

## **Subsidy from State Public Universities and Solidarity Support in Mexico from 2012 to 2021**

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### **ABSTRACT**

The present research is a documentary study that analyzes the trend in annual subsidies granted to the Mexican higher education system in the period from 2012 to 2021, generating an overview of the government's budget to higher education institutions and its current impact on the system by considering national public spending at both the federal, state and private levels. In addition, it establishes the budget granted in these years to different types of institutions such as State Public Universities (UPES), State Public Universities and Solidarity Support (UPEAS), as well as Technological Universities (UT) and Polytechnic Universities (UP). The institutions have been affected over the years, since the budget granted has not represented an increase in management for the operation of the investment of the universities, as a result, various support programs have had to be sought to cover their recurrent costs which are not sufficient for their teaching operations, research, extension of culture and institutional services and on certain occasions had to resort to intervention with own resources. In conclusion, in 2012 a total of \$ 193,145,10 million current pesos was awarded, However, in 2021 there were only \$270,487.30 million pesos corresponding to the support granted nationally to all higher education institutions as a whole, which implies greater expenses for universities throughout the states.

**Keywords:** Subsidy, Higher Education, Universities, Technology and Operating Expenditure.

### **INTRODUCTION**

Education has become a major factor in promoting the growth and development of science and technology, leading to a further growth in the capacity to generate science and technology in the different countries. According to the United Nations Educational, Cultural and Scientific Organization (UNESCO, 2009), higher education is an integral right that belongs to all people. This results in academic and professional opportunities, which in turn lead to a greater role in knowledge generation, training of trained and socially responsible professionals.

Similarly, the National Association of Universities and Institutions of Higher Education ANUIES (2022) comments that as a strategic activity, the promotion of liaisons promotes the production and transfer of knowledge, promoting the solution of social problems, as well as economic growth, preservation of natural resources, culture, arts and sports. This results in the contribution of research and development of Science and Technology projects within the Higher Education Institutions.

In contrast to other developed countries, Mexico lacks a clear and efficient system of connections in the business, government relationships and their support for education. This forces the State to contribute 100% to the economic sustenance of these institutions, which highlights the importance of generating a link between companies and public institutions, to develop innovative projects that bring about the optimal development of the population and government. Gongora Jaramillo (2021) comments that the budget allocated by the Mexican government to education is generally lower than the average in the region, and even more so compared to European countries.

Although efforts have been made to build and implement policies that support the development of science and technology, the resources allocated to these areas are insufficient in their application (Esquivel, 2020). Since 1970, higher education in Mexico began to generate greater interest and growth thanks to the significant changes achieved at the national level given the contribution of government resources. Hence, an unprecedented growth resulted mainly in the framework of institutions and infrastructure that facilitated the increase in student enrollment. In the 1980s the financing process changed its structure, hindering the process in a more bureaucratic and political way.

At the heart of the problem of quality in education in the country is the inequality generated between the accelerated growth of enrollment, the poor capacity and adaptability of institutions and their educational plans, in addition to the inadequate management of the resources delivered (Navarro & Sánchez, 1995). In this essay of analysis and reflection of addresses the stress that institutions with the subsidy of public policies in Mexico called State Public Universities (UPES), State Public Universities and Solidarity Support (UPEAS) Intercultural Universities (UI), as well as Technological Universities (UT) and Polytechnic Universities (UP).

### **DEVELOPMENT**

The United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations (UN) in its 2030 agenda for sustainable development maintain that education is one of the most important pillars in the development of any country. Overall, UNESCO (2009) mentions that the main purpose of higher education policies is to direct education as a public good, promoting continuous learning and knowledge acquisition to improve living conditions and sustainability on the planet, while facilitating access to scientific research, innovation and technology. Also, Araya (2021) complements that this integration is necessary in all spheres and levels to achieve real change in society.

Currently, the method for the selection and distribution of funds for universities has evolved; which seeks to generate greater equity of opportunities for all young people, providing not only

a quality education, but also other necessary resources such as trained teachers, infrastructure and equipment relevant to their learning.

