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EVALUATION OF THE PERCEPTION OF UNIVERSITY TEACHERS AFTER THE IMPLEMENTATION OF A PENSION FUND TO GUARANTEE THE STABILITY OF THE PENSION SYSTEM AT A PUBLIC UNIVERSITY IN MEXICO

EVALUACIÓN DE LA PERCEPCIÓN DE DOCENTES UNIVERSITARIOS TRAS LA IMPLEMENTACIÓN DE UN FONDO DE PENSIONES PARA GARANTIZAR LA ESTABILIDAD DEL SISTEMA DE PENSIONES EN UNA UNIVERSIDAD PÚBLICA DE MÉXICO

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ABSTRACT

The University of Guanajuato (UG) faced a significant financial challenge related to pension payments, as 40.61% of its annual payroll, equivalent to 500 million pesos, was allocated for this purpose. In response to this situation, a crucial reform called the "Solidarity Auxiliary Fund for the Support of Supplementary Pension Payments at the University of Guanajuato" (FAS) was implemented. This study aimed to assess the level of satisfaction in terms of job stability after the implementation of this reform. The obtained results reveal that over 40% of the surveyed individuals expressed their complete agreement with specific improvements, such as the assurance of receiving their pensions, the prevention of financial crises in the institution, and satisfaction in contributing to the pension fund. In this context, it is concluded that the auxiliary fund not only fulfills its economic purpose but also contributes to the financial strength of the institution. The

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active involvement of academic staff in contributing to the pension fund indicates substantial support for this measure, ultimately strengthening job stability and fostering overall satisfaction among the academic community. The creation and effective operation of the FAS, therefore, emerge as fundamental elements for the well-being and stability of the University of Guanajuato in the labor sphere.

Palabras clave:
reforma a pensiones, Administración, cambio social, económico y laboral.

RESUMEN

La Universidad de Guanajuato (UG) enfrentaba un desafío financiero significativo destinado al pago de pensiones, ya que se destinaba el 40.61% de su nómina anual, equivalente a 500 millones de pesos. En respuesta a esta situación, se implementó una reforma crucial denominada "Fondo Auxiliar Solidario para el Apoyo al Pago de Complemento de Pensiones de la Universidad de Guanajuato" (FAS). Este estudio se propuso evaluar el nivel de satisfacción en términos de estabilidad laboral después de la instauración de esta reforma. Los resultados obtenidos revelan que más del 40% de los encuestados expresaron su total acuerdo con mejoras específicas, tales como la seguridad en la recepción de sus pensiones, la prevención de crisis financieras en la institución, y la satisfacción al contribuir al fondo de pensiones. En este sentido, se concluye que el fondo auxiliar no solo cumple con su propósito económico, sino que también contribuye a la solidez financiera de la institución. La participación del personal académico en la aportación al fondo de pensiones indica un respaldo sustancial a esta medida, lo que, en última instancia, fortalece la estabilidad laboral y fomenta la satisfacción general del cuerpo académico. La creación y funcionamiento eficaz del FAS, por ende, se erigen como elementos fundamentales para el bienestar y la estabilidad de la Universidad de Guanajuato en el ámbito laboral.

Introduction

It is known that the world's population is aging. This same case is occurring among the academic staff of Mexico's public universities. As a result of this aging process, the proportion of people over 59 years of age is around 17% of the total and, in some cases, reaches more than 30%, as reported by the Centro de Investigaciones y Estudios Superiores en Antropología Social (CIESAS). Faced with this situation, some scholars comment that a paradox arises: on the one hand, they question why academics do not retire and make way for young talent, given the scarcity of jobs for them, and on the other hand, if they retire, they increase the liabilities of several public universities (Bensusán & Ahumada Lobo, 2006).

The average age of most universities is around 50 years old, while those over 65 years old correspond to 6% of the academic population. Also, in some institutions, more than 20% of active personnel meet the requirements for retirement, and in others, close to 10%. The average age of retirement is around 60 years old (Oliva, 2013).

Pension systems, in any of their variants, are an important element of social security systems. Its status needs to be checked periodically, as it gives important signals as to the state of social protection in the country. In general, the performance of pension systems can be evaluated by considering three aspects: coverage, adequacy and sustainability (Hernández, 2019).

In Mexico there are several federal and state contributory pension systems, administered by various institutions. According to data from INEGI (2010), of the total number of people over 60 years of age, only 24% had a retirement or pension and only 32.7% of men and 17% of women in this age range received a pension (Montoya, Roman, & Gaxiola, 2016).

