

Evolution of the System (Up to the Present)

4.1 Introduction

The publicly mandated and privately administered pension system in Mexico was formally introduced in July 1997. The government did not want to decentralize the system of “head counting.” It introduced a new method of counting people under the new regime mindful of the multiple account problems under the old SAR. This method and mergers and acquisitions are described and evaluated in the following sections. Such activities are complicated by the restrictions on the maximum share of the market each fund is allowed to capture. Next, we describe the evolution of funds over three years. It shows a classic pattern of evolution of maturity. Then we describe how the amount of money is evolving in the AFOREs as part of the national economy. Finally we discuss some aspects of the portfolio composition of the AFOREs.

4.2 New (and Improved) Counting Method

A centralized national database system for pension information has been set up. This database is called the National Database for the Retirement System (Base de datos Nacional del SAR, BDNSAR). This has been set up with the specific purpose of having strict identification of persons matched with their money.

In the 1992 introduction of SAR accounts, the accounting process did not work at all. As a result, 10 million workers ended up with 50 million accounts (see more below on SAR problems).

IMSS has entered an agreement with the 13 largest banks in Mexico to act as “collecting entities.” These collecting agencies use their bank branches to collect

information and money from the employers. If the information received does not match some pre-established (and transparent) criteria, the payment is refused and the employer is notified. The quality of information therefore does not degrade over time.

This method allows tracking of migration of persons across different funds as well as keeping track of movement across employers. It was recognized that the existing methods of unique identification through the numbers assigned by the IMSS or the Hacienda (called RFC) did not work. Thus, the government introduced a new (supposedly unique) identification number called CURP (Clave Única del Registro de Población). In Mexico, people tend to have very long names (that include their own name or names, their father’s last name and mother’s last name). However, many people do not use the entire name for all occasions. Sometimes, they alter the order in which all parts of the name appear. To make things more complicated, many men tend to name their sons by their own names.

4.2.1 Procesar

To manage such a large database, a new database system was introduced. This entity, called PROCESAR, is managed under BDNSAR. It is under strict government control but operated privately. It is supposed to keep track of all the individual accounts by establishing a one-to-one correspondence between the affiliates and the accounts.

4.2.2 Process of Information and Money Flow

For the integrity of the system, it is imperative that there is a regular flow of information and money in the system. We have described above the basics of

checks and balances in the system. Here, we describe the timing of this process (see figures 4.1 and 4.2).

4.2.3 Flow of Funds

Suppose the employer successfully transfers the money to the collecting agency (bank) on day t . There are 13 banks authorized to carry out these transactions. On day $t+1$, the banks transfer the money to Banco de Mexico (Central Bank). Exactly a week later (day $t+8$), the central bank transfers the funds to the fund managers. Fund managers credit the fund to the account holders of the funds on the same day (day $t+8$). This flow does not take into account the yield from the balance in the fund itself that has gathered over time. It only refers to the *new* flow of funds.

4.2.4 Flow of Information

The flow of information follows a similar path to the flow of funds. If the collecting agency (bank) gets the information on day t , it passes it on to PROCESAR on the following day (day $t+1$). PROCESAR gives the information to the fund managers on day

$t+6$. Note that the flow of information takes place before the movement of money (which takes place on day $t+8$). Information is also sent to IMSS and INFONAVIT. Information is double-checked and the following day it is sent back to PROCESAR (day $t+7$). The information is sent to the Central Bank on day $t+8$. After the Central Bank verifies the information, it sends the money first to the pension funds on the same day (day $t+8$). Information is relayed to the pension funds on the *next* day (day $t+9$).

4.2.5 How Well Has the New System Fared in Preventing Duplication of Accounts?

Recently (September 2000), a study was commissioned by the Asociación Mexicana de AFOREs (known by the acronym, AMAFORE). The study concluded that despite all the checks and balances mentioned above, there are at least 500,000 more accounts than there should be (reported in *El Economista*, September 13, 2000). Many of these duplicate accounts are located in specific industries such as construction and agriculture.

