratio of consumption tax on goods and services to GDP presents these percentages in the following countries: 14.3% in Denmark; 12.3% in France; 11.5% in Italy; 9.8% in Germany and Spain; 13.9% in Brazil; 15% in Argentina; 10.7% in Uruguay; 4.3% in the United States; 7.4% in Canada; 10.6% in Chile; 8.7% in Ecuador; 7.8% in Colombia; 6.7% in Mexico; and 10.8% the average for OECD member countries.

In our 2020 presentation, the VAT means 4.3% of GDP in Mexico and the IEPS 2% of GDP, adding both taxes on consumption of goods and services we would have to give 6.3% of GDP, while the OECD for that year indicates 6.7% of GDP, which makes a difference of 4 thousandths of a percentage between the two data presented. For 2019, the same ratio was 5.7% of GDP and 6.1% for 2021. Denmark, Brazil, and Spain are countries with more than double the ratio of taxes collected on consumption of goods and services to GDP, while Latin American countries such as Argentina, Chile, Ecuador, and Colombia show better indicators than our country in 2020.

In the case of Mexico, VAT is levied on goods with a differentiated rate structure, with a general rate of 16 percent for the entire country, a zero rate for food, medicines and books, as well as goods and services exempted from this tax. In an analysis conducted by the *Centro de Estudios de las Finanzas Públicas* (CEFP, 2020: 11) -Center for the Study of Public Finance- for the year 2018 and applied for the general rate of 16% and zero rate (excluding exempt products), it showed that 62.5% of the VAT was contributed by deciles VIII, IX and X (which are the highest income levels), while 27.3% is the product of deciles IV to VIII (intermediate income levels) and 10.3% produced by deciles I, II and III (lower income levels).

The hypothesis or assumptions framed that within the theoretical conception, the VAT is presented as an absolutely regressive tax, but the Colombian study cited and that of the country, makes reference to the fact that the VAT with 16% and zero rate in Mexico does not have as much regressivity as expected.

For the case of VAT exempt goods in 2018, 56.7% is consumed by the three deciles with the highest purchasing power, while 31.3% and 12% is located in the intermediate and lower purchasing power taxpayers respectively. These data imply that VAT on exempt goods is a regressive contribution (CEFP, 2020: 12).

Revilla & Zamudio (2001, cited by SHCP, 2019: 6) calculated for the year 2000 the incidence of VAT and *Impuesto Especial sobre Producción y Servicios* (IEPS) - Special Tax on Production and Services- by income deciles, the conclusion of the study is that VAT is a neutral tax in the distribution of income, while IEPS has progressive effect as a whole, in particular the item of beverages and tobacco was regressive and that of petroleum products was progressive.

In this context, the SHCP (2019: 7) annually publishes a series of studies focused on evaluating the redistributive impact of fiscal policy as a whole, these analyses have found that tax payments are higher for higher income deciles and the incidence of social spending is higher in lower income deciles.

From Table 2 we can see that Value Added Tax (VAT) accounted for 18.2% of total public revenues from 2018 to 2021, for GDP ratio purposes, VAT meant 4.2% in the same period. The fact that most of the VAT is delivered by legal entities does not mean that they pay it; because their function is to withhold it to be delivered to the Tax Administration Service (SAT) and being an indirect or consumption tax, we end up paying it all the final consumers of the products that contemplate it.

Of course, the companies, being all of them legal entities, are the ones who finally deliver it to the SAT. The activities that contribute the most from 2019 to 2021 to the delivery of VAT at a national level are business support and management with 11%; financial services and insurance with 10.9%,

professional and technical services with 8.1%. It is noteworthy that 67.1% of VAT in the three-year period from 2019 to 2021 will come from federal auxiliaries, such as customs and the government of the federal entities; it can be said that for every 3 pesos collected by VAT in Mexico, 2 come from federal auxiliaries.

### 1.3 Special Taxes on Production and Other Revenues

From Table 2, it can be seen that the Special Tax on Production and Services (IEPS) accounted for 7.7% of public sector revenues in the country from 2018 to 2021, while the ratio of IEPS to GDP was 1.8% in the period from 2019 to 2021.

Excise taxes on production or services are generally presented in some country, when an activity or branch of the economy exercises monopolistic situation within its industry or when there is a desire to disinhibit or disincentivize such branch. In the first case, in Mexico, we have the case of gasoline and telephony, while in an attempt to discourage consumption that is harmful to health, taxes on tobacco, alcoholic beverages and high-calorie flavored drinks were implemented. From the excise tax category, the tax on gasoline and diesel will represent 59.9% of the IEPS from 2018 to 2021. This is followed by excise taxes levied on sugary drinks and high-calorie foods; alcoholic beverages and beer; and tobacco.

