PENSION NOTES

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Reform of the Mexican pension system

Executive Summary

The reform of the Mexican pension system came into effect in January 2021, and undoubtedly constitutes a model for the region to follow. Thus, this Pension Note summarizes the recent Banco de México report denominated "*The Reform of the Mexican Pension System: Possible Effects on Retirements, the Dynamics of Mandatory Savings and Public Finances* "[1].

The main features of this reform are: i) a gradual increase in contribution percentages, particularly employers' contributions to workers' retirement accounts, from 6.5% to 15% of salary; ii) a flexible scheme for obtaining the guaranteed minimum pension (GMP), which is generally higher than the GMP prior to this reform; iii) a reduction in the number of weeks that a worker must have contributed to be entitled to a pension; and, iv) the establishment of a ceiling on the commissions charged by the Pension Fund Managers (AFORES).

The expected results of the reform are: i) a greater number of workers will be able to access a pension, due to the reduction in the number of weeks of contributions required; ii) a higher pension due to the increase in contributions to workers' individual accounts and the greater flexibility of the GMP; and, iii) recovery of a higher balance in the case of workers who do not meet the requirements for obtaining a pension, due to the increase in pension savings generated by the increase in the contribution rate. Thus, the reform introduced in 2021 would mainly benefit those formal workers who retire based on the contributions made to their individual accounts (Law 97). Regarding the assets being managed by the SIEFORES[2], the reform entails a significant growth in domestic savings, which will make more funds available to finance long-term productive projects.

Finally, this reform would entail a slight fiscal cost for public finances, which in Net Present Value (NPV) is approximately 0.3% of the 2020 GDP for the entire period of analysis (between 2021 and 2100), although a fiscal benefit of 4.6% of GDP would be observed in the first 23 years, with a fiscal cost of 5.0% of GDP for the rest of the period.

[1] The report appears on pages 53-58 of the Banco de Mexico quarterly report for the months of October-December, 2020.2020.

[2] The SIEFORES are Specialized Retirement Fund Investment Companies, operated by the AFORES. They are the means whereby the AFORES invest the funds of the individual accounts so that they can grow by obtaining returns.

1. Introduction

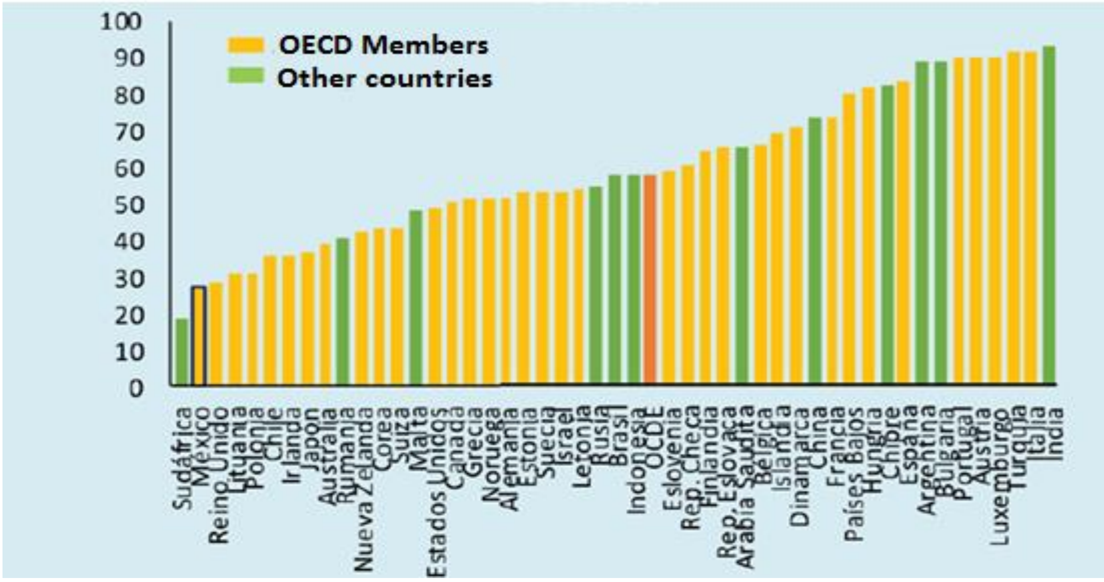
A reform of the Mexican pension system was approved on December 9, 2020, coming into effect on January 1, 2021. The main Features of this reform are: i) an increase in contribution percentages, particularly those made by employers to individual workers' retirement accounts, from 6.5% to 15% of the Taxable Base Income (TBI), which will be implemented gradually, starting in 2023 and ending in 2030; ii) a flexible scheme to obtain the guaranteed minimum pension (GMP), which now varies depending on age, the average salary of the worker and the number of weeks of contributions, and which, in general, is higher than the previous fixed GMP ; iii) the reduction in the number of weeks that workers must have contributed to the Mexican Institute of Social Security (IMSS) during their working lives to be entitled to a pension; and, iv) the establishment of a maximum limit on the commissions charged by the Pension Fund Managers (AFORES) for managing the workers' mandatory savings.

