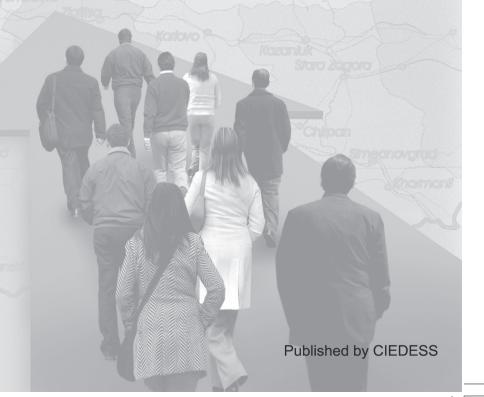


# Funded Systems: Their Role in Solving the Pension Problem

Presentations given at the International Seminar "Funded Systems: Their Role in Solving the Pension Problem", organized by FIAP, May 31 and June 1, 2007, held in Varna, Bulgaria



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#### PRESENTATION OF THE BOOK

Since Chile launched its new pension system based on individual saving accounts in 1981, a further 20 countries in America, Europe, Asia and Africa have followed suit, using various patterns which have opened up the way for multiple-pillar social security systems. In the vast majority of cases, these systems gradually replaced troubled pay-as-you-go pension systems, and over the course of time they have become the most powerful tools in solving the challenges of the population when it enters the passive age.

Since FIAP was founded in the mid nineteen-nineties, we have been making constant efforts to analyse the operation of the new pension systems and encourage each new country to achieve the aims of the policies underlying the reforms that have been implemented, so that our members may really contribute towards providing better systems of protection for the population being covered.

So, in the setting of FIAP's Annual General Meeting, held in Varna, Bulgaria, between May and June 2007, the Federation, together with the Bulgarian Association of Suplementary Pension Security Companies, BASPSC, organised their International Conference entitled "Funded Systems: Their Role in Solving the Pension Problem". This aimed to renew the arguments in favour of pension reforms based on individual saving accounts, reviewing the technical, economic and political arguments in their favour and underlining the role of workers' savings, that have been accumulated by the various funded systems, in the growth and economic development of the countries.

The pension system based on multiple pillars, which, in FIAP's opinion, guarantee that social security systems fulfil their main

objectives, are the main instruments currently available to governments for preventing poverty in old age and replacing the income of the worker and his/her family when he/she reaches the end of his/her working life or loses the ability to work as a result of disability or death.

The result of the presentations made it possible to produce this publication in Spanish and English, as is now our tradition. This material, in additional to representing a support to the academic, legislative and executive fields, embodies the state of the art with regard to the contributions that the funded systems are providing for the world and for the countries that have introduced them.

FIAP thanks BASPSC and acknowledges the efforts that it made to achieve a very high-grade seminar and even better hospitality. BASPSC is a non-government institution in the social security insurance area, founded in 1997 as an initiative of the first voluntary pension funds established in Bulgaria between 1994 and 1995. It currently includes the nine social security insurance companies, which manage 27 supplementary, mandatory and voluntary pension funds, belonging to the second and third pillars of the Bulgarian social security system.

GUILLERMO ARTHUR E.

President of FIAP

# OF PENSION FUND ADMINISTRATORS (FIAP)

FIAP was created in May, 1996. The legal status of this international institution was granted on 29th June 2004 in the city of Montevideo, by Supreme Decree Nro 801, issued by Uruguayan Ministery of Education and Culture. It currently has twenty-one "full members" in the same number of countries and eleven "collaborating members."

The "full members" are associations, federations, chambers or other institutions that represent the interests of the pension industry in the respective country. Thus, the following countries are represented in FIAP: The Dutch Antilles, Argentina, Bolivia, Brazil, Bulgaria, Colombia, Costa Rica, Chile, El Salvador, Spain, the Russian Federation, Honduras, Kazakhstan, Mexico, Panama, Peru, Poland, the Dominican Republic, Ukraine, Uruguay and Venezuela. The workers number of the FIAP member associations and institutes are 117.970.770 as of June 2007, and accumulate more than 658 thousand million dollars in their respective individual account.

The "collaborating members" are mainly companies that provide services and products to the pension fund management industry and currently include Barclays Global Investment; BNP Paribas Asset Management; Eurizon Capital; Fidelity Investments Institutional Services; Gartmore Investment Management; JP Morgan Asset Management; Larrain Vial Corredora de Bolsa; Pictet & Cie.; Pioneer Investment; Schroder Investment Management and State Street Global Advisor.

The main objectives of FIAP are:

- To contribute to the success of the new pension systems based on individual funding and private management.
- To promote reforms to pension systems that lead to the adoption of pension programs based on individual funding and private management.

In order to achieve these objectives FIAP has undertaken intense activities that include the holding of Seminars, Conferences, Workshops and Round Tables, specialized publications, the creation of a Web site, permanent contact with international organizations and authorities of the different countries, support of its partners in the promotion of improvements to the regulations of the respective countries, participation of its Chairman and the Steering Committee in propagating activities of the new individually funded systems, drawing up of documents to contest criticism faced by such systems and the preparation of Guidelines to assist in the better design of individually funded systems regulation.

#### **OPENING CEREMONY**

NIKOLA ABADJIEV Chairman Bulgarian Association of Suplementary Pension Security Companies, BASPSC

Bulgaria hosted an International Pensions Forum for the first time. The conference generated great domestic and international interest. Indicative of this interest, of the level and acknowledgement of this international forum was the fact that patron of the event was the Bulgarian head of state – President Georgi Parvanov.

The fact that this conference was held in Bulgaria and that the Bulgarian Association of Suplementary Pension Security Companies (BASPSC) hosted it, was for us an indication of FIAP's trust and recognition of the Association's activities, the work done and the results achieved by the supplementary pension companies and their partners, and it was also an acknowledgement of the country's past years' success in the area of social security and pension reform. We are glad to report that the Varna Conference was attended by more than 400 participants from 38 countries worldwide (Europe, Asia, Africa, North and South America) among whom were representatives of pension funds and pension fund organizations, investment and management companies, mutual and trust funds, banks and non-banking financial institutions involved in managing and investment of the pension funds assets.

The reports and presentations delivered during the forum and the ones published in the present book illustrate that the Conference objective to complement and update the arguments in favor of pension reforms and to stress the main paths for their implementation was fulfilled. The expectations that the conference

will enable the participants to get in line with the international trends of pension reforms development and implementation and to obtain new knowledge and experience on the topical issues of pension reforms around the world were met.

It is now clear that the pension models that are being applied already have a lot of characteristics in common, especially with regards to their second and third pillars - inasmuch as these pillars require the introduction of fully-funded schemes as part of the pension systems in different countries. At this stage there are no alternatives to the funded schemes that would offer a better solution to the pensions issue. These schemes are the only ones not only enabling effective retirement savings on behalf of the workers and employers, but also providing the formula guaranteeing that the pension savings will work for the savers, i.e. they create a value added to these assets through their investment. The weight assigned to the funded schemes is a matter of national choice. In some countries this is the only form of retirement provision, whilst in the majority of the other there is a balance between the PAYG and funded schemes for retirement provision. The discussions derived the conclusion that the preferred approach is to seek a balanced development of all three pillars in the pension system, because this results in security for the workers on the one hand, and on the other, it guarantees a decent retirement income.

Investment policies and strategies were the other important topics of discussion at the forum. Investing pension funds' assets is an important issue for all countries and funds managing such assets. The conference gave a definite proof that on the one hand the security of these funds should be guaranteed, and on the other, a greater investment performance has to be sough, in order to bring about better results for the pension fund participants. This conservative approach to pension funds investments creates a lot of problems. The best investment strategies ought to be found – both for the accumulation and the pay-out periods. I would like to stress here the topics of discussion that generated greatest interest: the introduction and development of multifunds in the supplementary retirement provision system, the choice of investment strategies in the mandatory pension funds, the

strategies for investing the funds during the pay-out period, and the regulation of the investment portfolio in managing pension funds assets.

Of great interest were also the presentations and reports delivered by EU experts on the developments and trends of the pension models in Europe, as well as on the common issues of the pension models in application in the "old' and "new" member-states. The different opinions shared during the conference indicated the need for updating the EU retirement provision directives to encompass the experience and achievements of the new pension funds and systems set up in the new member-states such as Poland, Hungary, Bulgaria, Estonia, Latvia, etc.

The reports, presentations, positions shared during the conference were a proof that the retirement provision issues are no longer confined within the national borders, but have become global, and therefore all countries are seeking effective solutions in this area. The forum gave us, the Bulgarian participants, assurance that we are on the right track, and that we ought to continue taking into consideration the international trends. The opportunities for direct contacts between representatives of the Bulgarian pensions business and the international investors and management companies, the exchange of views and experience outlined some approaches and methods for solving the existing issues and for the development of the pension systems.

In conclusion, I cannot but point out our great appreciation both of the reports and presentations delivered during the Conference, and of the input of all international participants who shared their knowledge and experience, their pending issues, expectations and vision of the future. I am convinced that the dialogue initiated in Varna between experts from different countries and between the international institutions and organizations will continue both in each and every one of the participating countries, and among them. There are differences in achievements, issues, goals, however, there are best practices, lessons learned, knowledge and experience out of which each country may choose the most appropriate for itself and try to implement and enhance it even further.



#### OPENING CEREMONY

GEORGI PARVANOV President of the Republic of Bulgaria<sup>1</sup>

#### Ladies and Gentlemen:

It is with particular pleasure that I accepted to be the patron of and deliver a welcoming address at this forum because I highly value the efforts of our institutions and the role of the Bulgarian Association of Pension Insurance Companies, as well as the assistance of the International Federation of Pension Fund Administrators and of a number of other international organizations for the organization and implementation of the Bulgarian pension reform.

I understand very well that the problems which pensions systems globally are faced with today are large in number and of high social significance.

That is why I believe that this international conference will provide a good forum to strike a balance of achievements as well as to view in a new way the technical, economic and political arguments in favor of pension reforms and to outline the key ways to implement them.

I hope that you will analyze carefully and objectively the international practical experience in and results of capital system usage and will give special focus to the benefits for the people and countries making use of these systems.

This speech was read by Mr. Nikola Nikolo, Advisor of the President of the Republic of Bulgaria regarding Social Policy.

I believe that you will also devote enough time to the strategies and policies which will ensure more efficient management of pension funds.

I am impressed by the topicality and public significance of the goals set and by the authoritative participation of over 300 leading Bulgarian and foreign experts from 40 countries globally which I view as a particularly important precondition for success of the conference.

We view the organization in our beautiful country of this significant international event and of the General Assembly of the International Federation of Pension Fund Administrators not only as a high esteem but also as a responsibility and an obligation to deepen and develop successfully the pension reform launched in Bulgaria.

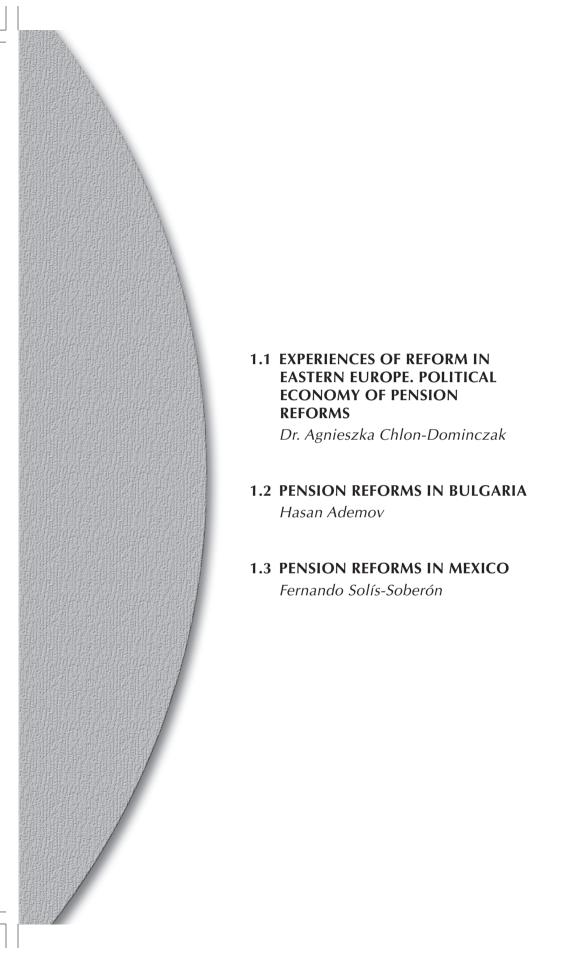
I believe that Bulgaria's hosting of the event and the traditional hospitality of our summer Black Sea capital Varna will provide an excellent opportunity for getting knowledge of the Bulgarian pension reform and the pension model adopted in our country, as well as for outlining the perspectives for transfer of our positive experience to the region and to other countries.

Saying "Welcome" to you all, I wish everybody fruitful work, new true friendships and unforgettable moments in the resort complex Golden Sands and in our country – the Republic of Bulgaria – part of united Europe.

Good luck!

# CHAPTER 1: The Political Economy of Reforms







# EXPERIENCES OF REFORM IN EASTERN EUROPE. POLITICAL ECONOMY OF PENSION REFORMS<sup>1</sup>

Dr. Agnieszka Chlon-Dominczak<sup>2</sup>

This chapter presents the experiences of countries implementing pension reforms, mainly in Central and Eastern Europe, but also in Latin America and developed OECD countries from the perspective of the political economy of pension reforms. Thus, it is focused rather on the process of reform preparation and implementation than on description of pension systems structure. The section is based on the paper and research that was conducted in 2000, after the wave of pension reforms in Central and Eastern Europe. Though some time have passed, one may observe that issues that are mentioned below are experienced also by those countries that are implementing pension reforms currently. Additionally, as some countries are still in the process of finalising lacking pieces of legislation (such as rules of annuity payments). Thus, lessons learned from experiences almost 10 years ago can still be valuable.

In order to understand the process of pension reforms, or in fact any reform, prepartion, it is good to identify its stages. Pension reform is an ongoing process that has several phases. Orenstein (2000) divides the process between commitment building, coalition building and implementation. At the stage of commitment building, a government

A. Chlon-Dominczak and M. Mora, "Commitment and Consensus on Pension Reforms" (2003).

Director of Economic Analyses and Forecasting Department. Ministry of Labour and Social Policy in Poland.

takes official action towards developing a reform proposal and works out a single proposal for reform. This stage can be characterised by extensive bargaining, debate and negotiations. Commitment of politicians as well as agreement among experts is crucial at this stage. At the stage of coalition building, the reform concept is presented to a wide spectrum of leading players, including political parties, trade unions and society in order to gain their acceptance of the reform proposal. The most important parts of this process are concept presentation, its dissemination, feedback and consensus building, working on new legislation and -finally- the enactment of laws. At the stage of implementation, new institutions are built and existing ones reformed. Most importantly, existing social security institutions have to adapt to the new environment. This is the stage when new players appear and take part in the discussion. At this stage amendments and changes to the initial proposal often appear. It is also usually the longest- lasting stage of the reform, taking at least a few

# How long does it take to prepare and implement pension reforms?

It is very difficult to generalise the experiences of countries with regards to the length of the pension reform prepration. Summary of the timing of pension reforms in several countries in Central and Eastern Europe and Central Asia is presented in Table 1 below. As one can observe, these countries differ quite significantly in the the length of selected reform stages. As a rule, the commitment building stage is the shortest one and can take as little as a few days (as for example in Kazakhstan) up to 16 months (as in Poland). The coalition building stage is longer in all countries, ranging from 7 months is Kazakhstan to 50 months in Latvia. The implementation stage is the longest process of all because it ultimately takes a few decades to fully implement the reforms.

Chlon-Dominczak and Mora (2003) present also the results of the qualitative survey conducted among the pension experts and politicians involved in the pension reform process. The survey was done in the form of electronic questionnaire, distributed among experts and decision makers from countries implementing pension

Table 1
TIMING OF PENSION REFORMS IN SELECTED COUNTRIES

Country	Commitment building	Coalition building	Implementation started
Hungary	10 months (June 1995-April 1996)	15 months (April 1996-July 1997)	January 1998
Poland	16 months (December 1994- April 1996)	32 months (April 1996- December 1998)	January 1999
Kazakhstan	0 months	7 months (November 1996- June 1997)	January 1998
Latvia	10 months (October 1994- August 1995)	50 months (August 1995- October 2000)	July 2001 (NDC since January 1996)

Source: Orenstein (2000)

reform. More than 30 experts and politicians replied to the questionnaire. The results allowed to identify, what were the perceived reasons of preparing pension reforms, who were the most important actors in the process and, finally, what were the sources of agreements and disagreements why preparing the reforms. The survey also aimed at investigating, what is perceived as 'pension reform' by respondents.

#### What is important in building a consensus for reform?

Once the commitment for the pension reform is established, it is necessary to build a broader consensus. In order to achieve the goal, it is important to prepare the reform concept, that covers not only the proposals of changes in the design of the pension system, but also instruments that help explaining the reasons for reform. Political commitment and government having a single well communicated proposal is crucial at this stage. It is also important to build a cross-party consensus. Pension reforms are a long lasting venture that are prepared and implemented across several governments. No one government can be responsible for the process, as it needs to be continued. That is why getting a

consensus that is beyond the government coalition is very important. The well-communicated need and reasons to reform help to achieve such political support.

At the consensus building stage, it is also very important to monitor reactions within a society using for example public opinion polls or other measures such as focus group interviews. Good public relations preparations help to communicate the reactions of the society to the politicians and build support to the presented ideas. Presentation of survey results to politicians can help in getting their support for the proposed ideas.

There is some international evidence on building broader consensus around the pension reforms. In Sweden, before the reform was legislated and implemented, a cross-party coalition was built which covered practically all political parties represented in the Parliament. As a result, there were no controvercies when the appropriate legislation was discussed in the Parliament. In Poland, the first package of pension laws that regulated the functioning of mandatory open pension funds and employee pension plans were approved by the Parliament with 95% votes. The reform process that was started in mid 1990's and implemented in 1999 was continued by successive governments, led by different parties (from left to right). The initial consensus resulted in consistent implementation of the new pension system based on the grounds set in 1997. Yet, with time the level of support for the implemented solutions deteriorated. Thus, the continuous political dialogue is essential to maintaing the political agreement in the longer run.

Another, more recent example of building broad politicial consensus is the reform of the pension system in Denmark. This included the agreement among social partners on implementation of changes in the pensions system, including increase of retirement age.

### What are the reasons for pension reforms? -expert's evaluation

In the qualitative survey by Chlon-Dominczak and Mora (2003) almost all respondenst pointed out that the main reason for

implementing pension reform is the fiscal deficit of the pension system – current and projected. The threat of rising deficit helps to make decisions that are unpopular, such are reduction of the pension promise. Yet, in some cases the respondents replied that high current pension system deficit can slow down the systemic reforms of pension system and make the option of parametric reforms of the pay-as-you-go schemes more attractive. Some respondents perceived the threat of rising fiscal deficit as an excuse for the reform activity. Even if this was the case, it is important to identify those arguments that can help to push the reforming process forward and achieve the commitment level that is desired.

Responding to the direct question on motives for a pension reform from the economic and social perspective, the experts also scored the financial sustainability as the most important one. On average, this reason received a weight of 2.9, where 3 was the highest (see Figure 1).

Other reasons that were also frequently quoted were improved poverty alleviation and improved protection of workers. Reasons that can be regarded as externalities to the core reform motives,

2.88 3.0 2,5 2,0 1.68 1.53 1,5 1.18 1,09 1,0 0.5 0.0 financial improved poverty improved economic growth development of sustainability alleviation protection of financial market workers

Figure 1
ECONOMIC MOTIVES FOR A PENSION REFORM

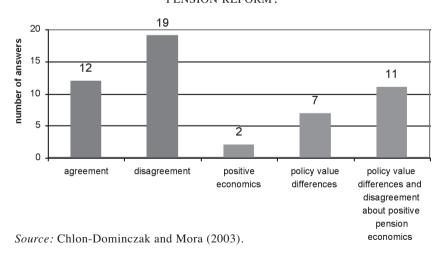
*Note:* The scale from 3 (highest) to 1 (lowest). *Source:* Chlon-Dominczak and Mora (2003).

including economic growth and development of financial markets received lower attention.

Chlon-Dominczak and Mora (2003) also asked about the agreements or disagreements among experts on the way the pension systems should be designed (see Figure 2). The conclusion is that there is more disagreement than agreement. This reflects the fact, that there is a variety of potential design of pension schemes. That is one of the reasons why commitment building process is necessary when a certain model of a pension system is proposed. In order to proceed with the planned reform the broadest possible agreement is crucial. It does not mean that there will not be any disagreements, there will always be experts that have different perspective. But it is important to have a dialogue with all potential actors, including also veto actors to build a consensus towards the change.

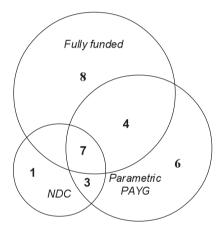
Chlon-Dominczak and Mora (2003) also asked experts and decision makers about their definitions of pension reform (see Figure 3). To that end, there is also a large divergence in opinions what can be regarded as pension reform. For some pension reform

Figure 2
Is there a consensus among pension experts on pension reform?



is the introduction of a fully-funded system, as a system build in different financing principle than traditional pay-as-you-go schemes. Others regard as a pension reform also parametric changes of the existing pay-as-you-go scheme or introduction of Notional Defined Contribution (NDC). Experts replies are correlated to the implemented changes in countries they come from. It can be stated that the model of changes implemented in the given country is perceived as a reform definition.

Figure 3
What is your definition of Pension Reform?



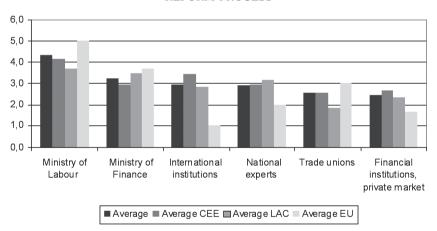
Source: Chlon-Dominczak and Mora (2003).

#### Who is responsible for reforms? Role of institutions

An important aspect of the political economy of the pension reform is also the institutional involvement. In any reform process, both national and international, public and private actors can be involved. Chlon-Dominczak and Mora (2003) investigated in the survey the level of influence of various institutions: Minister of Labour, Minister of Finance, international organisations, country experts, trade unions and financial institutions on the reform process. The answers of respondents were divided according to the region they come from— Central

and Eastern Europe, Latin America and EU-25 countries. As it can be seen in Figure 4, there role of Ministries of Labour if the most important in all of the countries. The highest importance of Ministries of Labour is seen in EU countries, while the lowest in Latin America. Central and Eastern Europe and Latin American countries differ significantly from the EU-15 with regards to the influence of international institutions, which was largest in Central and Eastern Europe and quite significant in Latin America, while it was much lower (in fact last in the ranking of influence) in the EU-15. Similar situation was observed in the case of private financial institutions. On the other side, trade unions were more involved and had more influence in the reform processes in the EU-15 countries, while their role in CEE and Latin America was much smaller.