During the period from 1988 to 2003, the resource allocation policies in universities worked to reduce budgetary inequalities, generating greater equity within institutions. Despite these changes, the result has not been as expected, as a probable cause mentioned the absence of effort by some institutions to achieve an increase in the quality with their resources (Mungaray, Ocegueda & Ocegueda, 2006).

The Higher Education System has diversified in Mexico into federal university subsystems, UPES, UPEAS, Technological, Intercultural and Benito Juárez universities, which has had an impact not only on enrollment growth but also on subsidies to institutions. For its part, the Ministry of Public Education (SEP) mentions that its essential purpose is to create conditions that ensure not only access to education with excellence in quality, social and gender equity, but also universality and integrity for the entire population. Therefore, it proposes an updated Programmatic Structure to be used as part of the 2023 Expenditure Budget project, in general to modify the types of different subsidies to convert them into programs, in order to comply with the laws in question (SHCP, 2022).

Within these changes, public policy considers the need to establish criteria and regulations that require Higher Education Institutions (HEI) to report continuously and in detail on their expenses, accompanied by an audit, in order to generate taxpayer confidence (SHCP, 2022). As a result of the government's contribution, the quality of HEIs favors the implementation and development of adequate conditions for education. Part of the problem presented in the country is the economic backwardness that hinders the growth and adaptation of HEIs to the new current needs. Including the difficulty of institutions to follow up on the resources granted, creating a lack of trust from society regarding the proper use of such resources (Mungaray, Ocegueda, Moctezuma & Ocegueda, 2016).

There is a great problem related to the lags and inequalities within the Mexican educational system that demand a renewed system with a real commitment to the investment of financing, ensuring the right to a quality education, providing better conditions for the people (Márquez Jiménez, 2012). Thus, by not achieving adequate conditions, the capacity for the development of Science and Technology is limited, hindering the generation of new knowledge, which would position the country within international productivity standards.

As an effort to improve these problems, Mexico is working with policies that have adopted measures in support of education, where a privatized higher education is adopted while in public institutions the resource is evidently even more diminished (Díaz Escoto, 2007). Within this problematic Moreno Arellano (2017) comments that, as part of the limitation presented by part of the budget granted for universities that has come to promote more private education are presented, in addition, in difficulties to establish public policies that promote the improvement of the quality of education and productivity, including the development and innovation of science and technology. In addition, there are support programs for university studies that aim to support people who have difficulties to enter higher education for economic reasons, but these supports have deficiencies in their structure and approach. This results in added complications for the student candidate, who initially did not have the resources to enter

the university and subsequently, the support is not enough to be able to complete their studies (Rodríguez Magaña & Olea Deserti, 2014).

Higher Education Institutions (IES) have been faced with the need to improve their services and coverage capacities, ensuring quality and access to young people belonging to socially vulnerable groups, preparing themselves for the growing and increasingly dispersed demand, according to Mungaray, Ocegueda & Ocegueda (2006). At the same time, the relationship between financing and quality in education forces us to analyze the need to invest in teacher training (Márquez Jiménez, 2004). In order to gain access to these support programs, they have opted to hold contests where their interests are exposed, in search of governmental sponsorship to achieve it. This makes the process subjective, so there are no specific standards when these projects vary in nature (Góngora Jaramillo, 2021).

On the other hand, at the beginning of Enrique Peña Nieto's six-year term, university enrollment increased compared to the two previous six-year terms, as mentioned by Mendoza Rojas (2017). However, this increase was not equivalent to the increase in the subsidy granted, which hinders the ability of the institutions to cover their current expenses. In this way, other contributions, such as scholarships and student support, were affected.

In addition, Fernández Fassnacht (2017) comments that within the public policy there is no real criterion that supports higher education, but it is limited to basic levels, neglecting the growth, capacity and quality of universities, including an evident lag in some specific areas of the country. Because of this there is a limitation in the development of the country by neglecting one of the most important facts of growth in nations, the development of education and the youth of the people.