The tax figure that in Mexico is known as duties, in many countries it is usually called rates, it is convenient to point out that the word rate has two meanings: 1) When it is used as a synonym of aliquot (equal quota) or as an expression of numerical indicators; and 2) When it is used to designate the tax of a retroactive nature for the rendering of a public service. In this last meaning, the fee derives from the coercive powers that the different spheres of government possess; what may be voluntary is only the use of the good or service, but the payment generated by it is obligatory, not by virtue of a private right, but as a consequence of public law powers (Villalobos, 2020: 42).

Duties represent 1.4% of total public sector revenues in Mexico from 2018 to 2021, in its relation to GDP it meant 0.34% (percentage equal in this case to the total collected by property tax in all of Mexico: 0.33% of GDP for 2018). Of the federal duties, the use, enjoyment, exploitation, and exploitation of public property is the most significant, followed by the fees for services rendered.

Products represent a minimal part of public sector revenues, and the figure of contribution for improvements does not appear in the public revenue scenario.

According to Article 3 of the Federal Fiscal Code, *aprovechamientos* [take advantage] are revenues received by the State for public law functions other than contributions, revenues derived from operations and those obtained by decentralized agencies and state-owned companies. Fines, surcharges, reimbursements, and indemnities for damages to municipal property are appropriations. Although other types of public revenues can also fit into this category, it is sometimes used as a sieve to locate other revenues that do not fit into other headings.

Federal take advantage accounted for 5.6% of the country's public revenues from 2018 to 2021 and 1.4% of GDP from 2019 to 2021. Patrimonial revenues are the largest item of federal revenues, followed in importance by federal tax fines, surcharges and updates, revenues from social security severance payments and direct guarantee of liabilities.

Revenues from control entities (IMSS and ISSSTE) represent 8% of total federal government spending in the period from 2018 to 2021 and 1.9% in relation to GDP from 2019 to 2021. Revenues from productive enterprises (PEMEX and CFE) represent 17.3% of total federal government spending in the period from 2018 to 2021, while the ratio of their revenues to GDP meant 4% from 2019 to 2021.

The two social security agencies and Mexico's two largest public enterprises together accounted for 25.2% of our country's total public revenues from 2018 to 2021. The four entities are fundamental in the implementation of social security policies and to provide the indispensable public goods required by Mexicans (fuels and electric power). The revenues of these four entities represent 5.9% of GDP in the period from 2019 to 2021.

## 2. Public Spending

Until before World War I, the theory of public finances supported a minimal intervention of the State in economic activity. It was not until the 1930s that the approach to state intervention in the economy began to change, with the birth of Keynesian ideas. Since Keynes' economic theories, it has been considered that the State can become a detonator of stimulus and economic growth; with his explanation of the multiplying effect of public spending, thus generating the possibility of getting out of the economic cycles of crisis of the economic system. In reference to the role that the state should play in the economy, Estrada et al (2018:17) express that currently the concept of public spending does not play a neutral role within economic activity and through social spending (education, health, social security, housing, and sports) the government can better redistribute national income, inferring that national fiscal problems are not only due to a lack of resources, but also to their inefficient allocation.

In the opinion of Calva et al (2007:113), the State's unavoidable responsibilities in the active promotion of human, economic and environmental development make it necessary to considerably increase public spending on a sustainable basis in the long term, which implies significantly increasing Mexico's tax revenues by at least ten percentage points of GDP. When the authors of reference put that advice, tax revenues were just over 10% of GDP, which implies that such tax revenues should be at 20% of GDP for Mexico.

With the data we have seen above, tax revenues in the country stand at 14.3% of GDP in 2021, which means that a little less than 6 percentage points of GDP are missing to reach what Calva et al. advise in order to advance in the process of economic and social development of the nation.

As Tello Macias (2007: 36) has expressed, higher public revenues translate into more spending, which in turn must translate into greater demand for the goods and services that particular produce. More taxes mean more sales and thus more profit for businessmen. Therefore, transparency and honest, effective and efficient management of public resources and tax administration are indispensable and transcendent.

If the aim is to correct inequity, public spending is the appropriate instrument to achieve it. It is generally accepted that it is relatively less complicated to influence public spending, than tax determination, so public spending has greater influence on the result of redistributing income, according to Bastagli et al (2012:11; cited by Sobarzo, 2017: 25) in developed countries, especially in European countries, the impact on income distribution with public spending measures is approximately double that produced by the tax system.

In terms of quantitative information, Table 1 shows that total federal government spending amounted to 5.8 billion pesos (million million) in 2019; 6 billion pesos in 2020; and 6.7 billion pesos in 2021, representing 24%, 26% and 27% of GDP respectively.

In the period from 2019 to 2021, programmable spending absorbs 75.2% of total federal government spending, leaving 24.8% for what they call non-programmable spending (federal participations, debts from previous fiscal years and the financial cost of the debt). Although I have already mentioned on other occasions, in reality, non-programmable spending should be added to federal

aportments for entities and municipalities, in addition to other items, so that the federal government's non-programmable spending will be around 52% of the entire federal public budget in 2022.