The purpose of pension systems is to ensure that workers have, at the time of retirement due to old age or disability, the necessary resources to live a good life (Castañeda Ortiz & Jiménez Bustos, 2019).

Teachers are getting older every day and the pension and retirement systems are not entirely satisfactory. Retirement from work is significantly determined by the level of income and the social security system to which one belongs. Thus, if the current retirement schemes, together with the restrictions on the hiring of young academics, are not modified, in the near future Mexico's higher education institutions could be populated preferably by veteran academics. Even though there is no certainty to fix an age at which the capabilities of academics decrease, based on the literature it is feasible to assume that higher education institutions with academic staff preferably composed of personnel aged 60 or older will tend to decrease their production, especially in research activities and to a lesser extent in the transmission of knowledge (Rodríguez Jiménez, Urquidi Treviño, & Mendoza Grijalva, 2009).

In the case of the University of Guanajuato, where there was concern about indebtedness for pension and retirement systems according to data from the Center for Economic and Budgetary Research (CIEP), it was financially unviable since 2013, a situation it shared during 2017 with the Autonomous University of Zacatecas and the Autonomous University of Guerrero (Redacción AM, 2017).

At the beginning of 2017, the Solidarity Auxiliary Fund for the Support of Pension Complement Payment of the University of Guanajuato (FAS) began operating, after an arduous year (2016) of analysis to select the most viable reform and vote on it by the academic union of the Academic and Administrative Staff Union Association of the University of Guanajuato (ASPAAUG). Three years after the fund began operations, this research explores the issue of pensions and retirement for workers at the University of Guanajuato.

Pension and retirement system in Mexican public universities

The pension scheme has relied primarily on two autonomous social security institutions, the Mexican Social Security Institute (IMSS) and the Institute of Security and Social Services for State Workers (ISSSTE), since they have the largest number of beneficiaries (Hori, 2000)[2]

The pensions of public universities, in particular, have a diversity of retirement systems, and this is due to their autonomous nature, as well as to the union association that represents the holder of the collective bargaining agreement (CBA) therefore, there is heterogeneity, since some contribute to the IMSS, ISSSTE, state security institution or to their own retirement system, with very different conditions and amounts granted that are stipulated within each collective labor contract, which currently causes financial instability in higher education institutions.

The liabilities generated by the retirement and pension systems of 32 public universities, considering both present and future generations, were in the order of 250 billion pesos. There are, on average, eleven active workers for every pensioner (in some cases the ratio is lower); but in a few years there will be five active workers for every pensioner and, in some cases, one worker for every pensioner (Soto, 2000).

The deficit generated by the pensions of 34 state public universities is equivalent to 2.0% of GDP and represents three times more than the budget allocated for higher education in 2017. As of 2001, the federal government was forced to allocate extraordinary resources to these institutions to solve the structural financial problems, currently known as Support for financial reorganization and attention to structural problems of the State Public Universities (UPES), which transfers resources to the institutions so that they can pay their labor liabilities (i.e., social security) and reduce the deficit generated by pensions. This means that a certain percentage of the education budget is used to pay pensions and retirements of UPES workers and not for education itself (Oliva, 2013).

To dimension the size of the deficit in 2014, which is equal to 357 thousand 944 million pesos, the budget allocated for the higher education function, in that year, was 120 thousand 148.2 million pesos. In other words, the universities' deficit represented three times more than the total budget allocated to finance higher education during that year, 1.7% of GDP in 2010 and 2% in 2014. The program *Support for Financial Reorganization and Attention to Structural Problems of the UPES (U081)* belongs to the *Education Function* in the *Higher Education Sub-function* within the PEF. Its budgetary resources are labeled under item 4300*, Grants and subsidies*, and not under items 4550 and 4700, which refer to pensions. According to data from the Ministry of Finance and Public Credit (SHCP), between 2007 and 2017, 2,550.5 million pesos, at current prices, were approved for program U081. Such amount, at 2017 prices, amounted to Ps. 25,936.1 million. (García Miramón, 2017). Currently, the U081 program was eliminated by the federal government, so there is no longer a budget for university workers' pensions.

However, it is important to mention that there are other systems, such as those of the Armed Forces, Petróleos Mexicanos (PEMEX), the Federal Electricity Commission (CFE), the 31 states of the country and the public universities (Hori, 2000).

2017 was a year in which the crisis affected the following universities: the University of Guanajuato, the University of Baja California, Chiapas, Coahuila, Del Carmen, Guerrero, Michoacana de San Nicolás de Hidalgo, Morelos, Nayarit, Yucatán and Zacatecas as well as the Technological Institute of Sonora. As of 2014, the deficit generated by the pensions of 34 public universities was equivalent to 2 percent of the Gross Domestic Product (GDP) and represented three times more than the budget allocated for higher education in 2017 (Reyes, 2017).