FIGURE 4.1

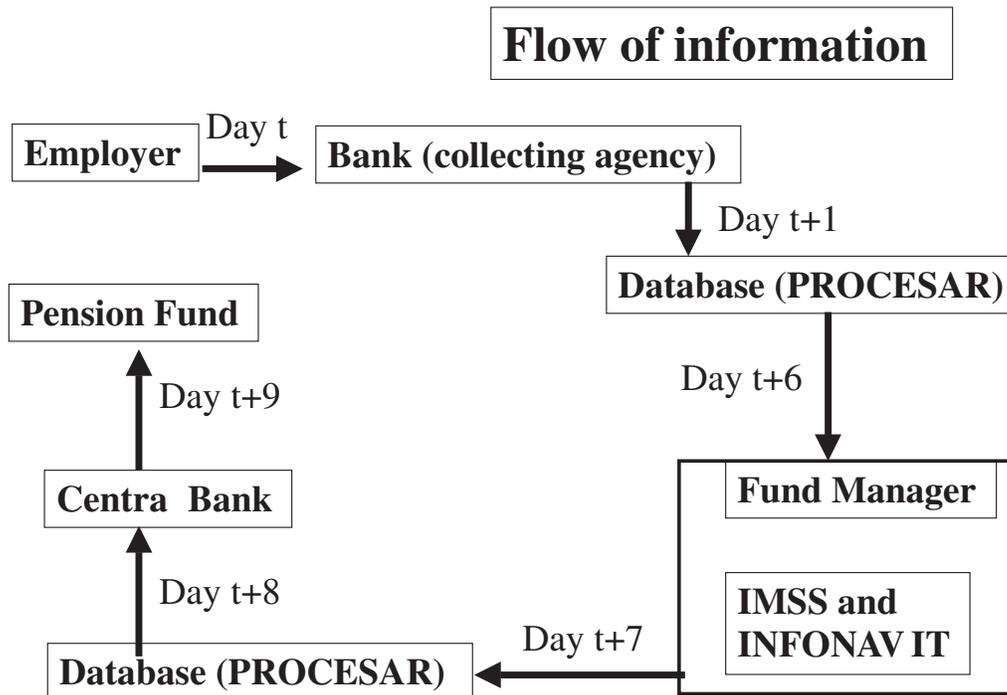
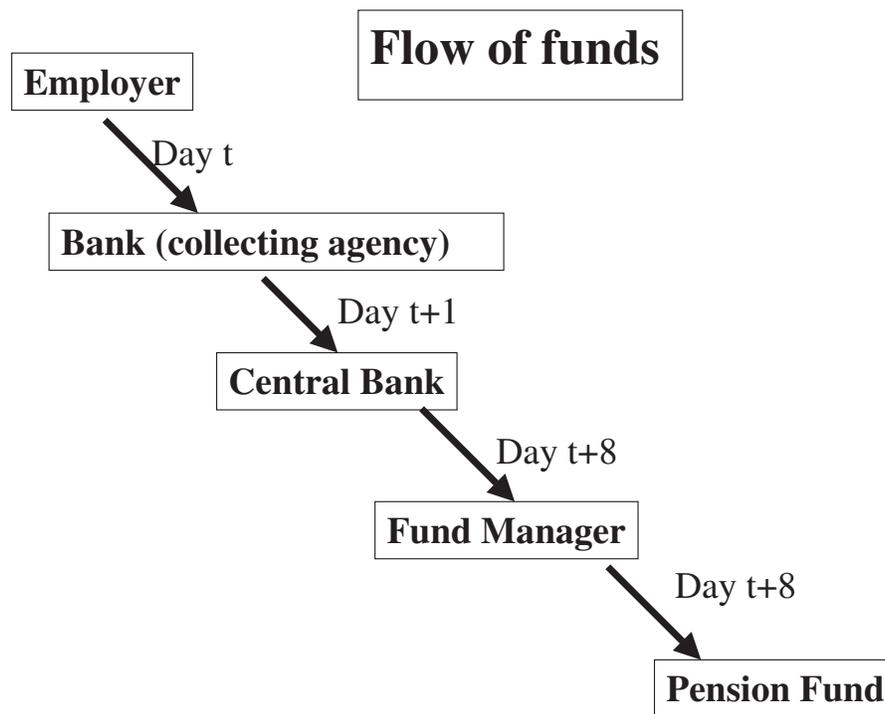


FIGURE 4.2



4.3 Mergers and Acquisitions

Out of the initial 44 AFORE applicants, 18 passed the first stage. In January 1997, 12 pension funds were approved by CONSAR for immediate operation. Initially the government wanted to put the mandatory system in place by January 1, 1997. However, it became clear, by November of 1996, that the required infrastructure was not ready. So, the government pushed back the start date to July 1, 1997. By July 1997, 17 funds actually started operating.