Theoretically, the federal government's non-programmable spending should be allocated for local governments to provide public health and education services, among others, seeking efficiency in public spending; allocating to the central or federal government public spending aimed at national security and income distribution, in order to achieve the macroeconomic stability required by a nation (Ramírez, 2011:16). Let us recall that in the neoclassical or neoliberal theory, explained through welfare economics and derived from market imperfections, State intervention is accepted under a principle of equity, mainly in the public goods of health and education.

Table 4 shows the total public spending of the federal government of Mexico for the period 2019 to 2021, presented by agency, the amount spent, the percentage it represents of total spending and its relationship with GDP.

Table 4. Public Expenditures of the Federal Government in Mexico 2019-2021. Millions pesos

| Administrative Unite                         | Executed 2019 |       |       | %GDP      |       |       | Executed 2020 |       |       | %GDP  |      |       | Executed |       |  |
|--|---------------|-------|-------|-----------|-------|-------|---------------|-------|-------|-------|------|-------|----------|-------|--|
|  | 2019          | % GDP | 2021  | % GDP     | 2020  | % GDP | 2020          | % GDP | 2020  | % GDP | 2020 | % GDP | 2020     | % GDP |  |
| <b>Total Public Sector Spending Mexico</b>   | 5,814,442     | 100%  | 24.0% | 6,107,719 | 100%  | 26.4% | 6,748,951     | 100%  | 27.0% |       |      |       |          |       |  |
| <b>Programmable Expenditure Federal Gov.</b> | 3,110,431     | 53.5% | 12.8% | 3,271,259 | 53.6% | 14.2% | 3,707,203     | 54.9% | 14.8% |       |      |       |          |       |  |
| Legislative Branch                           | 13,349        | 0.2%  | 0.06% | 13,757    | 0.2%  | 0.06% | 14,981        | 0.2%  | 0.06% |       |      |       |          |       |  |
| H. Chamber of Deputies                       | 6,892         | 0.1%  | 0.03% | 7,117     | 0.1%  | 0.03% | 8,340         | 0.1%  | 0.03% |       |      |       |          |       |  |
| H. Chamber of Senators                       | 4,019         | 0.1%  | 0.02% | 4,149     | 0.1%  | 0.02% | 4,107         | 0.1%  | 0.02% |       |      |       |          |       |  |
| Superior Audit Office of the Federation      | 2,438         | 0.0%  | 0.01% | 2,492     | 0.0%  | 0.01% | 2,534         | 0.0%  | 0.01% |       |      |       |          |       |  |
| Judicial Branch                              | 63,755        | 1.1%  | 0.26% | 66,429    | 1.1%  | 0.29% | 71,076        | 1.1%  | 0.28% |       |      |       |          |       |  |
| Supreme Court of Justice of the Nation       | 4,696         | 0.1%  | 0.02% | 4,724     | 0.1%  | 0.02% | 4,945         | 0.1%  | 0.02% |       |      |       |          |       |  |
| Federal Judiciary Council                    | 56,493        | 1.0%  | 0.23% | 59,148    | 1.0%  | 0.26% | 63,189        | 0.9%  | 0.25% |       |      |       |          |       |  |
| Electoral Tribunal Federal Judiciary         | 2,565         | 0.0%  | 0.01% | 2,557     | 0.0%  | 0.01% | 2,942         | 0.0%  | 0.01% |       |      |       |          |       |  |
| Autonomous Bodies                            | 49,791        | 0.9%  | 0.21% | 53,913    | 0.9%  | 0.23% | 58,435        | 0.9%  | 0.23% |       |      |       |          |       |  |
| National Electoral Institute                 | 15,704        | 0.3%  | 0.06% | 15,381    | 0.3%  | 0.07% | 26,270        | 0.4%  | 0.11% |       |      |       |          |       |  |
| Federal Court of Administrative Justice      | 2,709         | 0.0%  | 0.01% | 2,741     | 0.0%  | 0.01% | 2,883         | 0.0%  | 0.01% |       |      |       |          |       |  |
| National Human Rights Commission             | 1,765         | 0.0%  | 0.01% | 1,393     | 0.0%  | 0.01% | 1,496         | 0.0%  | 0.01% |       |      |       |          |       |  |
| National Statistical-Geographic Institute    | 10,479        | 0.2%  | 0.04% | 15,550    | 0.3%  | 0.07% | 7,626         | 0.1%  | 0.03% |       |      |       |          |       |  |
| Federal Economic Competition Commis.         | 529           | 0.0%  | 0.00% | 559       | 0.0%  | 0.00% | 570           | 0.0%  | 0.00% |       |      |       |          |       |  |
| National Institute for Education Evaluation  | 587           | 0.0%  | 0.00% | -         | 0.0%  | 0.00% | -             | 0.0%  | 0.00% |       |      |       |          |       |  |
| Federal Institute of Telecommunications      | 2,085         | 0.0%  | 0.01% | 1,960     | 0.0%  | 0.01% | 2,035         | 0.0%  | 0.01% |       |      |       |          |       |  |
| National Institute for Transparency-Access   | 899           | 0.0%  | 0.00% | 867       | 0.0%  | 0.00% | 903           | 0.0%  | 0.00% |       |      |       |          |       |  |
| Office of the Attorney General Republic      | 15,032        | 0.3%  | 0.06% | 15,462    | 0.3%  | 0.07% | 16,652        | 0.2%  | 0.07% |       |      |       |          |       |  |
| Executive Branch                             | 2,983,537     | 51.3% | 12.3% | 3,137,160 | 51.4% | 13.6% | 3,562,711     | 52.8% | 14.3% |       |      |       |          |       |  |
| Administrative Branches                      | 1,293,839     | 22.3% | 5.33% | 1,340,906 | 22.0% | 5.81% | 1,696,034     | 25.1% | 6.79% |       |      |       |          |       |  |
| Government                                   | 44,495        | 0.8%  | 0.18% | 9,515     | 0.2%  | 0.04% | 10,708        | 0.2%  | 0.04% |       |      |       |          |       |  |
| Foreign Affairs                              | 12,412        | 0.2%  | 0.05% | 12,982    | 0.2%  | 0.06% | 14,963        | 0.2%  | 0.06% |       |      |       |          |       |  |
| Treasury and Public Credit                   | 48,974        | 0.8%  | 0.20% | 76,338    | 1.2%  | 0.33% | 70,790        | 1.0%  | 0.28% |       |      |       |          |       |  |
| National Defense                             | 111,618       | 1.9%  | 0.46% | 124,051   | 2.0%  | 0.54% | 138,917       | 2.1%  | 0.56% |       |      |       |          |       |  |
| Agriculture and Rural Development            | 62,114        | 1.1%  | 0.26% | 48,071    | 0.8%  | 0.21% | 51,778        | 0.8%  | 0.21% |       |      |       |          |       |  |
| Communications and Transportation            | 68,764        | 1.2%  | 0.28% | 57,439    | 0.9%  | 0.25% | 58,262        | 0.9%  | 0.23% |       |      |       |          |       |  |
| Economy                                      | 10,625        | 0.2%  | 0.04% | 41,150    | 0.7%  | 0.18% | 5,154         | 0.1%  | 0.02% |       |      |       |          |       |  |