The University of Guanajuato, in particular, given its indebtedness for the pension and retirement systems, was financially unviable since 2013 (Redacción AM, 2017). At the end of 2016, the University of Guanajuato (UG) proposed a reform for the pension system of this institution. The importance of reform was based on the logic that, as time went by and no measures were taken, everything would be to the detriment of the institution and would constitute a structural problem for it. Some of the proposals analyzed by the institution were to increase the number of years of professional service; increase the regulatory salary; and increase the contributions of university workers.

which institution guarantees the pensions of UG academics? The Institute of Social Security of the State of Guanajuato (ISSEG)

The ISSEG is a decentralized public agency with its own legal personality and assets, which is responsible for the administration of the insurance and benefits set forth in its Law. The pension fund is comprised of employee contributions and contributions from obligated parties (employers), as well as income generated from ISSEG's financial investments, loans and commercial and real estate investments (Instituto de Seguridad Social del Estado de Guanajuato, 2021).

The pensions of the state of Guanajuato are guaranteed until 2081, due to the emphasis placed on regulations, profitability and institutional strengthening. The ISSEG has reformed the pension laws on several occasions, in terms of the contribution quota paid by both the worker and the employer; for example, in 2002 the contribution quota was increased from 18% to 27% and a minimum retirement age of 65 years was established; it was also determined that the law would be revised every four years by the local Congress. In 2008, pension adequacy was planned to 2067 and it was decided to increase the contribution rate from 27% to 35%. Again in 2013, the contribution rate was increased from 35% to 40% and it was agreed that each year there would be an increase, and retirement would be based on the salary of the last five years. ISSEG's assets went from 13,596 million pesos in 2012, to 23,008 million in 2018, a growth of 69 percent (Flores, 2019).

In Chapter Six, on retirement insurance, Article 45 of the ISSEG Law establishes that insured persons who are at least sixty years of age and have contributed for a minimum of thirty years if they are men or twenty-eight if they are women, shall be entitled to a retirement pension, equivalent to one hundred percent of the average of the base salary received in the five years immediately prior to the date of retirement, updated to present value according to the annual increase in the base salary of contribution in the five years immediately preceding the date of retirement (Ley de Seguridad Social del Estado de Guanajuato, 2016).

All University workers contribute 16.5% of their nominal salary to ISSEG, which pays the pension up to a maximum of 10 minimum salaries. Although workers are guaranteed their pension (base salary) with the Social Security Institute of the State of Guanajuato (ISSEG), the same is not true for the retirement supplement. This refers to the payment of benefits, which has financial complications since no contributions and pensions are received for more than 30 years, which evidences a problem of imbalance between the income and expenses of its pension system. In order to enjoy this benefit without affecting the finances of the institution, the worker would have to have contributed during 30 years of his working life; otherwise, the institution will not have sufficient resources to pay this benefit (ASPAAUG, 2016).

The new reform to the pension system among UG teachers in the collective labor agreement (CCT)

In December 2016, the University of Guanajuato made a proposal to reform the pension system to both unions, Asociación Sindical de Personal Académico y Administrativo de la Universidad de Guanajuato (ASPAAUG) and Asociacion Sindical de Trabajadores Administrativos de la Universidad de Guanajuato (ASTAUG). In this proposal, the changes were foreseen in relation to the current generations; that is, those who are not yet in a position to retire would have to start contributing 0.5 percent of the integrated salary, until reaching 6.5 percent of the integrated salary in the year 2029. In addition, with a differentiated treatment for management personnel who will obtain the pension supplement with a regulatory salary of 5 years and 93.5 % as maximum of the pension supplement, without bonus, and the ceiling would be the tabular category of a Full C professor (ASPAAUG, 2016). The labor community did not receive this reform well, as they felt that their rights were being violated and not taken into account. For this reason, ASPAAUG, through the participation of the university community, formulated a counterproposal to reform its pension system. (Ortiz Gil, Reyes Montúfar, & Maravert Alba, 2020)

ASPAAUG has a union base of 2,300 affiliates, with which it has the ownership of the collective labor contract (CCT) 2019-2021, whose chapter on social security and medical services, in its clauses 29 and 30, mentions the following:

Pension for retirement and old age insurance (clause 29 of the CCT): The University is obligated to cover the difference between the amount established by the Social Security Institute of the State of Guanajuato for retirement insurance and the salary plus benefits earned at the time of retirement insurance, or that of the highest position or category occupied in the last three (3) years, as appropriate for the employee. Upon retirement through old age insurance, the University will cover this difference in the percentage established by the ISSEG Law for such incidents. In both cases, these differences will be covered by the aforementioned bases, each time salaries and benefits are increased for active workers.