They were Atlántico-Promex, Banamex, Bancomer, Bancrecer-Dresdner, Bital, Capitaliza, Confía-Principal, Garante, Génesis, Inbursa, Previnter, Profuturo-GNP, Santander-Mexicano, XXI (Siglo Veintiuno), Sólida-Banorte, Tepeyac and Zurich.

The first movement towards consolidation came with the change of Confía-Principal to Principal. The Mexican group, Abaco Grupo Financiero, sold its stake to Principal. Thus, Principal became the first foreign company (based in Des Moines, Iowa, USA) to own one complete AFORE. Later in 1998, Principal also bought Atlántico-Promex. Atlántico-Promex was a 100% Mexican-owned AFORE; it has been completely absorbed by Principal. Even after all of these

movements, Principal remains one of the minnows among AFOREs. It has less than 3% of workers and less than 2% of total funds in all the AFOREs.

Inbursa bought Capitaliza in 1998. Capitaliza was 100% owned by General Electric Capital Assurance, an American company. Capitaliza had a market share of less than 1%, both in terms of the number of affiliates and in terms of the amount of capital. After the merger, GE Capital Assurance became a minority shareholder in Inbursa. This merger was exactly the opposite of what happened with Confía-Principal. Ownership went from a United States company to a Mexican company.

The third merger took place between Santander and Génesis. Santander is majority owned by Santander Investment International in Puerto Rico. However, the parent company of Santander is from Spain. Génesis was a 100% Mexican-owned company.

Finally, Profuturo-GNP, a group with majority Mexican ownership, but minority Spanish and a small Chilean ownership, has taken over Previnter. Previnter was 90% owned by AIG Boston and 10% by the Canadian bank Nova Scotia (which now owns a majority stake in one of the largest banks in Mexico).

These four mergers (or acquisitions) have resulted in 13 companies still left standing in the field. There

are at least two companies with less than a 2% market share (Tepeyac and Zurich). It is difficult to imagine that very small companies would survive in the long run. On the other hand, very large international insurance companies back both of these companies. Thus, they may be able to use their parent company infrastructures to survive.

There have been a number of important maneuvers by international insurance companies in the Mexican privatized pension market. Aetna Insurance International decided to sell its stake in AFORE Bancomer to BBVA after the Spanish bank BBVA acquired the bank Bancomer. ING has decided (November 2000) to increase its holding of AFORE Bital to 98% (from 49%). ING also holds 41% stake in Seguros Comercial America (SCA), the largest insurance company in Mexico. Curiously, SCA, despite having such a large presence in the insurance business in Mexico, does not participate in the privatized pension market. But now with ING holding a controlling interest in Seguros Comercial America and a 98% stake of AFORE Bital, SCA has entered the privatized pension business through the back door.

4.4 Fund Evolution

There are two ways of looking at how funds have grown: by affiliation and by the amount of money being managed by the funds. We will discuss each in turn.

4.4.1 By Affiliation

The number of people in the new system rose from under a quarter of a million in February 1997 to over 15.5 million by the end of 1999. The growth has not been linear. In the first ten months, the number of affiliates grew at a tremendous pace until it hit about 10 million. Then, the growth slowed considerably. Figure 1 in Appendix D illustrates this evolution. This kind of evolutionary process is quite common with the introduction of new products in any market. By the end of 1999, seven of the funds managed to capture more than a million accounts each. Guerrero and Sinha (2000) show a way of modeling and forecasting in such a market.

The number of people in each fund is an important parameter for the success of a fund. It is also an important parameter for CONSAR, the regulatory body. In order to reduce the concentration of affiliates in specific funds, CONSAR has imposed an upper limit of how many affiliates a fund can have. For the first

three years of operation, the limit has been set at 17%. That is, no fund can have more than 17% of the total number of affiliates between July 1997 and June 2000 (see table 4.1). The rule would be relaxed to increase the limit to 21% from July 2000.

