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## **Session 3PD**

### **A Watershed in Mexican Social Security?**

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**Panelists:** DONALD A. MCISAAC  
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*Summary: Mexico recently amended its Social Security Institute law. This action stems from the fact that social security in its present form cannot be sustained. The changes are intended to reflect expected demographic shifts and to increase national savings. This session acquaints attendees with the features of the new plan, including aspects that will impact the private sector.*

**Mr. Frederick W. Kilbourne:** A watershed in Mexican Social Security? Is that a rhetorical question? Mexico and the U.S. are extremely important to each other. And the social security systems of both countries are extremely important to the lives of our citizens. Both countries and both systems have suffered for several generations now from a severe and debilitating trend of increasing government control over the lives of the people. The adverse effects of this trend have been partially offset by technological advancements, but they have been profound. They are crippling and they will eventually be fatal unless they are fixed. Recovery will come about by a reversal of those trends and a restoration or improvement of freedom of the people.

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Are the current changes in the Mexican social security system a first step? Well, my rhetorical answer to that is a firm, fixed yes. But we will need the panelists' presentations and the audience exchange in order to finally give the answer to that rhetorical answer.

Our first panelist will be Don McIsaac. Don is a Fellow of the Society of Actuaries (FSA). He is the principal insurance specialist of the financial sector development department of the World Bank. Don is Canadian. He joined the World Bank about five years ago. Four years ago Don worked as a supervisor of insurance companies and pension plans in Canada. Prior to that he was in the private sector of insurance in the U.S. and in Canada.

The other two panelists are from Mexico City. Both are actuaries. Carlos Lozano studied mathematics at the Faculty of Sciences at the National University of Mexico. He has been a qualified actuary in Mexico for the past 22 years. He started the Wyatt Office about 15 years ago and is currently the president at his firm, Nathal Actuarios y Consultores. He's a frequent speaker to banking institutions and other companies and is an active member in two of the Mexican actuarial associations. Carlos' firm and mine are both members of a group of small consulting actuarial firms called Noracs. Some of you may know Gene Archer, an FSA who works with Carlos.

Marcela Flores is a senior partner and a director of BuFete de Consultoria Actuarial, one of Mexico's leading actuarial firms. Her firm is the Mexican member of the Multi-national Group of Actuaries and Consultants (MGAC). The Segal Company is, I believe, the U.S. member of that group. Marcela has a bachelor's degree in actuarial science and a post-graduate degree in business administration from Universidad Anáhuac. She sits on the Mexican Accounting Principles Committee of the Public Accountants Council, which develops statements related to actuarial science topics. She's also a member of a number of national and international actuarial associations. Last year she won the prize for the best paper at the International Association of Consulting Actuaries conference held in Scotland.

**Mr. Donald A. McIsaac:** I am going to represent the low-tech presentation. I was quite interested in listening to James Hickman speaking. I think his remarks on the issue of the population is really an excellent introduction to some of the things we're going to be talking about. I was particularly impressed that in his conclusion that mixed strategies are probably the best solutions to problems that we now face. And I would like to add a thought that perhaps might not be evident, at least in his conversation. He kept referring to solutions in a democracy. The reality of the world today is that virtually every country is a democracy. And one of the problems that we are finding as we work in different countries, of trying to introduce and

implement solutions, is that democracies are not that flexible. They're not that quick to move in one direction or another simply because it takes great reflection before a change would occur in a democracy. And that indeed is an influencing factor.

To begin I'm going to try to set a scene for the social security problems of the world. Perhaps broadening a bit on what Dr. Hickman had done. And in that context I hope I will highlight some features that are pertinent to the Mexican situation. And then, my distinguished colleagues will focus more directly on the Mexican situation, present and proposed.

Social security is a problem in virtually every country in the world, especially the financing and delivery of the social security benefits and the adequacy of the benefits. There are many dimensions to the problem that one can generally categorize as social security. In Eastern Europe I guess everyone is familiar with the expression "former Soviet Union." That is a label my employer uses to describe all the countries in that former block. They share an almost universal problem with the social security system that is really in complete disruption. They are unable to deliver adequate benefits to their older people and, in fact, unable to pay even the benefits that they have promised these people. The result is that you have genuinely aged, poor people who were reduced to a difficult state compared to what they were familiar with in their lives under the old system. For them democracy and market economy has not been a good thing.

Latin America is undergoing reforms in every part of the region. Reference was made earlier to Chile and its success story, as most economists regard it, during the last decade. That model is being replicated in one way or another throughout the region. Argentina, Peru, Venezuela, Columbia and now Mexico will modify their systems to include some elements of what Chili had experienced. Each country must find its own solution to these approaches. And I think it's important to keep that in mind.

The Organization for Economic Cooperation and Development (OECD) countries are looking to the U.S. and Dr. Hickman showed some of the mortality situations among OECD countries. If you followed the press last fall you know there was a tremendous uproar in France when the government attempted to cut back, to some extent, its overly expensive social security system. They nearly lost control of the country over it. It was anarchic. Italy has made major changes because of an unsupportable system.

