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Demographic dividends and retirement pensions system in Mexico

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Abstract

Social security should be a main element of the demographic dividends. Retirement pensions must be the saving and investment mechanisms of the first dividend to create and maintain the second dividend. However, in Mexico there is a financial crisis due to the lack of coverage, insufficient benefits, union’s privileges and actuarial unbalance. Mexican Institute of Social Security (IMSS) changed to an individual capitalization of its pensions system, this modality does not turn into productive savings, compromises protection capacity and decreases social, economic and health investment opportunities. Here the demographical transition, social security and savings and expenditure schemes in the retirement systems from 1944 to 2005 that must be part of the first dividend are analyzed. Conditions up to 2024 are projected in order to complete the diagnostic of a first dividend with a risk of failure. Finally, the possibilities of a second dividend are analyzed and alternatives are proposed.

Key words. Demographic dividend, demographic aging, pensions system, savings for retirement, social security, Mexico.

Introduction

The change in the age structure in favor of a greater participation of the population in labor ages gives place to the concept of ‘demographic dividends’ and to the expectations of using them. The mechanisms that intervene in this are numerous, complex and interrelated. In order to the first dividend to be constructed it is necessary that, among other conditions, during the
years when a low demographic dependence reason predominates, the bases of economic saving and investment are set, which allow the economic viability and the welfare of all the population. If this infrastructure is sustainable in the future, it becomes the second dividend (Lee et al., 2001; Mason, 2005). One of the main instruments in the formation of both dividends should be the social security, specially, the pension systems (Turra and Queiroz, 2005).

With the compulsory contributions for the financing of the pensions and the social security provided by the workers, employers and the State, a saving should be generated. To begin with, such saving offers a financial protection for the workers retiring from the labor life. But it should be highlighted that besides the financial suppositions, these resources should contribute to the construction of social and economic long lasting bases. Under a demographic structure that shows decreasing dependence reasons, the income can be invested whereas the pension expenses are still low. This way, the financial remnants and with this, the possibility of invest them in the construction of the social and economic infrastructure the demographic dividends demand. A substantial part is the possibility, on one hand, of having old age pensions that guarantee the economic maintenance, and on the other, to create health systems that attend the old age population. However, during the years when the demographic dynamic of the country has reached a drop in the dependence reason, instead of an accumulation of resources and infrastructure, the social security system has created a financial crisis, mainly caused by a persistent actuarial disequilibrium between the received contributions and the benefits granted (Valencia, 2004).

Within the economically active population (EAP) with social security, most of it corresponds to the affiliates to the Mexican Social Security (IMSS); in 1994 they were 79.1 percent. The rest is covered by the Institute of Social Security and Services for the State Employees (ISSSTE), with 12.6 percent; different state social security institutes; 6.4 percent, and other government institutions; 1.9 percent (Valencia, 2005). Since its creation, the IMSS has been the largest social security institution in Mexico, which allows this study to be an approximation to the retirement pension systems as an instrument for the formation of demographic dividends. In 1997, the IMSS put into practice a reform to the individual capitalization, under the supposition of eliminating the actuarial disequilibrium and the creation of internal savings.
In this article three objectives are pursued. Firstly, it is analyzed how the contributions and the benefits between 1944 and 1997 have been modified. The objective is to determine the levels of saving and expense created under the context of the pension system in function of the age structures under the scope of the generation and functioning of the first demographic dividend. Secondly, on the same track it is tried to complete the diagnosis of the first dividend to the year 2024 and thirdly, we are interested in knowing the possibilities of the second dividend. In an attempt to concur with the political and administrative times of the country, the transformations are registered by six-year periods.

**Information sources**

The main consulted sources are: different general population and housing censuses (INEGI), population projections elaborated by the National Population Council (2002), IMSS statistic memoirs (several years), and the 2004 actuarial valuation to the disability and life insurance. Since in some years the statistics are incomplete, the missing information is estimated by means of intercensal growth rates by polynomial functions or actuarial methods. Considering the suppositions from which it is worked from for the construction of the prospective data deserves special attention.