This reform has implications in different areas, particularly in the number of workers who will be able to obtain a pension, on pension amounts, on the assets managed by the Pension Fund Investment Companies (SIEFORES) and on public finances. All of these points are discussed below.

2. Main features of the reform of the pension system and expected results

In 1997, the private sector pension system switched to a defined contribution regime, which created opportunities that the 2021 reform seeks to address. These specifically have to do with the coverage of the pension system, i.e., the percentage of the population that obtains a pension, and the adequacy of the pension to cover pensioners' needs. In fact, according to National Comission of the Retirement Savings System (CONSAR) data, it is estimated that only 25% of workers who contributed throughout their working lives under the previous regime would be able to access a pension. Likewise, according to the Organization for Economic Cooperation and Development (OECD), the replacement rate for those who do obtain a pension, defined as the monthly pension amount as a percentage of the average salary received during the working lives of workers, would have been 27.7%, for a worker with an income equal to the wage distribution average, the lowest among the member countries of said organization (see Graph 1). Thus, the reform introduced in 2021 seeks to achieve substantial increases in the aforementioned population coverage and pension adequacy.

Graph 1
Pension Replacement Rate Net of Taxes, 2018 Average (%)



Note: This is the simple average of the replacement rate, net of taxes, for men and women, reported by the OECD for workers with an income equal to the average wage distribution.
Source: OECD, Pensions at a Glance, 2019.

To this end, the reform made the amendments indicated in the introduction to this Note (section 1). The main features of this reform, and its possible effect on workers' pensions, are detailed below.

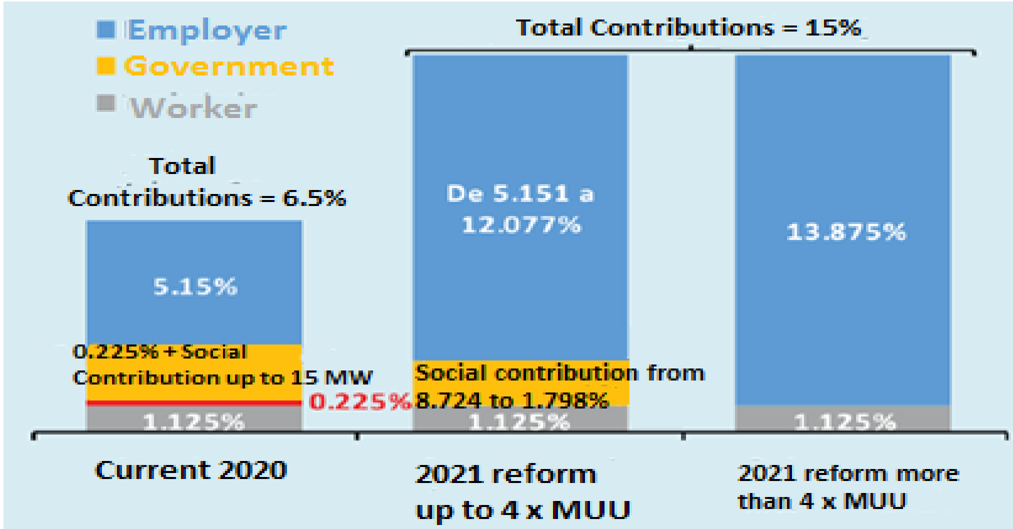
2.1. Contributions to individual accounts