The limit was not imposed month by month in the beginning. For example, from table 4.1 we see that, of the total affiliates, Bancomer had more than 17% for the first 10 months (February 1997 to November 1997). The idea of the limit was to have it imposed when most of the formal sector workers are already affiliated.

4.5 Enforcement of Market Share Limit

By the end of 2000, there were two attempts to test the market share limit. Both involved the AFORE Bancomer but in different roles.

In April 1999, IXE, which held 50% of the AFORE XXI (see appendix B) decided to sell its stake. Bancomer decided to put in a bid to buy it. The Federal Competition Commission (CFC) declared in September 1999 that such a move would violate the market size limit imposed by the regulatory body CONSAR. Thus, Bancomer was *not* allowed to expand its market share.

In June 2000, the Spanish bank Banco Bilbao Vizcaya Argentaria (BBVA) decided to buy Bancomer—the largest Mexican bank. Bancomer is also the *majority* shareholder of the AFORE Bancomer. BBVA was, on the other hand, a *minority* shareholder of another large AFORE—Profuturo (see appendix B). Given that Bancomer and Profuturo together had about 30% of the market share, the Federal Competition Commission in Mexico ruled that a merger of Bancomer and BBVA parent companies would violate the 21% restriction.

Note that it is not clear how it violates the limit as BBVA only had a *minority* share in Profuturo. Nevertheless, BBVA was forced to sell its stake in Profuturo before its acquisition of the bank, Bancomer. This action by the Mexican government would act as an important signal for future potential mergers in the privatized pension business in Mexico.

4.5.1 By Fund Size

Table 4.3 above reveals that of a total of 140 billion pesos, various AFORES hold vastly different market share. Bancomer holds the largest market share in

TABLE 4.1
EVOLUTION OF MARKET SHARE OF FUNDS IN TERMS OF NUMBER OF AFFILIATES

Fund	February 1997	July 1997	December 1997	June 1998	December 1998	June 1999	April 2000
Atlantico	0.00%	1.38%	1.77%	1.88%	1.03%	*	*
Banamex	31.31%	16.12%	12.23%	11.47%	11.34%	11.65%	12.24%
Bancomer	28.28%	22.23%	16.76%	16.17%	16.10%	15.85%	16.06%
Bancrecer	0.06%	4.07%	4.67%	4.56%	4.39%	4.22%	3.90%
Bital	4.00%	9.84%	9.20%	9.17%	9.44%	9.92%	10.20%
Capitaliza	0.00%	0.07%	*	*	*	*	*
Garante	0.78%	8.32%	10.96%	11.18%	11.09%	11.00%	10.83%
Genesis	0.04%	0.67%	1.06%	1.11%	*	*	*
Inbursa	0.49%	2.62%	2.63%	2.43%	2.68%	2.58%	2.36%
Previnter	0.04%	2.07%	2.33%	2.41%	*	*	*
Principal	0.00%	0.48%	0.61%	0.70%	2.18%	2.89%	2.88%
Profuturo	16.03%	11.79%	12.55%	12.19%	13.96%	13.57%	12.62%
Santander	13.99%	12.46%	14.73%	14.47%	14.24%	13.79%	13.99%
SBN	4.99%	4.89%	6.76%	8.34%	8.61%	8.49%	8.82%
Tepeyac	0.00%	0.52%	0.85%	0.82%	1.02%	1.42%	1.69%
XXI	0.00%	2.22%	2.71%	2.86%	3.06%	3.09%	3.14%
Zurich	0.00%	0.25%	0.18%	0.24%	0.86%	1.24%	1.27%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: CONSAR.

Note * indicates that the fund ceases to exist independently. SBN stands for Solida Banorte Generali.

TABLE 4.2
ACTIVE VERSUS INACTIVE AFFILIATES OF AFORES

Fund	Total	Contributing	Active
Banamex Aegon	2,115,150	2,005,008	94.8
Bancomer	2,747,624	2,482,268	90.3
Bancrecer Dresdner	642,885	561,494	87.3
Bital	1,744,452	1,591,052	91.2
Garante	1,852,338	1,656,102	89.4
Inbursa	384,681	360,522	93.7
Principal	540,197	471,716	87.3
Profuturo GNP	2,065,531	1,662,899	80.5
Santander Mexicano	2,363,192	2,063,084	87.3
Sólida Banorte Generali	1,509,255	1,281,172	84.9
Tepeyac	285,833	253,569	88.7
XXI	539,543	530,481	98.3
Zurich	207,393	148,405	71.6
Total	16,998,074	15,067,772	88.6