Africa is probably the saddest story of all in my opinion, because my sense of the African condition or situation is one of basically two problems. Because of inflation

and a number of other developments, the benefit levels being promised by the social security system can best be described as irrelevant. In fact, in some countries, the benefit is not worth the cost of mailing the payment to the recipient in terms of current purchasing power. The second part of the problem, from an ethical point of view, is the low rate of coverage. Only a fraction of the population participates in these programs, which makes you wonder whether, from an ethical standpoint, the government should even be involved in something like that, unless it serves a large part of its population.

We could talk about the problems; when most people try to list the problems they arrive at these four categories. They're all very closely interrelated, so it's hard to separate them.

First, there is demographic aging, the maturing of the schemes. By that we're thinking of the fact that schemes, which made a lot of sense in the early stages just past World War II, are now coming under a lot of strain. People didn't properly understand what they were delivering and what they were promising.

Second, early retirement privileges caused a serious problem in the countries of the former Soviet Union in Eastern Europe, where they commonly allowed certain occupations to retire at a very young age, something they cannot afford today. But it's an acquired right, and it's a hard thing to change.

Third, some of the symptoms, as you might imagine, are actuarial deficits. I'll say more about that in a few moments. Deficits, in this connotation, means burgeoning, contingent, undisclosed liability, if you want to think of it in actuarial terms, which many countries are facing and, in many cases, have no idea of the magnitude of the problem. Public dissatisfaction is a function of the types of things I've described, with inadequate benefits or benefits that are not delivered at a time when they're needed by people.

Finally, there is the problem of evasion due to the perception of who is managing the system. This is a huge problem because, for some reason, there is an attitude among people in some countries that it's all right if you can find a way not to make your contributions to your social security system because "anyway, it's only the government." This is an attitudinal problem, but the consequence of it in some countries is that, as James Hickman described, you have your hands tied. Some governments really are unable to move. The Russian system has been described, for example, as being a system of a citizens' pension with voluntary contributions, which is ludicrous, but unfortunately that's what's happened.

Speaking of demographic aging, there are a number of dimensions to it. James Hickman mentioned the falling levels of childbearing and increasing life expectation. We have witnessed in some parts of the western countries the so-called baby boom, and the product of all of these things is a worsening of old-age dependency ratios.

Allow me to explain old-age dependency ratios. This is a rather crude test, but it divides the person's age (65 and over) by those persons between ages 15–65. The idea is that you could argue that the 15–65 cohort are the working population, and the other group would be retired.

In Japan, between 1960 and 1990, the situation really deteriorates heavily against anybody trying to fund a social security system in Japan. Interestingly enough, the U.S., while it does deteriorate in the range, is not as dramatic as is Japan. Nevertheless, the numbers get to be pretty startling. I think any time you get up to 20 you have a heavy load for your system. This, of course, is only considering the cost of retirement and ignoring any other cost that the social security system tries to deliver.

The Canadian Institute of Actuaries' (CIA) did a study about two years ago. This actually was done in 1993. If you think about a typical demographic chart, it looks like a Christmas tree, with the oldest people at the top being the narrow band. In this study men were on one side, and women were on the other side of a central tree. The baby boom is really obvious. It's quite graphically portrayed. In 1986, it was a group of people that ranged in age from about 20 to 35. What happens in this forecast in the year 2031? You could almost argue it is an unsupportable system because the people at the younger ages are just not going to be as numerous as the older people are. This is caused by all of the factors that James Hickman spoke about, such as declining fertility. It's hard to believe that's where we're going.

I was involved with the work that lead to the development of the Canadian Pension Plan in 1965. I was an actuarial student at the time, and when we did our estimates we had high and low-cost estimates. The highest cost estimate was low fertility and low immigration. I don't think anybody assumed we'd ever get to those things. But we now are at the point, as you can see, that the population will not reproduce itself at the same rate.

So, what do we see? Well, historically different countries, as I've said, have different approaches to their delivery of social security benefits. In those countries we generally had earnings-related retirement benefits, operated mainly on a pay-as-you-go basis. Even the plans that were partially funded over time became pay as

you go. In virtually all of these countries there has been a history, certainly since World War II, of encouraging taxation and other means, occupational and personal pension plans.

In Eastern Europe, in contrast, the system had very little emphasis, in fact there were no occupational or personal pension systems. There was nothing of that nature to speak of. The systems that were developed required very high contribution rates. In fact, in some of the countries where I have been visiting the rate of payroll contribution toward social security is on the order of 48–50%. It leaves, of course, very little for anything in a way of a private pension initiative. One of the changes that people are talking about, of course, is finding some way to split part of that, so some of it goes to the public system and some of it into private means. A little correlation between benefits and contributions has turned out to be one of the biggest problems of most of these systems. And indeed most of the change in foreign procedures that has been brought forward is done to correlate contributions and benefits a little better.