A central aspect of the reform is the gradual increase in contributions to individual workers' retirement accounts, from 6.5% to 15% of the TBI (Graph 2). The reform will be introduced as follows: i) a gradual increase in employers' contributions from 2023 to 2030. Said contribution will increase from 5.15% in 2021 and 2022, to 13.875% of the TBI in 2030, for salaries starting at 4.01 times the Measurement and Update Unit (MUU) and up to the TBI ceiling of 25 MUUs. For TBIs of 1 minimum wage (MW) up to 4 MUUs, there is a progressive increase in employers' contributions, which in 2030 will increase from 5.15% for 1MW unchanged to 12.077% for 4 MUUs[3]; ii) a redistribution of the government's contribution, which will be concentrated, in its entirety, on workers earning from 1MW to 4 MUUs, i.e., on those with lower wages. In this range, the sum of the government and employers' contributions will be 13.875% of the TBI. Thus, the government's contribution will range from 8.724% for 1MW, to 1.798% for 4 MUUs.; and, iii) workers' contributions will remain unchanged at 1.125% of the TBI. Keeping the rest constant, the higher contribution rate to the workers' accounts will increase the savings amounts in their individual accounts and, consequently, their pensions. However, this is not the only feature of the reform that has an impact on the replacement rate. The new Guaranteed Minimum Pension (GMP) system also leads to an increase in pension amounts.

[3] It includes the employer-funded contribution of 2% of the TBI to the retirement fund, which remains unchanged with the 2021 reform.

Graph 2

Contributions to the Retirement Savings System (%)



1 / The social contribution, as of 2021, ranges from 8.724% for workers with an income of 1 minimum wage, to 1.798% for workers with incomes of up to 4 MUUs. Employer contributions range from 5.151% for workers with an income of 1 minimum wage to 13.875% for workers with incomes of 4 MUUs or more.

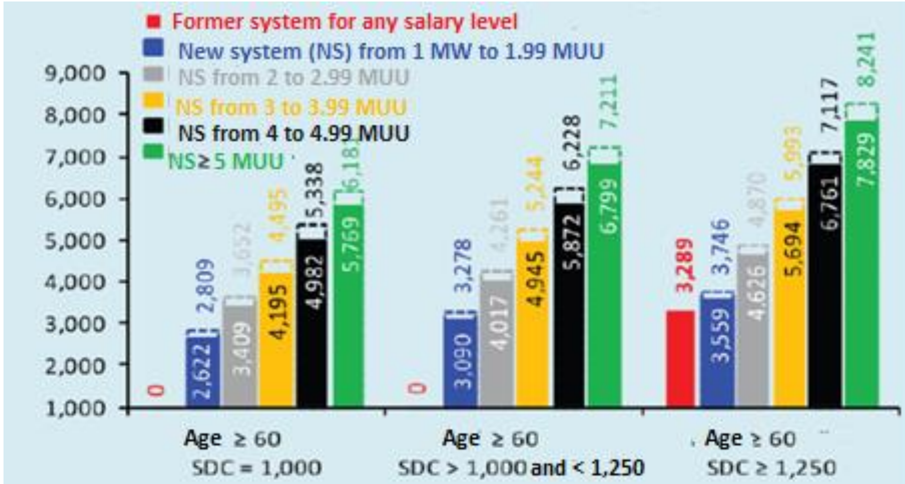
2.2. Higher minimum guaranteed pension

Prior to the reform, the GMP was a fixed amount for all eligible workers. This pension was granted on meeting two conditions: i) the worker had to have a minimum of 1,250 weeks of contributions; and, ii) he had to be 65 years of age, or more. In 2020, the GMP was MXN 3,289 per month (approx. USD 165[5]).

However, after the 2021 reform came into effect, the GMP is an increasing function of the retirement age, the number of weeks of contributions and the average of the TBI during the worker's enrolment in the IMSS. Thus, the guaranteed pension will range between MXN 2,622 and MXN 8,241 (USD 132 and USD 414) per month. In general, the new GMP is larger than the repealed GMP for the same salary level and worker's age (see Graph 3). For example, a worker with a taxable base income of 4 to 4.99 MUUs, at least 1,250 weeks of contributions, and 65 years of age, would be granted a GMP in both the old and the new systems. Under the previous regime, the GMP would have been MXN 3,289 (approx. USD 165) After the 2021 reform, the GMP for this worker would be MXN 7,117 (approx. USD 357), 116% higher than in the previous system.