The evolution of five central variables is analyzed; the first is the total population by age groups; the other four are derived from the population inscribed in the IMSS. The first of these is that of the assured employers. The second is the pensioned population for age and redundancy in advanced ages. This forms most of the older population with some sort of pension derived from a previous employment. The third is about the total amount of income correspondent to the fees and contributions in the old age insurance and redundancy in advanced ages. The amount corresponding to the old age and redundancy is estimated from the insurance income of disability, aging, redundancy and death (IVCM in Spanish). For this study’s ends, the difference between the two variables is an important component of the saving levels generated by the population during their working life and as a consequence of
the resources that should be contributing to the construction of the social and economic bases necessary for the formation of dividends. Since 1997, the workers’ funds in afores are taken as income.\(^1\) Both the expenses in pensions in the IMSS regulations of 1973, even in payment, as well as the exercise in the new pensioned people who choose to be pensioned under the previous regime and that from the reform are under the government’s responsibility.

**Defined benefits and the first demographic dividend**

The IMSS was established in 1943, year when the high rate of demographic dependence still predominated. The actuarial calculations that would allow an adequate financing of the insurances\(^2\) were performed by the International Labor Organization based on the fact that the workers would be the beneficiaries of health attention. However, since the first regulation of the Social Security in 1943, it was established that the attention to health would also be given to their families; nonetheless, the fees remained the same. This attitude, justified by the social beneficiary, did not stop having political shades, although IMSS was created in deficit, in actuarial terms. In 1944, IMSS begins operations with 136,741 assured people, figure somewhat lower than one percent of the total population and only equivalent to two percent of the EAP. From 1946 and in the following five six-year periods, the number of assured people increased, and in 1976 it accounts the 22.3 percent of the EAP. Similarly, the total of the EAP without social security is more than 60 percent.

In terms of the population dynamic, the demographic advantages did not exist in those decades, due to the high fecundity that increased the population younger than 15 years of age, giving place to elevated dependence reasons, which reached 104, although the increments in the aged population were minimum. The concept or the expectation of the ‘demographic window’ to come did not exist, nor the concept of dividends; but the need of reducing the fecundity and lowering the population growth rates did. However, the

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1 Retirement funds administrators. These are private enterprises.
2 Under the following insurances: of non-professional diseases and maternity (ENMP); of disability, old age redundancy and death (IVCM), and of work accidents and professional diseases (ATEP).
demography of the social security institutions has other parameters, other dynamics and other times. The economic consolidation of the institution was imposed to the creation of the IMSS retirement system under a defined benefits scheme, using the favorable initial situation of an increasing number of contributors and without pensioners. The first five pensioners\(^3\) appeared in 1950, when the assured increased to a total of 373,644. The number of pensioners slowly increased until reaching the figure, unchanged, of 25 of every 1,000 workers in 1976. The change in pensions represented less than 1.0 percent of the total income in 1952; by 1958, the figure had reached five percent; in the following two six-year periods it reached 9.7 percent and 16.3, respectively. As a product of a recently created pension system it was generated a saving in the old age and redundancy insurance; in 1976 the remnant between income and expenses ascended to 6,711 million pesos of 2004.\(^4\)

During the 1980’s the advantages of the change in the demographic direction, which made possible the demographic dividends for more participation of the population in laboring ages. 51.4 percent of the population was between 15 and 64 years of age in 1982, but the EAP constituted 32.2 percent of the total population, and from these, 29.4 percent corresponded to assured workers. This is; that since the beginning of the possible first dividend a gap can be seen between the occupied population and that population who has the benefit of the social security, as it can be seen in Graphic 1.

During the following two six-year periods, from 1988 to 2000, the participation of the population of between 15 and 64 years of age registered

\(^3\) The IMSS Law Reform accomplished on February 28th, 1949 states in its 8 transitory article: «The assured who were inscribed before the valid date of these reforms and within the two previous years have; at least, fifty pricing weeks for the payment of fees, will be considered as accomplished the waiting time of two hundred weeks in the Compulsory Insurance established by the articles 67, 71, 72, 78 and 81 of the Original Laws. The relation between the old age and disability insurances was established in the practice during 1950, when the pensions of disability to old age pensioners were granted, and in which the manifestation of the senility determined the state of labor incapability. As in 1950 the requirement of previous pricing of 500 weeks the law demands for the old age pensions was not complied with, the disability insurance in assistance to the assured population who needed the pension for being disable to work due to their old age. The proportion of these cases in respect of the total of pensioners by disability granted in 1950 was of 23.6 percent (Memoria de labores, 1949).