The Latin American tradition, before the Chilean-type reforms, would have been defined-benefits pension plans on a pay-as-you-go or partially funded basis. Our information indicates that there has been a history of considerable evasion. There was fairly broad coverage in these countries. A large, formal sector was insured in most of the countries. I made allusion to the reforms in Chile, only because that has such an impact on what's going on in the rest of the region currently. However, most of the countries have found that they have difficulty, partly because of their financing. The populations in a lot of these countries are still quite young. Mexico, if my colleagues will forgive me for saying this, still does not have the demographic crisis that Canadian has. They're nowhere near that. In fact, they could almost get the reform wrong in Mexico and still have a chance to fix it again. However, the Chilean reforms are being embraced by so many of these countries, not only because of the demographic issue and fiscal considerations, but because of the tremendous shot in the arm that the capital markets receive from the creation of these private savings funds.

Asia and Africa-Asia is interesting because, in many of the countries of Asia that people talk about, they have what are called *provident funds*. These are defined-contribution plans, usually with mandatory participation, and they have lump-sum settlements as the general pattern. You don't see a lot of annuity-type settlements. The idea was that people would take their money in a lump sum at their retirement. That's just the way it operates. In fact, curiously enough, at the World Bank, a smaller, U.S.-based operation, a substantial part of the retirement pension can be taken in a lump sum as opposed to in an annuity, which is what I was accustomed to doing at my previous employers.

The question of rates of return is irrelevant in both of these cases because in Africa the history has been negative real rates of return. That is to say, people are actually losing money on their savings. Much of this is because the government essentially obliges the provident funds to invest in government securities or whatever. These don't pay a high enough rate of return to provide positive results. As I mentioned before, Africa has a very serious problem of low rates of coverage.

Let's discuss significance of deficits. The deficit is important if you want to establish for your policymakers a sense that you can be confident in the continuance of delivering scheme benefits to new entrants. That is the point behind James Hickman's remarks. Are the contribution rates sufficient? Can you find the room to increase those contribution rates if it is necessary to sustain the system? Those are the questions that the U.S. and Canada are asking now. The answer in Europe is already no, it's impossible; they can't push them up any higher. They're already taxing the people too much.

Here are some statistics. This estimate was done by an OECD working group on the size of the deficits. All these numbers have minus signs in front of them. That's why I call them deficits. This is supposed to be the net present value of the public pension schemes in some of the major OECD countries. You look at New Zealand and say that your cumulative deficit is 400% of your gross domestic product, which is a staggering number. What would you say to a corporation whose pension fund had an actuarial deficit of four times its earnings for a year, or something similar? It's just enormous. Depending on the rate of discount you get a more attractive situation. The U.S., interestingly enough, is the healthiest of them all, even though we are very preoccupied with its situation at the present time. But these actuarial deficits are one of the things that gets people's attention. However, one of the problems is it's a political question in many situations. The problems are not going to emerge in the current time; it's a future problem, as actuaries know better than anybody.

What are the options for reform? What can you do? Traditionally, the idea has been to use government tax revenue to supplement the revenue and income of the social security system when the contributions weren't sufficient to sustain the benefits. Another obvious solution is to increase the contributions, and this indeed is where Canada and the U.S. are today. They are collecting more in contributions than they're paying in benefits. The idea is that they will create funds that will enable them to offset future shortfalls. This raises all kinds of questions, which economists argue about. Where do you invest the money?

As many of you may know, in Quebec, the excess savings from the pension plan is being invested in the private sector. It's a very controversial proposal, but the result

is that Quebec invests significant amounts of its savings trust into the private sector. Some people would call this socialism, but it's not. It's simply the varying issue that the social security system in the U.S. is considering today—could a better return be obtained by going to the private sector.

Finally there's the obvious topic of changing the cost of benefits. Now I'm going to speak to that for just a moment because that has actually occurred unintentionally. The most important thing that we've seen in many countries is the loss of purchasing power. When you have a situation, such as we saw in Eastern Europe with rapid inflation, the benefits that were being paid to people quickly became irrelevant in terms of their income needs. All the government had to do was not index, or not adjust the benefits, in line with changes in the purchasing power of money, and its fiscal problems were somewhat reduced. But it doesn't deliver, of course, the social service that the system was expected to provide.

Other changes that we're seeing everywhere is this question of changing the retirement age. In many countries in the world, the retirement age under the system would be 55 or maybe 60. I remember being in a meeting in Russia and somebody said, "well, the average lifespan of a Russian is 55 years of age, so why do we need to raise the retirement age beyond 55?" Then you get into a very interesting discussion that some people just might live longer than the average. But a retirement age increase is one of the solutions that's being embraced in many countries, which is essentially changing the benefit formula.

Special benefits must be eliminated; I did mention the fact that, in many countries, there are special privileges for workers of certain types. This is a very controversial issue for many countries in Western Europe as well as Russia.