Figure 4
IMPORTANCE OF SELECTED INSTITUTIONS FOR THE REFORM PROCESS



Source: Chlon-Dominczak and Mora (2003).

Involvement of many institutions means that they have to communicate. There are also different experiences with regards to the communication in the process of reform. The pension debate is definitely a difficult one. The Polish example shows that institutions and actors involved conducted the dialogue

Figure 5
Role of the Government in Pension Reform
DIALOGUE IN POLAND



Source: Perek-Bialas, Chlon and Ruzik (2001).

using the government as intermediary. For example, there was no direct communication between employers and trade unions and the dialogue was conducted at the forum of the Tripartite Committee where social partners addressed their expectations to the government only. The same applied to other institutions as well.

If we look at various actors involved in the process of pension reform (see Figure 5), a special role is played by the media. It is very important for those involved in preparing and implementing the reform to have a very consistent message and image of the pension reform that is communicated to the media. The Polish experience shows that it is important to have identified a core group of journalists who prepare and present information on the reform activities. Frequent meetings with them, aimed at presenting the assumptions underlying reform activities, in the form of press conferences, informal briefings as well as training as an investment that pays off at later stages. If they are well informed, they help to presenting the reform concept to the public, serving an important role in providing necessary knowledge.

It is also very important to identify the potential opposition and veto actors and engage in the dialogue with them on such topics as reasons for the pension reform, its design and potential outcomes. Even if they are not fully convinced to the presented model, the constructive discussion helps to improve the initial ideas. It frequently happens that social partners (trade unions, employer organisations) veto the reform process, not fully understanding the challenges related to the demographic changes in the future.

To that end, involving trade unions and employer organisations in the pension reform process is important to build social consensus. This is also a requirement of international standards and conventions, especially the ones of International Labour Organisation. Involving experts from social partners can lead to more compromises in the pension reform process, but on the other hand helps to achieve more stable consensus. Yet, this depends on the general role social partners play in a given country.

The important role can be also played by society in general. This is especially important, when politicians are sensitive to the results of the opinion polls.

The assessment of potential roles of social partners and trade unions can be seen from expert's views in the surver presented by Chlon-Dominczak and Mora (2003) presented in Table 1.

It is also important, especially in the case of developing and transition countries, to have a good communication with potential donors and international institutions. Good co-ordination of support offered by international institutions can enhance the efficiency of offered support. On contrary, lack of co-ordination can lead to mixed outcomes. To that end, Polish experience can be used as a good practice example. In Poland the Round Table of all donor institutions was established. At the Round Table the involvement of all institutions was discussed and decided to ensure co-operation, rather than competition between those institutions.

Last, but not least, the ownership of the reform should be in the country. It is a very important element to build a sound political consensus based on national experts and politicians. No

#### Table 1

### EXPERT'S VIEWS OF THE SOCIAL PARTNER'S AND SOCIETY'S ROLE IN PENSION REFORM

Social partnership is used in two aspects:

- 1. The responsibility for the unpopular part of the reform is shared;
- 2. Experts from union and employer organisations are used. This certainly has its price compromises have to be made with respect to the radical nature of the reform and the rate of transition.

The tripartite system did influence the reform process. The unions were strongly opposed to the introduction of the mandatory second pillar. They were also strongly opposed to a larger parametric reform of the PAYG system, particularly in the increase of statutory retirement age.

Society reacted very intensively. In general, the media, trade unions, and many of professional organisations were strongly opposed to the proposals for radical and substantial changes in the current pension system. The mass media and government regularly presented and/or read the opinion surveys.

The civic society played no dominant role. Generally, the main message of the campaign was the necessity to close the deficit of the old system, as well as the opinion and the intern investigation to convince the other political actors about the reform necessity.

Source: Chlon-Dominczak and Mora (2003).

international expert is able to maintain relations with one country for longer period of time, that is necessary to maintain consensus.

#### A few words about public information

Informing the society about the upcoming changes is a necessary part of any large reform process. Public information campaigns are one of the components of the pension reforms in every country with the main goals.

 to promote the new system and to convince the public of the advantages of the new pension system, • to educate the public by providing information on the essence of the new pension system.

As the experts in social security tend to speak in a language that can be difficult to understand for the general public, the public information campaign should aim at translating difficult concepts of social security and pension systems to relatively simple terms. This is especially crucial if, as a part of the new system, people have to make choices, such as enrollment to a pension fund.

During the consensus building stage, the most important element is a public relation activity, aimed at decision makers (politicians) and other important actors (social partners for example). This is an important element of gaining sufficient support for the proposed changes.

During the implementation stage, the public information effort is focused on the society as a whole, presenting information on the new system and its impact on their situation. Public information campaign should also inform people about their choices and about aspects they should take into account while making their choices.

It is important to find ways to reach as many citizens as possible during the public information campaign. It means that the most popular media should be used.

In general, media can be seen in a few roles in the reform process:

**First:** It is a forum for experts to discuss.

**Second:** It provides information to people.

**Third:** Last, but not least, it comments on and then criticises processes, especially if there are some problems and issues that require attention.

Additional initiatives are also welcomed. For example in Poland the attention was also put on regional media. The minister responsible for the reform visited major Polish cities, meeting with local authorities, media and social partners. Regional journalists were also contacted, informed and trained. This stemed from the assessment that local media play important role in providing

information on regional levels. Another example is the group of trainers that were presenting the new pension system on company meetings. Any company could invite such trainer for the presentation, free of charge.

#### Compromises in the pension reform process

Compromises in the pension reform at the beginning of process but also later are usually unavoidable. However, it is important to keep the overall framework of the new pension system sound and compromises should not affect this framework. Yet, as international experience shows, there are some aspects of reforms that are usually controversial from social perspective and this leads to changes compared to the initial proposals.

One of the fields where compromises are frequently made is retirement age. For example, the initial proposal in Poland included equalising retirement age for men and women at the level of 62 years. It met very strong societal and political objectives that resulted in maintaining the original differentiated retirement age of 60 for women and 65 for men. Additional controversy can be also related to the retirement age of specific occupation groups. Another example from Poland is the approach to the retirement privileges of miners. In 2005, after miners' protest in Poland, the special much generous miners pension was proposed and legislated by the Parliament, despite the government objections. This re-instated the pre-reform pension system.

Compromises can be made during the preparation of the pension reform, but also at a later stage. For example in Hungary the initial plan included faster increase of contribution rate to the final level. However, due to the size of transition costs and its impact on public finance situation, the government slowed down the initially planned increase.

Another Polish example refers to the portfolio structure. Upon the discussion on the legislative framework in the Parliament, politicians were worried that pension funds would not invest its assets in Poland, while such investment was perceived as increasing economic potential of the country. As a result, initially

only 5% of assets could be invested abroad. To date the initial limit was not changed, though there is a worry that increased supply of assets on the Polish financial market could lead to a speculative bubble. The reason for the lack of change is lack of political consensus to increase the limit.

#### Implementation stage should not be underestimated

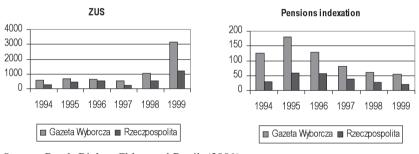
The implementation stage usually deserves little attention in the literature. As a result, potential issues that are involved in the implementation stage are underestimated.

The Polish experience shows that there are many problems that can appear during the implementation stage that are very difficult to avoid. As there was little time between the completion of the legislative process and implementation (only few months), the administrative preparation of the new system implementation was not complete upon the launch of the new system. As a result, there was a lot of criticism in the media related to the administrative issues, mainly related to the delays in contribution transfers to open pension funds, which are centrally collected by Social Security Administration (ZUS). This could potentially reduce the initial high social acceptance of the reform already from the beginning of the process. I took a few years until ZUS fully adapted the requirements of the new system and contributions are transferred to pension funds.

As social insurance system affects large share of the society, the media usually pays a lot of attention to its functioning and in particular implemented changes. In Poland the media interest of the pension reform peaked in 1999, upon implementation of the new system. In subsequent years the interest is much lower. Perek-Bialas, Chlon and Ruzik (2001) analysed the content of the articles in biggest newspapers in Poland. They conclude that at initial stage, the majority of articles are focused on providing information. In following years, the media played more commentary role to the developments in the pension system. Figure 6 shows the statistics on the number of articles with selected key words in two biggest daily news papers in Poland. The first keyword is ZUS. As one can see, the number of articles that included the word "ZUS" peaked in

1999, which was the first year of the implementation of the new pension system in Poland. Such big number also reflects the issues related to implementation difficulties as mentioned before. Another keyword is "pension indexation". The peak of the newspapers interest on that topic was noted in 1995, when a substantial change of indexation rules was adopted. In following years the interest was much smaller, concentrated around dates of actual pension indexation, when newspapers provided information on the amount of indexation, etc.

Figure 6
FREQUENCY OF ARTICLES WITH SELECTED KEYWORDS IN TWO
BIGGEST DAILY NEWSPAPERS IN POLAND



Source: Perek-Bialas, Chlon and Ruzik (2001).

#### Summary

To summarise, pension reforms are usually trigerred by the difficult fiscal situation of the existing pension systems that are usually caused by demographic changes and population ageing. Pension reforms can take many forms: paradigmatic change of the system, including introduction of funded tier, introduction of NDC; or parametric changes of the existing pay-as-you-go scheme. It is very important to reach internal agreement and obtain political will within the government so that the coalition building with other partners can be introduced. Sometimes commitment building requires an external push, for example suggestion by international institution (like IMF or European Commission) saying that reforms are needed to improve long-term fiscal

sustainability of public finance. The reform requires a consensus among experts and politicians. The coalition building process requires involvement of many actors, including social partners and the society. Yet, the role of selected institutions varies depending on the situation in a given country.

At the implementation stage potential difficulties are frequently underestimated. There is a risk of reversing some of the measures implemented initially. As the time passes and certain solutions are close to being effectively used, some of the discussions can be reopened. Political support, initially build, does not last for ever. Thus, it is important to devote continuous effort to maintain it. Postponing some legislative pieces of the new system can become risky, as veto actors can gain more attention.

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#### PENSION REFORMS IN BULGARIA

HASAN ADEMOV<sup>1</sup>

#### Preliminary remarks

I want to thank FIAP and the Bulgarian Association of Supplementary Pension Security Companies, BASPSC, for the invitation to participate in this Conference, which gives me an opportunity to present the results of the work and effort of a generation of Bulgarian experts in the area of social security; of many politicians; and of Bulgarian citizens who took part in the development of a new pension system for the country.

I will start my presentation describing the different stages of pension reform in Bulgaria and particularly the first stage, which did precede the more radical reforms of the second stage. Then I will describe some of the conditions that helped to the success of pension reform in the country. After that I will make some remarks about the model of the reform and will describe the more specific characteristics of the new pension system which has been created. I will end with a preliminary assessment of pension reform results and discussing possible changes to Bulgaria's pension reform path.

#### Stages of pension reform in Bulgaria

Pension reform in Bulgaria, which is still an on-going process, has advanced in stages, some of which overlap.

The first stage, which extended from 1990 to 1999, was characterized by cautious partial reforms as a background to the

Chairman of the Labor and Social Policy Commission of Bulgarian Parliament.

more radical reforms that came later on. The second stage started at the end of the 90's and will be going until 2010, and includes the most substantial reforms. The third stage, which started in 2003 and is on-going today, is characterized by a debate on some proposals to introduce even more profound reforms.

At the early 90's, and as a consequence of economic reform, unemployment did grow in the country. Under public pressure, politicians did respond to this problem by easing retirement conditions for several groups of workers. In other words, the pension programs were used as a substitute for unemployment programs. It was the time in which generous early retirement schemes did proliferate.

In 1992 inflation did increase. Pensions were adjusted and, at the same time, the first series of discussions for a more radical reform were held. This included discussions about the implementation of the Chilean pension reform scheme in Bulgaria, although immediately it was clear that any application of this model should be made with Bulgaria's country-specific needs in mind and considering the country 120 years of social security tradition.

In the years 1993 and 1994 the so-called "White Book" for reforms to the public pension system was prepared. What was characteristic about this document was that funded systems were only very cautiously mentioned. However, the concept of a second pillar was part of the document. It must be noticed that by these years a voluntary pension insurance industry based on the fully funded principle had already emerged without any regulations. This industry managed to survive through the financial shocks of those years, characterized by failures and bankruptcies of banks, financial pyramids, and of deposit schemes. There is no doubt that the resilience of the voluntary pension programs helped to build public's confidence on privately managed pension programs and so, helped pension reform in Bulgaria.

In 1996 the public Pay –as - You– Go pension fund, as well as the maternity and sickness fund were separated from the State budget. The National Social Security Institute as autonomous institution

was set up based on a tripartite principle (government, trade unions and employers). In the same year new rules for the calculation of the public pension benefits were introduced. The amount of the pension depends upon the contribution (the years of service and the insurance income) throughout the all insurers' period. (In the old pension formula the amount of the pension was based on the reference period of the three best years – in most of the cases these were the last three years.)

The first stage of pension reform in Bulgaria had then, some characteristic features. First of all the attempts to improve social security were fragmented; emphasis was placed only in parametric reforms to the public programs, and no consideration was given to the other systems. Also, reform proposals were decided under public pressure and more on the basis of their expected short term political effects, and not on technical grounds. Decisions in the area of social security were very much dictated by the attitude and spirit of the time and they followed events instead of being the result of proactive policies. This stage also characterises because the aim of the reform effort was mainly to improve the financial condition of the existing system. Instrument that was used was the increase in contributions which, as we have seen, resulted in negative effects. Finally, in this stage pension policy was also used to solve labor market problems.

# Motives and framework of structural pension reform in Bulgaria

More radical pension reform in Bulgaria, which was carried on in stage two of the reform process, was motivated by a combination of a very low level of pensions (replacement rate was about 25% to 27%); increases in contribution rates that created incentives to avoid participation in the social security system; and the weak financial condition of the programs, which were demanding increasing amount of resources to the public budget.

There were at least five conditions which did help to the successful launch of structural pension reform.

First, a strong political will and responsibility backed up by the widest possible public support. This was a remarkable condition since when the pension reform effort started in the early 90's Bulgaria was applying to become an "EU" member state, which was by itself a huge challenge.

Second, at the time of pension reform the macro economic environment was favourable. Bulgaria had already implemented a currency board and inflation was about 3% to 5% per annum.

Third, pension reform did face a favourable social environment, because people expected that it would help to solve the social security problems.

Fourth, with the help of a loan from the World Bank and with USAID support, institutional capacity -including the preparation of IT and communication systems- was developed. A very good actuarial team was set up; various reform simulations were done based on a macro economic actuarial model. Also, assistance was received to solve some micro aspects of design of the new funded pension system, in particular, pension fund portfolio diversification rules. During this entire process people responsible of implementing the reform was able to work in close relationship with technicians bringing ideas from the academic world. The bridge that was created between theory and performance was very important because it did allow the overall institutional capacity to be build over sound conceptual basis.

Fifth, there was a very active public relations (PR) campaign which helped to increase the public's commitment to this reform.

### Reference model for pension reform in Bulgaria

Pension reform in Bulgaria was modelled after the World Bank proposal for multi-pillar pension systems, but taking into consideration the national tradition specifics. What we wanted was to preserve the coverage of the solidarity pension system while changing substantially its parameters and, at the same time, to build a well regulated, supplementary, privately-managed funded pension scheme, both mandatory and voluntary.

I mentioned that Bulgarian pension insurance and social security have more than 120 years of history. So, it was extremely important for us to base our reform on these traditions. The challenge was to combine the international experience with Bulgarian tradition into one new concept and a new paradigm. We needed to develop a new thinking structure for establishing a "Bulgarian pension model".

### Pension reform characteristics

### First pillar reforms

Bulgaria's social security system has become universal: there is one system which covers all economically active people, dependent workers and self employed. So, the system is not segmented by occupations or different forms of economic activity.

The reform did also encourage labour mobility, since social security rights became fully portable. So, for example, a person which first have an employment in the private sector, then becomes a public servant, and after that is self employed, will be covered in all of these occupations by the same social security scheme.

There exists also a non contributory (or "social") scheme, which offers old age, disability and survivorship benefits, and which is financed by the national budget.

The idea of Parliamentary reforms and their contents in the first pillar, involve the gradual moving of early retirement to the second pillar; that is, "Professional Occupational Pension Schemes".

One of the most difficult aspects of pension reform was the introduction of stricter old age pension eligibility rules. Under the old pension act, retirement was possible at age of 60 for men with 35 years of contribution, and at age 55 for women with 20 years of contribution. Men received pensions for an average of 15 years and 6 months, and women for an average of 23 years. This was really striking because on average, women with 20 years of

contributions would receive benefits for 23 years. So, it was evident that minimum years of contribution should be increased to restore the financial equilibrium of the program.

A "Point System" was then introduced. To retire men must be 63 years of age and have 37 years of contributions (or 100 pension points: 63 + 37). For women the required pension points are 94 (retirement at age 60, plus 34 years of social security contributions).

### Second pillar reforms

The objective of this type of social security is to provide an income by giving a supplementary pension, and a possibility for an early retirement to the employees working under hard and unhealthy conditions / labour categories.

It was introduced a fully-funded mandatory second pillar with two types of pension funds:

(i) Universal Pension Funds. This provides a second life pension for all persons born after 31<sup>st</sup> December 1959, funded through employer and personal contributions (this year the ratio is 65% employer, and 35% for the personal contribution, but the ratio is expected to become 50%/50%).

This date was chosen based upon actuarial analysis and estimates that people born after 31st of December 1959 will have sufficient time to accumulate assets in their individual accounts. Later they can rely on a pension which would be a supplementary life pension to the basic solidarity pillar.

(ii) Occupational Pension Funds. This provides an income for early retirement of people working under arduous labor conditions, funded by the employer. This program is universal for all people born after the 31st October 1959, with the second life pension?.

Currently there are discussions related to the eligibility of people born before 1959. Some say that they should also be eligible for social security contributions and to acquire this right to take part in this pension fund. It shall be provided at the expense of 30% of personal income tax of each insured person. Of course, this is an issue to be discussed on the Commission of Labour and Social Policy in Parliament and by social partners.

Structural pension reform also included the regulation of "Voluntary Pension Insurance" plans. This is the funded "third pillar" of the new Bulgarian pension system, which is financed with individuals and employer contributions. At the same time, tax incentives were introduced to give incentives to individuals to participate in this kind of programs.

A different component of pension reform was the implementation of a new supervisory structure for the second pillar. Initially a special supervision agency was created; then this became part of an insurance supervision agency, and now it's part of a financial (non-banking) supervision agency which oversees the funded pension schemes, insurance sector and securities trading.

### A preliminary assessment of pension reform

Let me start by highlighting the good public/private partnership which has developed in Bulgaria's pension sector. Without this partnership between institutions that, on the one hand, control and regulate the activity and, on the other hand, have the responsibility of managing the system, we could hardly expect any success in the implementation of reforms. It is important to mention that this cooperation and partnership continues today; I believe that pension reform in Bulgaria, as a result of this co-operation, will continue to improve and develop.

Let's go to some figures. Coverage rate of the supplementary (second pillar) pension program is 54,68%, while coverage of the 3<sup>rd</sup> pillar is 11,74%, with a total coverage of funded systems of 66,42% (see Table 1).

The percentage ratio of pension fund net assets to GDP is 2,08%, while this ratio for the 3<sup>rd</sup> pillar is 1,01%, for a total of 3,09%. Pension funds are having an increasing role in domestic capitals

markets. For example, second pillar pension funds investments in securities traded on regulated markets have reached 37,49% of the stock of these instruments, while this proportion is 41,82% for third pillar pension funds.

Table 1
SOCIAL AND ECONOMIC IMPACT OF THE SYSTEMATIC
PENSION REFORM
(Through 31.12.2006)

SPF	II nd pillar	II rd pillar	Total
Coverage rate of supplementary pension provision (PF participants to total active population) <sup>1</sup>	54,68%	11,74%	66,42%
2. Penetration rate (PF's net assets to GDP) <sup>2</sup>	2,08%	1,01%	3,09%
3. Increasing role of PFs for the domestic capital market's development (relative share of investment portfolio in securities traded on regulated markets)	37,49%	41,82%	38,92%

Source: Prepared by the author.

Does the current pension system of Bulgaria meet with the "adequacy" criteria? To answer this question we will now make some comments on different features of the system.

As we have shown, in Bulgaria we have almost full coverage of the population. However there are some problems caused by high unemployment rates in some active workers age groups. Although there are already some programs for solving these problems (one of them is called "Early Retirement" and it currently covers about 6.000 Bulgarian citizens), we are still looking for efficient ways to reduce the limit for eligibility rights and to introduce flexible forms of retirement.

The target ratio of income replacement ratio of the new pension system is in the range of 70% - 80%. For the Solidarity First Pillar

it is 40%; for the funded second pillar it is 20%; and for the funded 3<sup>rd</sup> pillar it is 10% - 20%. This ratio is reasonable by international standards. However, currently there is dissatisfaction with pension levels because of a very "thrifty" pension indexation formula which compensates only for the inflation in the country, but does not includes adjustments to capture increases in average income of the country. To solve this problem there is a proposal to replace price indexation by the "Golden Swiss Rule", which would mean that pensions will be adjusted not only by inflation, but as an average of inflation and wages. However, so far there is not a decision on this issue, although I am convinced that we need to work in this direction more thoroughly so in order to meet the expectations of the Bulgarian people.

The next thing to point out is that individual accounts should provide motivation for participation and opportunities for personal choice. This is a very important factor when assessing the equities of a pension system.

### Risks of the solidarity pillar

The solidarity (or first) pillar of Bulgaria's pension system faces some very distinctive risks which need to be managed.

One is the so called "economic risk", which is the result of low (or negative) growth, declining employment and income rates, and unformalization of the economy. Although today we are not in facing these problems, if they come in the future they could have relevant negative impacts over the financial situation of first pillar programs.

Secondly, it is the "demographic risk" which depends not only of fertility and mortality rates but also on the flows of emigration from the country. Currently there is a debate on this issue in Bulgaria and, in fact, the legislative basis for the creation of a reserve fund to face this risk -"Silver Fund", financed with a percentage of eventual public budget surplus - is being established.

There is also what I will call "budget risk". In Bulgaria we have conducted simultaneous reforms in several policy sectors:

structural economic reform, health care reform, and social security reform. All these reforms demand resources, creating then a situation in the public budget which could jeopardize the chances of a success of pension reform. Decisions which result in new public deficits will face political risks. So, if other countries are now starting such reforms, our advice would then be to create conditions for a "step by step" pre-implementation of pension reform in order to avoid a large-scale financial pressure on the public budget.

