



IMPACT OF THE DIGITALIZATION OF FINANCIAL SERVICES ON SUPERVISORY PRACTICES IN THE PRIVATE PENSION SECTOR

CASE STUDY: MEXICO The Digitalization of Mexico's Pension System

Prepared by the National Commission of the Retirement Savings System (CONSAR)

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ACRONYMS AND ABBREVIATIONS

AFORE	Pension Fund Providers
VS	Voluntary Savings
DB	Defined Benefit
IADB	Inter-American Development Bank
DC	Defined Contribution
CONSAR	National Commission of the Retirement Savings System
CUO	Operational Regulation
CURP	Population Register Code
PBS	Pension Balance Statement
IDF	Individual Digital File
IMSS	Mexican Institute of Social Security
INE	National Electoral Institute
ISSSTE	Institute for Social Security and Services for State Workers
LSAR	Retirement Savings System Law
PROCESAR	SAR National Database
RENAPO	Population National Registry
SAR	Retirement Savings System
RBS	Risk-Based Supervision
SIEFORES	Investment Funds

THE DIGITALIZATION OF MEXICO'S PENSION SYSTEM*

I. Context of the Retirement Savings System (SAR)

1. Mexico introduced a new mandatory DC system of individual accounts in 1997 for private-sector workers (IMSS) and in 2007 for public-sector workers (ISSSTE)¹, both of whom replaced old DB systems that had been in place since the 40's and 50's.

2. The new system has been relatively successful in creating a big pool of pension savings, as well as providing savers with more transparency and choice.

3. The system started out with 11.2 million accounts and \$6 billion USD, inherited from the old DB system. Today the AFOREs handle 60 million accounts and invest 180 billion USD (15% of GDP).

4. Pension funds providers (AFOREs) are in charge of the administration and the investment of the workers' pension savings. They are also in charge of:

- Handling of the contributions made by workers, government and employers
- Handling of the voluntary savings made by workers
- Registering workers
- In case the worker request it, transferring the money to another pension provider
- Sending the pension balance statement to savers three times a year
- Hand over money back to savers when requisites are met

5. The investments carried out by the AFOREs are distributed among several Investment Funds named SIEFORES. Each AFOREs have five SIEFORES' in which savings are allocated with different risk levels according to the workers' age.

6. The AFOREs are regulated by the National Commission of the Retirement Savings System (CONSAR), an administrative body of the Ministry of Finance.

7. The operating infrastructure of the System relies heavily on the existence of PROCESAR, the institution that centralizes the data base of the pension system and regularly collects and disseminates individualized information to the AFOREs. It is owned by the AFOREs, but has a concession title granted by the Federal Government.

II. Operational diagnosis in 2013

8. In 2013, CONSAR carried out a diagnosis regarding the non-financial, operational framework of the pension system. The diagnosis identified several concerns and challenges as well as many opportunity areas: the quality of the customer service provided by the AFOREs was poor; there were deficiencies in the

* This document is part of the IOPS project on the impact of digitalisation on pension supervisors. The IOPS working paper will be published around mid-January 2019, including the country cases of Mexico, Kenya and Hong Kong

¹ OECD Reviews of Pension Systems: Mexico, OECD 2016

authentication processes of savers at the moment of enrolling and transferring to another pension provider; some defective commercial practices prevailed and it was utmost complex to carry out voluntary savings.

9. Part of the problem was how the workers' personal information was obtained and managed. When registering or switching from one AFORE to another, pension providers requested needless paperwork to the saver which was carelessly handled by their own agents, thus substantially raising the risk of misuse of information.

10. Furthermore, AFOREs employed vast resources to try to attract new clients which created a high number of workers switching from one AFORE to another. That in turn encouraged agents to find the way to transfer individual accounts from one AFORE to another, even without the worker's consent.

11. In 2013, the AFOREs invested an average of 50% of their expenses in commercial activities. AFOREs employed a sales force consisting of 42 thousand agents, who carried out 2.1 million transfers that year. 56% of the workers that switched, moved to an AFORE that offered a lower yield (negative transfers).

12. The need of new remote channels of access to the pension system was evident, given the high reliance on physical offices and the high transactional costs for savers who came into such offices – commuting and the time spent in personalized customer service-.

13. Voluntary Savings were nonexistent notwithstanding the fact that expected replacement rates are very low due to low levels of mandatory savings.