The World Bank's recommendation is that there be a multi-pillar solution to delivery of retirement benefits. I was so delighted with James Hickman's reference to mixed strategies to solve these kinds of problems because there isn't one solution. Chile, for example, decided to have single pillar, which is the Associate Financial Planner (AFP) system. However, even there they are now inviting individuals to top off their mandatory contributions with voluntary additional savings, because one size does not fit all. And what the World Bank attempted to do (I wasn't part of it so I can only speak in the third person here) is to propose a multi-pillar solution. The first public pillar can be a pay-as-you-go or a tax-supported system, but it is supposed to be the redistributed portion. It's the one that ensures a minimum standard for everybody, including your lowest income people. Then you have these second and third pillars, which are helpful to deliver the insurance and savings parts of the pension pyramid of services. This is a mixed



strategy, the one that's being invoked in different ways and in different parts of the world. Mexico is a model that somewhat resembles this multi-pillar approach.

I'm going to say just a few words about transition and then I'm going to turn it over to my colleagues. The most difficult problem we have to deal with is transition. How do you get from here to there? You have people in retirement, you have people close to retirement. People have expectations. There's only so much money. If the government decides today that all of its current savings are going to go to provide funding for the future retirement expectations of the people currently working, and in a sense that's what is happening in Mexico, then the question is, who's going to pay for the people who are already retired or are near retirement? What are you going to do with those people? The transition costs are very, very important. We have some interesting solutions.

In Chile they created something like a government bond that says if you are approved for benefits on the old system for a certain amount, then you're given a bond, and when you reach retirement age, you can cash it in and add it to your savings. The Bolivian example is very interesting. The state said, "OK, we have a problem. We have to fund this transition, but we also have certain state assets that we want to privatize, we want to sell our state-owned companies. We'll take the proceeds of that sale and we will use that to finance our transitional deficits." That has happened in other places. In Mexico, they have made estimates of the cost that will have to be borne by general taxation in order to finance the transition. Maybe my colleagues will say more about that.

But these, interestingly enough, are actuaries' problems. Unfortunately there aren't, in my opinion, enough actuaries working in these areas. We are starting to be heard, and we are making our way into the debate. That's a bird's eye view of the situation around the world in the reform of social security. Now I will turn it over to Carlos to speak about Mexico.

**Mr. Carlos Lozano Nathal:** I really appreciate the opportunity to share with you this presentation, and I am really honored to be at the SOA meeting talking about my country.

The last part of this presentation will be divided into two parts. I'm in charge of the first part and the second part will be given by my colleague Marcela. So please excuse me, as I'm not a native English speaker, but as actuaries I know that you will understand everything.

The goal that we established for this part of the presentation is to provide you with some history about social security in Mexico, because the maturity of the system is very important in making projections.

The other point is about the economy, because the economy affects the benefits and also the funding of the schemes. Demographics, of course, is important for social security and we are going to be focused on the pension system rather than the whole social security system, which may include health care, disability and other benefits.

As you know, Mexico started this century with a very strong social movement, which produced Revolution Mexicana. The reason for this revolution was dissatisfaction with the working conditions, among others. As a result, from 1917 through 1943, Mexican society discussed the type of social security system that Mexico should adopt. Finally, in 1943, social security law was approved by the Congress and the system began in 1944. So the Mexican social security system is now 54 years old. We can consider this a mature system.

By 1970, demography and a baby boom had the effect that in the Mexican labor force there were a lot of people. When you have a lot of new entrants into the system you can hide a lot of problems because the older population is financed with the contributions of the new entrants. So if we say this is a process, when these young people become older, what is going to happen? The answer of the social security commission was, "Well, we will have another huge group of young people to finance them." To assume that we must ask, what if you are now dealing with the last economic generation? Well, who cares about that? That's the answer that the commissioners gave.

So in the 1970s demography introduced very severe inequalities in the system. As a result of these inequalities the benefit structure and law were modified in 1973. In 1990, the problem had become critical again and the social security system had no pension reserves. The stories about the changes made by other countries had begun, like the Chilean system and some other systems. The Singapore system had a pension fund of 65% of the GNP, since in 1966 they had contributed 38% of the annual payroll—23% for the employee and 13% or 15% for the employer. So that didn't look so good.

In 1992, the government established a new compulsory and complementary system that we call Retirement Saving System (RSS). In Spanish "Sistema del Ahorro para el Retiro." This system was based and is based on individual accounts, with a contribution of 2% of wages. That is the employer contribution. So what happened with that? A contribution of 2% of salary solved nothing. Maybe it was a laboratory

test. Then in 1995, a complete modification of the social security law was introduced, and this modification will be effective in July 1997. I must remind you that the implementation date was deferred because there are some other institutions about which my colleague will talk, such as the national housing plan. They were not prepared to support the new system administratively.