\(^4\) Equivalent to 610 million dollars.
marked increments, as the rest of the population grew at very low levels. The
demographic window was being opened. In such a demographic context, the
participation of the EAP descended in 1988, whereas the assured people
increased in 5.5 percent in respect to 1982. Despite the fact that in the following
years the EAP population increased, since in 1996 was of 39.1 percent of the
total population, there was not manifested in a greater number of assured
workers, but it was an increment in the informal employment. García (1996)
defines it as precarization of the labor market. Moreover, during the first half
of the 1990’s, and for the first time in the history of IMSS, there is a drop in
the number of the assured workers. These changed from 10.1 millions in 1991
to 9.8 millions in 1994. This means that during the years when a low
dependency reason has predominated, the labor apparatus has not generated
enough employments as to absorb the amount of population demanding work.
In this way, the social security, as an instrument for the construction of the
demographic dividends, loses capacity in a context of formal employment’s
low dynamism.

On the other hand, according to Graphic 2, the dependence of the
pensioners increases over the workers, this the figure changed from 22 to 32
and to 45 pensioners per every 1 000 assured workers in 1980, 1988 and
1994, respectively. This is an opposite trend to the general demographic
dynamic as during the 80’s and 90’s decades a dropping average was
registered and very close to seven people over 64 years of age per every 100
in the group of 15 to 64 years of age.

The opportunity of setting the bases for the economic saving and the
investment was wasted. But if the number of assured workers would have
increased derived from the stronger presence of the population in working
ages, the relation that the pensioners maintain versus the assured workers
would still allow the possibility of saving.

5 Since the 1980 population census presents various deficiencies, the descent is attributed more to a
sub-report of the data.
FIGURA 2
IMSS: RAZÓN DE PENSIONADORES CONTAGEM CONTRA TRABAJADORES ASIGNADORES, 1980-2004 (POR CADA 1000)

Fuente: Elaboración propia basada en los tesoros estadísticos de IMSS (varios años). *Valuación actuarial del seguro de invalidez y vida (2004).*
GRAPHIC 3

Source: own elaboration based on data from statistic memoirs from IMSS (several years), labor memoirs from IMSS (several years and Pronafide, Quinto Informe de Gobierno (2005).
When contrasting the evolution of the income with that of the expenses, as shown in Graphic 3, it can be observed that in the period between 1982 and 1988 the expense for pension payment varied in a range of between 25 and 33 percent of the income. In 1988, it dropped to 27.2 percent as a consequence of that year’s economic crisis, reason why the expenses had to be reduced. The difference between income and expenses was of 8,669 million pesos of 2004, figure that equals to 1.04 percent of the total saving of 1988. However, by 1989 it can be seen a strong increment in the participation of the budget, 53.1 percent, which is a reflection, among other elements which will be detailed further in following paragraphs, of an improvement of the conditions of the benefits. In that year the minimum pension payment starts as a percentage of the minimum wage, set in 70 percent, whereas the fees did not vary, 6.0 percent of the pricing basic salary (PBS), from which 2.6 percent corresponded to old age and redundancy. In a minor extent it is also the result of the expense contributed in the pensions’ payment that had been pendent the previous year. Such elements led to the remnant in the old age and redundancy insurance was of 5,083 million pesos of 2004, equivalent to 0.55 percent of the total saving of that year. During the following six-year period, with the exception of 1993, it can be seen a reduction in the participation of the expense, taking into account that during the first half of the 1990’s the number of insured workers decreased. The descent is attributed to the increment of the fees, which between 1991 and 1997 increased from 7.0 to 8.1 percent of the PBS. 3.3 and 3.8 percent correspondent to old age and redundancy, respectively. This allowed that the insurance for old age and redundancy increased to 13,662 million pesos of 2004, which is equivalent to 1.13 percent of the saving of the same year. In 1996, the IVCM insurance fee was adjusted to 8.5 percent, from which 4.0 percent corresponded to old age and redundancy. The participation of the expense increased steadily. It changed from 43.74 to 60.88 percent between 1994 and 1996. In consequence, the saving was reduced to almost half, in 1996 it decreased to 6,872 million pesos of 2004, figure that represented only 0.58 percent of the total saving.

It is important to highlight two elements. First, the high expense in old age and redundancy pensions in a demographic context where the dependency
reasons directed to marked descents. This constituted a barrier in the construction of the first dividend, due to the unviable functioning under which the contributions/benefits relation operated. Second, the use given to the savings generated during that period, which should have been set the bases for the functioning of the dividends.