These benefits will also be granted to employees who are currently receiving a retirement or old age pension, and the university will be obligated to compensate them with the salary plus current benefits that correspond to the position and category they held at the time of retirement or old age pension, or a similar or equivalent one, if the one they held no longer exists. When there are workers who have rendered services in the University of Guanajuato and in some agencies of the State Government, the University will pay for this concept exclusively the percentage that, in accordance with the table of the Social Security Law for the Workers of the State of Guanajuato, corresponds to them for the years of service worked only for the Institution, regardless of the opinion issued by the Institute.

Death pension (clause 30 of the CCT):

The University of Guanajuato is obligated to pay to the family members or economic dependents of the deceased employee the difference between the amount established by ISSEG as death pension and 80% of the salary plus benefits assigned to the position held by the employee at the time of death, and to cover the difference, calculated on the same basis, each time salaries and benefits are increased for active employees. This benefit will be extended to widows, widowers or economic dependents of retirees or pensioners. The process for the payment of this benefit shall be carried out before the Human Resources Department of the University, upon presentation of the document containing the ISSEG's determination of the person or persons entitled to the pension and the amount thereof (ASPAAUG, 2016).

As can be seen, the collective bargaining agreement clearly establishes that the economic difference not covered by ISSEG will be paid by the University of Guanajuato. This is what we call the pension supplement and is the cause of a severe economic deficit in the institution, since there is no fund created to cover this supplement for each employee. Therefore, an agreement was established between ASPAAUG, Administrative Workers Union Association of the University of Guanajuato (ASTAUG) and University of Guanajuato to create the Solidarity Auxiliary Fund to Support the Payment of Pension Complement of the University of Guanajuato (FAS), which was signed on December 6, 2017 and deposited with the Local Conciliation and Arbitration Board for University Affairs of the State of Guanajuato.

With the signing of the agreement that gave rise to the FAS, a joint effort was established between ASPAAUG, ASTAUG and the university administration to generate a reform of the social security model, specifically the pension supplement (payment of benefits tied to salary) established in the CCT; this occurs independently of the pension that the worker could obtain from the ISSEG (Universidad de Guanajuato, 2017). Consequently, the agreement recognizes three generations for the application of this reform, with characteristics for each of them, and with respect to the application of the pension supplement, which is presented in Table 1, which shows the groups of generations into which the auxiliary solidarity fund is classified to support the payment of the UG pension supplement (Asociación Sindical de Personal Académico y Administrativo de la Universidad de Guanajuato, 2018).

Table 1
Groups of generations into which the solidarity auxiliary fund for the support of the UG pension supplement payment is classified

Generation group	Conditions
Retirees and those who already have the right to retire, whether or not they are in the permanence plan (it consists of the granting of benefits that improve the economic conditions of the worker who has the right to retire and does not exercise it).	- Your nominal salary will not be affected - It shall retain its conditions, as established in the collective bargaining agreement in effect at the time of hiring the personnel. - Dynamic pension: it is updated based on the salary increase. - Those who are already entitled, retire with the highest salary of the last 3 years.
Current generation not yet eligible to retire.	- Contribution equivalent to 8% of your benefits only. - Average salary of the last 3 years of service, maintaining 100% of the integrated salary at the time of retirement. - Dynamic pension, i.e., it is updated in accordance with salary increases. - The length of service to access a death pension is reduced from 15 to 5 years for the benefit of the worker's family. - Cap on the amount of the pension equivalent to the salary of a full-time professor, tenured category C.
Future generation from the reform.	- Contribution of an amount equivalent, only, to 8% of their benefits. - Average salary of the last 5 years of service, maintaining 93.5% of the integrated salary at the time of retirement. - Pension update based on the National Consumer Price Index (NCPI). - The length of service to access a death pension is reduced from 15 to 5 years for the benefit of the worker's family. - Cap on pension amount equivalent to the salary of a full-time, tenured Professor C.

This agreement is a covenant whereby all university employees pay 8% of benefits to the fund, excluding Christmas bonus and vacation bonus, as shown below (table 2):

Table 2

Benefits of which each worker contributes 8% to the FAS

Benefits considered for ASPAAUG employees	Benefits considered for ASTAUG employees
• Seniority premium; • Additional Benefit; • Academic Improvement and Development; • Pantry and • Help for Publications.	• Seniority premium; • Additional Benefit; • Pantry; • Family Support; • Fixtures and • Calendar setting.