### Risks of the fully- funded pillars

The second pillar also faces some risks of its own.

First of all is there is a "management risk". The success of pension reform depends on people's confidence in the institutions managing the pension funds. These entities are responsible of investing the money of the Bulgarian citizens with full compliance of their fiduciary responsibilities and efficiently. Decisions must be transparent, and the entities should be able to reach the necessary equilibrium between good returns for the pension funds and manageable risks.

There is also the risk of the reform process being suspended, and of regression to the old system. This is a "political risk" of which we will speak next.

### Alternatives to the present pension model

There are two totally different alternatives to the current pension reform model which are being discussed now in Bulgaria. The first proposal is to keep the "solidarity pillar" as the only mandatory program, and restrict the funded scheme to voluntary savings. The second implies the full privatization of the pension system, in a way similar (although not equal) to the "Chilean model".

The first alternative should be rejected. Because of aging and emigration such a system is not financially sustainable, so pensions would be at risk. At least the new generation, the ones who are just starting to participate in the labor market, should have

opportunities for personal choice and for diversity of pension schemes, so that they can realise their own ideas. Moreover, this kind of pension system would create disincentives for participation of the young generations in the formal labor markets and will incentive the no compliance with social security obligations. Finally, this kind of reform will prevent the accumulation of pension savings, and so will sacrifice potential positive effects in capital markets and growth.

What about moving the other way and eliminate the "solidarity pillar"? This is also not a good idea. On the one hand, the solidarity pension system is one of the achievements of the present society and we should therefore do our best to keep and improve it. Moreover, there are international conventions signed in this respect and there is a special directive from the European Union which obliges all European Member States to maintain the solidarity system. So, if the "solidarity system" is abolished, Bulgaria will be found in a very delicate and special situation. On the other hand, we can not loss the flow of contributions which helps to finance current pensions. In other words, transition costs of moving to a situation in which no more contributions go to finance current first pillar pensions are too high. Finally, we need a "solidarity pillar" since pensions of the elderly population should not become hostage to the capital markets.

I hope that I have succeeded to outline some of the main reasons for the reform in Bulgaria; its philosophy; the risks that the new system is facing; and the successes that we have achieved.



### PENSION REFORMS IN MEXICO

FERNANDO SOLIS-SOBERÓN<sup>1</sup>

First of all, I would like to thank FIAP for the invitation to participate in this forum. I will briefly describe the pension system in Mexico that started 12 years ago.

I will start with a very short description of the "new mexican" pension system (see Figure 1). This system is very much like the Chilean model which you know very well. In the accumulation phase, workers accumulate funds for their retirement in individual accounts. During the pay-out phase the accumulated balance is used to finance the workers pensions.

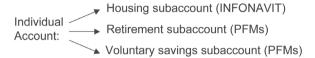
Each individual account has three subaccounts. The first one is called the housing subaccount, in this account employers deposit each month 5% of the workers wage. The funds are used by a public financial institution named INFONAVIT, to grant credits to housing construction companies and mortgages to workers. The accumulated balance at retirement is used to finance the pension of the worker

The second is called the retirement subaccount; this is the back bone of the system. In this account each month 6.5% of the workers wage is deposit, plus an additional lump sum contribution from the government. The funds in this account are managed by private pension fund managers called AFORES.

Ex President of the National Retirement Savings Systems Commission, CONSAR, Mexico.

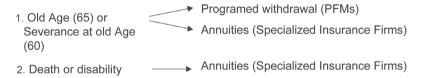
## Figure 1 BASIC ELEMENTS

### Accumulation phase:



Social Security Institutions are the suppliers of life and disability insurance

### Payout phase:



Source: Prepared by the author.

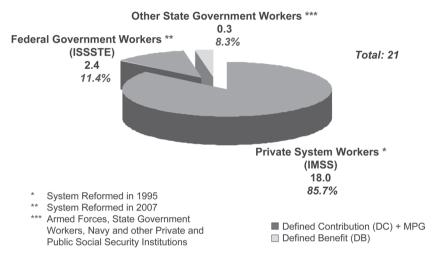
In addition, there is a voluntary savings subaccount, aimed at encouraging voluntary contributions to enhance the workers pensions. These funds are also managed by the AFORES.

In the Mexican case, the social security institutions are the providers of life and disability insurance. If someone becomes permanently disabled or dies, a certain insurance amount is paid by these institutions to the worker or the beneficiaries. This amount is added to the balance in the individual account to fund a pension with defined benefits established in the Social Security Law.

The retirement age is 65, for both men and women, or at 60 if the person is not working any more. At retirement, the worker can choose between a programmed withdrawal of the funds or to purchase an annuity from a specialized insurance company.

There is a minimum pension guaranteed for all those workers that cannot fund with the accumulated balance this minimum pension.





Source: Prepared by the author.

There are 21 million workers affiliated to the social security institutions (see Figure 2). In Mexico there is a federal social security institution for private sector workers (IMSS), another for federal government workers (ISSSTE), and others for public workers at state governments.

The private sector workers pension system was reformed in 1995 and became effective in 1997. The Federal Government pension system was reformed in 1997.

### Pension system reform

I will proceed now to describe the process of the pension system reform in a chronological way.

In the beginning of the 1990's, some studies of the World Bank and of the Mexican government pointed out, like is the case in many other pension systems around the world, the need of a pension reform for various reasons that I am going to describe later on.

A discussion followed within the government on how to do the reform. The outcome of this discussion was that, in 1992, a National Savings System was set up with a new contribution of 2% from the employers to individual accounts managed by the banks. The employers decided which bank manages the account of their workers.

Between 1992 and 1993 no significant changes occurred. In 1994 the National Savings Systems Law was enacted and a regulatory body, the National Retirement Savings Systems Commission (CONSAR), was created.

In 1994 important things happened. The Director of the Social Security Institution for private sector workers (IMSS) created a task force conformed by experts in order to analyse in detail the financial condition of IMSS.

The major conclusions were not surprising: (1) a huge actuarial deficit, not only in pension insurance but also in the health insurance; (2) it was also shown that in may cases low income workers, women and workers with high labour mobility, were not eligible to received a pension, or if they were, the pension was relatively low. This last conclusion showed that the pension system was not performing as expected in terms of redistribution of income.

This study was presented by the board of directors of IMSS, conformed by representatives of employers associations, government officials and labour unions, to the general public through the use of massive media campaigns in radio and TV. The campaigned aimed to create the conscious of the important problems being faced by the current social security system.

In 1995 the process of pension system reform started. A task force was appointed by the President of Mexico. It was integrated by the

Secretary of the Treasury, The Secretary of Labour, the Presidents of the Social Security Institutes and of the Housing Institution. All these institutions were involved, aiming to create a new National Pension System.

In 1995, within the task force set up by the President of the Country, due to political reasons, the following decisions were made: (1) The reform of the federal and state government workers pension systems was postponed; and (2) IMSS will remained as the sole provider of life and disability insurance.

In the same year the first draft of a new Social Security Law for private sector workers was prepared and sent to Congress. The new Law was approved by 99 votes in favour and 76 against.

It is important to mention that amendments were made to the Law by the legislators during the approval period. The most important being the following: IMSS was allowed to set up a pension fund management firm subject to the same rules as other pension fund managers; and the investment of the pension funds abroad was prohibited.

In the year 1996 the first draft of the Savings System Law was submitted to Congress. This Law established the regulation of the pension fund managers (AFORES). During the approval period, legislators made important amendments: (1) a consulting committee was created at CONSAR, conformed by representatives of labour unions, employers associations and government officials; (2) CONSAR Board of Directors was also conformed by representatives of labour unions, employers associations and government officials; (3) a maximum market share in terms of affiliates for the pension fund managers was established at 20%; (4) at least one pension fund under the management of the AFORES has to be invested in not less than 51% in assets guaranteeing a real rate of return. With these changes the Law was approved in Congress with 290 votes in favour and 100 votes against.

In 1997 seventeen AFORES and thirteen specialized insurance companies were authorized. The affiliation process started on

February of that year and the first collection of the contributions to the individual accounts in July.

Between 1998 and 2002, no major changes occurred. Between 1998 and 2002 four changes were made: (1) AFORES were allowed to manage personal pension funds for independent workers and complementary pension funds for pension plans offered by firms to their workers in addition to social security; (2) a new mandatory pension fund was established for workers 56 years or older with a more conservative asset allocation; (3) the pension funds were allowed to invest 20% in foreign assets; and (4) workers that did not choose an AFORE were allocated to the AFORES with the lowest commission.

Between 2002 and 2005 no major changes occurred. In 2006 workers were allowed to change as often as they want to from one AFORE to another as long as they choose an AFORE with a lower commission. The transfer rules were also changed facilitating the transfers through agents. The result of these changes was that the transfers among AFORES increased from 39,926 in 1999 to 8.3 million in 2006.

In 2007 the pension system for the federal government workers affiliated to the ISSSTE was reformed with 330 votes in favour and 146 votes against in Congress. The Savings Systems Law was also changed as follows: (1) one more representative of the labour unions was included in the Board of Directors of CONSAR; (2) workers were allowed to transfer their account to another AFORE with a higher net return (return minus commission), but once they exercise this right they must wait one year before they can transfer the account again; and (3) AFORES can only charge a commission on the accumulated balance, the commission on the contributions was eliminated.

### Political economy of pension reform

I will now briefly comment on the view of the different stakeholders before and after the pension reform.

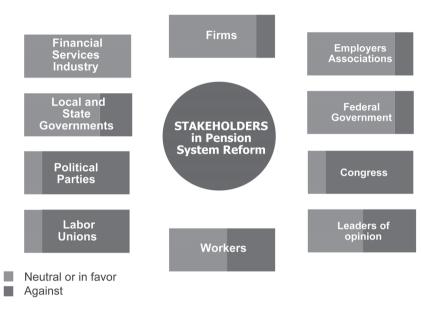


Figure 3
STAKEHOLDERS POSITION BEFORE THE REFORM

Source: Prepared by the author.

In Figure 3 you can see the position of the different stakeholders to the proposed pension reform. As you can see, generally speaking, political parties and labour unions were against the reform. With respect to workers, it was not quite clear to them what exactly the new reform meant.

The main arguments in favour of the pension reform were the following:

- Growing actuarial deficits that cannot be reduced by increasing contributions.
- Beneficial to low income workers and women by establishing individual property rights of the pension funds.
- Under certain circumstances a higher national savings to finance investment that would imply more jobs and higher wages.
- Development of financial markets would imply better asset allocation that would foster economic development.

The main arguments against the pension reform were the following:

- Privatization of social security.
- Reduction of benefits.
- High administrative costs.
- Inefficient risk allocation among different generations of workers
- High annuities premiums.
- Low financial knowledge of workers that would cause bad financial decisions.

In order to gain support from the key stakeholders in the pension reform, from 1995 to 1996 the following strategy was followed

- A massive media campaign in radio, TV and newspapers was launched. The message was the urgent need to do the reform and the benefits that it will bring.
- Presentations all over the country to labour unions, employers associations, universities and the media.
- Personal interviews all over the country with leaders of opinion, local state and federal government officials, and with political leaders.
- Extensive working sessions with congressmen.

As you can see in Figure 4, the strategy was successful in changing the perception of the major stakeholders and facilitating the pension reform.

### Lessons from pension reform

I will finish pointing out what are in my opinion the main lessons that we can offer from the process of pension system reform in Mexico:

- 1. An open and objective discussion with the different stakeholders is critical.
- 2. The use and the design of massive media campaigns are very important.
- 3. The regulations of the pension fund investments must be as open as possible and must be allowed all asset classes with no

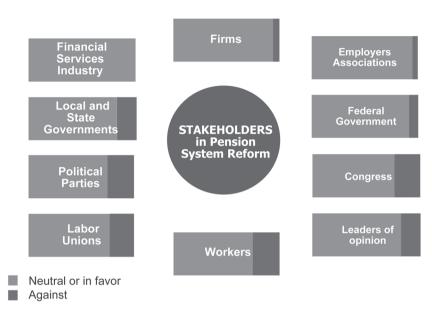


Figure 4
STAKEHOLDERS POSITION AFTER THE REFORM

Source: Prepared by the author.

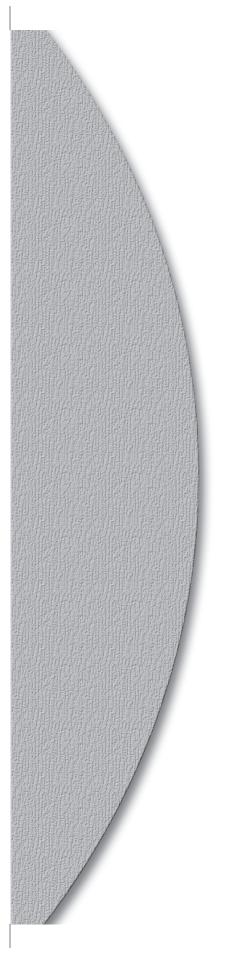
- quantitative restrictions. It is better to limit the risk exposure at the portfolio level.
- 4. The regulation of the workers account transfers among pension fund managers must avoid unnecessary costs.
- 5. It is important to provide information to workers on the performance of the pension system.
- 6. It is important to educate workers on how can they benefit the most with their pension system.

It is true that pension systems will continue to develop in the future and I am sure that there will always be an ongoing debate on the different alternatives in which pension systems can be designed. However, in my opinion, whether a pension system is successful or not, depends, at the very end, not only on the pension benefits provided to workers but also on its financial sustainability.



# **CHAPTER II:** The Results of **Reform for Workers**





2.1 LABOR MARKET EFFECTS OF PENSION REFORM

Augusto Iglesias

2.2 PENSION SYSTEM REFORM AND REDISTRIBUTION

Anita Schwarz

2.3 DISABILITY INSURANCE WITH PRE-FUNDING AND PRIVATE PARTICIPATION: THE CHILEAN MODEL

Estelle James



# LABOR MARKET EFFECTS OF PENSION REFORM

Augusto Iglesias<sup>1</sup>

Many thanks to FIAP for the invitation to speak in this Seminar and also to the Bulgarian Association of Supplementary Pension Funds for their warm reception.

The main objective of my speech is to present a conceptual framework to assess the impact of pension reform on labor markets. In particular, the different dimensions of the labor market that could be influenced by the (partial or total) replacement of a pay-as-you-go (PYG) pension system by a defined contribution (DC) and funded pension system will be identified.

### Pension systems and labor markets

There are mutual interactions between pension systems and labor markets. The structure of labor markets can influence the results of the pension systems and, in turn, pension system design can have an impact on demand and supply of labor.

For example, in a country with a large informal sector, it is very likely that the coverage rate of mandatory pension system will be low, compared with the coverage rate of a similar system in a country with a large formal sector. At the same time, it's likely that a mandatory pension system which offers a generous pension to early retirees will lead to low rates of labour force participation of older workers.

Senior Partner, PrimAmerica Consultores, Chile.

In general, pension systems can have an impact on the total employment level, on the distribution of employment between formal and informal sectors, and on labor productivity and wages. The size and direction of these effects will depend on the way in which the different elements of design of the pension system influence individual decisions -how much to work?, when to retire?, where to work? - and employers decisions -how many employees to hire?, what's the wage to be offered? (also pension system design –and reform– can have an impact on the labor market trough its effects on savings and investments, but we will not discuss this issue in this presentation).

Creation of employment and increases in productivity are primary social goals and the operation of the pension system must be consistent with these objectives. Competitive pressures coming from globalisation makes efficient labor markets more necessary than ever and so a relevant challenge for policy makers is to adopt pension systems which do not distort the operation of a labor market but, on the contrary, help to the creation of employment.

### Pension reform and labor markets

We will discuss the impact on the labor market of moving from a PYG pension programme offering defined benefits to a funded DC pension programme. If pension systems have an influence on labor markets, then *a change* in their characteristics should also have labor market implications. As we said before, this will depend on the impact of pension reform on individuals and firms decisions.

# The tax component of pension contributions (in a two sector model)

Since pension contributions reduce the net wage received by workers (and, eventually, increase the gross wage paid by employers), they may have an impact on labor markets similar to the impact of a tax on labor. Although the lower net wage is related to the promise of a pension in the future, the value of that promise to an individual could be lower than the corresponding reduction in net wage. This difference between the reduction in the net wage that the

individuals receives after paying social security contributions and the value that he/she places on the pension that should receive in the future is "the tax component of pension contributions".

Changes in individuals and firms decisions after pension reform will then depend on how the design of the new system may change the tax component of pension contributions. If pension reform reduces the tax component of contributions, then it could have a positive impact in employment since net wages will increase in the formal sector of the economy (covered by the pension system) and labor supply will increase (more people will be willing to work in the formal sector). Some substitution with employment in the informal sector (not covered by the pension system) will be observed, since people will now have an additional incentive to work in the formal sector. As a consequence, total productivity will increase since higher productivity employment in the formal sector will grow relative to lower productivity employment in the informal sector of the economy.

There are few empirical studies on the impact of moving from a PYG pension system to a funded pension system on the tax component of the pension contributions, and most of them comes from the case of Chile (this is the country which did this kind of pension reform first - 26 years ago - and so, it's a case for which there is the longest series of empirical data). In particular, Torche and Wagner (1997), and Edwards and Cox (2002), conclude that, 50% of the contributions to the new funded pension system are not considered as a tax. This could be explained because the existence of individual accounts, the tighter relation between the level of benefits and the level of contributions, and private management of the funds, increases the "credibility" of the pension promise (at least for a majority of the public). (Colina, Ronconi and Tommasi -2002- in a study for Argentina conclude that the tax component of social security contributions depends on the credibility of institutions managing the respective programs).

### The level of contribution rates

If in long term equilibrium each dollar of contributions paid can be transformed into a greater amount of pension dollars in a funded system, compared to the "rate of transformation" of contributions in a PYG pension system then, to finance the same level of pensions, contribution rates to funded systems could be lower than contribution rates to PYG systems. In other words, if the rate of return on contributions to funded pension systems is greater than the rate of return on contributions to a PYG pension system, then pension reform could lead to lower contribution rates. In turn, lower contribution rates will mean a higher take home pay, lower cost of labor, and greater employment levels.

There has been an ample debate on the issue of comparative long term rates of return of funded and PYG systems. Although this is not the moment to join the discussion, we can however present some interesting empirical evidence. First, in a recent paper, Davis (2007) estimates that the long term annual real rate of return of a well diversified portfolio (which is a good estimate of the gross return of contributions to a funded system), should be between 5% - 6% for developed economies, and between 7% and 8% for emerging economies. On the other hand, the (gross) rate of return of a PYG system is closely related to the rate of economic growth of the respective economy. For the world the annual long term rate of growth of GDP (2005 -2050) has been estimated to be close to 2,5%, with a regional maximum of 4,5% for China and a minimum of 1,3% for Africa (Poncet, 2006). So, for both developed and emerging economies, expected long term (gross) rates of return of funded pensions systems are higher than expected long term (gross) rates of return of PYG systems.

Additional evidence is found in Palacios (2003) which reports differences in rates of return obtained by eight Latin American funded pension systems since their inception until year 2002 and then compares those results with two estimates of the long term rate of return of a PYG system in the same economies. In all cases he finds that pension funds returns exceed the benchmarks (see Table  $N^{\circ}$  1).

This means that, for any given level of benefits to be financed, in the long term rates of contributions in funded pension systems could be lower than rates of contributions in unfunded systems. So, because of this effect, positive labor markets effects could be derived from pension reform.

### Labor mobility

Within the formal sector, labor mobility between employments and between different companies, depends on part on the characteristics of the pension system. In particular, personal savings accounts guarantee the portability of pension rights between employments. Moreover, workers could migrate between countries having pension systems based on personal accounts without losing their pension rights.

Table N° 1
RATES OF RETURN ON PERSONAL ACCOUNTS

Country	Real rate of return since inception	Standard deviation	Real wage growth	Return wage growth differential	Maximun to minimun return ratio	Real income per capita growth	Return capita growth differential
Argentina	11,7%	13,4%	-0,8%	12,5%	1,17	-0,4%	12,1%
Bolivia	16,2%	n.a	8,8%	7,6%	n.a	0,4%	15,8%
Colombia	11,8%	2,6%	1,4%	10,4%	1,13	-0,3%	12,1%
Chile	10,5%	9,3%	1,8%	8,7%	1,05	4,5%	6,0%
El Salvador	11,3%	3,6%	-0,2%	11,5%	1,30	0,5%	10,8%
Mexico	10,6%	n.a	0,0%	10,6%	n.a	2,8%	7,8%
Peru	5,7%	7,5%	1,8%	3,9%	1,06	2,4%	3,3%
Uruguay	9,5%	n.a	3,6%	5,9%	1,06	-0,3%	9,8%

Source: Palacios (2003).

Individual accounts also increase the probability of having uniform pension rules between different economic sectors. This results from the fact that in pensions systems with these characteristics, transferences of income between different groups of individuals are transparent and so it becomes much more difficult for any special interest group to capture the system in their own benefit. Of course, uniform pension rules also help to labor mobility between employments in the same or in different sectors of the economy.

Then labor mobility is enhanced by a pension reform which replaces a defined benefit PYG system by a DC system based on personal accounts. In turn, with greater labor mobility total productivity should also increase.

### Retirement decisions

The decision to retire from the labor force also depends on several specific characteristics of design of the pension systems.

First, the lower the age of statutory retirement, the earlier the retirement from the labor force. Second, the higher the pension at retirement, the earlier the retirement will be. Third, age of retirement will also be influenced by rules allowing or not workers to have a paid work after retirement; if paid work after retirement means that the pension will be suspended (or reduced) it is likely that retirement age will be postponed in comparison to a situation in which paid work after retirement does not penalize the pension. Finally, pension rules may also include direct incentives to defer or advance retirement age.

Most of "real world" defined benefit pension systems generate incentives for early retirement. This is because observed pension rules: i) set a cap on pensions, so no more pension rights will accumulate after a maximum amount of years of contributions (people will then have no incentives to pay contributions after these number of years has been reached); ii) pensions are usually based on the final or only the best years of earnings and so, once earnings begin to decline, a strong incentive is created to retire; and, iii) in some cases pension adjustments for early retirement are not "actuarially fair" (the amount of the pension is not reduced in proportion to the number of years in which payment of contributions is reduced) which means that a rational strategy is to retire early. Moreover, many PYG DB systems penalize individuals for working after the legal age of retirement.

On the contrary, pensions based on individual account balances are more neutral than real world DB pension rules regarding retirement decisions. So, we should expect that after pension reform, the average retirement age increases and labor market participation in rates of older workers also increases.

Evidence from the U.S. shows that, as expected, participants in defined contribution pension plans tends to retire later from the labor force compared with participants to defined benefit pension plans (Munell, Cahill and Jivan 2003). In the case of Chile, James and Cox (2007) have found "a substantial increase in labor participation rates of older men after pension reform".