Universities have found themselves in the need to negotiate for the financing of their needs, which causes this to be granted to those of greater size, leaving out the productivity and functions that they carry out (Moreno Arellano, 2017). Currently, an average of .05% is granted per year, which shows the need to rebuild policies that allow an increase to 1% of the national GDP for education. Despite the Mexican government's attempts to increase and improve educational conditions and quality in the country, the funding allocated for these purposes, fails to be invested in the best way, leaving in shortage some of the primary resources for the proper functioning of universities and other sites where this task is intended to be performed (Navarro Chávez, Gómez Monge & Torres Hernández, 2016). Labra Manjarrez (2006) adds that regardless of the programs and support that have been implemented, there is still a lack of a policy that ensures the proper functioning of the resources granted.

It is worth noting that in the period from 1990 to 2020, additional resource support was driven by project competition in 12 resource funds to meet the goals established by the federal government in UPES and UPEAS, however, in 2021 the funding was extinguished, which caused stress for the institutions in priority issues such as accreditation of undergraduate and graduate educational programs, maintenance of facilities, laboratory and workshop equipment, as well as the growth of physical infrastructure, new positions and structural problems of pensions and retirements to mention a few.

Polytechnic and technological universities have faced more complications along the way. From 2000 to 2018 they have faced drastic changes in the structure and function of their institutions, which give a professional and practical profile to their students, facilitating their insertion into working life. At the same time, with the passage of time they have presented a notable growth in their enrollment, which has not been matched by the growth in their funding, leaving a clear deficit in the capacity for improvement of these institutions (Vega et al., 2021).

This is reflected in the approval of the Federal Expenditure Budget for the 2023 budget year, which proposes a total investment of \$143,155,673,297 pesos for execution in higher education, and only \$68,844,575,923 pesos corresponds to state decentralized agencies, 844,575,923 pesos, and from the Program for the Professional Development of Teachers (PRODEP), which has had continuity since 1996, \$144,707,483 pesos was allocated and the subsidy for state decentralized agencies with \$68,844,575,923 pesos (SHCP, 2022). In addition, the Support to the middle and higher education infrastructure program \$6,109,242,702 pesos. Within the budget allocated for education in general, which consists of approximately 8% of the national budget, only 1% is granted to higher education (Labra Manjarrez, 2006). This support has not been able to meet the proposed goals and, on the contrary, with the passage of time causes a sense of insecurity within the institutions, which are unable to ensure a standardized resource to meet their needs.

## METHOD

In this research, a documentary analysis of the public budget for higher education presented by the Mexican government is carried out, showing its development in recent years and its current repercussions on the educational system within the higher education institutions distributed in the different regions of the country.

## RESULTS

The following is a historical analysis of the data obtained through national databases concerning the subsidies agreed for higher education in the country within the years 2012 to 2021. According to Table 1, national spending on higher education in Mexico is distributed between the public and private sectors, the latter accounting for only an estimated 30% of the total budget, while the budget granted to the public sector is divided into federal and state, with 54% and 16%, respectively. Over time, the budgets and needs of universities at the national level have changed, but spending has not grown significantly. In recent years, the budget has decreased due to the Covid 19 pandemic, which generates a perspective of uncertainty for the following years in the different higher education institutions.

**Table 1: National Expenditure on Higher Education in the period 2012 to 2021.**

| Year | National Spending on Higher Education |            |            |           |           | Relative share |       |         |
|------|---------------------------------------|------------|------------|-----------|-----------|----------------|-------|---------|
|      | Total                                 | Public     |            |           | Private   | Federal        | State | Private |
|      |                                       | Total      | Federal    | State     |           |                |       |         |
| 2012 | 193,145.10                            | 131,873.50 | 102,500.70 | 29,372.80 | 61,271.50 | 53%            | 15%   | 32%     |
| 2013 | 198,763.10                            | 136,970.10 | 105,715.90 | 31,254.50 | 61,793.00 | 53%            | 16%   | 31%     |
| 2014 | 229,159.60                            | 159,008.60 | 118,389.60 | 40,619.00 | 70,151.00 | 52%            | 18%   | 31%     |
| 2015 | 234,377.40                            | 164,981.40 | 121,811.50 | 43,169.90 | 69,395.90 | 52%            | 18%   | 30%     |
| 2016 | 237,060.70                            | 167,568.40 | 127,951.20 | 39,617.30 | 69,492.20 | 54%            | 17%   | 29%     |
| 2017 | 227,547.40                            | 160,603.70 | 125,195.50 | 35,408.20 | 66,943.70 | 55%            | 16%   | 29%     |