1. In recent decades there has been a scarce affiliation and therefore less fees income.
2. The contributions of the employers have a minor effective participation since those are tax deductible (Ortiz, 1998). The great evasion is also added.
3. The contributions are actuarially low in respect to the benefits, even when these are insufficient. Since 1994 they remained in six percent of the PBS, and increased gradually from 1990 until reaching 8.5 percent in 1996.
4. The benefits increased in magnitude as well as in coverage. They were gradually extended toward other dependants of the insured person. The minimum pension increased, because from being the equivalent of 40 percent of the minimum wage between 1950 and 1989, it increased until it reached 100 percent in 1995 (Ortiz, 1998).
5. The IMSS union was able to sign a collective labor contract with unjustified and onerous privileges (Salas, 2005).
6. When considering the expense in retirements due to years of service of the retirement and pensions’ regime (RJP in Spanish) of the IMSS employees, we found that the resources destined by the institute in this matter during the 1988-1997 period were considerable, mainly when comparing them to that contributed to pensions for old age. In 1988 it was equivalent to 34.1 percent of the total expense in pensions, figure that kept increasing and in 1993 it reached 66.7 percent, as it can be seen in Graphic 4. These data are very relevant for the study, since such figures not only reduce the saving, but also they constitute an un-saving, very unjust and unnecessary. As no minimal age for retirement is established, the workers earn the right of a pension at an early age.
7. The workers’ pricing lapse is very short. The average time of a pensioner in the IVCM insurance is of 18 years, whereas the pension corresponding to a widow is of 12 years more, this means, an average of 30 years, while the average pricing seniority to the system is of 20 years. The law establishes a minimum of 500 pricing weeks (less than 10 years).

8. There were increments in the life expectancy, in particular the increments registered after 65 years of age. At the moment of the creation of the IMSS, the average age was of 11 years, for both men and women. In the 1980’s, it was of 15 and 17 years for men and women, respectively. This implied an increment in the payment of old age and redundancy pensions, besides the increments in the medical attentions, result of the greater number of years the health service is demanded, since the
Degenerative chronic diseases that characterize the older population are more expensive. Therefore, it would have been necessary an indexation mechanism that would take into account the increments in the life expectancy, whereas through the contributions, in the increment of the retirement age, or a combination of both; but nothing was done in this respect.

Regarding the second point, the use of the saving generated during that time from the aforementioned elements, the resources that were obtained as remnant and that could have been use as saving, were very low. From 1980 and until 1997 they did not represent more than 1.5 percent of the total saving. When analyzing the use these resources were destined to we find that:

1. The reserve that was generated was immediately used to finance infrastructure, medical equipment and to subsidy programs in deficit. The 1973 Social Security regulation, according to its Article 123 allowed that the IVCM insurance financed the infrastructure and the equipment of the other insurances, with the exception that the first one had an adequate efficiency of its investments. Nonetheless, the problem emerged when, having complied with the countable formalities, there were practices of the IVCM insurance subsidy to the other insurances, when the first one did not have any profit at all. Despite the fact that it was properly registered in the IMSS books the ICVM financing to that of non-professional diseases and maternity (ENPM in Spanish) in relation to the hospital properties, the latter was in deficit, it did not even have the capacity of performing the corresponding payments.

2. Other part of the resources was badly spent in peculation cases, high administrative costs and union stipends for the IMSS employees.

Even if the fact that part of the resources contributed to the formation of the medical infrastructure of IMSS, playing as part of the investment in the health system, and to a point contributing to the formation of human capital by means of its contribution for a healthier society is true, the application of social benefit programs that otherwise would have not been approached in the times and capacities they were performed with was also allowed.
TABLE 1
EVOLUTION OF THE WORKERS ENSURED AT IMSS, GDP, SAVING, 1980-2004