### The impact of pension reform on coverage

Expectations of important increases in coverage following pension reform have not been met. On the contrary, the experience of reformist countries shows that coverage of their respective pension systems has not changed substantially after pension reform. The story is no different whatever the measure of coverage that we use (see Tables N° 2, N° 3 and N° 4). In any case, some positive impacts have been reported. Packard (2001), using panel data for 18 Latin America countries, concludes that introducing pension personal accounts increases the percentage of economically active population contributing to pension systems, although this happens gradually over time. Colina, Ronconi and Tommasi conclude that pension reform in Argentina has had a small positive impact on coverage (concentrated on higher income workers). Edwards and Cox (2002) conclude that because of the smaller "tax effect" of pension contributions, Chile's pension reform had relevant and positive impacts on labor demand and labor market participation rates.

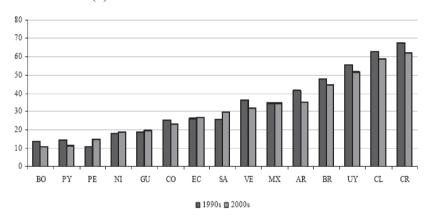
The limited impact that the introduction of DC funded pension programs has had in coverage is not a failure of pension reforms. It happens that expectations were unwarranted. Coverage of contributory pension programs depends mainly on the distribution of labor between formal and informal sectors and on total employment rates, and is influenced only in the margin by the characteristics of those programs.

If people expect to get in the market a similar return from pension contributions compared with what it expect to get from the mandatory pension system, it's likely that they will try to avoid the mandate to contribute, whatever the characteristics of the pension system. This is because mandatory contributions are not liquid, while market savings are (and most people can not get long term financing in the market against it's mandatory pension savings). In fact, even if the expected return of liquid pension savings is lower than expected returns from illiquid pension savings, people may prefer liquidity. This is one of the reasons why there is mandate to save for pensions.

Table N° 2

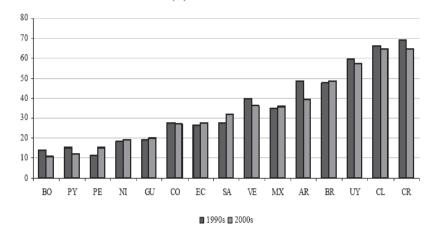
COVERAGE RATES

(a) ECONOMICALLY ACTIVE POPULATION



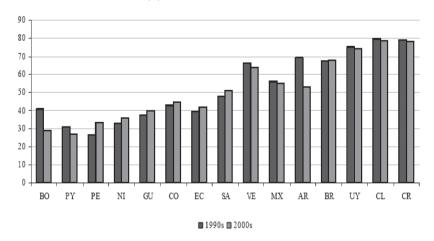
Source: Pension Systems in Latin America: Concepts and Measurements of Coverage Rafael Rofman, Leonardo Lucchetti, November 2006.

**Table N° 3**COVERAGE RATES
(b) EMPLOYED



Source: Pension Systems in Latin America: Concepts and Measurements of Coverage Rafael Rofman Leonardo Lucchetti, November 2006.

Table N° 4
COVERAGE RATES
(c) SALARIED WORKERS



*Source:* Pension Systems in Latin America: Concepts and Measurements of Coverage Rafael Rofman Leonardo Lucchetti, November 2006.

Since the mandate to pay contributions is very difficult to enforce on the workers in the informal sector, the larger this sector relative to the formal sector of the economy, the lower will be the coverage of any mandatory pension system.

Coverage of mandatory pension systems also depends on the level of employment. The larger the unemployment rate (or the lower the density of contributions over the working life), the lower coverage will be. On the contrary, the greater the employment (and density of contributions over working life) the greater coverage will be.

There are many other variables, different from the characteristics of the pension system, which influence over employment levels and over the distribution of labor between formal and informal sectors. So, in most cases tax rules, labor market legislation, and economic cycles will have a greater impact on total coverage of mandatory pension systems compared with the impact that pension reform may have.

### Final remarks

Workers may benefit from the creation of personal pensions savings plans not only because the quality of the social protection they receive will improve, but also because of the positive impact that pension reform will have on labor markets. In particular, the (total or partial) substitution of a PYG pension program by a DC and funded personal pension program should have a positive impact on total employment, on long term net wages, on unemployment rates and on labor force participation rates.

Available evidence (which, however, is limited to the case of Chile) is consistent with these claims. Edwards and Cox (2002) conclude that pension reform in Chile did result in a (modest) reduction in unemployment and in an increase of approximately 2% in the informal sector wage rate. Corbo and Schmidt-Hebbel (2003) conclude that, because of pension reform, total employment did grow between 1,3% and 3,7%; employment in the formal sector grew between 3,2% and 7,6%; and employment in the informal sector grew between 1,1% and 1,3%.

Although some of the positive impacts of a pension system on labor markets could be achieved just by improving the design of existing PYG systems, some other effects are due to the nature of a DC funded pension programme. However, to reach the expected results, the new pension program must be carefully designed and implemented. Not all DC pension programs based on personal accounts work in the same way or are equally efficient. So, when deciding pension reform, careful attention should be devoted to the more detailed aspects of pension program design.

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## PENSION SYSTEM REFORM AND REDISTRIBUTION

ANITA SCHWARZ<sup>1</sup>

#### **Pension System Reform and Redistribution**

Common wisdom suggests that traditional pension systems of the Pay As You Go (PAYG) variety have more potential to redistribute income than fully funded, defined contribution systems, leading to the conclusion that a pension reform from a traditional system to a fully funded system will worsen the income distribution. However, there are a multitude of redistributional effects within pension systems, many of which are not intentional and may not be beneficial. This paper will explore the types of redistribution in pension systems and the extent to which redistribution changes as the pension system changes.

Redistribution within the pension system falls under two main types: (1) intergenerational, and (2) intragenerational. Income redistribution usually refers to the second, but in the case of pension systems, the first is often the more powerful and predominant effect. All PAYG systems result in some distribution from one generation to another by definition, as contributions from the working generation are used to pay benefits to the retired generation. The question is whether some generations are a priori expected to receive more than they pay while others are expected to pay more than they receive.

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#### **Intergenerational Impact**

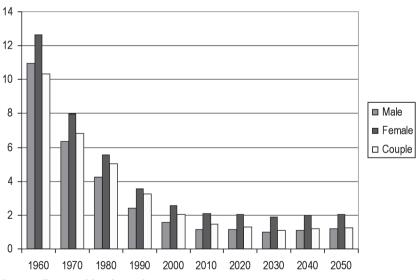
In the case of PAYG systems, there is typically substantial intergenerational redistribution arising from demographic change. Two main factors explain the demographic changes: (1) the reduction in fertility as countries move toward replacement level fertility, and (2) the increase in life expectancy due to improvements in health. Young countries typically have few individuals of retirement age and with a rapidly expanding population, the working age population far exceeds the retirement age population. Under these conditions, a PAYG system functions well, with retirees able to collect 5 - 10 times the average contribution corresponding to the number of workers per retiree. But these countries will experience a reduction in fertility over time, resulting eventually in a reduction in the size of working age cohorts while the previously larger cohorts reach retirement age. A financial imbalance will appear, forcing most typically a rise in the contribution rate, or sometimes a rise in retirement age or a change in the benefit structure. Thus, younger cohorts pay more for the same benefits as older cohorts, pay contributions for a longer period of time than older cohorts or receive lower benefits than their older counterparts, resulting in a systematic intergenerational transfer from younger cohorts to older cohorts. While all countries eventually experience this decline in fertility, some countries can experience rapid temporary changes due to wars and epidemics which then persist for several generations.

The second component of demographic change, the increase in life expectancy, exacerbates the financial strain on the pension system, but can partially mitigate the negative impact of overall demographic change for younger cohorts. Typically, retirement ages remain constant or rise in very slow increments while life expectancy rises much faster. Benefits are also defined as a percentage of income per year of service without regard to the duration of benefits as long as the minimum retirement age requirements are met. Thus, as life expectancy increases, the total value of benefits received by an individual rises substantially making longer-lived individuals better off relative to their shorter-lived ascendants. However, the financial balance of the scheme is compromised by the increased pension expenditures as people live

longer. The typical response to financial problems has been to raise contribution rates to generate more revenue to pay for the increased pension expenditure or secondly, to either raise the retirement age or change the benefit levels to reduce pension expenditure. All of these measures serve to worsen the system for the future relative to the first cohorts, and more than compensate for the increased life expectancy. If the demographic change consisted only of the life expectancy change, it could be neutralized by design, through an automatic increase in the retirement age or a reduction in benefits as life expectancy rises. However, the fertility change cannot be neutralized within the pension system.

The impact of this demographic change can be huge. Figure 1 shows the example of rates of return to pension contributions for cohorts retiring in different years for the US, as calculated by Steuerle and Bakija.<sup>2</sup> Individuals retiring in 1960 received 5-6

Figure 1
Internal Rate of Return to Different Cohorts in the US



Source: Prepared by the author.

C. Eugene Steuerle and Jon M. Bakija, Retooling Social Security for the 21st Century: Right and Wrong Approaches to Reform (Washington, D.C.: Urban Institute Press, 1994).

times the rate of return as individuals retiring in 2020. And the pension system is not solvent in the long run, suggesting that rates of return for those not yet retired will have to fall still farther. The primary driving force for the change has been a sharp increase in the contribution rate from 2% of wage to 12.4%.

By contrast, in pure defined contribution systems, this intergenerational redistribution disappears. Individuals save for their own retirement and are mostly unaffected by the relative size of their cohort.<sup>3</sup> All generations do not receive equal rates of return since the market rate of return will vary constantly, but no cohort should systematically receive a higher rate of return than another cohort. However, since most countries have chosen a pension design which contains both a PAYG component and a funded component, in most cases, systemic pension reform reduces the intergenerational redistribution in the system, but does not remove it entirely.

#### **Intragenerational Impact**

Intragenerational redistribution can exist in both PAYG and funded systems, although it tends to be more prevalent in PAYG systems. Intragenerational redistribution, from the poor to the rich within a cohort, can be intentionally designed within either type of system, but a number of factors can also lead to unintentional redistribution. And in countries where half or less of the labor force is contributing to the pension system and the pension system runs deficits, a major source of redistribution comes from the financing of those deficits from outside the pension system.

Intentional Redistribution in PAYG. Intentional redistribution in a PAYG system arises from a variety of design features. A progressive benefit formula which pays a higher benefit rate to low income retirees relative to high income retirees is one option. Most systems

Domestic asset prices may be affected by the size of cohorts with large pre-retirement cohorts bidding up the price of financial assets as a large number of individuals attempt to buy assets to prepare for retirement and large retiree cohorts reducing the prices as many individuals try to sell their assets at the same time. However, given differential rates of aging across different countries, individuals could reduce the impact of their own cohort size by investing some of their portfolio abroad.

include a minimum pension which tends to favor low income retirees. Many systems also include maximum pensions which limit the amount that high income individuals get from the system. Usually the maximum pension is linked to ceilings on income subject to contribution such that high income individuals do not necessarily get lower rates of return than lower income individuals, but end up replacing less of their income through the public system which focuses on preventing old age poverty. However, not all intentional redistribution is necessarily progressive. Many systems provide more generous terms to particular occupational groups. In the case of miners or military, this might be justified in that their occupations cannot be safely practiced at older ages, but in most cases the special treatment is provided to politically powerful groups who are not necessarily poor, ranging from ballerinas and opera singers to journalists and notaries. Women, who have a longer life expectancy than men, are often provided earlier retirement than men without a reduction in benefits for the early retirement. The special treatment of women is often justified on the basis that women's wages are lower than men's, but not all women earn low wages and these privileges are granted to all women, resulting in a non-progressive redistribution of income.

Unintentional redistribution in PAYG. Unintentional redistribution in traditional PAYG pension systems occurs because individuals of different income levels often have different characteristics which result in differential treatment in the pension system design. Many countries base the pension benefit on final salary alone or on the average of the last 3 years' or 5 years' salary. High income individuals typically experience large increases in salary toward the end of their careers. Thus, their benefits end up high relative to their career-long contributions which correspond to the average wage they received throughout their career, resulting in a transfer to high-income individuals. Low income individuals tend to have more stagnant salary histories, with the final salary not being significantly different from the average salary, and thus do not receive this transfer, and end up with lower rates of return than higher income individuals. The life expectancy of high income individuals is also substantially higher than that of low income individuals. Any individual who lives longer in PAYG systems will collect a higher total amount of benefits since the annual value of

the benefit is not reduced for life expectancy, again, raising the rate of return for higher income individuals. Finally, work histories also differ; higher income individuals tend to start work later in life, having attended more education, resulting in fewer years of work total, but beginning at higher wages, which yet again redistributes toward the higher income individuals.

Case studies of PAYG redistribution. Since the argument is often made that PAYG systems allow progressive redistribution while funded systems do not, it is worthwhile exploring the extent of progressive redistribution that actually occurs in some neighboring European countries as a basis for determining whether reducing the amount of redistribution in the system is in fact a bad outcome. Simulations have been produced, using 6 stylized individual profiles for 5 different countries, Albania, Bosnia, Serbia, Turkey, and the Slovak Republic. The stylized profiles include a high income, average income, and low income individual of each gender. Table 1 contains a summary of the characteristics of these individuals. All individuals are assumed to work continuously from when they begin to work until retirement age. The individuals are assumed to abide by the normal pension laws of their respective countries, relevant to those entering the labor market in 2007. These laws are likely to change before these individuals actually retire, but only already legislated changes are included. Cross country comparisons of the rates of return may not be fully valid since the countries have different starting conditions, including different wage growth expectations, different mortality rates, and different retirement ages, in addition to the differing redistributive design features. Within a country, however, the comparisons are valid showing how individuals fare relative to one another.

Figure 2 shows the rate of return implicit in the pension system for these 6 stylized individuals under the Albanian system. The Albanian system is highly redistributive, with a minimum pension equal to 38% of average wage, and an average pension equal to 41% of average wage. The maximum pension is limited to twice the minimum pension while the maximum contributory wage can be as high as 5 times the minimum wage. The contribution rate is among the highest of these countries, at 23.9% of wage. Given these characteristics, it is not surprising that high income people actually earn negative rates of

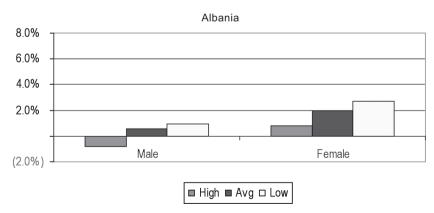
Table 1
CHARACTERISTICS OF STYLIZED INDIVIDUALS

	High Income	Average Income	Low Income
Age at which career begins	23	21	18
Starting wage as percentage of average wage for a person of that age and gender	150%	100%	50%
Annual personal wage growth relative to average economy wide wage growth	120%	100%	80%
Personal mortality rate relative to average country wide mortality rate	80%	100%	120%

Source: Prepared by the author.

return, while low income individuals earn small, positive rates of return, primarily due to the minimum pension. Women fare better than men because of earlier permissible retirement. Note that the progressive redistribution in the Albanian system is so strong that it overpowers the regressive impact from the differing characteristics. Moving to a funded system in the Albanian context would have a substantial negative impact on income distribution.

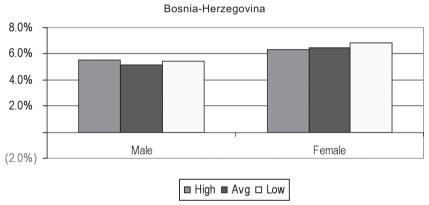
Figure 2
Internal Rate of Return for
Different Individuals



Source: Prepared by the author.

Republika Srpska in Bosnia-Herzegovina has a much more proportional system. Contribution rates are 24% of net wage (approximately 18% of gross wage), and the benefits begin at 45% of average lifetime wage for the first 20 years of service, with 1.5% per year of additional service. Figure 3 shows the rates of return for the stylized individuals in Bosnia. The minimum pension tends to boost the rates of return slightly for low income individuals, but with high income individuals still getting a slightly higher return. Given the minimal redistribution in the Bosnian pension system, reducing it further would have little impact on the overall distribution of income.

Figure 3
Internal Rate of Return for Different Individuals

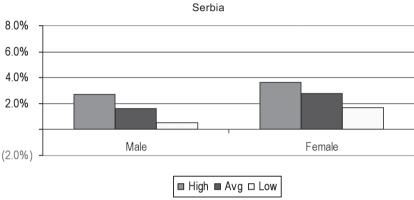


Source: Prepared by the author.

Serbia, by contrast, has a relatively low minimum pension and has a pension design which strongly links relative benefits to contributions through a point system. The longer life expectancy of the higher income individuals overwhelms the small minimum pension effect, resulting in a more regressive impact on the distribution of income, as shown in Figure 4. The expected rates of return in Serbia are relatively low as the implicit benefit per year of service embedded within the point system declines markedly over time. The Serbian contribution rate of 22% of gross wage is a bit higher than that of Bosnia, but lower than that of Albania.

Reducing the distributive impact by moving to a funded system would not have a negative impact on the distribution of income, in the case of Serbia.

Figure 4
INTERNAL RATE OF RETURN FOR DIFFERENT INDIVIDUALS

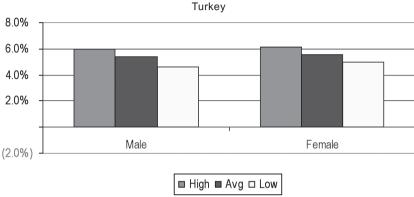


Source: Prepared by the author.

Turkey similarly ends up with a slightly regressive outcome due to its lack of a minimum pension, as shown in Figure 5. Furthermore, the Turkish system for private sector employees provides front-loaded benefits, with a high replacement rate for the first 10 years of contributions of 35%, dropping to 2% per year for years 11-25 and 1.5% subsequently. Given that the low income workers are assumed to work continuously from age 18 while the high income workers only begin at 23, the average benefit rate would be higher for the high income individual since fewer work years would fall under the lowest benefit rate. In reality in the Turkish context, the low income worker may not work continuously in the formal sector as we have assumed, and may in fact benefit from the front-loaded benefit formula.

The Slovak Republic is the only one of the five country cases shown which has moved to a multi-pillar system with a funded component. Figure 6 shows that prior to the reform, the Slovak system also did not incorporate substantial redistribution toward the poor despite the existence of a minimum pension and a limit

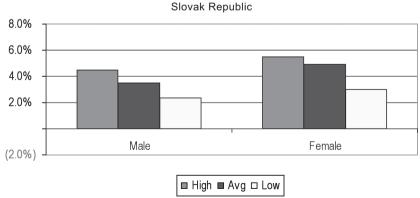
Figure 5
Internal Rate of Return for Different Individuals



Source: Prepared by the author.

on the maximum pension. The Slovak contribution rate was initially 28% and individuals received roughly 50% of average wage for 25 years of contributions, with an additional 1% for additional years of service. As always, women fare better than men because of their longer life expectancy.

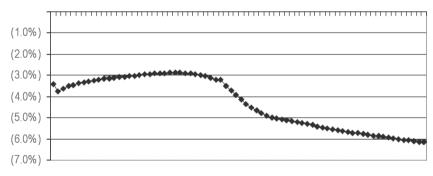
Figure 6
INTERNAL RATES OF RETURN FOR
DIFFERENT INDIVIDUALS



Source: Prepared by the author.

Deficit financing in PAYG. A final source of intragenerational redistribution in PAYG schemes comes from the need for financing the deficit of the pension system, although this would best be described as inter-intragenerational redistribution. When a pension system runs a deficit and contribution revenues are not sufficient to cover expenditures, frequently the government supplements contribution revenue with general revenue drawn from the broader population. Problems arise when only a subset of the population is eligible for a pension, but general revenue is drawn from a broader population, typically due to the existence of a large informal sector that does not contribute to the pension system and hence is not eligible for pensions when old. Since informal sector workers are often lower income than formal sector workers, deficit financing of the pension system results in transfers from the working age of all income groups to the relatively higher income among the elderly. Figure 7 shows the example of Turkey where the pension system is already running a deficit, and is projected to run even larger deficits in the future. These deficits are financed by transferring general revenue to the pension system. Figure 8 shows that the majority of the current elderly in Turkey do not receive any pension from the public pension systems, yet all inhabitants of Turkey pay a substantial sum to support pensions for those few who actually receive them.<sup>4</sup>

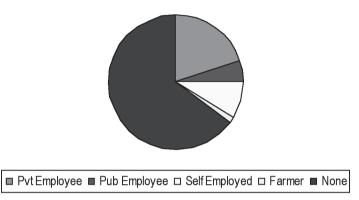
Figure 7
PROJECTED PENSION DEFICITS IN TURKEY AS A
PERCENTAGE OF GDP



Source: Prepared by the author.

<sup>&</sup>lt;sup>4</sup> Turkey has 4 separate pension systems, one for private sector workers, one for civil servants, one for the self-employed, and one for farmers.

Figure 8
PERCENTAGE OF ELDERLY COLLECTING BENEFITS FROM THE
PUBLIC PENSION SYSTEM IN TURKEY



Source: Prepared by the author.

Thus, despite the capability of PAYG systems to redistribute toward the poor, the case studies show such redistribution in only two of the five cases only slight redistribution in one of these. But a deeper analysis of these two cases suggests limits to even this degree of redistribution. In the case of Albania, workers are under-reporting earnings to gain the greatest subsidy from the system which results in further undermining the fiscal sustainability of the system. As the fiscal situation deteriorates, additional regressive transfers from outside the system are required. Similarly, in the case of Bosnia, the slight amount of positive redistribution is swamped by the financing of 40% of pension expenditures from outside the pension system. The scope for positive redistribution, as a result, is somewhat limited.

Intentional redistribution in funded. By contrast, in funded systems there are still possibilities for including intentional redistribution, although the overall design of the system is oriented toward each worker saving for himself, such that low income workers will end up with low pensions and high income workers will end up with high pensions, but the rate of return on contributions paid should be similar. Minimum pension guarantees, offered by many governments in conjunction with the funded systems, provide the same level of redistribution as

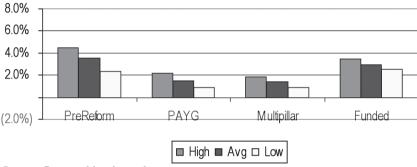
minimum pensions in traditional systems. Within a multipillar context with both a traditional component and a funded component, governments could choose to make the traditional component progressive so that the combined system is progressive even if the funded component itself is more neutral. The Argentine design provides flat pensions for those who have contributed for 30 years in addition to the neutral funded pensions. Lithuania has incorporated a basic flat pension as part of its PAYG design which is complemented by the funded component, and Kazakhstan has instituted a universal pension in addition to its funded pension. Matching contributions for low income workers or providing a flat matching contribution, as in the case of Mexico, is another way to redistribute toward the poor. However, it should be noted that the government revenue for these additional benefits or contributions comes from the same general revenue used to cover deficits in traditional plans and can result in the same negative transfer from those who are not covered by the system to those who are covered.