We could talk a great deal about economics in each country, but we're going to focus on the rate of inflation and the increase in salaries and purchasing power. That is the rate of inflation. Economics define some economic cycles for countries. In Mexico you must remember that the economy is connected also with democracy. We have two cycles—the real cycle, which is perhaps around 50 years old, and the political cycle, which is six years old. So sometimes we can produce very stable prices. For example, 1994 produced the tequila effect. The social security benefit structure is not so bad if inflation doesn't exist, but that is not possible, of course, and as a result, in 1987 Mexico had a 160% rate of inflation from January to December. You can imagine what those rates can cause for pension benefits. At the end of the 1980s we established a crash program to stop the inflation, but after 1994, a new economic cycle started again. This affected purchasing power. So what we have to do is to see the statistics in the long run.

If we take 1978 as a base, the best year in purchasing power for Mexico was 1976, and from that point on the purchasing power is decreasing. I want to put the pieces into the same scenario and remember that the high rate of inflation produced lower purchasing power. All benefits and all the things related to salary were worthless.

Demography is the other point. At this stage I want to stress that we use a component system for population predictions. There are a lot of systems to create populations, but we decided on the component system because, in our opinion, it better reflects the problem that we are having in Mexico.

Let's discuss the rate of participation. Finance may be integrated faster into the economic process than population and aging projections. It's also so clear. Let's take the male bracket from age 40–44. There is great participation in the economic activity. From age 40–44 we have 95.88% participation. That means almost all people in that bracket are working. But that was in 1990. For 1995 we could say that we have the same rate of participation. We could also say that the rate of inflation has affected the unemployment rate. Unemployment rates affect the social security system because there is no contribution paid into the social security system when they are unemployed, nor do they pay taxes. As a system this is not done as well as in other countries.

The active (capable of working) economic population in Mexico is around 30–32% of the total population. But the unemployment index is a little bit more than 5%, which is within the international standard. The problem is that some employees are not registered in the social security system. And they do not pay taxes. As a system this is not working as well as in other countries. They are happy they live in tax-cut paradise.

With respect to women, I'm going to take the same bracket partly because of my age. For 1995, the rate of participation for women is 41%, almost 42%, but by the end of this century that bracket is 62%. What I'm trying to describe here is, as you know, women live longer than men. And if women are integrated into the formal labor market, they will also ask for a pension. So the pension expense associated with that part of the population is quite high.

Aging also affects the system. The top segment corresponds to males under age 60. The next segment is associated with males over 60. According to the figures, in 1990 we had almost 4.5 million persons in the age range of 60 or more. By the first quarter of the next century we'll have 18 million looking for a pension. Now we have all the elements of the scene. The first one is our inflationary environment. The purchasing power of our citizens has been coming down for the whole population. And there's an increase in the number of older people. This is not the best combination for our government, and it is not a good combination for the social security system. If the government would like to avoid violent social problems, they have to change, to convert the economy into a more solid one.

The social security (old age) pension formula has two components. The first one is a basic benefit based on the first ten years of contribution to the social security system. The range of this basic benefit runs from 100% replacement, if the salary is the minimum wage, to 13%, if the salary is greater than six times the minimum wage. An additional component is related to additional contributions in excess of the first ten years. And this runs from 0.01% up to 2.5%. We must remember that the pension is based on the last five years' average salary. If we consider that when we average in an inflationary environment, the final average salary is also going down. So the pension benefits are going down anyway.

The lower segment is the replacement produced by the pension, in terms of the minimum wage. The minimum wage benefit is for 100% replacement. But it is currently limited to ten times the minimum wage, and if the salary becomes greater than that, then we could receive a pension of around 20 or 25% of the final salary. So the opportunity for private benefit plans is great in Mexico. That is an opportunity, but we have to change our culture.

Now consider under X times the minimum wage multiple. Those are the years of contribution to the system and that is the replacement income. So if we take 30 times the minimum wage with 30 years of contribution, maybe a person can receive a little bit more than 25%. But if we take into consideration the ceiling of the system, which today is ten times, then ten times the minimum wage replacement is almost 60%. I consider a 60% replacement very good because that 60% contribution is approximately 100% of the net income. So what has happened in Mexico? If the benefit structure is well-designed, then what happened? What happened is that the inflation rate has destroyed everything. So this could be also a direction on the map.

I would like to conclude this part of the presentation telling you that maybe you can handle this social security benefit structure with just one differential equation. Of course, the trend is moving into individual accounts. The amount of benefits will be reduced, in my opinion. And for me, the new system is very expensive.

**Ms. Marcela Flores Quiroz:** It is not easy to translate my feelings in another language, but I hope to do well. The actual problems in the Mexican social security system are, first, as Carlos explained, the critical financial situation. The Mexican Social Security Institute has been an important political stability factor in Mexico for more than 30 years, offering coverage in sickness to groups of population that previously did not have the right to it. But that is the reason the institute used special reserves to offer sickness and health coverage. At this moment the institute does not have the pension reserves to pay the future pension liabilities.

The second problem is the need for amendments because of the demographic changes. The third problem is that pension levels are not high enough. The problem is not whether 60% of salary as a pension is good or not. The problem is that salaries are so low; the average salary in Mexico is \$200 per month. Sixty percent of that amount is not enough to live on. That is the main problem.