Source: CONSAR, August 2000

TABLE 4.3
FUNDS IN EACH AFORE AT THE END
OF JULY 2000

AFORE	Assets	Market Share
Bancomer	Pesos 32.10 billion	22.8%
Banamex Aegon	Pesos 22.55 billion	16.0%
Profuturo GNP	Pesos 13.53 billion	9.6%
Garante	Pesos 12.59 billion	8.9%
Santander Mexicano	Pesos 12.16 billion	8.6%
Bital	Pesos 11.94 billion	8.5%
Inbursa	Pesos 11.21 billion	8.0%
XXI	Pesos 8.17 billion	5.8%
Solida Banorte Generali	Pesos 7.33 billion	5.2%
BanCreceer Dresdner	Pesos 4.79 billion	3.4%
Principal	Pesos 2.73 billion	1.9%
Tepeyac	Pesos 910.3 million	0.6%
Zurich	Pesos 676.2 million	0.5%

Source: Dow Jones International News, August 16, 2000

terms of money at 22.8%. In terms of the number of affiliates, at 16%, it also holds the largest market share. Clearly there is a difference in terms of market share if counted by affiliates than if counted by the amount of money in the fund. The difference can be explained by the *kinds of affiliates* funds have attracted. If a fund attracts affiliates with higher than average income, it will have a larger market share in terms of money than in terms of total headcount.

Some funds have strategically done so. Inbursa has less than 2.5% of the market in terms of the number of affiliates. However, it has 8% of the market in terms of funds. Inbursa has a policy of refusing membership to its AFORE unless a person has twice the average income in Mexico. This strategy has another by-product. Higher income people are also likely to have more secure income. Thus, Inbursa affiliates are also consistent contributors to their AFOREs (see below).

Some other funds have followed the strategy of getting more “warm bodies” in their funds without worrying about the level of income. Santander has followed this strategy right from the start. They sent out thousands of “ladies in red” signing up people at construction work sites and other public places for their AFORE. As a result, they have almost 14% of the market in terms of the number of affiliates but only 8.6% market share in terms of the money in the fund.

These facts can clearly be seen in the following table (table 4.4). The average income in Mexico is slightly over three times the minimum salary. Thus, the average contributor in Inbursa has a salary of 2.5

TABLE 4.4
AVERAGE INCOME OF CONTRIBUTORS OF
EACH AFORE (EXPRESSED IN MULTIPLES OF
MINIMUM WAGE IN MEXICO CITY)

AFORE	November 97	October 98
Atlántico ¹	2.82	6.29
Banamex	3.64	3.78
Bancomer	4.06	4.23
Bancreceer	2.72	2.84
Banorte	2.62	2.55
Bital	2.90	3.05
Capitaliza ²	5.23	4.03
Garante	2.93	3.10
Génesis ³	2.52	2.59
Inbursa	8.20	8.57
Previnter ⁴	3.84	
Principal	3.09	2.89
Profuturo	2.31	2.79
Santander	2.50	2.53
Siglo XXI	5.04	4.94
Tepeyac	2.63	2.58
Zurich	3.89	2.54
Average	3.39	3.71

Note 1. Principal was earlier called Confía-Principal. Later it bought up Atlantico (end of 1998).

Note 2. Inbursa bought Capitaliza.

Note 3. Santander absorbed Génesis.

Note 4. Previnter was taken over by Profuturo.

Sources: CONSAR and PROCESAR databases.

times the average salary in Mexico. Bancomer is the other large fund that has average contributors with larger incomes than the average worker in Mexico.

4.6 Special Fund: Siglo XXI

One fund was “special.” The fund XXI (Siglo Veintiuno or Century Twenty-One) was the privatized arm of the IMSS, the state-run pay-as-you-go system. When this fund was being set up, many market analysts expected that it would be one of the largest funds, as Mexican workers in the formal sector would instantly recognize the IMSS brand name.

The reality turned out to be different. The name IMSS was widely recognized, but it was associated with inefficiency, which repelled more people than it managed to attract. It has less than 3.5% of the market share. This failure of the Mexican privatized arm of IMSS stands in sharp contrast with a similar effort in Uruguay. In Uruguay, the privatized state fund, República, managed to capture the largest market share.