Unintentional redistribution in funded. Unintentional redistribution also takes place, but to a much lesser extent and only if the accumulations are required to be annuitized. Since higher income people tend to live longer than lower income people, they will receive an annuity for a longer period of time, resulting in some transfer from shorter-lived individuals to longerlived individuals. Allowing individuals the choice of not annuitizing their whole accumulation may permit those who expect shorter lives to leave some part of the accumulation as a bequest rather than to lose the entire accumulation due to premature death.<sup>5</sup> The impact of the unintentional redistribution can be illustrated in the Slovak case, as shown in Figure 9. The four sets of bars show the pre-reform case, the initial impact of the PAYG reform, the impact of the multipillar reform, which includes a funded component, and the impact of the funded system by itself. The funded system still has a regressive element with higher income individuals getting higher rates of return, but this is

Charging fixed fees per account, as some private pension funds are allowed to do, could be considered an unintentional redistribution since the rate of return for low value accounts will be reduced relative to high value accounts. However, since this fee structure truly represents the fixed cost of setting up an individual account, it would not really be a redistribution from low income to high income workers.

entirely due to the full annuitization of the accumulated balance and the longer life expectancy of higher-income individuals. The PAYG part is much more regressive and the combined system is still regressive, but less so than the pre-reform system.

Figure 9
COMPARISON OF INTERNAL RATES OF RETURN IN SLOVAK
REPUBLIC, PRE AND POST REFORM



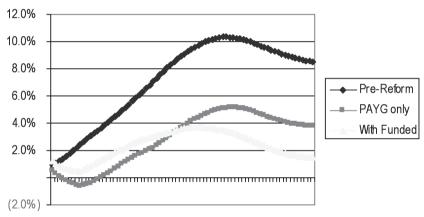
Source: Prepared by the author.

Deficit financing under funded. Finally, in the long run, the funded portion of the pension system should not run a deficit and should not require additional financing from outside the pension system, aside from the cost of financing government contributions or guarantees, as mentioned earlier. However, in the short run, as governments move from traditional systems to funded systems, the costs of paying for the existing liabilities largely fall to governments when the contribution rates are reduced in the traditional pension systems. Government revenue, collected from a broader population, will be used to pay pensions for the current eligible elderly who might have higher income than the broader population.<sup>6</sup> But this is a temporary phenomenon and will avoid a

In most central European countries, the pension systems used to be all inclusive such that the majority of the elderly are receiving pensions. Having government revenues pay for these pensioners in the short run would not be regressive. However, in much of the rest of the developing world, less than 50% of the elderly are collecting public pensions. In these countries, use of government revenue to pay pensions for the privileged becomes an issue.

much larger deficit financing in the long run. This point can be illustrated using the Slovak example, shown in Figure 10. Introducing the funded system costs the government resources in the form of higher deficits than the pure PAYG reform would have cost in the short run, but lowers the deficit substantially in the long run.

Figure 10
PROJECTED PENSION DEFICITS IN THE SLOVAK REPUBLIC, WITH
AND WITHOUT REFORM



Source: Prepared by the author.

#### Conclusion

In conclusion, adding funded pillars almost fully eliminates the systematic intergenerational redistribution common in traditional PAYG pension systems aside from the transition period. Since this redistribution was not necessarily a desired outcome from the pension system, eliminating it has a positive impact. While PAYG systems have more capacity for positive intragenerational redistribution than funded systems, the analysis shows that many PAYG systems do not in fact redistribute to the poor when unintentional redistribution is taken into account. This unintentional redistribution is not entirely eliminated under a funded system as long as some requirement to annuitize the

accumulated pension balances exists. However, this negative impact needs to be weighed against the positive impact of providing individuals with insurance against longevity risk. Should the negative redistribution appear problematic, governments could assist the poor through designing a redistributive first pillar, by instituting minimum pension guarantees, or by providing matching government contributions to a targeted group of recipients or on a flat basis. Funded pillars also reduce future unintentional redistribution from outside the pension system to those covered by making the systems more financially self-sustainable. Thus, funded systems remove most of the undesirable redistribution from traditional pension systems, although not all because of the annuitization. Should positive redistribution be desired, some degree of positive redistribution can be introduced by design.

# DISABILITY INSURANCE WITH PRE-FUNDING AND PRIVATE PARTICIPATION: THE CHILEAN MODEL

ESTELLE JAMES<sup>1</sup>

#### Disability Insurance in an Individual Account System<sup>2</sup>

Many countries have adopted old age systems that include individual accounts-funded, privately managed defined contribution plans. It is difficult to incorporate disability benefits into a social security system with a defined contribution component, since disabled people may not work long enough to accumulate large balances. The system might generate reasonable replacement rates for workers who contribute throughout their lifetimes, but very low replacement rates for those who become disabled when young. Yet, if disabled people continue to receive their benefits from the traditional pay-as-you-go (PAYG) system, this will take an increasingly large percentage of total social security taxes in the future. Moreover, it may encourage workers with small accumulations to apply for disability rather than old age benefits, which will raise taxpayer costs further. Beyond these problems of integration, disability is a more subjective condition than old age, and such programs are therefore prone to errors of over- or under-exclusion. The procedures used to evaluate claims

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This paper is based on James, Iglesias and Edwards, 2007. For previous discussions of disability insurance in Chile and other countries with individual accounts see Grushka and Demarco 2003, Castro 2004, Wiese 2005, Valdés and Navarro 1992.

can influence this balance and through it the costs and equity of the program (see Autor and Duggan, 2006).

It is important to solve these problems, since disability often takes 20-30% of total social security costs, a share that has been rising in many countries. This paper describes how countries with individual account systems have handled disability insurance, and what are some of the consequences for costs. Does the disability system use defined contributions (DC), pre-funding and private management, as in their reformed retirement schemes, or does it use defined benefits (DB), PAYG finance and public management? Which model yields the lowest cost and most accurate targeting of benefits?.

Among the thirty or so countries that have introduced privately managed funded components to their old age systems, disability insurance has continued to be treated as a defined benefit, in contrast to old age insurance, which has been partially or largely shifted to defined contribution. The rationale is that young disabled workers won't have large DC accounts, so some kind of DB must be provided. However, the commonality stops there. In most European countries, disability insurance is publicly managed and financed mainly on a PAYG basis. In Eastern and Central Europe, typically, the individual surrenders his or her individual account balance and, in return, gets a PAYG financed defined benefit until death. In Sweden, Estonia and Latvia the disability pension lasts only until age 65; funds in the account are preserved and take over after age 65.

Disability insurance in Latin America differs sharply from the traditional publicly managed PAYG model:

- it is largely pre-funded—through the accumulation in the retirement account and later through an additional payment made when the person becomes permanently disabled, sufficient to cover a lifetime defined benefit annuity; and
- 2) the disability assessment procedure includes participation by private pension funds (AFPs) and insurance companies, who finance the benefit and have a direct pecuniary interest in controlling costs and reducing adverse selection.

This paper analyzes the Latin American model, using Chile as our case in point. For reasons described below, we expect this system to lead to lower costs, and we present empirical evidence that is consistent with this expectation.

## I. Disability Costs and Insurance Fees in the Chilean System vs. PAYG

This section describes the Chilean scheme and presents results of simulations of fees in a pre-funded versus a PAYG disability insurance system.

## How disability insurance works in Chile pre-funding a defined benefit

Disability insurance in Chile starts with the mandatory retirement accounts, to which each individual must contribute 10% of wages. Old age benefits depend on this defined contribution. In contrast, if a worker becomes disabled before retiring, he receives a defined benefit. This is accomplished through the private insurance market, with government providing detailed regulations and backup guarantees.

Specifically: Each insured worker is guaranteed a benefit that is 70% of his average wage if he is totally disabled, 50% if partially disabled, indexed to inflation. During an initial three-year period of temporary disability, this benefit is paid directly by the AFP. After the provisional period, if the worker is certified as permanently disabled, the entire lifetime benefit is funded. Part of this benefit is covered by his own retirement account. The remainder is covered by a term group insurance policy, which provides the top-up (the "additional payment") needed to finance an annuity that equals the specified defined benefit. Each AFP is required to purchase this insurance policy for its affiliates. The typical contract shares the risk: the AFP covers costs up to a ceiling and keeps most of the savings beneath that ceiling, while the insurance company takes over after the maximum rate has been reached. Survivors' insurance for workers is covered in the same way, by the same insurance policy, in exchange for a combined D&S insurance fee that is passed on to workers by the AFP.

Thus the total future pension is fully pre-funded at the point when the individual is certified as permanently disabled—partly out of his own retirement savings and partly by the group insurance policy purchased by the AFP. The disabled worker uses these funds to purchase a lifetime annuity or a gradual withdrawal pension that follows a formula set by the regulator.

The D&S insurance fee is included in the general administrative charge that each worker pays the AFP. Each AFP sets its own fees and, apart from a small flat component, is required to charge all its affiliates the same percentage of their wage—regardless of age, gender, occupation, health status or account size. Total AFP fees currently average around 2.4%. The combined fee for the group D&S insurance is about 1% of wages, of which the disability portion is 2/3 (author's estimates).

## A simple model for determining the group insurance premium

We developed a model that determines this fee and its evolution over time, compared with fees that would be necessary to cover annual benefits in a PAYG system that had the same number of disability beneficiaries and benefit levels. For simplicity, we focus on the cost of insuring total permanent disability, the largest component of disability costs. We calculate the fee that must be charged in a Chilean-type scheme to cover the group insurance that finances the additional payment for newly disabled workers. It depends on the number of newly disabled workers each year times the average additional payment needed to finance a lifetime defined benefitfor each such person. By contrast, the breakeven tax rate in a PAYG system must cover the annual payouts for the total stock of disabled, so it depends on the average defined benefit times the stock of beneficiaries.

This model shows that relative annual insurance fees in a Chileantype disability scheme versus a PAYG scheme depends on 1) the size of the expected inflow of newly disabled compared with the stock of total disabled and 2) the average additional payment required to purchase a lifetime annuity for the newly disabled compared with the average annual payout to the stock of disabled. According to these simulations<sup>3</sup>:

- 1. In the short run, a new Chilean-type scheme will require higher insurance fees than a PAYG system because the inflow of new beneficiaries is large relative to the stock of disabled and the average balance in the account is small relative to the price of the annuity that covers a lifetime of benefit payments. It was not adopted in Eastern Europe (which followed the Chilean model for normal retirement) in order to avoid these initial transition costs as well as the difficulties in adjusting assessment rules to private standards (Chlon-Dominczak, 2003).
- 2. But in the long run, Chilean fees are much lower. The funded individual account that is set up for old age retirement finances part of the disability benefit, at no additional marginal cost. In steady state, this will cover about half of the total annuity premium. Additional pre-funding of the annuity at the point of disability produces investment earnings that reduce annual fees to about a quarter of what they would be in a pure PAYG system. The cross-over point comes in the 14<sup>th</sup> year (Figures 1 and 2).
- 3. Pre-funding also makes the system less sensitive to demographic shocks. Population aging increases the probability of disability and the cost of disability insurance, whether in a PAYG or pre-funded system. But in a Chilean-type scheme these costs are partially offset by additional money in the accounts of the older workers.
- 4. However, pre-funding the defined benefit makes the system very sensitive to interest rate shocks. The total cost of the defined benefit annuity and therefore the insurance policy will

Base assumptions for these simulation are: 10% of wages contributed to the accounts, 4.5% real net rate of return, 2% real age-earning wage growth, population age structure and age-specific incidence of disability are same as in Chile, defined benefit is 70% of wage, 60% of disabled workers are eligible for insurance, joint annuity with 60% or primary benefit to widow is purchased by men, wives are 3 years younger than husbands. Assumptions are varied for sensibility analysis.

vary from year to year depending on interest rates in the economy, and employers and workers will have to adjust to the varying contribution rate (Figure 3).

#### The evolution of insurance fees vs. benefit payouts in Chile

These simulations imply that insurance fees in Chile would have been relatively high shortly after the new system was introduced in 1982 but would have fallen dramatically over the last 25 years. In contrast, if a new PAYG system had been introduced in 1982 its fees would have been low initially, but would have risen over this period. The cross-over point would be expected to occur in the mid-1990's. In fact, that is roughly what happened.

Figure 4 shows the annual D&S insurance fee (as a percentage of wages), over the period 1990-2004. We compare this with D&S payouts to the stock of beneficiaries (as a percent of wages)—which we use as a proxy for the break-even tax rate that would have covered the same benefits in a PAYG system (see James, Iglesias and Edwards for derivation of this figure). As expected, fees in Chile were higher than PAYG fees would have been near the start of the new disability system, before 1990. But they fell rapidly during the early 1990's, due to growth in account balances in the funded system. At the same time, annual payouts for D&S benefits rose steadily due to the growing stock of disabled beneficiaries —illustrating the inevitable cost path as a PAYG system matures. Thus the insurance fee in Chile is now only 70-75% that of its PAYG equivalent.

However, the recent sharp decline in interest rates is having an offsetting impact, increasing the annuity premium needed to finance the defined benefit, counteracting the further growth in account balances and pushing up the D&S fee over the last few years. Our simulations lead us to expect that this rise in Chilean insurance fees will continue even after interest rates stop falling, because of population aging. But benefit payouts and therefore fees in an equivalent PAYG plan will rise faster and remain higher, for the same reason.

## II. Cost Controls by Private Companies in the Chilean Scheme

In most public disability systems a government agency or body of medical experts must juggle sometimes-conflicting roles as advocate for taxpayers, protector of claimants and impartial judge and jury. Neither civil servants nor medical experts have direct financial incentives to limit successful claims. The high disability costs in many countries have been ascribed to public gatekeepers who are generous at the taxpayer's expense, who may accept bribes in return for applying lax standards, or who allow governments to use disability benefits as a substitute for unemployment insurance or early retirement. Chile's disability system, by contrast, attempts to balance public gatekeepers with countervailing incentives from private AFPs to contain costs. AFPs play a major role in the administration of disability benefits, including participating in claim assessments, appeals, monitoring eligibility conditions and determining disability criteria<sup>4</sup>. We argue that the incidence of successful disability claims is lower in Chile than it would be in a traditional publicly managed scheme, further cutting costs.

#### Participation by AFPs in the assessment procedure

Initial claims are evaluated by 21 Regional Medical Boards, each made up of three doctors hired by the public Superintendencia of AFPs (SAFP), but financed by the AFPs. The member may present his/her own medical tests and invite his/her personal doctor to take part in the discussions (but not the vote). The AFPs and insurance companies also have a non-voting representative the AFP Association has organized a group of medical observers, who regularly attend Board meetings and monitor its work. About 60% of all claims are approved at the first assessment, for a temporary disability benefit. Three years later the member is re-assessed. AFPs also participate in

<sup>&</sup>lt;sup>4</sup> Suppose the AFP starts out a total fee of 2,4% of the worker's eage and on actual cost of 2% half of which is the insurance cost, thereby carning the 0.4% differential as its profit. If it cuts the insurance cost to 0.8% and continues charging the same market-determined fee, its profits increase by 50% (2% - 1.8%) / 0.4%) = 50%). AFPs are there fore highly motivated to keep disability probabilities low, and they are given a role in the evaluation producere that allows them to pursue this goal.

this second assessment. Currently 80% of the temporarily disabled come up for a second reassessment (most of the attrition is due to deaths and appeals) and 93% of these are accepted as permanently disabled (Association of AFPs, 2004)<sup>5</sup>. They receive a lifetime benefit, even if they return to work; hence work by disabled beneficiaries is not penalized, as it is in many countries<sup>6</sup>.

#### Appeals by AFPs

Traditional public systems usually do not allow agencies to appeal against approved claims; they only allow workers to appeal denials of disability status. And workers who appeal are, in some countries, allowed to be represented by attorneys. As a result, the appeals process invariably raises costs. In Chile, the process is more symmetrical—both AFPs and workers can appeal the decisions of the Regional Boards to a Central Board. In 2004 AFPs appealed 26% of provisionally approved claims and 18% of permanent approved claims, and one-third of these appeals were successful (Association of AFPs, 2004). These appeals rates have been growing over time. This reduces the rate of claimants who receive permanent disability benefits by about 8%.

#### AFP role in shaping criteria for total and partial disability

A Technical Commission meets periodically to determine the medical criteria for granting partial and total disability.

This permanency of disability status is quite common in other countries too, either on a formal orde of the life annuity is made at the point when the disability is certified as permanent

A common problem in disability systems is how to rehabilitate and provide work incentives for disabled workers. This pases a controlation, because disability benefits are presumably paid to individuals who connot work, if they work they may become ineligible for benefits and thereby become worse off, enabled to work. Chile's system reflects these contradictions. Members who receive provisional pensions may continue working while receiving, if eventually granted permanent total disability status, as most are, the greates balance accumulated in the personal accounts will merely reduce the additional payment without improving the totoal pensio. Thus the entire temporary period. Once the worker gets permanent disability status, he keeps it regardless of whether or not the works. This contrast with many other countries where, eventually, individuals who disability rolls. In this sense, the Chilean disability system rewards work, as does the Chilean old age system (see Edwards and James 2006). Howerer, workess who have with drawn from the labor force during their provisional period may findit difficult to re-enter later on.

Representatives of the AFPs and the insurance companies, as well as three public representatives, sit on this commission, with a vote. For each handicap presented by the member, the rules allot a certain percentage of disability, which are summed to produce the total degree of disability. The Medical Boards may increase this percentage discretionarily according to specified "complementary factors" in the case of older members with a low level of income, or when the member loses the ability to perform his or her normal job. If the degree of disability exceeds 67% the member is considered totally disabled, whether or not he has continued to work, and is granted a 70% defined benefit. If the degree of disability is 50-67% he is partially disabled and gets a 50% defined benefit. If degree of disability is less than 50%, he is not considered disabled. Among the claims that were approved in 2004, 25% were for partial disability. This proportion has been increasing over time.

#### Eligibility for insurance: avoiding adverse selection

Adverse selection could potentially be a big problem in an economy like Chile's, with a high degree of informality and selfemployment. A healthy worker could avoid contributing by working in the informal sector, but move to the formal sector if he develops a complaint and anticipates filing a disability claim. Self-employed individual and independent contractors are not required to contribute to the system but may voluntarily do so if they suspect they are becoming disabled. This is more likely as subjective and chronic diagnoses for disability, such as back pain and mental illness, whose intensity and timing are difficult to establish, replace more objective and acute diagnoses such as cardiac problems. Such strategic behavior would enable disabled workers to get relatively large benefits for relatively small lifetime contributions, while healthy workers try to stay out of the system, thereby raising insurance fees for the average worker. However, insurance eligibility rules and monitoring by AFPs reduce the likelihood that this will happen. While certification for disability depends purely on medical grounds, eligibility for the defined benefit and the top-up depends on recent work history. In general, an individual must have worked and contributed within the past 12 months in order to be insured. This

limits strategic behaviour, especially among workers with acute sources of disability.

Poor record-keeping by public agencies in many countries, including Latin American countries in the past, has made it difficult to enforce insurance eligibility requirements. In contrast, AFPs keep the contribution records of affiliated workers and thus can ensure that they have contributed long and recently enough to be eligible for insurance. In 2004 only 60% of all successful claims were deemed eligible for insurance, a proportion that has been declining (Association of AFPs, 2004). Most of the growth in disability probabilities in recent years has occurred among the uninsured—AFPs have little incentive to spend resources on questioning or appealing non-insured claims.

## Combating adverse selection by monitoring the reference wage

Another way the Chilean system discourages strategic behavior by workers with irregular contribution histories is by setting a low reference wage for such people. The reference wage used to determine the defined benefit is the simple average of earnings during the prior ten years, expressed in the price-indexed Chilean currency, the UF (Unidad de Fomento), and with a ceiling. Workers who have been in the informal sector, unemployed, or out of the labor force for part of the last ten years will have 0's averaged in and will therefore have a low reference wage and benefit, even if they are insured. This is important because the average density of contributions for an affiliate in Chile is about 60% (Arenas, Behrman and Bravo, 2004; Berstein, Larrain and Pino, 2006). The wage replacement rate for a steady worker who becomes disabled is 70%, but a worker who contributed only 60% of the last ten years would receive only 42% of his working wage (60% of 70%). This low reference wage and benefit makes it less likely that workers with irregular work histories will try to re-enter the system to become eligible for disability insurance, and it saves money for the system if they do get back in. AFPs use their records to ensure that these rules for defining the reference wage are strictly applied, thereby diminishing adverse selection and disability costs.

### Results of the claims assessment procedure and eligibility rules

As a result of the first and second assessments, the appeals procedure, and eligibility rules, only 26% of initial claims result in insurance-funded permanent disability benefits. Among those disabled and insured, one quarter are only partially disabled and get a 50% benefit. Many have a reference wage that is far less than their full working wage and therefore a benefit that is far less than 70% (or 50%) of their full working wage. A major role in containing these costs is played by the AFPs, who actively participate in the assessment procedure, help set the rules, have a vested interest in enforcing them, and use their Association to keep careful track of their success.

#### Disability rates and costs in Chile vs. other countries

We expect these procedures to lead to a low inflow of age-specific newly disabled beneficiaries relative to insured population in Chile compared with other countries and, indeed, this is the case. For example, in 1999, for age group 45-54, 2.9 per thousand members were accepted to new disabled status in Chile, compared with 7.8 per thousand people in that age group in the US and 8.6 in OECD as a whole (OECD 2003 and Table 1). Over all ages, 1 per thousand was accepted to new insured disability status in Chile in 2004, compared with 3 to 5 per thousand in the US over the past two decades (US Social Security Board of Trustees, 2005; Social Security Bulletin: Annual Statistical Supplement, various years).

These low incidence rates lead to low insurance fees. The D&S charge in Chile is less than 1% of wages, with 2/3 of this for lifetime disability benefits. D&S insurance fees are. 9%-1.7% of wages in other Latin American countries that adopted the Chilean model (AIOS, 2005). For comparison, the D&S charge is 1.8% of wages (covering the disabled only until normal retirement age) in the U.S., over 3% in most other OECD countries, and up to 10% in some European countries (US Social Security Advisory Board, 2001; Andrews, 1999). Of course, many factors besides system incentives enter into these incidence and cost differentials—in

particular, the definition of disability, the existence of other programs that cover certain groups of disabled, the generosity and indexation of benefits, and whether they cover the worker until the normal retirement age or death. But it seems likely that prefunding and participation of private pension funds in the assessment procedure are important parts of the story.