[5] Exchange rate used to convert to US dollars as of 12/31/2020: 1 USD = MXN 19.9087

Graph 3
Guaranteed Pension by Salary Level: New and Former Systems
(Pesos per month)



Note: The guaranteed pension (GP) shown in the solid bars is the one granted at 60 years of age and the guaranteed pension shown above the solid bars is the one granted at 65 years of age or more, depending on the salary level and the number of weeks of contribution (WOK) indicated. The GP of a worker who contributed for 1,125 weeks, would be the GP corresponding to 1,000 to 1,250 weeks of contribution.

2.3. Reduction of the required number of weeks of contribution and workers eligible for a pension

In order to increase the number of workers eligible for a pension, the 2021 reform reduces the required number of weeks of contributions to the IMSS. In particular, the high threshold of 1,250 weeks of contributions required for accessing a pension, prior to the reform, restricted the number of workers who could access this benefit.

In this regard, the 2021 reform reduces the required number of weeks of contribution from the previous 1,250 weeks, to 750 weeks in 2021. This transitory minimum level increases annually by 25 weeks of contributions, to reach a permanent minimum of 1,000 weeks as of 2031. This reduction seeks to include a greater number of workers in the network of beneficiaries of the system, while recognizing the structure of the labor market in Mexico, in which a high proportion of workers switch between formality and informality throughout their working lives.[6]

2.4. Commissions charged by the pension fund managers

The reform to the Retirement Savings Systems Law establishes a maximum ceiling on the commissions charged by the Pension Fund Managers, calculated as the arithmetic average of the commissions charged (as a percentage of the balance) in the contributory systems of the United States of America, Colombia and Chile, in accordance with the criteria established by the Governing Board of CONSAR. With everything else remaining constant, a worker's pension, net of commissions, would be higher under this reform.

[6] Source: Levy, S. August 12, 2020 "The pension reform proposal: a preliminary assessment", Nexos; Zamarripa, G. August 13, 2020 "The pension reform: impacts and benefits," Nexos.

2.5. Assessment

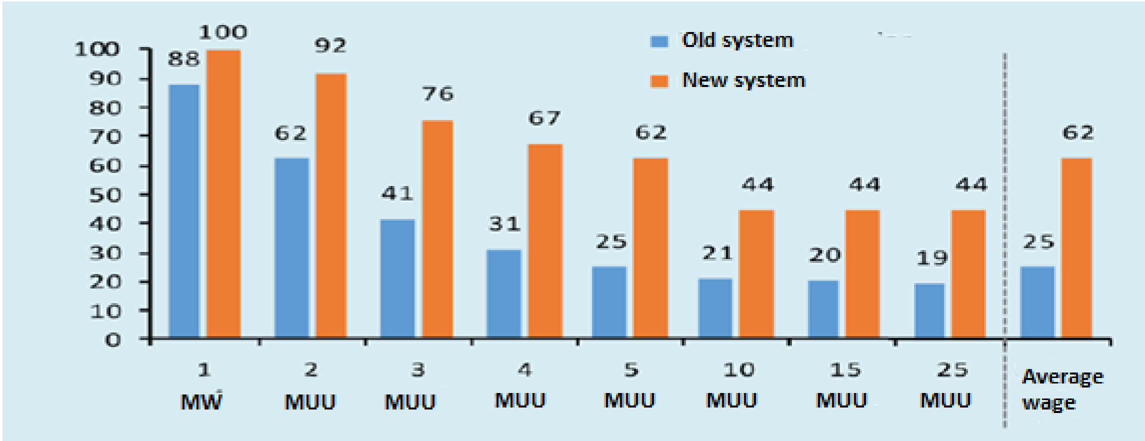
Considering all the above, the following is an assessment of the reform:

i) The number of workers who can access a pension is increased. In Mexico, the contribution density (CD) of workers, i.e., the ratio of the periods in which workers contributed to the pension system, against the total time they have been in the labor market, has been low because of the high frequency of workers switching between the formal and informal sectors. According to CONSAR data, the average CD is 44.3%, which means that the average worker spends less than half of his working life in the formal sector of the economy. This meant that only a limited number of workers could meet the years of contribution requirements for accessing a pension in the former system.