|   |           |       |       |           |       |       |           |       |       |
|---|-----------|-------|-------|-----------|-------|-------|-----------|-------|-------|
| Public Education                          | 332,305   | 5.7%  | 1.37% | 343,499   | 5.6%  | 1.49% | 369,287   | 5.5%  | 1.48% |
| Health                                    | 122,795   | 2.1%  | 0.51% | 157,497   | 2.6%  | 0.68% | 175,004   | 2.6%  | 0.70% |
| Navy                                      | 33,995    | 0.6%  | 0.14% | 36,135    | 0.6%  | 0.16% | 42,814    | 0.6%  | 0.17% |
| Labor and Social Security                 | 27,163    | 0.5%  | 0.11% | 28,018    | 0.5%  | 0.12% | 24,055    | 0.4%  | 0.10% |
| Agrarian, Territorial-Urban Development   | 18,082    | 0.3%  | 0.07% | 13,845    | 0.2%  | 0.06% | 18,877    | 0.3%  | 0.08% |
| Environment-Natural Resources             | 36,514    | 0.6%  | 0.15% | 34,762    | 0.6%  | 0.15% | 39,369    | 0.6%  | 0.16% |
| Energy                                    | 128,327   | 2.2%  | 0.53% | 51,558    | 0.8%  | 0.22% | 319,270   | 4.7%  | 1.28% |
| Welfare                                   | 147,258   | 2.5%  | 0.61% | 179,372   | 2.9%  | 0.78% | 209,512   | 3.1%  | 0.84% |
| Tourism                                   | 2,941     | 0.1%  | 0.01% | 13,736    | 0.2%  | 0.06% | 36,401    | 0.5%  | 0.15% |
| Public Function                           | 1,405     | 0.0%  | 0.01% | 1,475     | 0.0%  | 0.01% | 1,613     | 0.0%  | 0.01% |
| Security Citizen Protection               | 33,817    | 0.6%  | 0.14% | 62,770    | 1.0%  | 0.27% | 54,764    | 0.8%  | 0.22% |
| National Science-Technology Council       | 25,432    | 0.4%  | 0.10% | 25,771    | 0.4%  | 0.11% | 26,634    | 0.4%  | 0.11% |
| Non-Sector Entities                       | 8,336     | 0.1%  | 0.03% | 8,191     | 0.1%  | 0.04% | 9,879     | 0.1%  | 0.04% |
| Culture                                   | 13,159    | 0.2%  | 0.05% | 12,010    | 0.2%  | 0.05% | 15,264    | 0.2%  | 0.06% |
| Under 1 billion (5 agencies)              | 3,309     | 0.1%  | 0.01% | 2,722     | 0.0%  | 0.01% | 2,720     | 0.0%  | 0.01% |
| General Branches                          | 1,689,697 | 29.1% | 6.97% | 1,796,254 | 29.4% | 7.78% | 1,866,678 | 27.7% | 7.47% |
| Social Security Contributions             | 795,030   | 13.7% | 3.28% | 855,714   | 14.0% | 3.71% | 936,724   | 13.9% | 3.75% |
| Salary-Economic Provisions                | 114,807   | 2.0%  | 0.47% | 131,438   | 2.2%  | 0.57% | 104,301   | 1.5%  | 0.42% |
| Provisions for Basic-Technical Education  | 37,203    | 0.6%  | 0.15% | 39,946    | 0.7%  | 0.17% | 40,610    | 0.6%  | 0.16% |
| Fed. Contributions to Entities-Municipal. | 742,657   | 12.8% | 3.06% | 769,157   | 12.6% | 3.33% | 785,043   | 11.6% | 3.14% |
| Non-Programmable Expendi. Fed. Gov.       | 1,442,797 | 24.8% | 5.95% | 1,445,844 | 23.7% | 6.26% | 1,465,024 | 21.7% | 5.86% |
| Fed. Entities-Municipalities              | 879,344   | 15.1% | 3.63% | 843,545   | 13.8% | 3.65% | 917,233   | 13.6% | 3.67% |
| Public Debt                               | 500,880   | 8.6%  | 2.06% | 544,701   | 8.9%  | 2.36% | 531,294   | 7.9%  | 2.13% |
| Debts from Previous Fiscal Years          | 11,232    | 0.2%  | 0.05% | 14,268    | 0.2%  | 0.06% | 5,252     | 0.1%  | 0.02% |
| Savers-Bank Debtors                       | 51,340    | 0.9%  | 0.21% | 43,330    | 0.7%  | 0.19% | 11,246    | 0.2%  | 0.05% |
| Program.Exp:PEMEX,CFE,IMSS,ISSSTE         | 1,261,213 | 21.7% | 5.20% | 1,390,616 | 22.8% | 6.02% | 1,576,725 | 23.4% | 6.31% |