The same applies to the resources accumulated in the trust fund already established by the University, in order to capture the support granted by the Federation to strengthen the structural reforms in the pension systems, in addition to the balances of the loans granted and the interest they generate, derived from the amounts available from the same Fund for the granting of this benefit (Universidad de Guanajuato, 2018).

Another of the financial adjustments established in the FAS agreement is that UG management personnel will obtain the pension supplement with a regulatory salary of five years and 93.5% as a maximum of the pension supplement, and this amount will never include the temporary bonus received in these positions. This action will prevent the pensioning off of executives with excessive salaries. The form of capitalizing the pension fund will be subject to the following mechanism, and its use in the supplementary payment is established as follows (tables 3 A and B):

Table 3

Percentage used from the FAS for the payment of the supplement and percentage to capitalize the pension fund, respectively

a) For the payment of the pension supplement, in the following manner:

Year	Of the 8 percentage points
2018	2
2019	4
2020	6
2021 and thereafter	8

b) For the creation of the Auxiliary Fund, as follows:

Year	Of the 8 percentage points
2018	6
2019	4
2020	2

2021 onwards	0

The accumulated in the Auxiliary Fund, in terms of paragraph 3b, cannot be used for the payment of pensions and supplementary pensions until the year 2022. After that date, only the equivalent of a percentage of the benefits may be taken, in accordance with the following table 4:

Table 4

From the accumulated fund until 2021, the annual percentage will be taken for the payment of the supplementary allowance

Year	Percentage of benefits applied
2022	2
2023	4
2024	6
2025	8
2026	10
2027	12
2028 onwards	14

Method

This research analyzes the pension reform at the UG (FAS) after three years of its implementation. To this end, a survey was developed for the ASPAAUG community, which would provide information on the social situation within the organization. The population was stratified by ASPAAUG-affiliated academics, which are N: 2300 affiliates, a simple random sampling formula was applied in order to identify how many people should be surveyed (n: 264 people). Data collection was done with a digitally elaborated questionnaire sent by e-mail. The study period was from June 12 to September 30, 2020. The digital survey was anonymous, sent by e-mail to the 2,300 academics who are members of ASPAAUG. Each participant was sent a digital informed consent form to participate in the research. The objective of the study and the guarantee of confidentiality were explained to them. This instrument was developed on the *Microsoft Forms*platform. Workers respond to each item using a *Likert-type*response format. All the information collected was captured in a database and processed using the STATA program.

Results

All participants were male (53%) and female (47%). Given that the population of this study is large and it is possible to find scholars of very different ages in it. Sixty-six percent of the respondents ranged between 37 and 55 years of age, followed by 20% of the population under 36 years of age and only 14% were over 56 years of age. Regarding the employment characteristics of the participants in terms of length of service, type of appointment, branch of knowledge and number of categories (positions) held within the UG, the results obtained are shown in Table 5 below.