Finally, the most important problem in Mexico now is the urgency to create internal savings and create a savings culture in the population. For these reasons, and following the patterns established by other countries like Chile, but with specific Mexican needs, the Mexican government has enacted the new Social Security law that is going to be enforced next July 1st.

The new retirement system is going to be managed by the Management Retirement Fund Companies, AFORES. The main reason for the new law is macroeconomic. This new law attempts to create a productive circle. That means that the contributions to the AFORES, will be invested in productive investments, and with those investments the Mexican companies get cash flow that allows them to create

employment and to grow. If that happens, then we are going to have more contributions invested in the AFORES and in productive investments, and better pensions in the long term. As Don explained, the problem is going to be the transition time.

The main factors of a new system, as I said, are the long-term internal savings that the country is going to have, which allows growth and partially solves the financial problems that Mexico has. For pensioners, the most important factor in this new system is the restatement of the pensions in accordance with inflation.

This law considers that Mexico is an inflationary country and that the pensions are going to be restated by inflation. The government is offering the guarantee of a minimum pension equivalent to the actual minimum salary, and it is going to be restated by inflation too.

There is a change from the defined-benefit system to a defined-contributions system. We are changing from a collective system to an individual system. Because of the minimum guarantee that the government is offering, and because the employee can choose at the time that he is pensioned if he prefers to be retired by the new law or under the current law, then there is obviously an increase in the government cost because the government is the one that is going to pay for this new system. The government needs to create the reserves to pay this transition time that is approximately 20–25 years. Carlos' opinion is that maybe it will be more. It is going to depend directly on interest rates in real terms of the new system.

In addition, the government is going to contribute to health insurance to cover the deficit of this system because now the government can't use the pension reserves as they used to do. It has been said that this system does not have costs directly for the employee or for the employer. With the same money it is not possible to have higher pensions. What is happening in the system?

Well, we actually have a system called SAR, with individual accounts managed by banks, and it is 2% of the employee's salary paid by the employer. We have INFONAVIT, which is a contribution of 5% of the employee's salary paid by the employer and managed by the government for housing development.

At retirement date, employees receive actually, in addition to the Social Security System Pension, the SAR amounts in the individual accounts and the INFONAVIT contributions in a lump sum. The INFONAVIT is received only if the employee did not receive a credit for a house during his active life. In accordance with the new law, these two systems, the SAR and the INFONAVIT, are going to be part of the resources in the AFORES individual accounts of employees to pay the pensions.

Then, in the last system or in the current one, we have a pension of the social security and SAR and INFONAVIT amounts. In the new system the employee is just going to receive the pension of the social security, which includes the SAR and INFONAVIT amounts. Then the cost of this system is especially for the employees of higher salaries. His SAR and INFONAVIT are now going to be through the individual accounts.

Now we are going to see the macroeconomic figures that we expect in this system. As I said, the new retirement system is going to be managed by the management retirement fund companies, AFORES. The AFORES are going to manage the employee' resources by an individual capitalization system. And the AFORES will operate the investment companies specialized in retirement funds, SIEFORES. The money of the contributions is going to be invested in companies specialized in retirement funds. That will enable us to see in Mexico different financial investment instruments in the long term that we actually do not have. That is the expectation of the system, that diverse instruments are going to have different risk levels, and depending upon the risk, are going to be the returns that different SIEFORES are going to pay.

The AFORES are going to offer various combinations of investment portfolios with different risk levels, and each employee is going to decide in which AFORE and in which SIEFORE he or she wants the individual account. What other contributions are managed by the AFORES? First, 4.5% of the salary; this is for early retirement and old-age retirement. This is the new contribution that used to be managed by social security. This is a part of the social security that is being privatized now. This contribution is paid 1.125% by the employee, 3.15% by the employer, and 0.225% by the government. In addition, the AFORES are going to manage the 2% of salary contribution that used to be under the SAR. The 5% of the INFONAVIT contribution for housing development paid by the employer is not going to be managed by the AFORES. When the employee retires, some of the INFONAVIT contributions, plus any return that the government offers, are deposited in the individual account to be added to the rest of the contributions in order to calculate the pension. It will simply register the amount of the contribution, but the money is going to be managed by the government to offer housing developments.

There is a new government contribution that is 5.5% of the minimum wage of Mexico City. Actually this contribution is equivalent to 45 monthly pesos, which is about \$5.60 per month per individual. It's a small amount, but it's going to be added to the rest of the account. What percentage of the salary are all those contributions? For an employee that earns the minimum wage, the percentage of the contribution in the AFORE is 12% of his salary. For an employee earning two minimum wages this represents 9.25%. For an employee earning five minimum

wages it is 7.6%. Smaller percentages apply to higher salaries mainly because of the ceilings that we have. At the higher salaries, there's a smaller percentage of contribution.

In Mexico the average salary is two times the minimum wage of Mexico City. That is \$200 per month. That's the main problem in the country. The salaries are very low. The problem perhaps is not the pension; it's the active population. Then, if we don't solve the problem of the active population, we can't solve the problem of the pensioners. Then that's what's first. That's why the system is more focused on the macroeconomics and not on the specifics of pensioners.