## Disability hazard and survival rates in the old and new Chilean systems

To hold other factors constant, it is most useful to compare disability pension rates in the new and old Chilean systems. Using a recent sample survey of new and old system affiliates (HLSS, 2002), we compared the hazard of becoming a newly disabled pensioner for new and old system affiliates aged 40-65. Statistical analysis showed that, out of all individuals who reached a given age without a pension, the proportion who became newly disabled pensioners was 60-70% lower in the new system (Figure 5)<sup>7</sup>. For example, a single man in the old system has a 5% chance of becoming newly disabled at age 54, but in the new system this probability falls to 18%. In the old system, probabilities of becoming newly disabled peaked at 1.5% for a 58-year old single man, but in the new system this man had a hazard rate of only 6%. These data also allowed the calculation of Kaplan-Meier survival functions—the probability of surviving as a disability non-pensioner (rather than becoming a disability pensioner) from the earliest age up to the given age. This survival rate is consistently higher in the new system (Figure 6). Thus evidence on hazards of becoming disabled and costs of disability insurance in the new versus the old system and in Latin American versus OECD systems, all suggest that pre-funding and private participation in the assessment procedure helps keep costs low in the long run.

This analysis used the lox proportional hazard model. The model produced a beseline hazard that applied to single men from the old system and the adjustment (downward) that applied to women, married men and new system affiliates in various age groups between 40 and 65. See James, Iglesias and Edwards, 2007.

## III. Cost Reduction by Selection and Shifting to the Public Treasury

The measures discussed in Part II reduce costs for the entire system. AFPs, however, also have an incentive to cut their own costs by selecting low risk affiliates, thereby leaving the high risks for other AFPs, and by shifting costs to the public treasury for the disabled with low pensions who will be subject to the minimum pension guarantee. This section presents evidence on these activities.

#### Differential profitability and selection

Competition in private disability insurance would normally put people into differentiated risk categories, which are charged different prices. When this is limited by asymmetric information or by regulations, differentiated profitability of various workers and cross-subsidies arise. The Chilean requirement of a uniform insurance premium (as % of wages) for all contributors to a given AFP, in the face of differential disability probabilities, is an example of a regulation that makes some types of workers profitable while others are loss-makers. AFPs may then seek out profitable workers and try to avoid serving loss-makers.

The most obvious source of differentiated profitability is by age. Our simulations show that, even though younger workers have smaller accounts and wages, their lower disability probabilities more than offset this effect and reduce their real insurance cost but not their fee. Having them as affiliates is therefore profitable to an AFP, while the opposite is true for older workers. A second obvious source of differential profitability is gender. On average, age-specific disability rates of men are more than double those of women. Additionally, men have survivors while women usually don't (widows are automatically considered survivors while husbands are not considered survivors unless they are disabled and financially dependent on their wives). The net result is that female workers pay for D&S insurance that they likely never will use, while male workers get more than they pay for. This may discourage women from working in the formal labor market. And conversely, it makes women profitable to AFPs. Chile's new

President recently proposed that AFPs should rebate part of this fee to women, because of their low incidence of D&S claims. This represents a move toward differentiated disability insurance rates.

Third, single people cross-subsidize married people, because of the inclusion of survivor's insurance in the group policy. However, our hazard analysis indicates that married people have a lower disability hazard than single people, which partially offsets the inclusion of survivor's benefits. Finally, large persistent differences appear across regions, despite the procedures described above to unify criteria. In Regions 6 and 8 disability rates are 40-70% higher than in Region Metropolitana (Gran Santiago), despite similar age distributions. The net result is a cross-subsidy to Regions 6 and 8 by the rest of the country, which makes these regions unattractive to AFPs.

We would expect AFPs to attempt to cream the better risks and indeed, we found limited evidence of such attempts. According to our discussions with industry representatives, they use two methods to keep disability costs down: monitoring the assessment procedure (which reduces system costs) and selection (trying to attract and retain workers with low insurance probabilities while avoiding the others). AFPs are not permitted to exclude workers who wish to affiliate, but they can put forth differential efforts to attract or discourage different kinds of workers. For example, they can and do pay their sales agents different commissions, depending on gender, age and income of the workers they bring into membership. The most aggressive AFPs claim they engage in the following practices: They don't pay any sales commissions on new affiliates from high-risk regions or demographic categories or on those who file for disability benefits within two months of joining; they do pay an above-average commission for new low risk affiliates; they take account of the claims rate in a region when deciding whether to open a branch; consider closing branches in high-risk cities; warn prospective new affiliates that strict criteria will be applied in case of disability claims; have above-average appeals rates; train their staff members to inform workers about other programs such as sickness or accident insurance that cover disability risks; and compete for skilful risk managers who will help them do all of the above.

Selection reduces costs for the given AFP but does not reduce costs for the system as a whole if it does not change total system membership. Since older AFPs already have a stock of members who are likely to stay with them through inertia, the new AFPs are best positioned to use these selection methods effectively. Indeed, we find substantial differentiation among AFPs in successful claims ratios and in behaviors that might influence these rates. In 2004 the ratio of covered accepted claims per thousand contributors varied among AFPs from 1.2 to 1.9, a 50% difference that could translate into a 50% difference in real insurance costs. The AFP that is particularly noted for its selection efforts has been at the bottom end, while the oldest and largest AFP, unable to select, has been near the top end. The former also has the highest rate of successful appeals while the latter has one of the lowest rates (Association of AFPs, 2004). Thus cost-cutting by selection seems to go together with cost-cutting by vigorous monitoring of the approval process. Recent reform proposals by Chile's new President include the recommendation of a uniform D&S insurance fee across all AFPs, to eliminate price and profit differences due to selection. Provision of disability insurance would be separated from the management of retirement saving. This proposal would eliminate the problems due to selection—but it might also raise costs by reducing the incentives for AFPs to vigorously counteract adverse selection and carefully monitor the disability assessment procedure.

## Shifting costs to the public sector: the minimum pension guarantee

The minimum pension guarantee (MPG) paid by the government sets a floor under disability and old age pensions. The floor is about 25% of the average wage, rising to 27% at age 70 and 29% at 75. Many workers will qualify for the MPG even if they don't qualify for disability insurance because they weren't working at the time of disability. Twenty years of contributions are needed for MPG eligibility among old age pensioners, but only ten years (or even less) are needed among disability pensioners. Low-earners with 10-19 years of contributions (which many have) therefore have a strong incentive to seek disability certification.

Several sub-groups of disabled are likely to have an own-pension that falls below the MPG level: 1) members who are granted disability status but are not eligible for insurance because they are not current contributors; 2) insured individuals who contributed for only a fraction of their working lives and therefore have a small reference wage and pension; 3) insured individuals who choose programmed withdrawals and live longer than the out-dated mortality tables predict; 4) partially disabled workers who get only a 50% defined benefit; and 5) surviving widows of disabled workers. Each of these categories is due to policy choices that reduce the cost of the private insurance but may increase the cost of the public contingent liability. The MPG serves as a safety valve for a cost-conscious private disability insurance system.

Previous studies have shown that old age retirees with large accumulations tend to annuitize in order to get longevity insurance (protection against the risk of outliving their savings), while those with small accumulations tend to choose programmed withdrawals and rely on the MPG to provide longevity insurance (James, Martinez and Iglesias, 2006; Edwards and James, 2007). This is true of disabled pensioners as well. As of 2003, 60% of all disabled beneficiaries had taken programmed withdrawal, compared with 35% of normal old age and early retirees—corresponding to the predominance of small pensions among the disabled. The average programmed withdrawal was roughly half the size of the average annuity. Among the 60% who took programmed withdraws, more than half were drawing down their accounts at the minimum pension level. When they use up their own savings, the state will take over, providing they meet the eligibility conditions for the MPG. Another quarter already fell into this category of state-financed pensioners. Indeed, the majority of current MPG recipients are disabled and survivor beneficiaries who started out in programmed withdrawals. If this process continues, it seems likely that an increasing proportion of disabled pensioners, who may be young and live many years after retiring, will eventually receive the MPG. Private disability costs may remain constrained, but public spending will probably rise over time.

#### IV. What Can Other Countries Learn from Latin America?

The Latin American system for disability insurance has two innovative features: it is pre-funded and it utilizes private pecuniary incentives and procedures to contain successful claims and costs. Pre-funding takes place in two stages: first, building the retirement accounts through the worker's career and second, using an additional payment when the person becomes disabled, to enable the purchase of a lifetime defined benefit. According to our simulations, in the long run the money in the retirement accounts will cover about half of the total disability annuity premium. Further pre-funding through the additional payment initially costs more than an equivalent PAYG system with the same incidence of disability. But it cuts costs dramatically compared with PAYG as the funded system matures. Pre-funding increases the sensitivity of fees to volatile interest rates but it reduces the sensitivity to ongoing population aging. Currently the system is in the mediumterm, with annual fees lower than they would be in an equivalent break-even PAYG system but with gains slowed down by falling interest rates in recent years.

Finally, the Latin American system of pre-funding enables the assessment procedure to include participation by private AFPs and insurance companies, which have a strong interest in containing costs. Their pressure toward strict application of the rules and appeals procedures has the effect of reducing the incidence of insured disabled cases. Our calculations of hazard and survival rates, using a retrospective data set of new and old system affiliates (HLSS, 2002) show significantly lower hazards of becoming disability pensioners in the new system. This is consistent with lower observed age-specific incidence of disability and disability insurance fees in Chile as compared with publicly managed systems in other countries. Potential dangers here include the incentives for each AFP to try to cream the better risks and to shift costs to the public treasury by expanding the partial and uninsured disability groups, to keep their own costs low.

How can these lessons from Chile be adapted by other countries that have or are considering an individual account system, or those grappling with high disability costs in their traditional systems?

We set forth three possible models that capture some of the costcontainment advantages of the Latin American scheme while avoiding some of its problems:

1. Pre-funding and private insurance with risk-pooling and competitive bidding. Countries with individual accounts could get the benefits of pre-funding and private participation while reducing the risk of creaming and interest rate sensitivity by placing workers in one large risk pool, as they are in the U.S. and other OECD countries today. In place of the decentralized provision in Chile, the responsibility for the disability term insurance policy could periodically be auctioned off in a competitive bidding process to one company (or a small number of companies to which workers are randomly assigned). The company winning the auction would make the additional payment which, together with the worker's own account balance, would finance the disability defined benefit. Both publicly-appointed experts and insurance company representatives would participate in the assessment process, similar to the procedure in Chile. But, since everyone would be in the same pool, this company would not be able to select workers and, since the contract would be longterm, fee fluctuations tied to the interest rate would be smoothed.

However, insurance companies might charge a high risk premium to compensate for interest-rate smoothing if the contract period is long. Moreover, a monopoly insurance provider might have little incentive to monitor claims and eligibility carefully, hoping to cover higher costs by higher fees in the next round of bidding. Each AFP would also have little incentive to control costs, since any savings would be shared among the entire AFP industry as well as the insurance company. In that case, the shift toward a single pool might reduce selection by AFPs but would also reduce oversight and thereby raise costs over-all. Notably, the Chilean government is currently proposing the adoption of such a system, apparently trading off cost minimization under the current system for other goals such as uniform prices across individuals and through time.

2. Pre-funding and private insurance, only until normal retirement age. As a variation on this theme, insurance companies might

finance the disability pension only until the normal retirement age (say, age 65 or 67), at which point the old age benefit would take over. This switch at the normal retirement age is roughly consistent with current practice in the US. In this case, the individual's money would remain in his account, collecting interest, until age 65. At that point, the disability annuity would cease and he would be treated similarly to normal retirement pensioners. This variation would imply less uncertainty for the insurance company and less incentive for older workers to apply for disability benefits, because the disability annuity would cover a shorter time period and have a specified termination date. Both of these would reduce disability costs. But some workers would see their benefits fall substantially when they reach normal retirement age, if the old age pension is lower than the disability pension. If part of the normal retirement pension is PAYG, this variation would imply a smaller shift to pre-funding, therefore lower fees in the short run. However, in the long run fees for the system as a whole would be higher.

3. Public provision, largely PAYG. The third option is to use a government agency, rather than private companies, to provide disability benefits. In a country with individual accounts, the agency would take the money in the accounts of disabled workers and pay them the defined benefit. This system would be partially pre-funded by the money in the accounts, but the rest of the benefit would be financed on a PAYG basis. Because of the smaller amount of pre-funding, short run fees would be lower and long run fees higher than in a Chilean-type scheme. Costs would be less sensitive to interest rate variations, but more sensitive to population aging, than in a funded scheme. Among countries with individual account systems, this method was used in Hungary and Croatia—to avoid transition costs. Latvia, Estonia and Sweden use this method only until normal retirement age, at which point disabled workers are treated like normal retirees.

The reliance on public management rules out private provision and cost controls due to private participation in the assessment procedure. Nevertheless, it might be possible to adapt some elements of the Chilean process involving countervailing force,

even without the profit motive. For example, the public agency responsible for the program could be given the right to appeal approved cases, or to oppose claimant's appeals, represented by lawyers who have an incentive to win their cases. This would increase the probability that both sides would be presented, while leaving the final decision to an impartial court or body of experts. (See similar recommendations by the US Social Security Advisory Board (2001) and Autor and Duggan (2006)).

Countries around the world are faced with rising costs of old age security programs. In many countries, disability expenditures are a high proportion of total social security costs and have been rising even faster than old age expenditures. The experience of Chile suggests that these costs can be contained by prefunding, by private participation in the assessment procedure, and, possibly, by processes that mimic private participation. Although in principle presenting both sides forcefully should improve the accuracy of the evaluation, further research is needed to determine whether this has occurred in reality and whether Chile has chosen the right balance between benefits and costs. In the meantime, countries that already consider their disability costs excessive should seriously consider how these economies and incentives can be incorporated into their systems.

Chilean data calculated by authors from claims and assessment data supplied by Association of AFPs, contributor and member data supplied by SAFP. Only disabled who are insured are included here in 1999 this was about 70% of those who were granted disabled status in Chile. Inflow to temporary disability status is given; inflow to permanent disability status would be about 3/4 as large, depending on age. Ratios are given as % of [(members + contributors)/2] since insured population includes some affiliates who are not currently contributing.

OECD numbers are newly disabled beneficiaries as % of population in the relevant age group, minus the stock of people in that age group who are already on disability benefits. The denominator includes some people who are not eligible for insurance. If this definition were used for Chile, Chile's disability inflow rate would be much lower.

Table 1
Inflow to disability benefit status, Chile vs. US and OECD, 1999

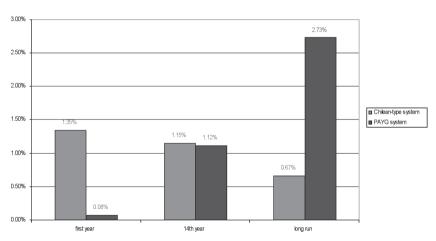
(new inflow, per thousand in insured population)

Age group	20-34	35-44	45-54	55-59	60-64
Chile	.2	.9	2.9	7.2	12.3
US	2.7	4.5	7.8	13.9	12.8
OECD	2.3	4.2	8.6	14.9	14.1

Source: OECD data from OECD (2003), p. 81.

Figure 1
SIMULATED DISABILITY INSURANCE FEE IN A CHILEAN-TYPE
SCHEME VS. A PAYG SCHEME, BY SYSTEM MATURITY

Disability insurance fee as a percent of wage



Source: Prepared by the author.

Figure 2
SIMULATED PERCENTAGE OF SYSTEM ANNUITY PREMIUMS
COVERED BY RETIREMENT ACCOUNTS OF NEWLY DISABLED, BY
SYSTEM MATURITY

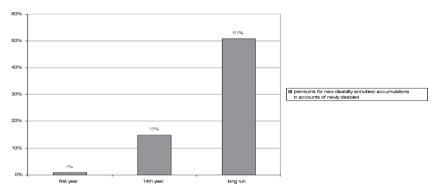
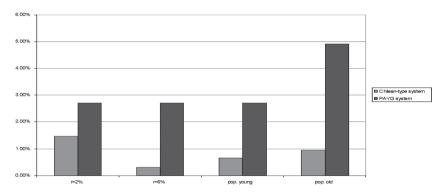


Figure 3
SIMULATED INSURANCE FEE AS % OF WAGES IN CHILEAN-TYPE AND PAYG SYSTEMS: SENSITIVITY TO INTEREST RATE CHANGES AND POPULATION AGING



Source: Prepared by the author.

Figure 4 D&S Insurance Fee and Payouts as % of Total Wage Bill, 1990-2004

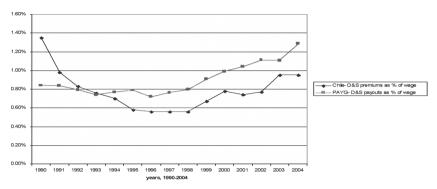
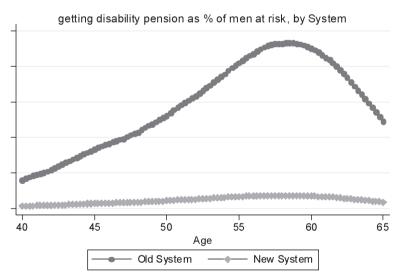
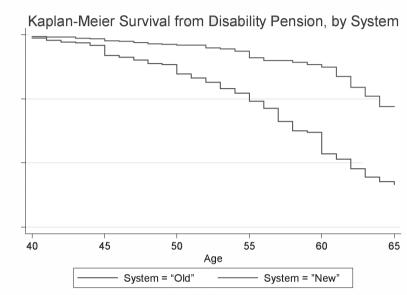


Figure 5
COX MODEL DISABILITY HAZARD FOR MARRIED MEN, AGE 40-65



Source: Prepared by the author.

Figure 6
KAPLAN-MEIER SURVIVAL RATE FROM DISABILITY PENSION, OLD VS. NEW SYSTEM



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# **CHAPTER III: Individual Funding Plans in Pension Systems**





3.1 STRUCTURING AN EFFECTIVE MULTI-PILLAR SYSTEM THE NEXT SOCIAL SECURITY REFORM IN CHILE

Mario Marcel

3.2 PUBLIC - PRIVATE PARTNERSHIP IN PENSION REFORM

Yordan Hristoskov

3.3 DESIGN ALTERNATIVES FOR SOCIAL PENSION PROGRAMS

Robert Palacios

3.4 FISCAL EFFECTS OF PENSION REFORMS

Joaquín Vial



### STRUCTURING AN EFFECTIVE MULTI-PILLAR SYSTEM THE NEXT SOCIAL SECURITY REFORM IN CHILE

MARIO MARCEL<sup>1</sup>

#### 1. Funded schemes in pension systems

Pension systems generally seek to respond to the conjunction of two problems. On the one hand, there is the certain fact that the vast majority of workers will reach old age and lose their ability to generate income by working; on the other, that although this event is predictable, there is a whole range of flaws in the market and economic restrictions that prevent this risk being mitigated to any large-scale extent by decisions to save individually.

Social security, and pension systems in particular, arose in order to confront these problems. Inspired by mutual aid movements and union solidarity at the dawn of the industrial revolution, the pension systems imposed obligatory contribution on the workers, under schemes backed and regulated by the state, with the aim of financing benefits for those who were retiring from active work.

For a number of decades, solidarity and efficiency seemed to be mutually compatible. While the population of working age was growing, and older adults represented a small, stable fraction of the population, pay-as-you-go systems were not only able to fund the pensions of those in the passive sector, but were in a position to ensure benefits with a predetermined value. In this context,

President Advisory Council for Pension Reform in Chile.

demographics provided a solid base for supporting a pension system structured on reciprocity and support between generations of workers.

The change in demographic trends and in the labour market altered this marvellous arithmetic significantly. All of a sudden, forecasts began to indicate that the contributions would be insufficient to finance the promised benefits. With that, the social contract that sustained the pension systems began to be called into question, due to the type of reforms that would be required in order to maintain their actuarial balance.

The main contribution made by the 1981 social security reform in Chile was demonstrating that the investment of the workers' contributions in the capital market could provide an alternative principle on which to support a pension system and sustain it over time, regardless of the demographic trends.

The Chilean reform was not the first scheme to contemplate the capitalization of workers' contributions. In many countries, the pay-as-you-go systems began with a limited body of beneficiaries, who capitalized the contributions of the early years collectively in order to build up a stock of money with which to contribute towards funding future pensions. In other cases, private schemes, conducted from companies or sectors, complemented the public schemes which offered more limited benefits. In a third group of cases, national pension systems were inspired from the very beginning by the principle of capitalization (or funding).

In this sense, the greatest contribution of the Chilean reform was to show at one and the same time (a) that individual capitalization was a scheme capable of sustaining a nation-wide, mandatory pension system; (b) that it was possible to move towards that system from a defined benefit scheme that was already in place, and (c) that a funded system could rely on private participation in the management of the workers' savings funds, concentrating public responsibility on reinforcing the mandatory nature of the contributions and regulating the fund-management in such a way as to balance risk and yield appropriately, in accordance with the public objectives of the pension system.

Once it had been demonstrated that the individually funded scheme was viable, three advantages were especially noteworthy, when compared with the traditional pay-as-you-go schemes. The first is that the funded scheme offers dynamics of accumulation for the calculation of pensions that are substantially superior to those of PAYG. In fact, in a strict pay-as-you-go scheme, where the benefits of the pensioners are funded entirely with the contributions of the workers then active, the pensions will grow in accordance with the growth rate of the payroll of active workers, corrected by the ratio between passive and active workers. In relatively mature economies, this growth is unlikely to be more than 3% per year, representing the long-term return on the workers' contributions. By contrast, in an individually funded scheme, the accounting unit of the pension funds should grow according to the return offered by the capital market, or the interest rate, which, in a considerable variety of scenarios, should be over 5% per year.

A second advantage is related with the ability of individually funded systems to overcome the problems of demographic transition. This phenomenon, which is currently affecting all countries in one way or another, results in an increase in the proportion of passive workers to active. This, in a strict funded system, means reducing the value of the benefits for the passive sector, raising the contributions paid by active workers, postponing the age of retirement, or a combination of the three. If the principles of pay-as-you-go are not respected, the gap between contributions and benefits has to be covered by the state, and it is not possible to expect that there will always be sufficient resources to do so. In a funded scheme, the financial performance of the pension funds is not affected -at least directly- by the demographic transition. In such a regime the demographic transition undoubtedly affects replacement rates for people retiring at the same age, but these changes can be neutralised by an individual decision to postpone retirement, which would theoretically make it unnecessary for the state to intervene.

Finally, an individually funded scheme involves a set of relationships with the political system that is substantially different from the one which occurs under defined benefit schemes. In fact, in the latter the parametric adjustments required to balance the system from an actuarial point of view produce conflicts, require a long-

term vision and must normally be applied over a period. Adjustments of this type contrast with the short-term perspective that tends to dominate political processes. This perspective in the best case leads to the postponement of adjustments to the system and in the worst, to short-term benefits being offered that are not actuarially funded. Under an individually funded scheme, the determining of the value of the pensions is transferred from the law to the operation of market mechanisms and comes to depend on density of contributions, the yield of the funds and individual decisions on when to retire. At the same time, the fact that the worker is the owner of his/her accumulated fund imposes limits on the political system's temptation to generate short-term benefits by transferring resources between sectors or generations.