By the end of 1999, República captured 37% of affiliates and 55% of total market funds. This fund was so successful for one simple reason. It had the backing of the government of Uruguay to insure the safety of the fund. In Mexico, the government did not issue any explicit guarantee for any fund.

4.7 Growth of Government-Mandated Pension Funds in Mexico

Ever since pension privatization was mooted in Mexico, experts have been speculating about its success. One way of measuring success is how significant the funds are going to be relative to the economy. There are two critical determinants of the growth rate of mandatory pension funds: the growth rate of wages and the rates of return earned by the funds. Over the long run, the growth rate of wages should not exceed the growth rate of the economy (measured by the Gross Domestic Product or GDP) itself.

In the first three and a half years, around US\$16 billion have come into the AFOREs. US\$6.5 billion came in during 2000 (GDP of Mexico is around US\$540 billion for the year 2000). To get a better sense of these numbers in terms of the Mexican economy, the following table (table 4.5) expresses them as a percentage of GDP for the corresponding year.

Suppose we assume that the growth rate of the AFOREs stays the same as the growth rate of the real GDP. If we assume that the real rate of return averages around 6%, then, in 2020, we could see the funds in AFOREs growing to around 40–50% of GDP. In Chile, the first 20 years of operation of the privatized mandated pension system generated funds worth 42% of GDP (Source for Chilean number: Primamerica Consultants, December 2000).

TABLE 4.5
MONEY IN AFOREs AS A PERCENTAGE OF GDP

Year	% of GDP
1997	3.7
1998	4.8
1999	5.8
2000	7.1

Source: El Financiero, January 19, 2001, p. 5

In the first 20 years, the withdrawal from the system will be low. As the system matures, we will see a large outflow from the system as workers retire with substantial time in the privatized pension system.

It is not unreasonable to expect that pension funds will play a big role in the capital markets. The exact nature of this impact will depend, to a large degree, on the investment regime that is imposed on the pension funds (see chapter 8).

4.8 Portfolio Composition

4.8.1 Restriction on Investment

Right from the beginning, severe restrictions were imposed on the mandatory privatized pension funds in Mexico. The rationale was simple: The government did not want to take any risks that could jeopardize the faith in the system. Having credibility was important for the system. During the crisis of 1994–1995, banks in Mexico were hit extremely hard. By some estimates, the whole banking system had non-performing loans (basically it meant there was little hope of getting the principal back, let alone interest due on these loans) to the order of 25–30% of total loan portfolios. The Federal Government in Mexico ended up assuming that loan, which meant that taxpayers, in the end, funded the bad loans of the banks. Thus, the federal government was extremely concerned about the credibility of the system, as it did not want a repeat of the fiasco that hit the banking sector.

Thus, the government stipulated very stringent bounds for the investment portfolios of the AFOREs. Initial bounds are set out in table 4.6.

Some of the limits have been changed recently. For example, in April 2000, CONSAR approved additional acquisition of corporate bonds by AFOREs. The initial limit was 10% of the total portfolio *by the same issuer*. CONSAR raised it to 20%. In other words, if company x issues 100 pesos' worth of bonds of investment grade (rated mxAA- or better), an AFORE would now be able to acquire 20 pesos of that issue (instead of only a maximum of 10 pesos). This change was sorely needed.

Table 4.7 provides the composition of the portfolios of the AFOREs in Mexico. It shows that government bonds of different kinds account for 92% of the investment of the system. Thus, government bonds play an important role in the AFORE market. The table also has some additional variables. It brings into ques-

TABLE 4.6
PENSION FUND INVESTMENT GUIDELINES (CONSAR, 1996)

Types of Assets	% of asset value
I Inflation Linked Bonds	51% minimum
IIa Bonds issued by either the Federal Government or Banco de Mexico	100% max
IIb Bonds issued by either the Federal Government or Banco de Mexico in US dollars	10% max
IIc Corporate bonds, Bank issued bonds, Financial intermediary bonds	35% max
IId Bonds issued by banks and other financial intermediaries	10% max
IIE Repurchase Agreements	5% max
IIF Checking accounts	\$250,000 max
IIIa Bonds issued by a single issuer (except Federal Government or Banco de Mexico)	10% max
IIIb Bonds issued by a company where fund manager has interest	5% max
IIIc Bonds issued by companies as parts of single holding company	15% max
IIId % of a single issue (except Federal or Banco de Mexico)	10% max
IV Bonds with maturity less than 183 days	65% min