With these contributions the AFORES' total expected annual income is an average amount of \$37 billion pesos in the first year. That is equivalent to \$4.6 billion annually. At the beginning of this new system the number of contributors average ten million people. At the same time we expect an increase of AFORES income just because of the increase of the population that is going to be contributing to this system with more employment. And in ten years the annual expected income will be \$49 billion pesos, equivalent to \$6.2 billion.

If we projected these contributions, considering a 4% interest rate in real terms, or 6%, in 20 years, by the year 2016, the AFORES' accumulated expected amount is \$164 billion at 4%, or \$196 billion at a 6% interest rate. In 30 years, these amounts are going to double to \$337 billion or \$446 billion. The expectation of these figures is that the AFORES will be managing an amount equivalent to 60% of the gross domestic product in 30 years. To have internal savings in the country is a macroeconomic expectancy. That is the main reason for this amendment in the social security system.

Now we are going to analyze the specific changes in the pension. The basic idea, as I said, is to change the collective pension system into an individual pension system. That means to change from defined benefits to defined contributions. This change is going to have a transition period of approximately 20–25 years. When is an employee going to be able to use the individual account? At retirement time. In Mexico, the retirement is considered to occur at 65 years of age with 1,250 weeks of contributions, which is about 24 years of service. Or early retirement is considered at 60 years of age with the same weeks of contribution. And it's the same for women as for men.

In case of death or disability the account can be used too. This is one of the costs of the system. We are going to contribute to the Social Security Institute directly for disability and death. But at the time that any person is disabled or dies, the beneficiaries are going to use the money in the individual account that is for



retirement first, and the difference is going to be paid by the government. Each time an employee that meets the requirements to be retired, dies or becomes disabled, the employee or the beneficiaries are going to choose if they prefer the benefits of the new law, or the benefits they have the right to under the current law. For this reason we are going to have a transition time between the two laws.

When an employee retires, dies or is disabled, the new law is going to offer a pension depending on the proper amount of the individual account, and that pension is going to be restated by inflation. The amount in this individual account includes the SAR and the INFONAVIT amounts as I explained. If they choose the current law, they are going to receive a defined-benefit pension established under the current law until July 1997, but this pension is not restated by inflation. It is restated by the minimum-wage increases. In Mexico that means a very big difference because in the last 25 years the minimum wage has lost another actual 5% every year with respect to inflation.

The transition time can be reduced especially for this reason because one system is going to be restated by inflation, and the other one is restated by increases in the minimum salary. If the employee chooses the current law, in addition to a defined-benefit pension, he or she receives in a lump sum the SAR amount and the INFONAVIT amount. It's important to mention that the SAR and INFONAVIT amounts that the employee, who chooses the current law, is going to receive is just SAR and the INFONAVIT until June 30, 1996. Then the new SAR and the new INFONAVIT are going to be part of the new system, and the employee is not going to receive them.

It's important to mention that the new system offers pensions. This means that with the accumulated amount the employee is going to receive the pension, not the accumulated amount, in lump sum. It is just a pension.

Now we are going to have a look at how to use the resources in the individual accounts. In the case of a non-risk disability, if an employee is disabled, he has a right to receive a definitive pension if he quoted to social security for at least 250 weeks. If that does not happen he just receives the individual amount in a lump sum. If he quoted the 250 weeks, then he has a right to a whole-life pension of 35% of the salary average quoted in the last 500 weeks. Now this average is going to be restated by inflation; and with a minimum guarantee of the minimum wage of July 1, this average is restated by inflation too.

Who is going to pay for the whole-life pension? Well, with the accumulated amount in the AFORE, he or she is going to buy a whole-life pension through an insurance company. If the money accumulated in the individual account is not

enough to pay the cost for the insurance for the whole-life pension and for survivors insurance to cover the survivor's pension when the pensioner is dead, then the Social Security Institute is going to contribute the difference to pay for the insurance cost. This is a new market for the insurance companies because now they are going to be the ones that are going to pay the pensions, and they are going to receive the money from the individual accounts, and the difference is going to be paid by the government.

At the beginning of the new system, the accumulated amounts in the AFORES are not going to be enough to buy whole life pensions and survivors' insurance. And then the Social Security Institute will have to put more money of the reserves that the institute does not have. They are going to take it perhaps from the taxes; well, for a while we don't know exactly what is going to be happening in the next month. When the people need disability or death pension, who is going to pay for it? As time goes by, the AFORES' amounts are going to cover more of the costs of insurance and the needs of the Social Security Institute are going to be lower. All the contributions that the people pay to social security for disability and for death are going to allow the government to receive more money for health insurance.

In the case of a pensioner death, the survivors' pensions are going to be paid with survivors insurance. In the case of the death of an active employee, there is a 150-week requirement that must be quoted to receive a pension. Then the beneficiaries are going to buy annuities with insurance companies again, temporary for the orphans and whole life for the widow or for the parents, depending on the kind of pension. If the accumulated amount in the AFORE is not enough, then the Social Security Institute will to pay the difference—which is the money to cover the insurance.