|                 |              |              |              |            |            |     |     |     |
|-----------------|--------------|--------------|--------------|------------|------------|-----|-----|-----|
| 2018            | 245,405.10   | 172,096.70   | 132,505.70   | 39,590.90  | 73,308.50  | 54% | 16% | 30% |
| 2019            | 261,678.50   | 184,033.00   | 141,533.00   | 42,500.00  | 77,645.60  | 54% | 16% | 30% |
| 2020            | 274,026.60   | 191,709.30   | 147,721.80   | 43,987.50  | 82,317.30  | 54% | 16% | 30% |
| 2021            | 270,487.30   | 193,393.40   | 147,866.40   | 45,527.10  | 77,093.90  | 55% | 17% | 29% |
| Total 2012-2021 | 2,371,650.80 | 1,662,238.10 | 1,271,191.30 | 391,047.20 | 709,412.60 | 54% | 16% | 30% |

Source: data from the Federal Public Finance Account, years 2012 to 2020, Federal Expenditure Budget 2021 and SEP's General Directorate of Educational Planning, Programming and Statistics.

**Table 2: Approved budget compared to the budget of Mexican UPES, UPEAS and UI, from 2012 to 2021.**

| Year             | UPES-UPEAS-UI |           |                               |                  |           |
|------------------|---------------|-----------|-------------------------------|------------------|-----------|
|                  | Approved      | Exercised | Difference exercised-approved | Variation % Real |           |
|                  |               |           |                               | Approved         | Exercised |
| 2012             | 40,034.80     | 41,720.00 | 1,685.30                      |                  |           |
| 2013             | 41,237.50     | 43,463.90 | 2,226.40                      | 1.50%            | 2.60%     |
| 2014             | 47,062.80     | 48,570.70 | 1,507.90                      | 9.30%            | 7.00%     |
| 2015             | 52,315.60     | 53,744.40 | 1,428.70                      | 8.10%            | 7.60%     |
| 2016             | 53,961.50     | 56,392.20 | 2,430.70                      | -2.30%           | -0.60%    |
| 2017             | 55,767.20     | 58,209.70 | 2,442.50                      | -3.20%           | -3.30%    |
| 2018             | 58,437.80     | 62,572.80 | 4,135.00                      | -0.10%           | 2.40%     |
| 2019             | 61,019.20     | 63,395.80 | 2,376.60                      | 0.30%            | -2.70%    |
| 2020             | 63,215.80     | 65,630.00 | 2,414.20                      | 0.70%            | 0.70%     |
| 2021             | 65,157.70     | 67,557.70 | 2,400.00                      | -0.30%           | -0.40%    |
| Variation % Real |               |           |                               |                  |           |
| Period           |               | Approved  |                               | Exercised        |           |
| 2012-2018        |               | 13.20%    |                               | 16.30%           |           |
| 2018-2020        |               | 1.00%     |                               | -2.10%           |           |
| 2018-2021        |               | 0.70%     |                               | -2.50%           |           |
| 2012-2021        |               | 14.00%    |                               | 13.40%           |           |

Source: data from the Federal Expenditure Budget, years 2012 to 2021: Federal Public Finance Account, years 2012 to 2020, and INEGI, economic information bank, accessed June 30, 2021.