Source: Own elaboration. With information from the Ministry of Finance and Public Credit: Public Account 2019, 2020 and 2021: Volume I General Results. Budgetary Expenditures; and Volume II: Analytical Statement of the Expenditure Budget Exercise in Administrative Classification.

Of the three power of government, the legislative power exercised 0.2% of federal public spending from 2019 to 2021 and 0.06% of GDP in the period, it is presented with its three bodies: Chamber of Deputies, Chamber of Senators and the Federal Supreme Audit Office. The judicial power absorbed 1.1% of total public spending from 2019 to 2021 and 0.28% of GDP in the same period, with its three components: Supreme Court of Justice of the Nation; Federal Judiciary Council, who absorbs the most budget; and Federal Electoral Tribunal.

The eight autonomous bodies shown in Table 4 exercised 0.9% of total federal public spending from 2019 to 2021 and corresponded to 0.22% of GDP in the period. The National Electoral Institute (INE), the Federal Attorney General's Office (FGR) and the National Institute of Statistics, Geography and Informatics (INEGI) have the largest budgets.

Who makes use of most of the public budget in Mexico, is the executive power, who exercised 51.8% of the federal public budget in the country from 2019 to 2021; which means that a little more than half of the national budget is exercised by the federal executive branch (13.4% of the GDP).

The so-called Administrative Branches are composed of 19 Ministries, the National Council of Science and Technology (CONACYT) and other agencies, which are the central sector agencies of the federal government that make most use of the public budget. The Administrative Branches of the executive power exercise 23.1% of the federal public budget from 2019 to 2021 and the expenditure represents 6% of the GDP in the period. Of these administrative branches, who exercise the most budget in the three-year period from 2019 to 2021 are the following:

- Ministry of Public Education (SEP): 5.6% of the total budget.
- Ministry of Welfare (SEDESOL): 2.9% of the total budget.
- Ministry of Energy (SENER): 2.6% of the total budget.
- Ministry of Health (SSA): 2.4% of the total budget.
- Ministry of National Defense (SEDENA y SEMAR): 2%.
- These six Office Secretariats absorb 15.5% of the total public budget and their spending represented 4% of the GDP.