For example, an individual who started working at age 22 and retired at age 65, would have been able to access a pension with a minimum CD of 56%. However, approximately 75% of the workers enrolled in the IMSS have a lower CD, so they would not have been eligible for a pension. With the reform, the reduction to 750 weeks of contributions would reduce the minimum CD of those workers to 34%, and therefore only 5% of them would be unable to access a pension. At the end of the transition period, with a minimum of 1,000 weeks of contributions, the minimum CD would be 45% and the percentage of members who would be unable to access a pension would be 55%.

ii) Replacement rates increase considerably. This is illustrated by an exercise that considers a worker who meets the retirement requirements under both systems, and observes their hypothetical replacement rates at different levels TBI. This estimate assumes that the last salary received by the worker is equal to the average taxable base income observed during his working career. The exercise considers two fundamental changes included in the 2021 reform: the higher contributions to the individual accounts of all workers, and the adjustment of the GMP, which will now be higher and will be granted to more workers. The estimated replacement rates for the same worker under the pre and post 2021 reform systems, are illustrated in Graph 4.

Graph 4
Replacement rate [1/]
(% of Average Taxable Base Income)



1/ Considers an annuity, or life annuity, calculated for a person who contributed for 1,250 weeks, who retires at 65 years of age with a life expectancy of 16 years, whose last salary was equal to the average taxable income throughout his working life, with a real return, net of commissions, on the accumulated assets in his individual account, of 3%.

Considering the above, the main results of the reform would be: i) replacement rates increase considerably for all income levels; and, ii) the percentage increase in the replacement rate is higher for workers with incomes of up to 5 MUUs, than for workers with higher incomes. This is because the adjustment of the GMP works in favor of workers with lower income levels.

It is important to emphasize that the benefits for workers deriving from the 2021 reform of the pension system, would increase to a greater degree if other public policies were implemented that encourage greater formalization of the Mexican labor market.

3. Implications for the assets managed by the SIEFORES

The pension system introduced in 1997 significantly contributed to the development of the country's domestic debt markets, due to the continuous increase in household financial savings. In particular, the SIEFORES have become highly relevant institutional investors for domestic financial markets. For example, the funds of these institutions have made it possible to increase the Federal Government's financing terms, thus favoring the substitution of external debt with internal debt, as well as providing depth and liquidity to the yield curve of such securities. In this regard, the recently approved reform could further contribute to promoting the development of the financial system, providing more resources not only to the government's securities market, but also to corporate debt and equities markets. The SIEFORES' net assets have in fact increased significantly since 1998, amounting up to 20% of GDP in the fourth quarter of 2020 (Graph 5a). A high proportion of these assets is invested in domestic fixed income instruments. However, this proportion has gradually decreased, favoring other types of instruments. Thus, as of the fourth quarter of 2020, the SIEFORES had 44% of their net assets invested in government securities, 25.2% in variable income securities, 14.8% in domestic private debt, and the rest in FIBRAS and other instruments (Graph 5b).