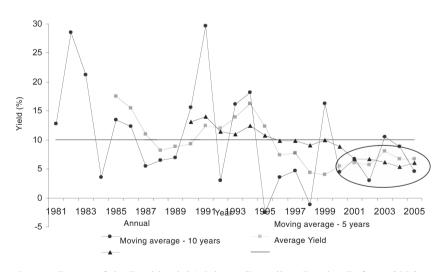
The merits of the individually funded system from the point of view of economic efficiency have been widely documented in the literature on the subject, but the accumulated evidence of the operation of these schemes, as from the Chilean reform in 1981, has generated sufficient evidence to evaluate their validity in practice.

There is no single, objective viewpoint for evaluating the dynamics of accumulation and the financial performance of the workers' contributions in an individually funded scheme, and it is possible to distinguish at least two differing points of view. The first is that of the system's managers, who necessarily concentrate on the quality and performance of the investments, particularly on the way in which these achieve a balance between risk and yield. The second is that of the members, who can evaluate their participation in the pension system as if it were an individual investment. From this latter point of view, the subject of interest will be the rate of return resulting from comparing the present value of the costs incurred by the worker during his/her active phase -in other words, contributions to the fund, yield of the fund in the period close to the point of retirement and commissions paid to the fund managers and insurance companies- with the present value of the pension benefits, corresponding to the complete flow of pensions received by the originator and his/her heirs.

When the comparison is made from the two suggested perspectives, the resulting values may be considerably different. Thus in Chile's case, the AFPs have for years been quoting a yield on the funds of around 10% per annum, which corresponds to the arithmetic average of the gross yields over the 25 years of the system's existence. From the worker's point of view, this figure has to be corrected, first, to weight the annual yield by the magnitude of the accumulated funds - by doing this, the gross average yield falls to figures of around 7% (Graph 1); second, to take into account the commissions that the workers pay to the AFPs, by which the net yield is situated between 4.5% and 6.5% per year, depending on the worker's income (Table 1); and third, to deduct the additional commissions charged by the insurance companies when selling a life annuity, which, according to certain studies, would reduce the internal rate of return for members to less than 4% per year.

Though this last figure is still higher than the return to be expected of a strict pay-as-you-go scheme, the difference becomes considerably smaller, creating doubts as to the desirability of undertaking reforms of the magnitude required to replace one scheme with another.

Graph 1
YIELD OF THE PENSION FUNDS



Source: Report of the Presidential Advisory Council on Pension Reform, 2006.

ALTERNATIVE ESTIMATIONS OF THE RETURN ON MEMBERS' CONTRIBUTIONS IN THE INDIVIDUALLY FUNDED SCHEME, ACCORDING TO SALARY, YIELD AND STARTING YEAR Table 1

salary: Yield post-2005:		\$ 127,000 5%		Salary: Yield post-2005:		\$ 127,000 6%		Salary: Yield post-2005:		\$ 127,000 7%	
Starting Year	Gross IRR	Net IRR	Difference	Starting Year	Gross IRR	Net IRR	Difference	Starting Year	Gross IRR	Net IRR	Difference
1981	6.04%	5.41%	0.62%	1981	6.65%	6.03%	0.62%	1981	7.24%	6.63%	0.62%
1986	5.58%	4.99%	0.59%	1986	6.31%	5.72%	0.59%	1986	7.02%	6.44%	0.58%
1991	5.15%	4.61%	0.54%	1991	2.98%	5.46%	0.53%	1991	6.81%	6.29%	0.52%
1996	2.00%	4.51%	0.50%	1996	5.93%	5.44%	0.49%	1996	6.84%	6.37%	0.48%
2001	4.90%	4.43%	0.47%	2001	2.88%	5.42%	0.46%	2001	%98.9	6.41%	0.45%
Salary:		\$ 250,000		Salary:		\$ 250,000		Salary:		\$ 250,000	
Yield post-2005:		2%		Yield post-2005:		<b>%9</b>		Rentabilidad post-2005	t-2005	%2	
Starting Year	Gross IRR	Net IRR	Difference	Starting Year	Gross IRR	Net IRR	Difference	Starting Year	Gross IRR	Net IRR	Difference
1981	6.17%	5.54%	0.63%	1981	6.77%	6.15%	0.62%	1981	7.37%	6.75%	0.62%
1986	2.65%	2.06%	0.59%	1986	6.38%	2.79%	0.59%	1986	7.09%	6.51%	0.58%
1991	5.20%	4.66%	0.54%	1991	6.04%	5.51%	0.53%	1991	898.9	6.34%	0.52%
1996	2.06%	4.57%	0.49%	1996	2.99%	2.50%	0.48%	1996	%06.9	6.42%	0.48%
2001	4.96%	4.49%	0.47%	2001	5.94%	5.49%	0.46%	2001	6.92%	6.47%	0.45%
Salarv:		\$ 1,000,000		Salarv:		\$ 1,000,000		Salarv:		\$ 1.000.000	
Yield post-2005:		2%		Yield post-2005:		%9		Yield post-2005:		%2	
Starting Year	Gross IRR	Net IRR	Difference	Starting Year	Gross IRR	Net IRR	Difference	Starting Year	Gross IRR	Net IRR	Difference
1981	6.26%	5.64%	0.62%	1981	%28.9	6.25%	0.62%	1981	7.46%	6.85%	0.62%
1986	2.70%	5.11%	0.59%	1986	6.43%	5.84%	0.59%	1986	7.14%	6.56%	0.58%
1991	5.24%	4.70%	0.54%	1991	%20.9	5.55%	0.53%	1991	%06.9	6.37%	0.52%
1996	5.11%	4.61%	0.50%	1996	6.03%	5.55%	0.48%	1996	6.94%	6.47%	0.48%
2004	200	707.1	710		6						

Source: Report of the Presidential Advisory Council for Pension Reform, 2006.

In order to increase the return on the worker's savings in an individually funded scheme and, consequently, the value of his/her pension, the state has a number of alternatives, such as: creating a macro and microeconomic climate that stimulates more growth and therefore a higher balanced interest rate; deepening the capital markets to increase efficiency in the intermediation and investment of the funds; stimulating competition in the AFP and life annuity industry to reduce administration costs and commissions; generating mechanisms to protect the funds when close to the point of retirement; adjusting the commissions structure and designing innovative pension products.

All these measures are consistent with maintaining an individually funded scheme as the basis of the pension system and might make it possible to increase the return on the invested funds and therefore the value of the future pension, and/or reduce the costs involved for the worker in obtaining such pensions. Despite this, there are demands on the pension system that these measures cannot resolve. This is the subject of analysis in the next section.

#### 2. What funded systems can and cannot do

In order to assess the contribution and limits of the individually funded scheme in achieving the aims of a pension system, it is necessary to identify what these aims actually are. The literature and actual discussions taking place at local and international level make it possible to identify five aims.

a. To cushion variations in income. As was stated at the beginning, the main problem that pension systems seek to solve is how to cushion the fall in income – and, consequently, in people's consumption – associated with retirement from working life. That fall may be the result of limitations for working in the conditions demanded by the market, physical or mental disability, or even the desire to rest after a whole lifetime of work, but it occurs precisely at a stage of life when consumption needs may increase as a result of greater vulnerability in people's health and sociability. This ability to cushion income is measured through the replacement rate. ILO agreements have indicated a minimum replacement rate of

45%, while many national systems encourage, or seek to guarantee, replacement rates of 70%-80%.

- b. To prevent the risk of poverty in old age. Even where a worker obtains a reasonable replacement rate, it is possible that this will not be sufficient to prevent the value of his/her pension falling below the poverty line. This may occur when the worker has had a low level of income in absolute terms when active, or when the average income disguises large lacunae in income and/or social security contributions. Poverty in old age constitutes a particularly serious social problem, because of the increased spending needs associated with people's health and their greater social vulnerability. For this reason, the prevention of the risk of poverty in old age is considered as a complementary aim of any pension system, and generally justifies the setting up of non-contributory minimum pensions or benefits, paid for by the state.
- **c.** To avoid discriminations. In order for a pension system to be fair, it is not enough for it to produce good replacement rates on average. The scatter around that average should be as small as possible, avoiding a priori differences arising from factors beyond the worker's control. Particularly sensitive in this area are the discriminations that may arise between men and women, between workers of different sectors and regions and workers in different socio-economic situations.
- d. To increase the perception of security. A pension system exists to give workers security concerning the situation they will face in old age. From this point of view, pension systems are of interest not only to older adults, but also to those who will become older adults in the future. If a pension system produces security with regard to the continuity of the worker's income and provides adequate protection against the risk of poverty in old age, it is likely that those insured will be prepared to take risks, such as changing their job or initiating independent projects.
- **e. Efficiency.** Finally, all the above aims must be achieved at a reasonable cost for the worker, the state and the economy. In

this latter case, the costs are measured indirectly, in terms of the distortions that a pension system might produce in the operation of the markets, especially the labour market.

On checking the above list, it may be inferred that an individually funded scheme can reasonably fulfil the first objective for all workers who are capable of contributing regularly to their pension fund. Depending on important aspects of its design, that scheme can also aspire to operate efficiently. However, there are important intrinsic factors in a funded scheme that impede it from fulfilling the aim of preventing poverty in old age. Likewise, given that in this scheme the final value of the pension depends on a complex combination of: regularity and timeliness of contributions, the financial performance of the funds and the demographic parameters that determine life annuities, it is difficult to fulfil the aim of providing security about benefits. Finally, the differences between groups of workers – particularly between men and women - may result from different patterns of insertion in the labour market, which the pension system does not have sufficient strength to change.

An individually funded scheme on its own is therefore incapable of meeting all the demands made of a pension system. To do that it needs to be supplemented with other schemes, norms and regulations, thereby constituting what has come to be called a multi-pillar system.

# 3. Structuring an effective multi-pillar system in Chile: the proposals of the Presidential Advisory Council for Pension Reform in Chile

The ability of a multi-pillar system to meet the five proposed requirements does not depend so much on the coexistence of different schemes within a single pension system, as on the design of each scheme and the fact that they are consistent with one another. Among the potential inconsistencies that it is possible to find among pension schemes is, for example, the moral risk that non-contributory schemes exert over contributory ones and the optional co-existence of defined contribution and defined benefit schemes.

In the recent discussion of a reform to the Chilean pension system, the search for a more balanced and consistent structure of pension schemes has resulted in reform proposals that point towards a true multi-pillar system in the country.

In order to analyse these proposals, it is worth remembering that the Chilean pension system that originated in the 1981 reform does not consist only of an individually funded scheme with private management, but also of a state-guaranteed minimum pension, to which all workers are entitled who have accumulated at least 20 years' worth of contributions over the course of their working life. As time has gone by, the welfare pension program has also come to be considered part of the pension system. This offers a basic benefit equivalent to half the minimum guaranteed pension to older adults and disabled people who have no pension, living in poverty-stricken households. This latter benefit was traditionally rationed according to the budget, and people had to apply for it through the municipal authorities.

Although some people describe the guaranteed minimum pension (PMG) and the welfare pension (PASIS) as a non-contributory pillar of the Chilean pension system, there are at least three factors that allow one to question the validity of that concept, as also how effective and consistent these benefits may be with the individually funded scheme.

The first of these refers to the importance of the 20-year contribution requirement for entitlement to the PMG. The changes that have taken place in the labour market, which have produced high job turnover, seasonal jobs, alternating periods of wage-earning jobs and self-employment and the precarious insertion of women in the paid labour market, mean that only a small fraction of low-income workers will actually achieve that requirement when they come to retire. Thus forecasts made by the Superintendency of AFPs in Chile on the basis of the workers' social security and work history indicate that when the first generation of workers who have lived entirely under the scheme created by the 1981 reform retire in 2025, only 2% of them will be entitled to the PMG, while 46% will obtain pensions below that value (Table 2).

The second factor refers to the lack of continuity and distortions introduced by the PMG with regard to the operation of the individually funded scheme. These distortions occur as a result of defining the PMG on the basis of a time threshold of contributions and also on the way in which the state guarantee operates. The result of this is that a low-income worker who accumulates 20 years' contributions has very little incentive to continue paying money into his/her fund, because the additional contributions will only increase the self-funded component of his/her pension, reducing the input required of the state in order to achieve the value of the minimum pension. In other words, the current system imposes the equivalent of a 100% tax on the contributions of low-income workers who exceed the 20 years required for entitlement to the PMG.

Table 2
PENSION FORECASTS BASED ON WORKERS' WORK AND SOCIAL
SECURITY HISTORY – 2025

	All	Men	Women
Higher than the minimum pension	52%	67%	37%
With guaranteed minimum pension	2%	1%	2%
Lower than the minimum pension	46%	32%	61%
Total	100%	100%	100%

Source: Report of the Presidential Advisory Council for Pension Reform, 2006. Based on Berstein, Larraín and Pino (2005).

The third problem lies in two fundamental aspects of the design of the PASIS. The first refers to the fact that, since it is granted on the basis of an evaluation of the socio-economic condition of the potential beneficiary's household, the PASIS contradicts, in practice, the essentially individual logic characterising most social security systems, including that of individual funding. In practice, it means that the greater the solidarity within the family, the less the likelihood of the older adult obtaining a PASIS, because he/she will be included in a household where the conditions may be above the extreme poverty line.

The second problem with the PASIS has to do with its exclusive nature, in other words, the fact that it is incompatible with any other pension, regardless of its value. Thus a worker who has contributed sporadically for less than 20 years and has accumulated a very small fund, meaning that he/she is only eligible for a programmed withdrawal pension, possibly worth less than the minimum, cannot obtain a PASIS until his/her fund is completely exhausted, regardless of the value of the self-funded pension that he/she has obtained in the meantime.

In this way, both the PMG program and the PASIS, despite their limited coverage, actually weaken the incentives to contribute for a considerable band of workers by producing lack of continuity in benefits, which reduces the efficiency of the system as a whole and therefore its ability to respond adequately to the objectives demanded of it. In other words, even if we consider the PMG and PASIS to be a non-contributory pillar, it would be a weak pillar with little integration in the individually funded scheme.

The situation described here forms part of the context within which proposals were drafted by the Presidential Advisory Council for Pension Reform, called by President Bachelet in Chile. That council, made up of 15 experts with different disciplines and political sensibilities, worked for a little over three months, producing in July 2006 a report containing an assessment of the pension system's operation and 70 proposals for reform. The government included most of these proposals in a bill, which is currently under discussion in the National Congress. This constitutes the most important reform to the Chilean pension system since the individually funded scheme was created 25 years ago.

The declared objective of the Council was to "renew the Chilean people's social contract with the pension system", applying principles of universality, fairness, efficiency and sustainability. In particular, the council set itself the goal of raising the system's replacement rate significantly, preventing the risk of poverty in old age and minimizing the differences in replacement rates between men and women. The sum of the above objectives involves a journey from a scenario in which the pension system is seen as an extension of the labour market to one of universal social security coverage.

On the basis of these objectives, the Council made proposals aimed at: a) replacing the current PMG and PASIS benefits with a new solidarity pillar; b) reinforcing the contributory pillar; c) extending the coverage of the voluntary pillar and d) adapting the institutional structure of the system to reflect its multi-pillar structure.

#### New Solidarity Pillar

The New Solidarity Pillar (NPS) proposed by the Council is directed towards the poorest 60% of the population and is structured on the basis of a basic solidarity pension (PBS), with a value of US\$150 per month, equivalent to 180% of the income corresponding to the poverty line, which will be gradually reduced on the basis of the value of the pension self-funded by the worker out of his/her pension fund.

This scheme is illustrated in Figure 1, where the self-funded pension (PAFE) is shown in relation to the final pension. In this diagram, the PBS begins with a maximum value for those workers whose PAFE is equal to zero, and this value is gradually reduced by 35% of the PAFE for workers who have accumulated larger funds, until it disappears altogether for a PAFE of US\$400 per month, known as the "maximum pension with solidarity support" (PMAS).

According to this design, about 60% of future older adults, equivalent to a million and a half people, should receive benefits from the NPS by the end of the transition.

As may be seen, unlike the PMG and PASIS, the NPS is fully integrated with the contributory pillar, this being reflected in the fact that it is designed in such a way as to avoid debilitating the incentives to contribute. So, according to the proposed design, the gradual withdrawal of the NPS contribution takes place at a rate that makes it possible to ensure that a greater effort to save on the part of the worker always results in a larger pension, avoiding the lack of continuity currently introduced by the PMG (Figure 2). For this reason, the incentives to contribute in the proposed system are necessarily greater than those of the present one.

Figure 1
NEW SOLIDARITY PILLAR

PF

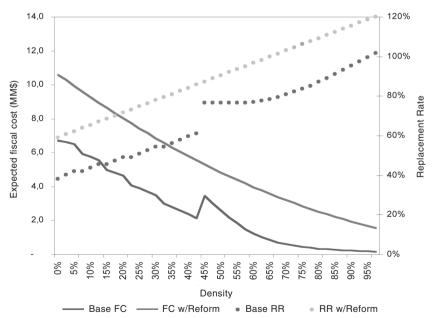
PMAS

PBU

PAFE

Source: Report of the Presidential Advisory Council for Pension Reform (2006).

Figure 2
FISCAL COST AND REPLACEMENT RATE UNDER CURRENT AND PROPOSED SYSTEMS, ACCORDING TO DENSITY OF CONTRIBUTIONS



Source: Report of the Presidential Advisory Council for Pension Reform (2006).

On the other hand, by fixing the PBS above the poverty line, the goal of preventing the risk of poverty in old age in assured, even for people who were unable to pay contributions during their lives and including housewives who never worked for pay. This latter case illustrates the fact that the NPS will mostly benefit women who, even though they have not worked as housewives all their lives, may register long periods without contributions due to having dedicated themselves to looking after their children as a result of the distribution of responsibilities in the home. For this reason, the Council eliminates the "years of contribution" requirement for entitlement to a pension.

#### Reinforcing the contributory pillar

The reinforcement of the contributory pillar proposed by the Council includes, in the first place, the full incorporation of workers who are not wage-earners. In this respect, the Council's proposal includes eliminating the current distinction established in Chilean legislation, which makes contribution mandatory for employed workers and voluntary for the self-employed. In order to achieve this objective, the proposal includes making the obligation to contribute equal for both groups, while at the same time offering equal rights in terms of family allowances, protection against industrial accidents, right to membership of labour welfare institutions, contribution while receiving the benefits of the unemployment insurance and the right to receive equal tax treatment. In order to achieve the full assimilation of the two groups, a five-year transition period is proposed, in which the state will be able to use the various points of contact with selfemployed workers – taxes, permits, patents – to reinforce the aim of achieving their full incorporation into the social security system.

With the same aim of expanding the coverage of the pension system, the Council proposed various measures for including women and young people, consisting of the right to childcare and a bonus paid into the capitalization account with a year's contributions for each child, for the former, and a subsidy of 50% of contributions for the first 24 months of membership, for the latter.

The Council also proposed various measures to step up competition in the AFP industry and thereby reduce costs for the members. Of these, the most important are (i) the automatic awarding of the membership of all workers who join the pension system during a year to the AFP offering the lowest contribution rate in a tendering process, and (ii) the separation, by outsourcing, of the management of accounts and funds, functions which are currently integrated vertically, in order to reduce the economies of scale that create barriers for new competitors wishing to enter the industry.

Finally, in order to reinforce the contributory pillar, various measures were introduced to raise the yield of the funds' investments, including the simplification of investment limits for issuer and instrument, which means the virtual elimination of the limit on investments abroad; the reduction of the obligatory reserve and the broadening of the band of yield variability; the obligation for AFPs to make their investment policies explicit and the beginning of a process leading to regulation based on risk.

#### Expanding the voluntary pillar

The voluntary pillar of the pension system still has a relatively short, but highly successful history, expressed in the voluntary social security savings scheme (APV). The very success of the system has revealed the existence of limits to its expansion, which the Council proposed making more flexible. With this in mind, together with eliminating certain tax distortions, it was proposed to bring in a system of collective voluntary social security saving (APVC), which makes it possible for employers and workers to reach agreements whereby both parties pay contributions into voluntary capitalization accounts, to complement the mandatory capitalization account.

#### Towards a new institutional framework

The consolidation of a multi-pillar system such as that proposed for Chile requires the system's institutional framework to be consistent. With this in mind, the Council proposed creating a single Superintendence of Pensions, with responsibility for supervising the operation of the three pillars of the system, through specialised departments. At the same time, it was proposed that the management of the NPS be separated off in a public institution, the Institute of Social Pensions.

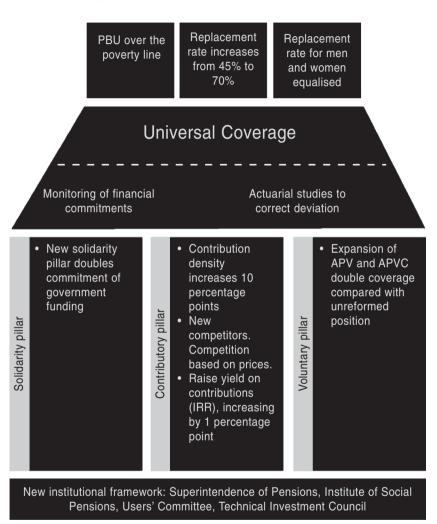
The new institutional framework that has been proposed also includes spaces for the users of the system to take part, through a User's Committee with responsibility for evaluating the system's operation and coordinating initiatives for educating the population on social security issues. This last function will fill an important gap in the Chilean pension system, which is characterised by a high level of ignorance on the part of the members about the basic aspects of its operation. The User's Committee would also be the first instance for checking the actuarial studies which, according to the Council's proposal, should be carried out regularly by the government, in order to monitor the fulfilment of the reform's goals.

Figure 3 summarises the architecture of the system that would result from the reform proposed by the Council. At the top are the reform's goals, which include raising the replacement rate produced by the system to 70%, fixing a PBS above the poverty line and drastically reducing the difference in the replacement rates of men and women. As was commented earlier, this is equivalent to transforming the Chilean system into a system of universal coverage, capable of sustaining its benefits over time, and relying for the purpose on regular monitoring of its operation and the carrying out of actuarial studies.

In order to achieve these objectives, the proposal requires that the state's long-term commitments to the pension system be doubled, through the NPS, that the contributory pillar be reinforced with measures that would enable the density of contributions to be raised by ten percentage points and the net yield of the member's contribution to be raised by one percentage point per year, and the coverage of the voluntary pillar be doubled, all this supported by a new institutional framework.