Those considered as General Branches of the federal executive branch exercise more budget than the Administrative Branches (where all the Secretaries of the Office are located). The four concepts of General Branches absorb 28.7% of the total budget of the federal government in the period from 2019 to 2021 and represent 7.4% of the GDP in the same period. The most outstanding concepts:

- Social security apartments: 13.9% of the total budget.
- Wage and economic provisions: 1.9% of the total budget.
- Federal apartments for Entities and Municipalities: 12.3% of the total budget.

Non-programmable spending considered in the budget absorbs 23.4% of total federal spending in the period from 2019 to 2021 and represents 6% of GDP. Among the most important items are:

- Federal participations to Entities and Municipalities: 14.2% of the total budget.
- Public debt: 8.5% of the total budget.

The programmable spending of the four largest public agencies in the country (IMSS, ISSSTE, PEMEX and CFE) absorbed 22.6% of total federal spending in the period from 2019 to 2021, representing 5.8% of GDP in the period.

In the following section, I will address the issue of two items that are fundamental and essential to achieve the economic and social development of the nation, with their implementation: education and health.

## 2.1 Public Education Spending

Access to higher levels or degrees of education opens up the possibility of offering more and better job opportunities, so that the corresponding payment improves as people's level of education improves. Education not only helps to develop the intellectual level of a country, but also economically improves the standard of living and quality of life of individuals. There is no developed country in the world that has not had to make large investments in the education sector.

The *Centro de Investigación Económica y Presupuestaria* -Center for Economic and Budgetary Research- (2015, cited by Moreno et al, 2017: 69) in 2015 presented a study where it indicates that the budget dedicated to the basic level of education corresponded to double that channeled for middle and higher levels (high school, undergraduate, and graduate), pointing out that the target population of basic level students is similar to that of the rest of students in other educational levels, however coverage in

basic education is 80%; in high school it is over 50%; and in university education it is less than 30%, where non-attendance at the latter is correlated with low-income households.

Seeing these data, it becomes necessary to increase public spending at the highest levels of education, which perhaps bring regressive effects in terms of fiscal incidence, through the strengthening of instruments such as scholarships aimed at low-income people, so that they can have access to higher education (Moreno et al, 2017).

With information from the *Secretaría de Hacienda y Crédito Público (SHCP)* -Ministry of Finance and Public Credit- provided in the Public Account (2022) it can be seen that in 2019 the expenditure exercised for basic education corresponded to 487.2 million pesos, while the high school, higher and postgraduate levels exercised 317.4 million pesos in 2019, with which we say that basic education has 1.5 times more budget than the other educational levels. I infer these data from the 2019 Public Account:

- ❖ Basic education: absorbs 8.4% of total federal spending and represents 2.01 of GDP. The cycle is composed of nine years: six in primary and three in secondary.
- ❖ Higher secondary education: exercised 2.3% of total federal spending and represents 0.54% of GDP. The cycle consists of three years.
- ❖ Higher education: absorbed 2.4% of total federal spending and represents 0.56% of GDP. The cycle is four to five years, depending on the degree program.
- ❖ Postgraduate education and research: it accounted for 0.9% of total federal spending and 0.21% of GDP. The complete cycle lasts four years, two years for a master's degree and two for a doctorate.

According to the World Bank (2020), public spending on education related to the GDP of each country (year 2018 or 2019), represented: in Cuba 12.8% (year 2010); in Denmark 7.8%; in France 5.4%; in Germany 5%; in Brazil 6.1%; in Argentina 4.8%; in Colombia 4.5%; in Chile 5.4%, in Costa Rica 6.7%; in Canada 5.3%; in Mexico 4.3% and on average the countries of the world 3.7%, while the countries of Latin America and the Caribbean 4%.

Table 5. Public Spending on Education, Health and Social Mexico 2019-2021. Millions of pesos

|                                    | 2019             | %Spend. | % GDP  | 2020             | %Spend | % GDP  | 2021             | %Spend | % GDP  |
|------------------------------------|------------------|---------|--------|------------------|--------|--------|------------------|--------|--------|
| <b>Function Social Development</b> | <b>2,674,068</b> | 46.0%   | 11.02% | <b>2,852,789</b> | 46.7%  | 11.76% | <b>3,068,880</b> | 45.5%  | 12.65% |
| Education                          | 740,980          | 12.7%   | 3.05%  | 766,126          | 12.5%  | 3.16%  | 804,543          | 11.9%  | 3.32%  |
| Health                             | 581,544          | 10.0%   | 2.40%  | 654,854          | 10.7%  | 2.70%  | 688,411          | 10.2%  | 2.84%  |
| Housing and Commu.Services         | 247,542          | 4.3%    | 1.02%  | 251,801          | 4.1%   | 1.04%  | 255,782          | 3.8%   | 1.05%  |
| Social Protection                  | 1,057,932        | 18.2%   | 4.36%  | 1,141,668        | 18.7%  | 4.71%  | 1,276,620        | 18.9%  | 5.26%  |
| Other                              | 46,071           | 0.8%    | 0.19%  | 38,340           | 0.6%   | 0.16%  | 43,525           | 0.6%   | 0.18%  |

Source: Own elaboration. With information from the Ministry of Finance and Public Credit. Public Account 2020 (p. 17) / 2021 (p. 18): Volume I General Results. Budgetary Expenditures. Social Development Function.