Graph 5

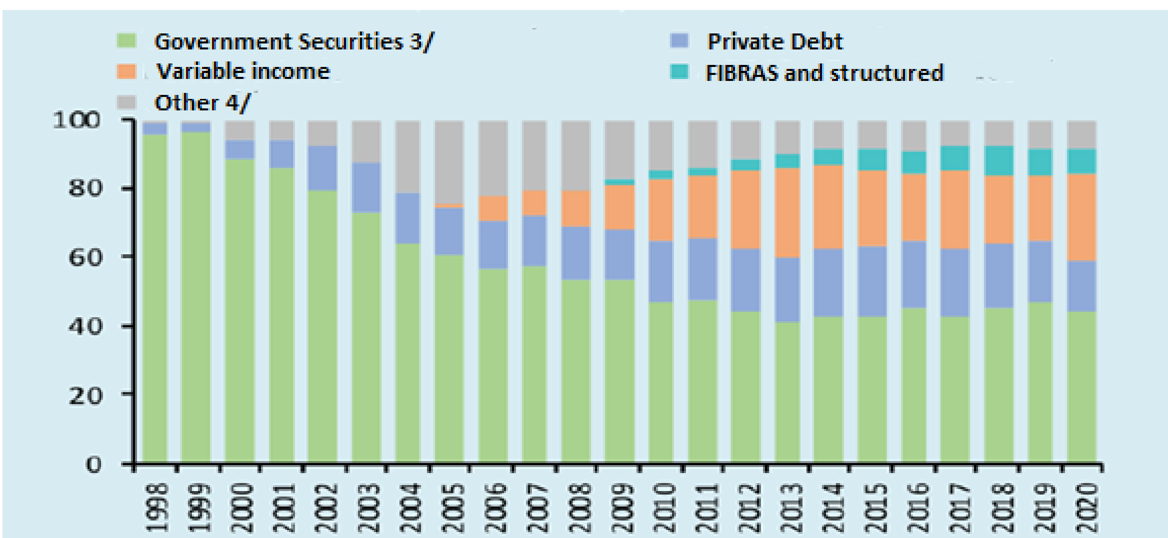
SIEFORE Net Assets

a) Percentage of GDP

1 / Net assets of Basic and Additional SIEFORES.

2 / Average GDP of four quarters.

b) Percentage structure



3 / Includes Cetes. Bondes D (Development Bonds), Fixed Rate Bonds and Udibonos.

4 / Includes international debt, UMS (United Mexican States Bonds), IPAB securities, among others.

5 / Includes CKDs (Development Capital Certificates) and Trust Stock Certificates.

Given the importance of SIEFORES as institutional investors, it is important to evaluate the possible impact of the recently approved reform on the volume of assets they manage. This is because these assets are expected to increase as a result of the approved changes to the contributions paid into the individual accounts of the workers by employers. Thus, the results of a simulation exercise are presented below, considering two scenarios:[8]

(i) No-reform scenario, in which the contributions by employers, workers and the Federal Government remain unchanged. In this scenario in particular, the employer's contribution is fixed at 5.15%, regardless of the worker's salary level, while the sum of the tripartite contributions ranges between 11.18% for those workers earning a minimum taxable base income and 6.50% for workers whose TBI is equal to or greater than 25 MUUs.

(ii) Reform Scenario, in which the proposed changes to employer contributions are incorporated. This scenario in particular implements the gradual increases of said contributions until 2030, so that in that year they would be between 5.15% for workers with a minimum TBI and 13.875% for workers with a TBI starting at 4.01 MUUs and up to a ceiling of 25 MUUs. Likewise, although this scenario assumes that total government contributions remain unchanged, it does not exclude the fact that these are redistributed for the benefit of those workers with lower incomes, in particular, for those with TBIs equal to or less than 4 MUUs. Workers' contributions, in turn, remain unchanged with respect to the no-reform scenario.