<table>
<thead>
<tr>
<th>Year</th>
<th>Workers ensured at IMSS</th>
<th>GDP (Real annual Redundancy and old age saving /total economy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>5,963,670</td>
<td>8.5</td>
</tr>
<tr>
<td>1981</td>
<td>6,650,386</td>
<td>-0.5</td>
</tr>
<tr>
<td>1982</td>
<td>6,641,893</td>
<td>-3.5</td>
</tr>
<tr>
<td>1983</td>
<td>6,617,460</td>
<td>3.4</td>
</tr>
<tr>
<td>1984</td>
<td>7,131,581</td>
<td>2.2</td>
</tr>
<tr>
<td>1985</td>
<td>7,633,098</td>
<td>-3.1</td>
</tr>
<tr>
<td>1986</td>
<td>7,452,797</td>
<td>1.7</td>
</tr>
<tr>
<td>1987</td>
<td>8,165,487</td>
<td>1.3</td>
</tr>
<tr>
<td>1988</td>
<td>8,307,647</td>
<td>4.1</td>
</tr>
<tr>
<td>1989</td>
<td>8,790,957</td>
<td>5.2</td>
</tr>
<tr>
<td>1990</td>
<td>9,589,624</td>
<td>4.2</td>
</tr>
<tr>
<td>1991</td>
<td>10,069,691</td>
<td>3.5</td>
</tr>
<tr>
<td>1992</td>
<td>9,995,621</td>
<td>1.9</td>
</tr>
<tr>
<td>1993</td>
<td>9,909,588</td>
<td>4.5</td>
</tr>
<tr>
<td>1994</td>
<td>9,754,876</td>
<td>-6.2</td>
</tr>
<tr>
<td>1995</td>
<td>9,157,137</td>
<td>5.1</td>
</tr>
<tr>
<td>1996</td>
<td>9,451,680</td>
<td>6.8</td>
</tr>
<tr>
<td>1997</td>
<td>10,933,550</td>
<td>4.9</td>
</tr>
<tr>
<td>1998</td>
<td>11,608,140</td>
<td>3.9</td>
</tr>
<tr>
<td>1999</td>
<td>12,306,781</td>
<td>6.6</td>
</tr>
<tr>
<td>2000</td>
<td>12,567,116</td>
<td>-0.2</td>
</tr>
<tr>
<td>2001</td>
<td>12,193,970</td>
<td>0.8</td>
</tr>
<tr>
<td>2002</td>
<td>12,224,831</td>
<td>1.4</td>
</tr>
<tr>
<td>2003</td>
<td>12,101,731</td>
<td>4.2</td>
</tr>
<tr>
<td>2004</td>
<td>12,348,050</td>
<td>3.0</td>
</tr>
<tr>
<td>2005</td>
<td>12,608,808</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Source: Own elaboration based on the *Valuación actuarial al seguro de invalidez y vida (2004)*, INEGI, IMSS statistic memoirs (several years) and IMMS labor memoirs (several years), as well as the fifth Government Inform of President Vicente Fox (2005), Consar.
It was the case of the family planning and solidary attention to marginal zone programs. The social benefits are clear, but their economic impacts are difficult to identify and measure. More than not having generated the financial efficiency, the savings were now physical actives that did not have a future economic projection in terms of generating growth. Besides, for years the facilities and equipments have depreciated in detriment of the monetary resources. Added to this is the fact that the infrastructure does not necessarily correspond to the services the old aged population would demand. This is not the reason for which the construction of the bases created in terms of the infrastructure of the social security system is less important, however, the resources used in this should have been from other entries. More than the solidarity gesture, it is necessary to have clear regulations, which must be complied with in order to succeed in the program.

In this way it can be observed that the pensions' system under a scheme of distribution with beneficiaries defined as instruments of formation of the first dividend reveals the presence of barriers that led to the fact that the transformation between contributions and benefits did not become an increment of the saving and that the low saving costs would not set bases for economic investment, therefore, the first dividend was not constructed. Not only was it saved, but also an undercapitalization of the institution was reached, arguing with this the need of a reform. From June 1st, 1997, IMSS is changed into an individual system of defined contributions, marking as a stepping stone in terms of the social security. In order to the reform to be accepted, the stress was set in the need of constructing a capital accumulation fund, by which the private saving would be strengthen, and from this it would be possible the economy’s real take off. As it will be seen later, this purpose is not achieved.

**Defined contributions Individual saving scheme**

The new system is now an individual system of defined contributions. The contribution of 8.5 percent of the PBS that was performed to the IVCM insurance is divided into two, from which 4.5 percent corresponds to the new retirement system, whereas the other four percent goes to IMSS for the death
and disability insurance (2.5 percent) and the health services for the pensioners (1.5 percent).  