With data that I derive from the Public Account 2019 (SHCP, 2022) I add the education programs of the federal budget, obtaining the sum of 843 billion pesos, which together with the 70.2 billion pesos disbursed by state and municipal governments according to information from the National Institute of Statistics, Geography, and Informatics (INEGI, 2020), gives a total of 913.2 billion pesos of national education spending, representing 3.8% of GDP in 2019, although the figure given by the World Bank for Mexico is 4.3% of GDP for 2018.



The social development functions presented in the Public Account 2021 (SHCP, 2022) make us see that educational spending represents 3.32% of the GDP in our nation, observing 3.05% for 2019; and 3.16% for 2020. We do not even reach the average amount spent in Latin America, let alone what Denmark or Cuba allocates to education. Of the Latin American countries: Brazil, Argentina, Colombia, Chile, and Costa Rica allocate more resources to education in relation to the GDP of each country.

## 2.2 Public Health

Social security is the system that guarantees the welfare state of a society. Its existence is based on the fees made by contributors on a mandatory basis, with discounts made on their payrolls, the resources provided by the State for their present welfare and the prevention of future income. Social security encompasses the protection and promotion of health, adequate prevention and care for the elderly, the rehabilitation of the disabled, and easy access to housing and unemployment insurance.

Health is one of the most relevant and important elements for the development of people; its importance lies in allowing the physical organism to maintain good standards of functioning in order to be able to carry out daily activities. The public health component is considered a priority and, as long as it is preserved, the life expectancy of the population will increase. The fourth paragraph of Article 4 of the Political Constitution of the United Mexican States (Chamber of Deputies H. Congress of the Union, 2022) establishes that “Everyone has the right to health protection”, adding that comprehensive and free health services will be guaranteed for people who do not have social security.

According to this human right enshrined in the Magna Carta, all persons should enjoy some health service, however Urquieta & Villareal (2015, cited by Moreno et al, 2017:70) point out that in practice many people lack effective health coverage, moreover access to effective health coverage correlates with high income, therefore, there is a challenge to provide health coverage for all Mexicans, since four out of five Mexicans are classified as economically vulnerable groups.

Larios A. (2021: 5) lets us know that according to the measurement of poverty by the National Council for the Evaluation of Social Development Policy (CONEVAL), the first deprivation that Mexicans have is the lack of social security with 52% not having it; the second deprivation is the lack of access to health services, the author of the reference expresses that the fragmentation of the public health system, as well as its insufficiency and heterogeneity, cause expenses in medicines and health services that affect lower-income families.

Information from the OECD (2019), shows that public spending on health between 2015 and 2018 in relation to GDP yielded these percentages for some countries: Chile 4.2%; Canada 7.3%; Spain 6.5%; Germany 8.1%; United States 8.5%; France 8.8%; and Mexico 2.9%.

As a notation according to Table 5, the federal public expenditure allocated to health corresponds to 2.4% of GDP for 2019; 2.7% for 2020 and 2.84% for 2021.

With information from the Public Account of 2019 (SHCP, 2022), in the programmatic detail I located all the programs of the different Ministries of the Office and other health areas, obtaining that 663.4 million pesos of federal spending were exercised; I added the 73.3 million pesos that the state governments allocated for health, giving me a sum of 736.7 billion pesos, which was equivalent to 3% of GDP in 2019 (a figure very similar to the latest data provided by the OECD on Mexico: 2.9% of GDP).

I have dealt with the subject of pensions in previous works and articles, so here I will refrain from touching on this very important subject of social security.

With information from the OECD (2022b) on public social spending as a percentage of GDP in each country, it lists: France 31%; Italy 28.2%; Germany 25.9%; Spain 24.7%; United States 18.7%; Canada 18%; Colombia 13.1%; Chile 11.4%; and Mexico 7.5%, in the last place of the 39 countries that make up the OECD for 2019.

The Economic Commission for Latin America and the Caribbean (ECLAC, 2022: 207) points out that social spending in Mexico per capita in 2020 (at 2010 prices) corresponded to US\$1,460; in Argentina to US\$3,190; in Brazil to US\$3,733; in Costa Rica US\$2,153; in Cuba to US\$2,041; and in Panama to US\$2,019. The percentages of social spending in relation to GDP are as follows: Brazil 34%; Argentina 30.3%; Cuba 29.8%; Costa Rica 22%; Colombia 20.1%; Bolivia 19.6%; and Mexico 15.7%.