14. Finally, CONSAR's supervision was rules based, with insufficient tools to detect irregularities, in addition to not being strict enough with regards to malpractices during the enrollment and transfer procedure.

III. Operational Strategy

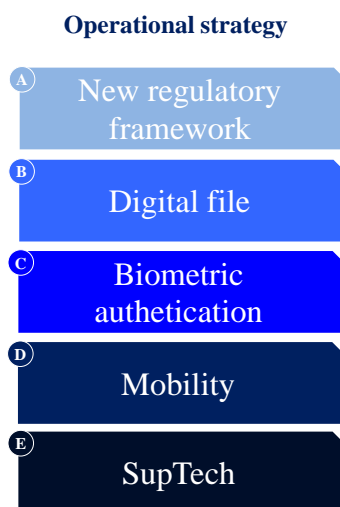
15. Two primary objectives were proposed:

- Strengthen the protection framework of the 60 million accounts
- Increase voluntary savings

16. The strategy centered in the digitalization of the pension system. A new and more efficient regulatory framework was needed to protect the workers' savings, to improve the services as well as to eliminate poor commercial practices. The new regulatory framework would allow the creation of a more open system, widening its scope with greater channels and state-of-the-art electronic means accessible to the whole population, implementing operational intelligence to provide transparent, high-quality and timely information for savers.

17. Also, the digitalization of the system would enable to gather more and better information for the supervision duties of CONSAR. With the new regulatory framework, the supervision would be transformed into one based on regulation compliance to other focused on the detection and prevention of potential risks (Risk Based Supervision - RBS).

18. The strategy was set out in five steps:



A. Create a new Regulatory Framework

19. In 2014, a comprehensive revision of the Operational Regulations (CUO) began in which the premises for the technological and operational transformation of the system were established.

20. The first amendments included in the new regulatory framework were:

- The creation of an Individual Digital File
- The mandatory incorporation of Biometrics as an authentication factor of savers and sales agents
- New operational rules for attracting voluntary savings through Commercial Networks.
- Stricter fines to be paid by the AFORE to savers for wrongful transfers

21. Additional measures were adopted in relation to service improvement:

- The launch of a new website dedicated exclusively to on-line services, www.e-SAR.com.mx
- On-site visits to evaluate the quality of services of pension providers
- The creation of a new index “AFORE Services comparative index”, which allows service comparison between the pension providers and offer workers additional information to choose an AFORE

22. During this time of regulatory overhaul, CONSAR had an open and continuous dialogue with the industry, aiming to find common solutions and to resolve divergences.

B. Individual Digital File (IDF)

23. Since the start of the pension system in 1997, all the information of savers was collected through a paper file.

24. The Individual Digital File (IDF) arises as substitute for the traditional paper file, which generated high costs, elevated operational risks and was common ground for malpractices. The introduction of an

individual and portable file throughout the worker's life would reduce costs, lower risks and avoid information inconsistencies.

25. In May 2015 the procedures that were to compose the IDF became mandatory.

- The obligation to digitalize the worker documents, including a digital picture and voice recording of the saver
- The digitalized information of the commercial agent who provided such service, as well as the place and time of the enrollment.
- All the information gathered would rest in a central data-house with specific security features.

26. A factor that was critical for the creation of the IDF was PROCESAR. It certifies each and every transaction and legitimizes every operation comparing and validating it with the information it already had of all savers and with the database of the AFORE agents. This validation allows foreseeing potential problems, monitoring every action carried by AFORE agents in each operational process and gathering standardized and centralized information.

C. Biometric Authentication

27. Although the IDF represented a meaningful progress towards improving the recognition or identification of workers, sales agents and service officers of the AFOREs, it was deemed necessary to add biometric authentication features as an additional security element for the workers' accounts and for the future improvement of the services offered to them.

28. Prior to the entry of the Biometric Authentication for savers, CONSAR created a digital file of every agent and service officer of the AFOREs with biometric information, digital picture and their ten fingerprints. That process served as a pilot previous to launching it for workers.

29. In 2016, the process of capturing biometric information (fingerprints and voice) of savers began. Once the biometric information of the worker is captured, the AFORE has to send it online to PROCESAR, complying with predetermined standards to make the information comparable and verifiable. The rules include parameters that impede the AFOREs to retain information on the registered prints. Furthermore, it is mandatory that each proceeding is registered and validated with temporality and geolocation factors, to impede that the agent poses as the worker.