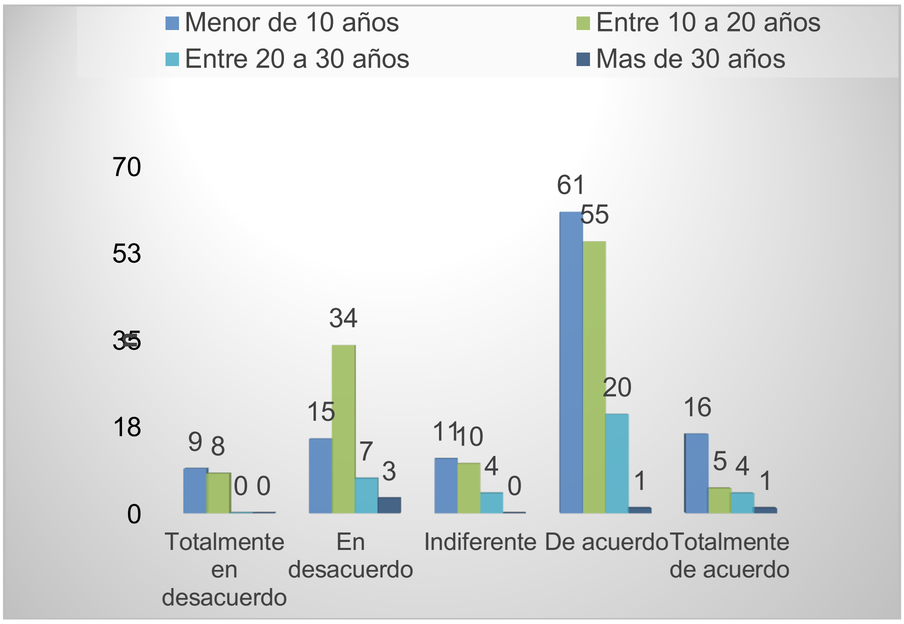
Table 5

Work characteristics of the study sample

Variable	Range	Percentage
Seniority in the UG:	Less than 10 years	42 %
	Between 10 and 20 years	42 %
	Between 21 and 30 years old	13 %
	More than 3 years	2 %
Type of appointment:	Part-time Professor	50 %
	Full Professor	24.5%
	Associate Professor	14.7%
	Academic technician	5.8 %
	Professional academic technician	3.9 %
	Academic Assistant	1 %
Branch of knowledge:	Arts and humanities	21.5 %
	Engineering and architecture	20.5 %
	Health sciences	18.6 %
	Chemical biological sciences	16.6 %
	Social and legal sciences	12.7 %
	Economic and administrative	9.8 %
Number of categories (positions) held within the UG:	Less than 2	63 %
	Between 3 to 5	28 %
	More than 6	9 %

The University of Guanajuato has a pension and retirement supported by the ISSEG; however, this institution has reached the limit of pension payment feasibility, which may not exceed the upper limit of the contribution base salary. Therefore, the excess pension payment (salary benefits) is paid by the UG, which is known as pension supplement, so that the employee retires with 100% of his or her full salary. Figure 1 shows that the population with less than 10 years of service (54.4%) agrees that they have good working conditions within the institution.

Figure 1
Working conditions are satisfactory in relation to seniority



Until 2016, the institution allocated 495 (four hundred ninety-five) million pesos of its ordinary expenditure for the payment of obligations arising from retirements and pensions; consequently, the UG and the ASPAAUG signed on December 6, 2017 the creation of the FAS, which seeks a balance of university finances, and would impact the development of its substantive functions.

As can be seen in Table 6, most of the respondents agree that they are aware of the financial problems suffered by Mexican public universities due to pensions. For example, 79.4 % of the teachers affirm that they totally agree with knowing about this problem, as shown in the following table.

Table 6

Knowledge about Mexican public university institutions with financial problems due to the failure to reform their pension systems

Variable	Strongly disagree	Disagree	Indifferent	Agreed	Totally agree
Academic Assistant					
n	2	0	0	1	1
%	14.2	0	0	0.75	2.3
Academic technician					
n	1	0	3	11	3
%	7.1	0	6.1	8.2	6.8
Professional academic technician					
n	1	3	5	6	4
%	7.1	12.5	10.2	4.5	9
Associate Professor					
n	3	3	4	22	12
%	21.4	12.5	8.1	16.5	27.2
Part-time Professor					
n	7	16	31	56	9
%	50	66.6	63.2	42.1	20.4
Full Professor					
n	0	2	5	32	14
%	0	8.3	10.2	24	31.8
None of the above					
n	0	0	1	5	1
%	0	0	2	3.7	2.3
Total	14	24	49	133	44

Table 7
Assessment by gender regarding whether a financial crisis at the UG was foreseen when the FAS was created

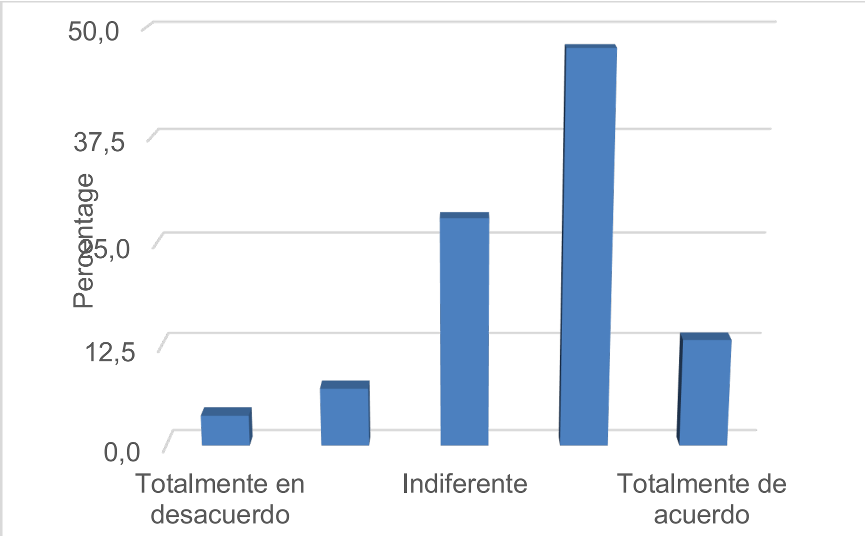
Variable	Man	Woman
Strongly disagree		
n	9	0
%	6.5	0
Disagree		
n	9	9
%	6.5	0.7
Indifferent		
n	46	32
%	33.5	25.1
Agreed		
n	56	62
%	40.8	48.8
Totally agree		
n	17	24
%	12.4	18.8
Total	137	127

By gender, 48.8% (women) and men (40.8%) agree that the formation and implementation of this reform prevented a financial crisis for the institution, as shown in Table 7 below.