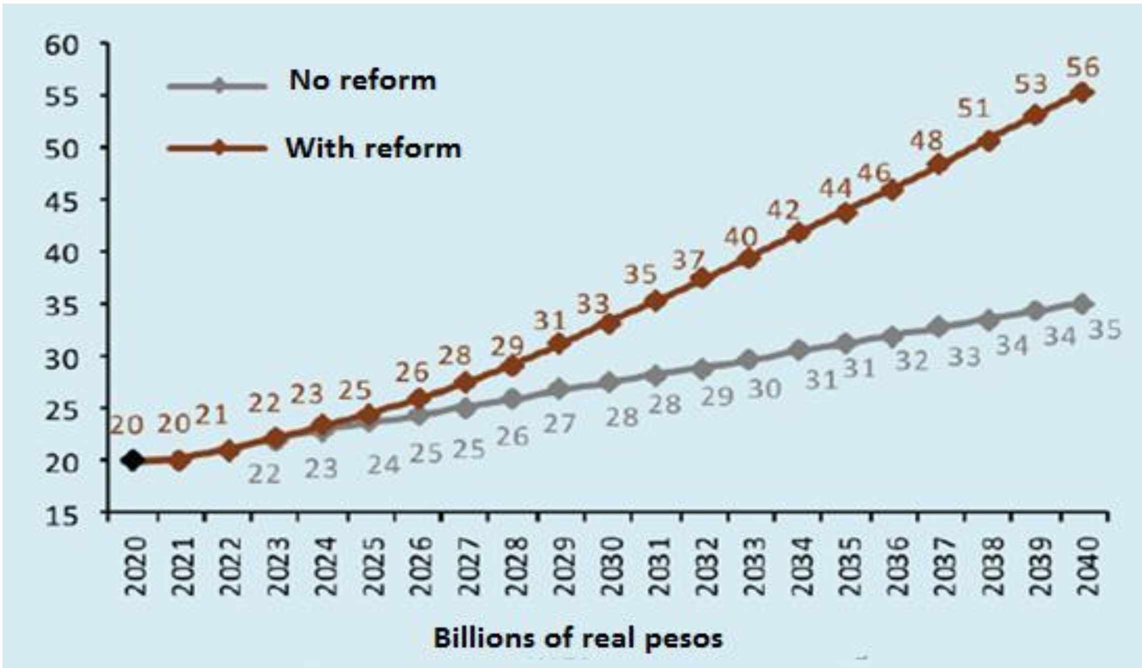
Both scenarios are simulated until 2040, i.e., 10 years after the transition stage of the new reform has concluded. The average observed growth of the last 8 years is used in both of them to project the real GDP from 2021 to 2040, the workers enrolled in the IMSS and the contractual salary reviews, in real terms. Furthermore, the average result of the real annual return of the SIEFORES' portfolio in the last eight years has also been considered for protecting this variable.[9]

Based on these assumptions, the SIEFORES' net assets would amount to 56% of GDP by 2040, in the reform scenario, whereas such assets would amount to 35% of GDP in the no-reform scenario (Graph 6). In the first scenario, the 36 percentage point increase compared to what was observed in 2020 (i.e., 20% of GDP), would be due to a significant increase in employer contributions. In the no-reform scenario, in turn, the increase of 15 percentage points with respect to the same reference level can only be explained by a higher inertial growth of the net assets of the SIEFORES compared to the inertial growth of GDP. These results depend on the assumptions considered.

[8] In both cases, it is assumed that the real payroll and the number of workers have an annual growth of 0.5% and 3.8%, respectively, reflecting the average observed for the last eight years. Furthermore, in order to project the future behavior of the net assets of the SIEFORES, the returns on the investment of their funds are estimated. To this end, a real annual net return of 1.9%, equivalent to that observed in the last 8 years, is assumed.

[9] The average annual growth rates for the variables used in the projection, in the last 8 years, are the following: 2.3% for real GDP; 3.8% for the number of workers enrolled in the IMSS, and 0.5% for contractual salary reviews. Meanwhile, the average real annual return for the SIEFORES portfolio in the last eight years, is 1.9%.

Graph 6
Projection results
a) Projection of the Assets managed by the AFOREs
(% of GDP)



1 / Net assets (Basic and Additional SIEFORES). Expected withdrawals from the Basic Pension SIEFOREs 55-59, 60-64, 65-69, 70-74 and 75-79 have also been considered for the 2021 to 2040 projections.
2 / Average GDP of four quarters.

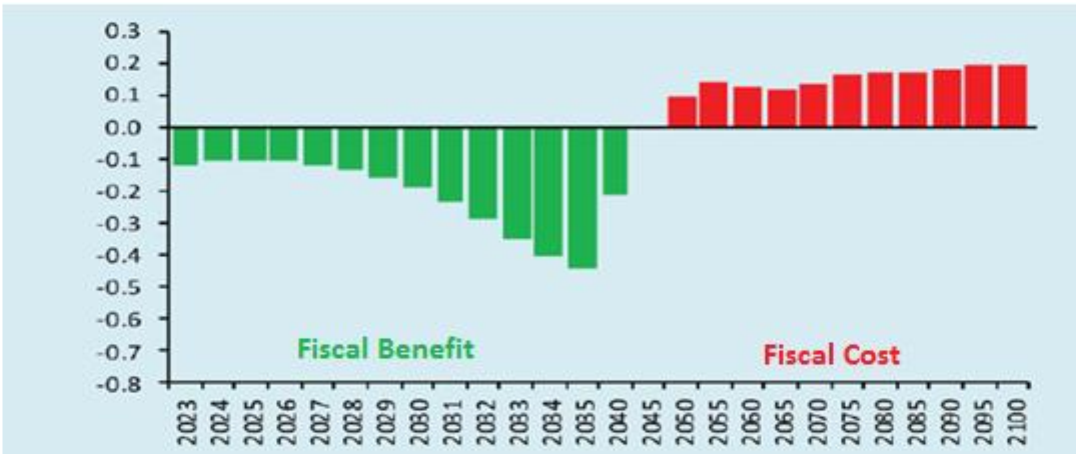
4. Effect of the reform on public finances