TABLE 4.7
COMPOSITION OF PENSION FUNDS IN MEXICO, AUGUST 2000

Fund	Total	Share	Govt	Priv	Bank	O
Banamex Aegon	22,858.9	16.0	90.1	4.4	2.0	3.5
Bancomer	32,397.3	22.7	93.5	5.2	1.3	0.1
Bancrecer Dresdner	4,916.4	3.4	93.2	5.5	0.8	0.6
Bital	12,148.4	8.5	94.9	3.4	0.4	1.3
Garante	12,410.7	8.7	93.7	3.5	—	2.8
Inbursa	11,333.0	7.9	90.0	10.0	—	—
Principal	2,804.7	2.0	91.3	5.9	—	2.8
Profuturo GNP	13,803.0	9.7	84.1	3.5	11.0	1.4
Santander Mexicano	12,592.6	8.8	92.1	4.4	2.8	0.7
Sólida Banorte Generali	7,547.1	5.3	98.9	1.1	—	—
Tepeyac	937.0	0.7	95.7	4.3	—	—
XXI	8,260.6	5.8	91.8	6.1	1.7	0.5
Zurich	697.1	0.5	89.3	10.7	—	—
TOTAL	142,706.8	100.0	91.9	4.8	2.1	1.2

The amount of money is shown in millions of pesos. "Share" stands for market share. "Govt" stands for government bonds, "Priv" stands for private bonds, "bank" for bank papers and "O" for others. Data from CONSAR Web site www.consar.gob.mx.

tion how *privatized* the market really is when 92% of the system wealth is also national debt. This aspect is discussed in detail in chapter 7.

In table 4.8, we illustrate the maturity profile of bonds in each AFORE. The notable feature is that most of the bonds are of a maturity of less than three years. For a pension fund, this may look extremely short term. There are two reasons for it.

First, regulations prohibit long-term holdings. A keen reader might have noticed that under category IV of Table 4.6 the rule says 65% of the bonds should be of a maturity less than 183 days. Clearly, the port-

folios listed in table 4.7 violate that. The reason for the anomaly is that the rules described in table 4.6 were current at the time of the introduction of the system. Indeed, during the first two years of operation, the portfolios had an average maturity of less than 100 days (see Sinha, 1998).

Second, even were it not prohibited, the market for long-term bonds is extremely thin in Mexico; it is extremely rare to find bonds of a maturity of greater than five years in Mexico.

Third, even if such bonds could be found, they would have to pass the extremely stringent hurdle of

TABLE 4.8
MATURITY PROFILE OF BONDS IN EACH AFORE IN AUGUST 2000

	< 91 days	92-182d	183-364d	1 to 3 yrs	3 to 7 yrs	> 7 years	Total
Banamex	7.37	0.02	2.83	57.17	24.90	7.71	100
Bancomer	0.77	2.82	9.05	53.24	26.12	8.00	100
Bancrecer	14.68	1.63	4.61	57.26	16.16	5.66	100
Banorte	8.88	5.18	19.22	57.11	9.07	0.54	100
Bital	3.56	0.53	23.75	50.78	21.20	0.18	100
Garante	9.73	0.00	1.77	63.03	22.11	3.37	100
Inbursa	16.52	10.29	10.80	51.99	10.39	0.00	100
Principal	12.84	5.70	10.77	46.81	18.53	5.33	100
Profuturo	2.00	2.44	1.48	68.17	18.70	7.21	100
Santander	2.00	2.44	1.48	68.17	18.70	7.21	100
Tepeyac	4.97	1.90	11.49	63.90	13.92	3.82	100
XXI	1.45	3.84	0.95	61.69	22.47	9.61	100
Zurich	12.93	3.74	3.31	51.59	24.47	3.96	100

Source: CONSAR

mxAA- rating. Given that Mexico's sovereign debt was upgraded to investment grade only in the year 2000 (and only by Moody's and not by Standard and

Poor's—although it might be upgraded in late 2001), it will be several years until such bonds become available in large quantities.