On the other hand, 47.7% of the surveyed population considers that they are satisfied with contributing 8% of their benefits for the creation and strengthening of the FAS (Figure 2), while only 3.8% totally disagree, as shown in the following figure:

Figure 2

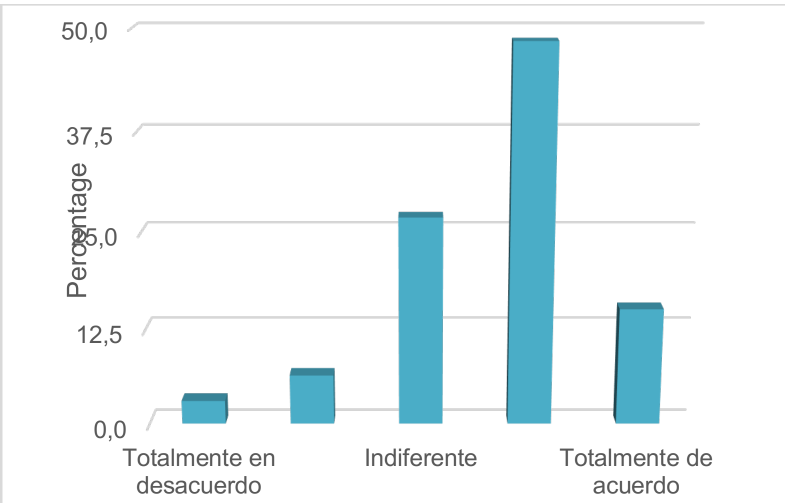
You are satisfied with your participation in FASAPCPUG



Finally, the point of view of the population analyzed regarding the creation and operation of the FAS (Figure 3), is that 48.5% agree with having greater security of receiving their pension upon retirement from the UG by creating the pension fund, while only 3% disagree.

Figure 3

Appreciation of the operation of FASAPCPUG, in terms of having greater security of receiving the pension at the time of retirement from the UG.



Discussion and conclusions

The above information indicates that the ASPAAUG population maintains a balance between mature and young academics, with only 14% of the total exceeding the age of 56. However, in order to have more elements for analysis, this reading should be complemented with information on the seniority of academics. In the study sample, only 15% (seniority of more than 21 years) are in a position to access retirement, because they meet the criteria of the previous ISSEG law (2002), which establishes 15 years of seniority and 55 years of age to access this benefit.

The data presented show that the population is composed of two sets of academics: one is made up of academics who are in their fifth decade of life and have worked around 21 years at the institution; the other is made up of young people who have joined the UG in the last ten years (42%), who will contribute 8% of their benefits for more years to strengthen the FAS.

The UG distributes its academic positions in six types of positions. The first type of position is occupied, as shown in Table 5, by part-time teachers (50%), which in theory is a population with a lower salary and their contribution to the FAS is proportional to their benefits received, so it can be inferred that this group of colleagues is the most vulnerable population at the time of retirement, since they have a high probability of having a low pension, since they do not have another social security system.

The perception of improvement that the UG has had in its substantive functions is heterogeneous, since more than 54.4% of the surveyed population agrees that there are good working conditions, while 30.3% disagrees (graph 1). Although these variables are related, there is a possibility of bias due to the fact that our largest number of participants in this research were part-time professors (n=119), most of whom do not have access to the economic support granted for research through the UG itself (program of incentives for the performance of teaching staff). Data from the university itself, as of May 31, 2020, has 559 full-time professors registered in the academic performance scholarship system and a total of 626 professors in the National System of Researchers attached to the University of Guanajuato, so the financial support also depends on an external institution such as *Conacyt* (Universidad de Guanajuato, 2020).

Table 6 shows that the majority of the population studied (79.4%) agrees with knowing the problems of the institutions that have financial difficulties due to pension issues; however, it is clear that 63.2% of part-time professors are indifferent to knowing the current situation of the public universities in our country that face this situation. This is probably due to an excessive workload that prevents them from empirically getting to know these facts.