In the demographic context under which this social security transformation was presented revealed the presence of decrements in the dependence reasons. From the First Population Count (INEGI, 1995) it is estimated that the dependency reason in 1997 was of 66 people dependent of every 100 adults in the ages between 15 and 64. In the following years, the evolution of the reason decreased, it dropped to 64 and 53 in 2000 and 2006, respectively. As the 15 to 64 years age group participation increased, the EAP increased as well, although at a slower pace. It changed from 40.5 percent of the total population in 2000 to 44.2 percent in 2006. However, the evolution of the assured workers was not the same, the latter registered slight increments at the end of the 1990’s. But during the first half of the XXI century marked levels of stagnation around 12 million workers can be appreciated, as shown in Graphics 1 and 2. Again, the transformation of the population pyramid in favor of a higher participation of the population in working ages did not become an increment of the assured workers, what has grown is the occupied population without social security. In this sense, it is important to mention once more the existence of a great delay in the generation of adequate labor conditions, or at least with access to social security. However, now the panorama becomes more critical, since the number of assured workers did not increase, but there were descents registered in 2001 and 2003. To this is added that from the reform to the IMSS regulations, despite the fact that the economy has registered low growth levels, with the exception of 2000, when there was even a decrement, the number of assured workers has not increased, according to Table 1. This becomes very important since much has been argued that an increment of the gross domestic product (GDP) would generate increments of the assured workers, however, the evidence reveals that this has not happened. It seems that the activities that have been profiled as the most dynamic in economic terms absorb the scarce labor force. So, it is urgent to detect what is stopping the improvements in terms of generation of employment.  

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6 The contribution was still tripartite.
Despite the fact that the assured workers registered descents after the reform to the IMSS law, the accumulated funds in the old age and redundancy (RCV) insurance do let see the presence of notorious increments, as it can be seen in Table 1. From 5.43 percent of the total saving of the economy in 1998 they changed to 32.08 percent in 2005, amount that is now six percent of the GDP. Nonetheless, when analyzing the use of the savings and the outreach obtained in the generation and functioning of the first demographic dividend, two points stand out:

First, the little productive use that has been given to the resources. According to Ramírez (2004), most of them have become government bonuses (82.4 percent), then in corporation shares (10.8 percent) and in a less proportion they have been canalized to financial institutions (4.4 percent). So, a great deal of the workers’ saving increases the public debt, as it is destined to the public financing and the current expense. Whereas the resources that are destined to the investments are canalized to large corporations, which have recently begun to invest outside the national market. The possibility of invest in stock instruments and international values allows improving and diversifying the investment portfolio, as well as obtaining a better profitableness of the anticipation saving in the medium and long terms, the saving from the workers goes to other economies in detriment of the internal economy. It is added the greater risk for the workers before the volatility of the international financial markets and the financial risk in their savings. Another factor is that the saving has been destined to the financing of consumption instead of being destined to a productive investment that strengthens the internal market and guarantees satisfactors for the current and future workers and pensioners. The amount of the resources represents already a significant amount in terms of the total saving of the economy, that if that would be invested in productive activities, it would reactivate the economy with possibilities of increasing the formal employment and the improvement of the salaries.

Second, in terms of individual saving there is no guarantee of a future pension. According to the information from the National Commission of the

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7 Enterprises such as Televisa, Cemex, Bimbo and Telmex.
8 It includes the contributions of the workers in dependence relation and autonomous to the Retirement and Pensions System.
Retirement Savings System (Consar in Spanish), in order for a worker to have a decorous pension for his/her retirement, he/she must make contributions to the pensions fund at least for 40 years (Ramírez, 2004). And this is because, according to Valencia (2004), the percentage of specific contributions for the retirement, specifically the one that corresponds to the workers (1.125 percent of the salary) is very low. The commissions charged by the funds’ administrators are very high, reducing significantly the capital that should be available for the workers at the moment of their retirement. Whereas the pricing densities are very low, they also reduce the possibilities of accumulation of resources for the retirement. It is foreseen that from the total of assured workers in the IMSS, 67 percent will reach their retirement age with insufficient savings (Valencia, 2005). As a consequence, most of the pensioned population will not reach the minimum amount guaranteed by law and the difference will have to be covered with public resources.