As can be seen from the OECD and ECLAC data, Mexico is far behind the other countries in terms of the social spending it allocates from its federal budget

### 2.3 Public Debt

In some circles there is much talk of cuts in the public budget in order not to increase the growing public debt of less developed countries, when ordinary revenues may not be sufficient to cover all the public needs required by the population. The use of public debt is appropriate when the benefit to be obtained is destined to infrastructure works or investment projects in the medium and long term. Thus, it seems to be fair that if future generations will enjoy the benefit of these credits, they will be the ones who will have to pay them off.

The public debt of Table 4 shows that of the total federal government budget, it absorbs 8.5% in the period from 2019 to 2021, representing 2.2% of GDP in that three-year period. Of the public debt, the Government Securities program (D001) represented 82.2% in 2019, which gives us an idea that government securities were issued to finance public spending; the payment to International Financial Institutions program (D004) absorbed 4% of the public debt in 2019.

The program (D009) of the Institute for the Protection of Bank Savings (IPAB) absorbed 0.9% of total federal spending in 2019; 0.7% in 2020; and only 0.2% in 2021. The IPAB was an inheritance product of neoliberal economic policies and of which less transparency is kept in its implementation, where legislators and officials of those years when it was approved, were very proud of the bad practices and creative accounting applied by many companies that benefited from those funds.

### Conclusions

The importance of public finances in our country lies in the fact that public revenue is equivalent to 23.12% of the Gross Domestic Product (GDP) in the three-year period 2019 to 2021 and public spending represents 25.7% in the same period. The most recent information from the OECD tells us that in 2020 tax revenues (without social security contributions) represented in the average of its affiliated countries 24.2% of GDP, with Denmark standing out with 44.2%, while in Mexico tax collection represents 14.5%. Latin American countries in 2020 collected these amounts of GDP: Brazil 21%; Argentina 20.4%; Nicaragua 18.2%; Uruguay 17.8%; Chile 16.9%; and Colombia 13.8%, as can be seen, except for this last nation, Mexico collects lower taxes than its Latin American counterparts.

Income Tax (ISR) and Value Added Tax (VAT) constitute the essential core of the tax system in Mexico, the two contributed 83.3% of the country's tax revenues in the four-year period from 2018 to 2021, while in relation to GDP, ISR meant 7.4% and VAT represented 4.2% in the same four-year period; meaning that the two most important tax figures in Mexico contribute 11.6% of GDP in the period from

2018 to 2021. Other influential revenues in the public budget are the IEPS, which generates 1.8% of GDP, highlighting the gasoline consumption tax; the Mexican Petroleum Fund, 1.4% of GDP.

The IMSS had registered close to 21 million affiliates as of December 2021, representing 84.7% of the jobs in the formal economy, of which 4.8 million earned less than 2 UMA per month (5,850 pesos), which made them exempt from paying ISR; 5.2 million received up to 3 UMA (8,775 pesos), from which 7.5% was withheld at most as ISR; according to our own inference: 11 million IMSS affiliates contribute with a little less than 40% of the total ISR collected in Mexico in 2021.

From the federal government's budget for the three-year period 2019 to 2021, I will derive which dependencies or budgetary branches account for the largest percentage of the public budget:

- ❖ Secretariat of Public Education (SEP): 5.6% of the budget.
- ❖ Ministries of Welfare, Energy, Health and Defense: 10.1% of the budget.
- ❖ Social security apartments: 13.9% of the budget.
- ❖ Federal apartments to Entities and Municipalities: 12.3% of the budget.
- ❖ Federal participations to Entities and Municipalities: 14.2% of the budget.
- ❖ Public debt: 8.5% of the budget.
- ❖ IMSS, ISSSTE, PEMEX and CFE programmable spending: 22.6% of the budget.

With information from the World Bank for 2019 (2018 in some cases), public education spending represented 3.7% of GDP at the international level, being 4% in Latin American and Caribbean countries; with our country presenting 3.8% for 2019, including the spending of federal entities and 3.3% considering only federal public spending for the three-year period from 2019 to 2021; highlighting nations such as Denmark with 7.8% and Costa Rica with 6.7% of its GDP. Therefore, these two countries double the amount allocated to education in the public budget in relation to GDP, and Latin American countries such as Brazil, Chile, Argentina, and Colombia have higher educational spending than Mexico.

For the World Health Organization, public spending on health should be equivalent to 6% of GDP and the OECD indicates that its affiliated countries allocate public spending on health equivalent to 6.6% of GDP for 2019, while Mexico spends 2.7% of GDP on health, where nations such as the United States and France triple that percentage, where Spain, Chile, Colombia, and Costa Rica at least double the educational spending of our country in relation to GDP.

Transparency and honest, effective and efficient management of public resources and tax administration are indispensable and transcendent, in order to pay more taxes it is necessary to show how the resources are used.

For future work, it is pending to analyze the indispensable tax reform that the country has pending, which will not be able to pass the year 2024.

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