It is estimated that the aforementioned changes will affect public finances in three ways:

a) The modification of the social contribution and the repeal of the Federal Government's contribution. This will have a positive impact on public finances, because the higher social contribution paid by the government, now concentrated in the group of workers with a TBI of up to 4 MUUs, would be more than compensated by the savings obtained by eliminating the government contribution of 0.225% of TBI for all IMSS contributors. Thus, the modification of the social contribution would generate a tax benefit, whose present value is estimated at 5.2% of GDP between 2023 and 2100.

b) Recovery by the Federal Government of the funds accumulated in the individual accounts of workers who decide to retire under Social Security Law (LSS) 73, would generate a tax benefit, given the higher capitalization they will have with the increase in contributions, the present value of which is estimated at 3.6% of GDP between 2023 and 2100. This estimate assumes that all workers with the option to choose their pension scheme will choose the terms provided by LSS 73, given the lower number of weeks of contributions required (500 weeks) and a pension amount that does not depend on the funds accumulated in their individual accounts, but rather their average salary in the last 250 weeks of contribution. Hence, higher contributions to their individual accounts will not entail any direct benefit to this group of members, but rather greater resources to be transferred to the Federal Government. At the end of 2018, the IMSS reported that around 6.3 million fund members can choose to retire under LSS 73.

Graph 7
Fiscal Cost of the Reform (% of GDP)



c) The granting of a higher GMP amount to a greater number of workers, given the adjustment to the number of weeks of contributions to obtain it, would incur a fiscal cost whose present value is estimated at 9,1% of GDP in the 2021 to 2100 period, although the present value of the cost is expected to be only 1.3% of GDP by 2045. This fiscal cost is due to the fact that the law establishes that the guaranteed pension, although initially paid with the funds accumulated in the worker's individual account, will be financed by the federal government when those funds are exhausted. This estimate considers that contributors will retire at different ages in the 60 to 65 age bracket, and that they contributed continuously in the regime established in LSS 97 at the same salary level. A real return on accumulated resources in individual accounts of 3% per year, net of commissions, is also assumed. Likewise, as in the case of this social contribution estimate, it considers the National Population Council's estimated population numbers, an estimate of the number of contributors to the IMSS in each year, as well as a salary structure similar to the one observed in 2019. This cost would be reduced by those factors that increase the volume of savings, such as an increase in the average salary, or higher returns, which reduces the probability of workers receiving a guaranteed pension or If they do, their self-financing period will be longer. Conversely, an increase in life expectancy would tend to increase the fiscal cost of the guaranteed pension.

In short, it is estimated that the impact of this reform on public finances represents, on average, a slight fiscal cost for the entire period of analysis (NPV of 0.3% of GDP in 2020), although a fiscal benefit of 4.6% of GDP would be observed between 2023 and 2045, while there would be a fiscal cost of 5.0% of GDP between 2046 and 2100 (Graph 7).

Bibliography:

- Box 4 "*The Reform of the Mexican Pension System: Possible Effects on Pensions, the Dynamics of Mandatory Saving and Public Finances,*" contained on pages 53-58 of the quarterly report of Banco de México for the months of October-December 2020, available at (only in Spanish version):

  https://www.banxico.org.mx/publicaciones-y-prensa/informes-trimestrales/%7B81BD569D-DD6E-885A-A67F-5664A37B4148%7D.pdf