30. The fingerprint information, as well as the digital identification file is stored and handled by PROCESAR, who certifies that all operations carried out by the industry are executed according to defined guidelines and who preserves such information in line with the highest security standards.

D. Mobility

a. Strategy to increase Voluntary Savings

31. Saving voluntarily in an AFORE had historically been a complex and inefficient task. A worker had to go to a banking branch, fill up a document, wait in line to deposit and wait up to 6 months to receive information from his AFORE regarding that deposit. No surprise then that in 2013, 15 years after the system was created, only a very small fraction of people had saved a very small amount of money, 15 billion pesos (800 million USD).

32. So the first part to the “mobility” strategy focused on opening more deposit channels for voluntary savings through synergies with commercial networks in Mexico that could accept, on behalf on the AFORE, small workers’ contributions (from 3 dollars) in an effortless, but in a secure manner.

33. CONSAR together with PROCESAR, developed the outlines and operational procedures that would allow such commercial networks to undertake the following actions:

- Collect worker information using the Population Register Code (CURP)
- Receive the savers money in all the branches of the commercial entity
- Once the deposit is made, transfer such funds to PROCESAR, who will then distribute them to each AFORE
- Provide the saver with immediate information on his deposits, as well as establish the limits to comply with the standards to prevent money laundering (all this free for the saver).

34. Thus, in 2014, “7-Eleven” became the first commercial entity to receive voluntary savings in the retirement savings system. By May 2018, the network has been joined by nine other commercial networks which today comprise more than 12,000 spots in Mexico where deposits can be made merely by using the worker ID or his/her Cell Phone Number.

35. Additionally, through the revamped service website, e-SAR, workers can save for their retirement by using their debit card. The saver fixes the amount, the frequency and the auto-escalation plan, if wanted, of savings.

36. Both initiatives were accompanied by an aggressive publicity campaign from CONSAR.

37. Furthermore, CONSAR introduced in 2015 “SARTEL USA”, a call center serving as an information channel for 12 million Mexican workers that live in that country, who mostly have lost contact with the pension system. Afterwards, several conduits were opened, so Mexicans could send voluntary savings from abroad (*Uniteller*, *Unibancard* and *Intermex*). Mexicans living in the US can now send voluntary savings from abroad to their pension account using these new conduits.

38. Along this process, CONSAR has created synergies with other institutions to prompt voluntary savings. CONSAR along with the support of several organizations and foundations, like the Inter-American Development Bank (IADB) Ideas42, Metlife Foundation, and Innovation for Poverty Actions (IPA) has carried out studies and pilot projects to understand the barriers that inhibit people to save in Mexico, and to propose new ways to encourage savings.

b. *AforeMóvil*

39. The opening of new saving channels revolutionized the conventional operation of the pension system in Mexico. Nevertheless, the process to “democratize” the retirement saving channels in the country required going one step further.

40. Cell phones are massively used in the country and can be used as an inclusive tool for savings. That fact led CONSAR to push for a new project aimed at, on the one side, help savers increase their awareness of their pension account, and at the same time, allow them to save more through their phone.

41. *AforeMóvil*, launched in 2017, is an app for mobile devices created to include and connect Mexican people with their AFORE and to carry out voluntary contributions wherever they may be.

42. In order to develop the app, regulation was modified, and operational flows were outlined. The app is designed to allow any Mexican owning an AFORE account (60 million people), to control their savings through an Android or iOS smartphone.

43. Moreover, any Mexican (adults, children and residents in a foreign country) who currently don't own an AFORE account, can instantly open such account through his/her cell phone.

44. The technology used in the new app included:

- The most popular platforms in the Mexican market (79.1% Android and 12.6% iOS)
- *Push* one-way and two-way notifications for a direct communication between the saver and the AFORE
- Service integration, benefitting from PROCESAR to connect the whole AFORE industry with third-party database connections.
- Authentication and security outline that enables to remotely execute operations
- The use of biometrics through facial recognition to authenticate the saver
- APIs administration. Enables to develop new functionalities boosting savings and services, profiting from secure authentication outline
- Analytics. The study of traffic and patterns regarding the use of *AforeMóvil* to constantly identify improvement factors

45. Multiple connections with different participants were implemented:

- With institutions like the Population National Registry (RENAPO) and the National Electoral Institute (INE) to validate the consistency of the information and verify the user's identity
- With Biometric cryptograms verification
- With the AFORE and PROCESAR to offer services directly to the user
- With commercial networks to easier locate their 12,000 stores and to show information on the deposits in real time
- With banks to enable the use of banking accounts for saving through the app
- With other participants that can propel voluntary savings through loyalty programs