On the other hand, Table 2 indicates the development of the budget granted by the government to State Public Universities (UPES), State Public Universities with Solidarity Support (UPEAS) and Intercultural Universities (UI) from 2012 to 2021. Despite the fact that the general spending budget decreased in 2021 to compensate for the damages caused by the pandemic, this time for these universities the budget remained constant, which leaves us unclear about the outlook for universities under these conditions. At the same time, this budget is insufficient, which reflects the failure of the public policy system that shows an insufficient increase in the solvency of expenditures, including improvements to education and its quality, as well as innovation and development in the areas of science and technology.

**Table 3: Approved budget compared to the budget spent in the Technological and Polytechnic Universities in Mexico, from 2012 to 2021.**

| Year | Polytechnic and Technological Universities |           |                               |                  |           |
|------|--------------------------------------------|-----------|-------------------------------|------------------|-----------|
|      | Approved                                   | Exercised | Difference exercised-approved | Variation % Real |           |
|      |                                            |           |                               | Approved         | Exercised |

|                  |          |          |         |           |        |
|------------------|----------|----------|---------|-----------|--------|
| 2012             | 3,118.20 | 3,267.30 | 149.10  |           |        |
| 2013             | 3,348.50 | 3,408.50 | 60.10   | 5.80%     | 2.80%  |
| 2014             | 3,621.50 | 3,621.50 | -       | 3.60%     | 1.70%  |
| 2015             | 3,669.70 | 3,669.70 | -       | -1.50%    | -1.50% |
| 2016             | 3,785.20 | 3,790.20 | 5.00    | -2.30%    | -2.20% |
| 2017             | 4,110.60 | 4,084.80 | - 25.80 | 1.70%     | 1.00%  |
| 2018             | 4,397.90 | 4,383.30 | - 14.50 | 1.90%     | 2.30%  |
| 2019             | 4,275.40 | 4,526.40 | 251.00  | -6.70%    | -0.80% |
| 2020             | 4,429.30 | 4,578.00 | 148.70  | 0.70%     | -1.60% |
| 2021             | 4,565.30 | 4,715.30 | 150.00  | -0.30%    | -0.40% |
| Variation % Real |          |          |         |           |        |
| Period           | Approved |          |         | Exercised |        |
| 2012-2018        | 9.40%    |          |         | 4.00%     |        |
| 2018-2020        | -6.00%   |          |         | -2.50%    |        |
| 2018-2021        | -6.30%   |          |         | -2.90%    |        |
| 2012-2021        | 2.50%    |          |         | 1.10%     |        |

Source: data from the Federal Public Finance Account, years 2012 to 2020, Federal Expenditure Budget 2021 and SEP's General Directorate of Educational Planning, Programming and Statistics.

In the case of the polytechnic and technological universities, as shown in Table 3, the result is very similar to the above, with spending exceeding the budget granted, showing a clear deficiency in the allocation of resources necessary to meet the goals of these institutions.

## CONCLUSIONS

In the Ordinary Subsidy, where UPES and UPEAS face the challenge of establishing increases in the budget each year, which is only allocated in relation to inflation with respect to the previous year, which means that 90% or 100% of the resources are applied to salaries and wages, which means that resources must be obtained from the states and the federation for extraordinary income to cover maintenance expenses of the institutions.

The cut in the federal budget of additional or extraordinary resources generated stress in the institutions in terms of laboratory equipment, attention to students and professors in academic mobilities and scientific productivity, accreditation of educational programs, physical infrastructure and maintenance, so the challenge now is how to maintain these resources with their own income.

He highlights an important challenge in the area of pensions and retirements, also known as structural reforms, in which the institutions in some cases do not have a trust fund for the retirement of university workers, which leads to generating agreements between unions and higher education institutions and that the federal framework only supports institutions that are in crisis.

The issues of new academic and administrative positions and salary increases are a constant challenge for UPES and UPEAS, as they receive federal and state support through collaboration agreements that are signed every year; however, in some of the states the contribution is not made, so the universities face a commitment with the unions that sometimes is not prosperous.

However, the average percentage is very low and the greatest income is through tuition fees, but the challenge now with the model of compulsory and free higher education, this income will decrease, so new income strategies must also be proposed for continuing education and extension of services.

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