As a result we have that the change in the IMSS toward and scheme of defined contributions individual saving scheme is extremely onerous and the resources accumulated in the afores do not constitute a productive saving. To that is added that if in preceding years at least part of the resources was invested in the health system infrastructure, after the reform, such actions were dissipated and the resources destined to the health have decreased. IMSS will barely have the necessary resources to attend the growing aged population.

After the IMSS’ reform, both the pensions being paid and those generated from the new pensioners who have the possibility of choosing the kind of pension and who chose the previous Law are paid by the federal government. Between 1998 and 2005 the pensioners increased from 612 thousand to 993 thousand. In terms of expenses, these increased from 5 527 million to 15 638 millions, at 2004 prices. Considering these prices becomes really relevant, specially those from the segment that enjoys unjustified privileges, since the cost of the transition from one pension system to the other is becoming really onerous for the State. The reform is being financed with resources that could have been destined to the investment in health, education and productive activities that foster the internal market.
Source: own elaboration from the estimation of the funds accumulated in the afores. From the elaboration of matrices, the evolution of the active workers subject to the 73 law in 1997 is followed, as well as that of every cohort of the most recent workers; during the 1998-2024 period. To each worker is assigned an average salary level per age and a minimum wage value, from there, the contributions to the social security (for retirement, redundancy and old age) are calculated. Once the generated contributions are known, the production of such contributions is obtained. After that, a pricing density factor is applied.

What are the panoramas shown by the projections?

According to estimations from Conapo (2002), the dependence reason will still register marked descents during the first years of the XXI century, reaching its lowest point in 2018. Along this descent, the projections of the EAP, also elaborated by Conapo, imply increments, from representing 44.2 percent of the total population in 2006, it is expected this increases to 47.0 and 48.8 in 2012 and 2018, respectively. However, the hypotheses under which the IMSS bases its projections are different and discouraging scenarios in terms of the growth of the assured workers, where in the best of cases, there is a growth of 0.38 percent, as it can be seen in Graphic 1. Once more, before the
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growth of the informality it is forecasted that the assured workers will not increase on along with the population in working ages or with the total of the EAP. Even when a low dependence reason predominates, the opportunity of increasing the saving by the assured workers is dissipated.

From the active workers in 1997, in the projection of the assured workers the IMSS performs and taking into consideration a series of suppositions before the absence of information, the evolution of the savings in the afores in the period 2006-2024 is estimated, generated from the fees and contributions from the assured workers, employers and State. It is worth mentioning some of the main suppositions: to distribute the entering workers the percentage distribution corresponding to 2004 is taken, the distribution of the salaries by the age of the assured workers in the IMSS in 2004 is considered, it is then worked with the value of the minimum wage corresponding to 2006, the real net production for the saver is supposed at 3.37 percent and an average pricing density of 58.63 percent.

GRAPHIC 6
IMSS-RJP: DISTRIBUTION BY AGE OF THE POPULATION IN TRANSITION 2004

Source: Valuación actuarial del régimen de jubilaciones y pensiones de los trabajadores del IMSS (2004).
From the estimation of the funds accumulated in the afores we can derive a series of elements that are relevant for the construction of the first dividend. First, the amount of these resources, as it can be seen in Graphic 5, represents an important figure that will increase significantly. It is estimated that in 2012 it will increase to 567,999 million pesos of 1998 and will increase to 936,603 millions in 2018 and 1,384,682 millions in 2024. From these results the next question is about the use of theses resources will be.

From the pensions’ systems as a saving mechanism during the following three six-year periods (2012, 2018 and 2024), theoretically there is the opportunity for the formation of the first dividend for it will be precisely when the dependence reasons reach their lowest point and the accumulated amounts in the afores add amount that may generate productive investment. The actions to be taken throughout these periods will determine to a great extent the country’s direction.

However, the opportunity of the first dividend vanishes before the fact that most of the investment is destined, as until now, to governmental instruments. The resources are only used to finance transition costs of the distribution model to the individual capitalization model, and therefore, the generation of internal saving is cancelled. Moreover, there is the over-cost of the commissions and the interests.

About the pensioners, it is forecasted a considerable increment of new pensioners, these will change from 1.3 to 1.6 and 2.1 millions in 2012, 2018 and 2024, respectively, which will imply that the cost of the transition from one system to the other will become very relevant to activate the economic growth, whereas the opportunity for the construction of the first dividend will come to its end.