In case of retirement, early retirement or old-age retirement, the employee can choose to buy either a whole-life pension through an insurance company or to receive programmed withdrawals from the AFORE in an expected lifetime. The difference between the whole-life pension in an insurance company and the programmed withdrawal with the AFORE is that if he or she lives longer than expected, with the insurance he or she continues receiving the pension because he or she is going to buy the insurance. With the AFORE he or she receives the programmed withdrawals only during the time it takes until the individual account is finished.

With this new system the expected pension levels in 30 years of savings are in comparison with the current law. We can see in the current law where a person with one minimum wage receives 100% replacement. Under the new law, depending upon the interest rate, in 30 years with 4% real interest rate, the pension

will not be better than the one with the current law. We need interest rates higher than 4%, we need 6% or more, in order to see better pensions in the long term with the new system, better than those with the current one.

In my opinion, in Mexico a 6% real rate is not as difficult to get as it is in other countries. In Mexico a 6% real rate is the average rate the government bonds have paid in the last ten years. Here's the problem. Right now the system is OK, and then we begin to grow, and then the risk of doing business in this country goes lower. Then the interest rates go lower, and then we need higher interest rates to have better pensions. The problem is again, what should we do first?

In addition to the new law, the employee is going to receive, besides these figures, an average of 11.5% of pension because of the SAR and INFONAVIT amounts, which are now going to be in the individual accounts. Per the current law, the employee will be paid the INFONAVIT and the SAR amount in a lump sum. It's important to mention that in the transition between the two laws, for 60% of the population that earns a living, they live on the equivalent of three minimum wages. The new law, since the beginning, is going to be better because it offers the same minimum salary, but restated by inflation, instead of minimum salary increases. The government needs to pay the guaranteed pension of that minimum wage restated by inflation.

For the 40% of the population who are the ones who earn more than three times the minimum wage, in the short term the current law is better for them than the new one. In the long term, they are going to reap the success of the system. If the system works and the rates are higher than 6% then they are going to have better pensions. If that does not happen, then the people with higher salaries are going to be the ones that pay for the system.

Finally, we are going to talk a bit about the voluntary contributions and the pension plans. In accordance with the new law, voluntary additional contributions by employers and employees to the individual accounts will be permitted. This amount will be kept separately in a special subaccount of the individual account, and employees will be entitled to withdraw the voluntary contributions twice per year or to apply them to increase their benefits at the moment of any contingency. This is a new opportunity of individual savings. Actually, for most of the population that earns lower salaries in Mexico, there are no investment instruments through banks or other possibilities to invest small amounts of money. If I want to invest ten pesos or five pesos, I don't have any place to put it. Now people will be able to save any amount of salary or any amount of salary that the person can have, they can invest this money through individual accounts. That represents an opportunity to create a new, long-term savings culture because, at present, people do not save

money and that is a problem because we expect that the social security system to cover all of our retirement responsibilities. With this system we are creating a savings culture that is going to permit individual savings in addition to the social security amounts.

Under this new the law, the pension plan established by employers or from collective bargaining agreements, the plans should be registered by an authorized actuary before CONSAR. CONSAR is the government's commission for this new system, and plans should be registered in order to withdraw the money of the individual accounts under different bases than those established by the law.

The AFORES are going to be permitted to receive pension plan money, but we do not think that employers are going to be saving in the AFORES. The employers I think are going to develop pension plans in trust funds. I hope that we are going to encourage the companies to create more pension plans, but in trust funds or administration deposits, not in the AFORE. But it is going to be permitted to register those pension plans and to use the money in AFORES in different bases than those in effect.

We are going to be looking now at the tendency of the pension plans to change from the defined benefit to defined contributions and contributory plans. But it might not happen as quickly as in other countries because, in Mexico, many of the current pension plans are developed to cover the severance indemnity established under the labor law. While this law does not change, various pension plans will continue considering that severance indemnity.

In conclusion, if Mexico gets long-term internal savings and the system helps to solve the cash flow problem, I think the amendment of the social security system will be a good option. There are other changes that we are expecting, in labor law and in health and maternity insurance, which are going to close the circle of all the employee benefits in labor and social security matters.

The risks of this new system are that the high commissions and high profits to the AFORES that are banks, insurance companies, and Chilean AFPs, could not encourage employees to make additional contributions to the AFORES. If the interest rates are lower than 6%, the new system is not going to pay better pensions than the current one. If the AFORES investments are managed mainly in government bonds instead of in productive bonds, we will have run the risk of high internal government debt in the long term.

Finally, in my expectation, with the combination of the mandatory plan of the new law as a first pillar, plus the creation of private pension plans, plus the

encouragement of voluntary plans and efforts to obtain a more competitive rate as a result of competition among the AFORES, the replacement levels would provide more honorable and attractive pensions to pensioners in the long term.