46. The app was officially launched in August 2017 and currently offers the following services:

- For Mexicans already registered in an AFORE, connect with their pension account
- For Mexicans without an AFORE, the possibility for the first time of opening an account as an independent worker
- Parents can open an AFORE account for children

- Your daily balance
- Request for a statement (takes 10 seconds to receive it)
- Detail of monthly transactions, including mandatory contributions
- Deposits to your pension account through debit or credit card (automatic discount)
- Geographical location of the 12,000 stores that receive cash deposits
- Pension calculators to estimate future pension
- Updating data of your pension account (phone number, address, access code)



E. SupTech

47. Along this process, it has been a complimentary goal to create a more reliable, accurate and real-time information infrastructure of the whole pension system that would enhance CONSAR's supervision.

48. CONSAR developed a business intelligence dashboard that allows supervisors to verify online each operational transaction in the system. They also include periodic reports with aggregate and disaggregate information, to monitor and identify problems, from interruption of the services in real-time to atypical operations. CONSAR has now available data to validate any operation in the system.

49. As a result, supervision has shifted from a traditional supervision predominantly in-situ and through paper to a technology-based supervision with the support of the new data infrastructure.

50. Finally, CONSAR restructured its supervision and operational inspection areas. An operational intelligence department was created to act as a risk detector. The new department analyzes the control panels, and submits the findings to the other supervision areas so that they can perform a more detailed revision, and where appropriate, impose sanctions.

IV. Preliminary results

51. Preliminary result of the digitalization project has been very positive.

a. With regards to the introduction of the individual digital file

- More than 13.5 million ID Files in 3 years
- Complete visibility and audit prints of all operational transactions in the system
- Greater control over sales agents
- Commercial malpractices have diminished
- Better information for workers
- Higher quality transfers
- Commercial expenses have decreased

b. Regarding the introduction of biometric authentication

- 8.2 million workers with biometrics in two years, as well as 84,000 agents and service officers of the AFORE
- Wrongful transfers have been eradicated
- Paper-based operations shifted to a 100% digitalized comprehensive system.

c. Regarding the new channels to deposit voluntary savings in a pension account:

- In four years, depositors have increased by 350%.
- In four years, voluntary savings increased from 15 billion pesos to 65 billion in 2018

d. Regarding the inception of Afore Móvil:

- Six months after the app launch, 400,000 downloads. Over 14,000 accounts belong to independent workers and 3,000 to children. 8,000 users have carried out voluntary savings through the app

e. Regarding the supervisory overhaul:

- Through the use of technology, better monitoring of the behavior of the industry and its sales agents
- Higher effectiveness regarding inspection results, which now are better documented and non-refutable
- Finally, taking into consideration all the information that CONSAR possesses, new tools like Machine Learning and Deep Learning are being implemented, which will enable CONSAR to massively analyze through algorithms millions of cross-checked records to identify abnormal behaviors, as well as execute behavior predictions based on current and updated information. These tools will allow CONSAR to have a 360° vision on industry performance.

V. Conclusions

52. The DC pension system based on individual accounts will turn 21 years next July 1. During this time, the system has evolved along all of its main pillars –asset allocation, diversification, corporate governance, services-.

53. The operational evolution of the last five years, however, represents a turning point for the system. The aforementioned actions not only have driven the retirement savings system to a new frontier in digital innovation, but they have also transformed habits that seemed entrenched.

54. Mexico's pension system faces immense challenges: it has low level of savings and expected replacement rates, insufficient diversification, decreasing returns, insufficient quality of services, low level of involvement of the Mexican people for their pension account, etc.

55. The actions undertaken in the last few years, nonetheless, offer an unprecedented opportunity to strengthen the pension system. On the one hand, CONSAR has gained greater internal capabilities that will enable it to better supervise the pension providers and its sales agents. On the other hand, the individual digital file and the use of biometrics will generate trust and certainty among the savers regarding their account and will also facilitate the improvement of the services offered by the pension providers. Finally, the new voluntary savings ecosystem within the system creates the opportunity to massively boost additional savings. A lot will clearly depend on the AFOREs and in the continuity of such policies in the future, but the infrastructure to make it happen is ready to be fully exploited.