It has already been mentioned that the benefits enjoyed by the IMSS’ pensioners as employers are higher, so it is important to briefly analyze the prospective for these segment that represents a major expense. According to the Actuarial valuation of the pensions and retirement regimen for the IMSS employees, to December 31st, 2004, there were 373,933 workers in the IMSS; from these, 79.08 percent, equivalent to 295,724 workers entered before July 1st, 1997. The average age to that date was of 43.12 years and the
average seniority of 16.8 years. From the distribution by population’s age, according to Graphic 6, it is observed that a considerable number of workers will be in possibility of applying for a pension by retirement-years of service. In 2004, besides, 80 874 workers, equivalent to 22 percent, had a seniority of more than, or the same to 22 years. It is very probable that six years later they already take part of the pensioners and this figure will increase in the following years.

The possibilities of the second demographic dividend

First, the IMSS will face great challenges to afford the necessary resources for the payment of pensions under the 1973 IMSS Law even in payment, as well as for the new pensioners who choose to retire under the previous regimen. The projections indicate that in terms of amounts from pensioners, these will reach the largest numbers in 2048, and it will not be but until 2080 when the pensions for old age and redundancy expenses stop before the extinction of these group of pensioners.

It will come the time when the workers who entered to the system under the new law start retiring. From there that the investments in state roles, which have worked as the main saving instrument, will have to be changed by monetary resources in order to cover the pension. To this is added that most of the population will barely have a minimal guaranteed pension. This is, that the system will become of distribution, having resulted extremely onerous and under a demographic context marked by the population’s aging.

In consequence, there will be marked increments of the public expense exclusively destined for the retirement systems and before a State where the tax collection, if it continues with today’s trend, it will not allow generating the necessary base for the payment of pensions, where the afores funds investment in governmental instruments does not solve the problem before a low proportion of the assured workers. By then the oil reserves will be drained and there are few foreseen alternatives to face this problem.

Second, regarding the elderly population who has the benefit of a life rent or with programmed withdrawals from the afores, there has to be taken into
account the monetary amount at the moment of their retirement. The benefits of the financial profitability are inexistent and the risk that this implies has to be taken into account.

Third, in order to increment the resources destined to the internal saving, via a forced saving scheme that promoted the private saving and that does not generate economic growth, there is also produced an un-saving in the public sector due to the costs of the transition from one system to the other. In this way the social security is affected in two issues for the aged population: the social benefits and the medical attention. If to this is added the scarce tax collection, what we have here is that the first divided does not produce advancement in the construction of the medical health infrastructure necessary to face the new health demands of this predominant segment of the population, which is extremely expensive and perdurable by the chronic-degenerative diseases characteristic of the old age. Besides, there would have to consider that the public development cancels the expense in entries such as the education, eliminating with this the possibility of increments in the productivity, lessening in consequence the possibility of economic growth.

Fourth, the determination in procuring that the infrastructure was sustainable in the future has as a fundament that very few goods can be acquired and stored for their consumption in the distant future, most of them require to be generated by the moment’s production, as food, medical attention and the essential items for the survival (Barr, 2000; Brown, 2000). If the internal market is not reactivated during the first dividend, the moment’s structure will difficulty undermine the demand before a scarce segment of the population in working ages, the low levels of technology that will prevail in the Mexican industry and the delays in education that will not allow the increment in the productivity levels.

Fifth, if the assured workers projections mentioned by the IMSS are maintained, most of the future aged population will not have the support of the economic security. They will have to go to alternate mechanisms to endure their old age stage. To which there will have to be added that the options these mechanisms offer will have deteriorated, since the voluntary savings and the private insurances will not represent an option for most of the population. The
accumulation of goods constitutes a resource that has not enough liquidity and capacity to protect the daily needs. Besides, in a scenario as the one foreseen, the population, before being interested in the purchase of any property, will have to worry about meeting the demands of foods and health services. The family will be an institution that will have weakened as a source of support for the old age, given the urbanization levels, the new migration patterns, the cultural changes and the fecundity levels, which will be under the replacement levels. The support social networks are able to provide varies considerably between regions, cultures and social status. The social assistance and benefit institutions that help the population in advanced ages will probably exhausted their resources.

The possibilities of taking advantage the opportunity the demographic dividends offer are transcendent since they will enable to comply with the imperative of accelerating the economic development for the current generations, a necessary condition for the future success of the social policies on old age maintenance, on this, the social security institutions play a transcendental role.

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