The fact that most of the participants surveyed were aware of the uncertain payroll situation of other public universities makes it possible to obtain results that refer to the appreciation regarding the FAS, as it is by gender. Table 7 shows that 89.6% totally agree that a financial crisis in the institution was prevented, and that the federal government has sent the subsidy resources owed and with these resources it was possible to pay the workers of four of the five state universities that were at risk of not being paid the second fortnight of November. Even so, uncertainty prevails regarding the December payroll and the commitment to Christmas bonus and other benefits at public universities (Román, 2020).

Finally, percentages of 47.7% and 48.5% are satisfied with aspects such as: *satisfaction in participating in the pension fund contribution* and *greater security in* *receiving their pension*, respectively. This attitude is probably due to the fact that the academic community of ASPAAUG is aware of the position of the Ministry of Public Education (SEP) that there will be no resources for universities in crisis as long as they do not carry out the financial reorganization actions required by the federal government (Moreno, 2020).

This shows that after 3 years of creation of the pension fund it is in a process of capitalization, and a low percentage of the fund is being taken to decrease liabilities which until 2016 was four hundred and ninety five million pesos of ordinary expense for the payment of retirements and pensions. It is revealed that this expense is increasing day by day with new personnel accessing the right to retirement, based on the fact that this benefit has never been funded since its creation. The existence of this fund will make it possible to reduce the subsidy currently covered by the institution, thus strengthening the institution (Universidad de Guanajuato, 2020).

The financial crisis of the international pension systems and that of the University of Guanajuato allows us to distinguish its two causes: the increase in life expectancy and insufficient contributions. In the mid-20th century, life expectancy barely reached 50 years, so it was logical to think of granting pensions after 30 years of service, since the few workers who would retire would have a short life expectancy from the date of retirement. In addition, the quality of life at the age of 50, in general terms, did not allow to be fit to work. Currently, life expectancy exceeds 75 years and to this we add that the pension is transferable after the death of the worker to his or her economic dependents, as is the case of the widow.

Although workers are guaranteed their pension to the extent of their base salary, with the Social Security Institute of the State of Guanajuato, the same is not true for the retirement supplement.

After the implementation of this reform to the pension system, it was important to evaluate the degree of satisfaction of the academics with its entry into force and its 3 years of operation, since its implementation required a broad debate and a democratization process, where the acceptance of these new policies was approved.

After conducting the research, it is concluded that the implementation of this reform in the University of Guanajuato will allow a readjustment in its finances, which, in theory, should allow a better distribution of these to optimize its labor system and the educational environment. Therefore, the results also show that the academic union's appreciation is that it was able to consolidate significant levels of good stability in terms of greater security in receiving their pension, that a financial crisis in the institution was prevented, as well as being satisfied in participating in the contribution (8% of their benefits) to the pension fund.

This experience proves that it is possible to modify this projection, which now leaves at least 14 of the 34 public state universities without funds to pay the pensions of their former employees. The institutions that have implemented reforms to their pension systems are the Autonomous University of Aguascalientes (UAA), which has financial sufficiency for the next 20 years with its pension and retirement fund and guaranteed labor prerogatives. The viability of the fund allows the institution sufficient time to seek mechanisms to help strengthen it and thus avoid a deficit as of the year 2037. Employees contribute 10 percent of their base salary to the pension and retirement fund (Henández, 2017).

For its part, the Universidad Juárez Autónoma de Tabasco (UJAT) emphasizes that, with the implementation of a new pension and retirement system, the institution has given guarantees to its academic and administrative staff. The public universities should make it a priority to propose structural reforms to address pension and retirement liabilities (Oliva, 2013).

Since the reform of the pension and retirement law is not retroactive to the date of its approval, the bulk of ASPAAUG academics will be able to access retirement under the criteria set in advance, they will only have to contribute 8% of their benefits during their active working life. Although here it is worth mentioning that the new generations (with definitive effect as of 2018) will have new conditions and amounts at the time of retirement.

Currently, the SEP announced that it had negotiated extraordinary support for 6 public universities that are in financial crisis. The universities that received extraordinary support are the autonomous universities of Coahuila, Morelos, Sinaloa, Michoacán, Chiapas and Zacatecas. However, Oaxaca, Chihuahua, Nayarit and Durango also declared a crisis (Moreno, 2020). It is important for each public university to carry out a situational diagnosis of its pension system and to analyze its strategy jointly with the unions, in order to seek financial solutions that allow labor stability and respect for collective bargaining agreements, giving priority to dialogue and collective bargaining for the benefit of the institution and the workers.

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