Figure 4 summarises the expected impact of the various reform measures for different groups of members, which have been

Figure 3
ARCHITECTURE OF THE PROPOSED MULTI-PILLAR SYSTEM

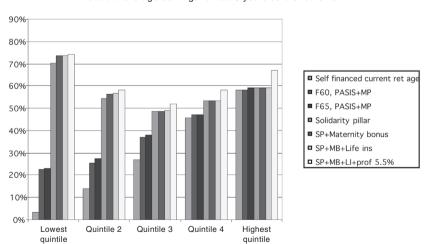


Source: Report of the Presidential Advisory Council for Pension Reform (2006).

arranged in quintiles of the accumulated fund, the replacement rates being compared in the bars in relation to the average earnings of the workers in the three years prior to retirement, as the components of the proposed reform are gradually added.

In this way, the figure illustrates in the first place the considerable differences that exist at present in replacement rates for workers with different fund accumulation ability. These begin to be significantly reduced as the "harder" components of the reform proposal are included. The incorporation of these components is of particular benefit to those workers with lower accumulated funds, and this is reflected in an increase of the replacement rate for this group from less than 10% to over 70%. However, the other groups will also benefit from the reinforcement of the contributory pillar, which shows that all sectors have something to gain with the proposed reform.

Figure 4
REPLACEMENT RATES BY QUINTILES OF ACCUMULATED FUND,
ACCORDING TO THE INPUT OF VARIOUS COMPONENTS OF THE
REFORM PROPOSAL



Pension/ average earnings for last 3 years before retirement

Source: Report of the Presidential Advisory Council for Pension Reform (2006).

The fact that replacement rates will tend to even out does not eliminate the differences in the absolute values of the benefits, but these will become more similar to the scatter of earnings observable in the labour market. That this may be a result of a possible reform also draws attention to the fact that the present system could generate inequalities in pensions that are even higher than the considerable inequalities in work income that are already observable in Chile.

#### 4. Concluding thoughts

The proposals of the Presidential Advisory Council for Pension Reform respond clearly to the objective of structuring an effective multi-pillar system in Chile. This results not only in the design of a new solidarity pillar that is more solid and effective, but also one that is better connected with the contributory pillar. In the same way, the reforms proposed for reinforcing the contributory pillar will make it possible to raise the accumulation of social security funds and thereby limit the cost of the solidarity pillar. Finally, the expansion of the voluntary pillar will offer an attractive mechanism for workers who wish to achieve higher pensions, on the basis of an additional effort to save which is shared with the employer, reducing the demands on the two remaining pillars.

This way of structuring the system is especially helpful in demarcating the responsibilities of each pillar, which also makes it easier to insist on the results expected of each one. In this way the contributory pillar is no longer required to make itself responsible for the needs of workers who have not contributed regularly, while the solidarity pillar can concentrate its attention on those groups, avoiding being transformed into a vehicle for channelling pressure for higher pensions from various interest groups, which led in the past to the creation of privilege schemes. In fact, for workers with higher incomes, the proposed design offers the possibility of improving their pensions, but only by means of an additional effort to save.

If the Council's recommendations are followed (which has already been reflected in a bill that is currently under discussion in Congress), the reformed Chilean system will have important

similarities with the one that would result from the proposals for reforming the system in Great Britain, and with the one that has been in process of implementation in Sweden since a few years ago.

This indicates to us that the transformations in the labour market throughout the world as a product of the globalisation process, the development of capital markets, the demographic transition and the equalling of rights and opinions of men and women, are imposing a new pragmatism, expressed in a gradual convergence of pension systems with very different starting points, but which have discovered that they could not be viable while relying on a single accumulation scheme, whether pay-as-you-go or individual funding.

As regards the developing countries that are studying how to make a good pension system work, the Chilean experience indicates that although the individually funded scheme cannot change the world all on its own, especially the labour market, it is capable of providing a powerful accumulation mechanism, meaning that solidarity can be fiscally sustainable, and sustainable over time. To achieve this, however, it is crucial to ensure that the individually funded scheme operates efficiently, with low costs for the member, and that the solidarity objectives are structured into a non-contributory solidarity pillar that is adequately integrated with the remaining components of the pension system.



## PUBLIC - PRIVATE PARTNERSHIP IN PENSION REFORM

Yordan Hristoskov<sup>1</sup>

I would like to thank FIAP for this wonderfully organised Conference, which provide us with a great opportunity to exchange experiences, to learn from each others mistakes and achievements, and to assist in their efforts the countries which are now beginning social security reform. In fact, yesterday's presentations showed us that people involved in pension reforms are following similar directions and that we are working on a cause that, although difficult, is important for our countries.

My presentation is based mainly on the experience of the Central Eastern European states (CEE). I have used information from different sources and some of which might not be fully updated. So, I must start by presenting you with my apologies for any error in the data that I will use.

#### **Development of pension fund schemes in CEE**

Pension reform in CEE was motivated by the disappointment of the population with the existing Pay as You Go (PYG) systems. It was also clear for everybody that these systems, which were too generous, had accumulated enormous deficits and could no longer be maintained in the form in which they existed. In the 1990's a window of opportunity for pension reform was opened

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and a group of countries decided to go ahead (however, this window did narrow quickly, so the countries that delayed the reforms were left behind and are now faced with much greater difficulties).

What characterises pension reforms mostly in the CEE, is the simultaneous undertaking of parametric and systemic reforms. This strategy is explained because these countries had to change the paradigm on the basis of which existing pension systems had been constructed. So, what was done was a simultaneous improvement in first pillar design, together with the introduction of funded second and third pillars aimed to improve the quality of pensions that today's young generations will get in the future. Countries which did follow this path of "officially-recognised privatisation" of pensions, supported the development of the fully funded programs through legislative initiatives and incentives.

But some other countries have followed a somewhat different strategy of spontaneous (or also called "creeping") privatisation. This is specially the case of countries where the public system was too weak to provide adequate pensions and voluntary pensions funds have developed, also under the impulse of legislative actions. Examples of this approach are the Czech Republic and Slovenia (see Table 1).

I will now discuss three different aspects of private - public partnership in the pension area: (i) the financial aspects of the interaction of the public PYG and private fully funded pension systems; (ii) the institutional aspects of this public/private interaction; (iii) different ways in which public and private pension programs can complement each other.

## Interaction between public and private pension systems: financial aspects

In all reformist countries the relative size of the pillars was the result of a political compromise since, as I said, the second pillar was developing at the expense of territory from which the public system retreated.

Table 1
Typology of the Pension Systems in CEE countries

COUNTRY	PUBLIC SYSTEMS			PRIVATE FUNDED SYSTEM S	
	"Bismark"	"Beveridge"	NDC	Mandatory Funded	Voluntary Funded
BULGARIA	Χ	x	0	X	X
POLAND	Χ	x	X	X	X
HUNGARY	Χ	x	0	X	X
CHEC REP.	Χ	х	0	0	X
SLOVAKIA	Χ	x	0	X	X
ESTONIA	Χ	х	0	X	X
LITVA	X	0	X	X	X
LITWENIA	Χ	x	0	X	X
ROMANIA	Χ	х	0	X	0
SLOVENIA	Χ	х	0	0	X
MACEDONIA	Χ	0	0	X	0
CROATIA	Χ	0	0	Χ	X
KOSOVO	0	X	0	X	X
ALBENIA	X	X	0	0	X
SERBIA	X	0	0	0	X (ongoing)
RUSIA	X	X	X(ongoing)	X	X
UKRAIN	Χ	x	0	X	X
BELARUS	Χ	х	0	0	0
MOLDOVA	Χ	Х	0	0	0
KAZAHSTAN	0	х	0	X	X
Legend: 2	$\mathbf{X}$ — dominated	; X – suppleme	ented; x – of li	ttle importance;	O - absent

The first area of compromise was the amount of the contributions to be transferred from the first to the second pillar.

The second area of compromise was the definition of the second pillar coverage. Critical issues were if the funded pension programs should cover the whole active population or only people up to a certain age, or if people should be given free choice to choose between the "old monopillar" and the "new multipillar" pension systems. Concerning coverage, a relevant question is if

introducing restrictions to the incorporation to the new pension system of some groups, actually means discrimination against these people. In fact, the Constitutional Court in some of the countries has intervened in order to prevent discrimination in this respect. Yesterday Dr. Hasan Ademov mentioned this problem, which could involve a relevant proportion of the population (see Table 2).

Table 2
PENSION COVERAGE IN BULGARIA / PRIVATE PENSION FUNDS
MEMBERS AS % OF THE LABOR FORCE

Funds	2002	2003	2004	2005
Universal	24.70%	34.03%	41.93%	46.52%
Occupational	3.29%	3.48%	3.69%	3.79%
Voluntary	10.28%	10.88%	11.20%	11.42%
Total coverage	38.27%	48.38%	56.82%	61.73%

Source: Financial Supervision Commission.

The third area of compromise referred to the time and the way in which the new mandatory funded programs would begin to operate.

Of course, the way in which these compromises have been solved in each country depends on the size of the pension deficit which results from the reform; on the situation of the public budget; and on their respective financial capacity. However, there are still several similarities in the approaches followed by different countries. We will distinguish between "cautious", "aggressive" and "moderate" strategies.

Countries which followed the "cautious approach" have transferred from 2 to 5 percentage points of contributions rates from the public to the second pillar programs, and have limited mandatory coverage of the new systems only to the new entrants to the labor market.

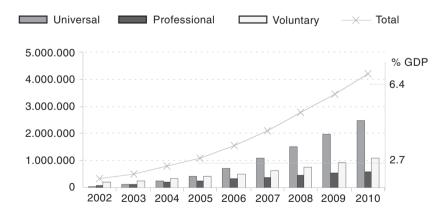
Table 3

Number of insured persons and Net Assets to Universal Pension Fund /UPF/, Professional Pension Fund /PPF/ and Voluntary Pension Fund /VPF/

Indicators	Type of fund supplementary pension insurance			
	Total	UPF	PPF	VPF
	Projection for 2010 year			
Number of insured persons (number)	3 605 000	2 750 000	205 000	650 000
Net Assets (in thousands BGN)	4 200 000	2 500 000	600 000	1 100 000
	Projection for 2020 year			
Number of insured persons (number)	4 265 000	3 250 000	215 000	800 000
Net Assets (in thousands BGN)	16 300 000	11 500 000	1 300 000	3 500 000

Source: Prepared by the author.

Figure 1
NET ASSETS ACCUMULATION IN THE PENSION FUNDS  $(thous and \ BGN)$ 



Source: Prepared by the author.

Of course, this "cautious approach" results in lower deficits in the first pillar. At the same time, pensions expected to be received from the second pillar are modest, while a higher percentage of income replacement rate is expected from the first pillar program. So, participants show smaller interest in the mandatory funded schemes. This approach is typical of Bulgaria, Macedonia, Ukraine, Russia, Estonia and Latvia.

Under the "aggressive approach", 10 percentage points or more are transferred from the first to the second pillar program, and mandatory coverage of the new system is broader. With this approach the deficit in the public system is higher, which brings the risks of inter-generational conflicts. An example of this strategy is Kazakhstan, where the liabilities of the first pillar were totally covered by the state budget and the second pillar is managed in a centralised way by the central government.

Most countries have adopted a "moderate approach". In these cases 5 to 10 percentage points of the contributions to the first pillar are transferred to the new second pillar. At the same time, coverage in the new system is mandatory for broader age groups, including, for example, all those below 40 or 45 years of age. For older workers, coverage in the new system is voluntary. Public deficits with this strategy are rather moderate. Income replacement rates for younger individuals can reach 30%. When pension from the second pillar is added to the expected pension from the first pillar, aggregate replacement rates are expected to be fairly good. Such an approach was used by Poland and Hungary.

# Interaction between public and private pension systems: institutional aspects

In many cases the interaction of public PYG and private DC funded pension programs has helped to strengthen social security institutions.

One example is the development of uniform registry of insured people which have been set up to transfer contributions to private pension funds of the second pillar, and to facilitate the interaction between social security entities. A second example, closely related to the previous one, is the development (or improvement) of centralized systems for the collection of social security contributions, which are a characteristic of all countries throughout the region (the prevailing view is that only state institutions could really impose sanctions and guarantee the collection of the contributions). In some cases this is the responsibility of the institutions which manages the first pillar. For example, in Bulgaria, the National Social Security Institute did that. In other countries like Hungary, Bulgaria and Russia, there are public institutions which collects both taxes and social security contributions.

A different institutional development has been the existence of guarantees over the results of pension funds, whose rationale is to protect second pillar participants from investment risks. In some of the countries (i.e. Hungary) a uniform guarantee fund has been set up. In others, each pension company has the responsibility to guarantee a minimum investment return.

Finally, in most countries of the region institutional arrangements have been developed to assist people in choosing their pension funds.

# Complementarity's of public and private pension systems

Private funded DC and public PYG pension programs can complement each other. Products offered by the public first pillar and by the private second pillar can be similar in terms of using the same pension age, the same eligibility criteria to start simultaneous payment from the both pillars in order to reach the required integrated replacement rate in the pension reform. Most countries set similar eligibility criteria for pensions in each pillar. Retirement ages are the same in the first and in the second pillars. Exception could be provisions for early retirement. For example, in Bulgaria early retirement in case of unemployment is allowed by the second pillar if the accumulated amount in the personal account is enough to guarantee a pension which is equal or above the minimum guaranteed pension by the public system.

Also, in reformist countries the disability pensions are integrated to the public program. So all participants of social security must follow the same process of application for this pension and are assessed under similar criteria. Common biometric tables are used for life expectancy in the actuary calculations. In any case, from Estelle James' presentation yesterday it's clear that the disability assessment procedures could be improved. Eventually, pension companies should also have their representatives involved in the certification of disability.

At a different level, complementarity's between the different types of pension programs are defined by the pension system model which is chosen.

The first alternative is to keep a mandatory PYG program, whose benefits will be complemented with the benefits from a funded program, either mandatory or voluntary. This is an option used by countries where it is impossible to close the first pillar and finance pensions (and acquired rights) out of the public budget.

A second alternative is to have pensions coming from funded schemes, together with public universal pensions schemes which could be based either on nationality or income test.

A third option is to have a three layer scheme, with an universal pension, plus a contributory pension from a public scheme, plus pensions from the second and third funded pillars. This is the example of Russia.

What are the indicators of the evaluation of the coverage and the extend of development of the funded system in Bulgaria?

The first one is the percentage of the employed covered by contributions in the second and third pillar (See Table 3); the second indicator is the net accumulated assets in the pillars (See Figure 1); and the third one is the accumulated amounts in the personal accounts and the income replacement rate provided by each one of the pillars (See table 4).

Table 4
PROJECTIONS FOR AMOUNTS OF PENSION FROM UNIVERSAL
PENSION FUND AND REPLACEMENT RATIO

Year	Avergae monthly wage	Amounts at the end of year	Female	Male	Female	Male
2005 2015 2018 2020 2023 2030 2035 2045 2050	319,50 696,18 876,41 1 022,02 1 275,08 2 082,56 2 791,04 4 696,82 5 676,45	374,72 4 249,71 6 532,66 8 494,53 12 265,36 26 489,01 43 402,66 105 668,72 158 266,28	21,08 46,66 67,38 131,39 238,42 414,38 706,73	38,86 83,10 157,56 294,06 536,03 931,27	3,03 4,57 5,28 6,31 8,54 8,82 12,45	4,43 6,52 7,57 10,54 11,41 16,41

Source: Prepared by the author.

#### Final remarks

Today I wanted to share with you three messages.

The first message is that the impact of pension reform on financial stability of the public PYG system will depend on the proportion of the contribution rate which goes to the second pillar and on the extent of the coverage of the second pillar.

My second message was that the interaction between the public and private pension institutions, if well regulated and conducted, will not only help to creates confidence in the new individual funded programs, but will result in lower administrative costs and greater efficiency and effectiveness of the pension industry.

The last message is that public and private pension schemes should be considered as complementary instruments to improve social protection of the elderly population. This approach should help to bring together the interests of the generations and increases the chances of solving the pension problem in our countries.



# DESIGN ALTERNATIVES FOR SOCIAL PENSION PROGRAMS

ROBERT PALACIOS<sup>1</sup>

Let me thank Guillermo Arthur from FIAP and also the Association of Bulgarian Pension Funds for inviting me to participate in this important Conference.

I will be speaking today on "Social Pensions", which I will define as non contributory cash transfers for the elderly. I will discuss different types of designs of social pensions and how they relate to the pensions paid out by contributory and funded pension schemes.

My talk will be divided into roughly four parts. First I will argue that social pensions are an important issue, because of a relevant coverage gap of contributory pension systems. Then I will discuss the role that social pensions play today. In the third part of my presentation I will analyze some aspects of the design of social pensions. Finally I will make some remarks on the future role of social pensions, trying to think of these non contributory pensions in an integrated fashion, taking into account the contributory schemes and how they are going to evolve in the future.

Senior Pension Economist in the Social Protection Department, World Bank.

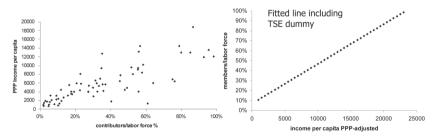
#### The coverage gap

This presentation is motivated by the fact that there is a "pension coverage gap" in the world. Almost all countries mandate pension coverage for formal sector workers; however after many decades of operation of contributory pensions systems, we find that in many countries pension coverage has not increased. In one of yesterday's presentations, Augusto Iglesias argued that the mandate to participate in contributory pension systems was very difficult to enforce over informal workers and so, that coverage of these systems depended not so much on their characteristics but on the composition of labor force. I should add that for other certain groups of workers, particularly very low income workers in poor countries, mandatory savings for retirement may not make sense.

Although there is very little evidence that coverage is affected by the nature of the pension scheme (i.e. whether it's funded or not), there is however a strong correlation of coverage with income per capita. Figure 1 summarizes the most recent data we have collected at the World Bank on this issue. On the left hand you'll see a scatter plot which shows that there is a positive correlation between the ratio of contributors to labour force and per capita income. Although there are outliers in that arrangement, no low income countries and no middle income countries have universal coverage.

Figure 1
THE LONG RUN "COVERAGE GAP"

The global coverage/income pattern suggests that it will take a long time for coverage rates to rise in developing countries



Source: Prepared by the author.

On the right hand side of the figure is a fitted regression line which shows the relationship between income per capita and coverage (which also takes into account a "dummy variable" for transitional socialist economies, since Eastern Europe and former Soviet Union economies tend to have coverage rates roughly 16 percentage points higher than other countries with the same income level. However, in these transitional socialist economies those coverage rates have fallen from - I may say- artificially high levels to where they would be predicted to be now by their income levels).

Using this result we can guess pretty well what is going to be the coverage level in a country, only by knowing what's its income per capita. So, in most countries it is going to take a very long time (depending on their growth rates) to achieve universal coverage of contributory pension schemes.

Other thing that we know is that coverage is also related to income distribution: the lower part of the income distribution has less coverage than the upper part of the income distribution. In Figure 2 the situation of three countries is presented. Although their overall coverage rates are different, in all three cases the lower income quintiles have lower coverage rates than the richer quintiles.

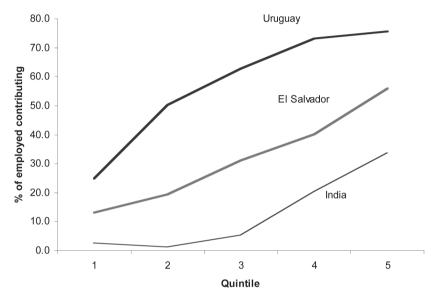
In summary, coverage is lower in low income countries and, within a country, it's lower among the lower income people. These are facts we should think about.

# Policy options for dealing with the coverage gap

To solve the coverage gap problem one approach, which has been tried for the last forty years or so, is to find ways to expand the coverage of the existing contributory pension schemes. Possible solutions include changes in the design of the systems to reduce costs and improve benefits, and also changes in labor market rules to incentive participation in the formal sector. However, although these things can be done (and should be done), experience shows that they are going to have a marginal impact on the overall coverage rate.

Figure 2
THE LONG RUN COVERAGE GAP

We also know that coverage rises with income within countries



Source: Prepared by the author.

A different approach is to set up parallel contributory schemes designed specifically for informal sector workers. This is a path that we have seen in Latin America and some other regions of the world. For example, Mexico has a programme that subsidise voluntary pension contributions of informal sector workers with a matching contribution.

There is a third approach to deal with the coverage gap, that I will discuss today, which is to introduce or expand non contributory -or social- pension programs.

#### The Role of Social Pensions

In a recent paper which I co-authored, a wide variety of social pension programs are described. One relevant dimension of these

programs is their size. There are very large social pension programmes, like those in South Africa or New Zealand which a pay a substantial benefit to almost all of the elderly population, and there are also very small means tested programmes, like the one of the United States that only pays a small benefit to 1% of the elderly population.

Are large social pension programmes an option for developing countries? Proponents of social pension schemes say that this is the only way to deal with the coverage gap in the short term, because it is the only instrument that can be used to pay the current elderly -or people that are soon to be elderly- some kind of pension. There is some true in this assertion. To expand or to set up a contributory pension scheme takes a long time. Moreover, these systems also need a long time to mature; for example, in a defined contributory pension scheme, years of contributions are needed in order to accumulate savings which could finance reasonable pensions.

However, one problem is that introducing or expanding social pension schemes can have important fiscal costs and so there are fiscal trade offs involved. If pensions are going to be paid straight from the public budget, this will come at the expense of other programmes. Also, there's the issue of distortions (on personal savings and labor market participation decisions) that may arise from giving people this kind of cash transfer. Unfortunately, there hasn't been enough research to show what kind of behavioural effects these types of social pension schemes have. So, the literature provides very limited guidance for what policy makers need to deal with.

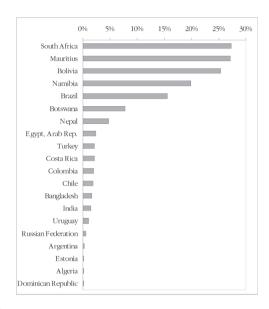
### The size of social pension programs

To measure the size of social pension schemes we created an index which results from multiplying the ratio of the social pension benefit to the income per capita, times the ratio of social pension beneficiaries to the number of elderly in the country. So, if all the elderly in the country receive a social pension equal to 100% of income per capita, this index would give you 1 or 100% (see Figure 3).

Figure 3
SOCIAL PENSIONS - THEIR ROLE TODAY

The bars for each country show the ratio of the social pension to per capita income x the ratio of the number of recipients to the number of elderly

Many countries (e.g., India, Chile, Kenya) are introducing or expanding SPs



Source: Prepared by the author.

Results shows that a handful of countries have social pension programs of a large size. South Africa, Mauritius, Bolivia, Namibia and Brazil are the most remarkable cases. But there are also many other countries that, to close the coverage gap, are now considering using social pensions as a main feature of their respective pension systems. India is one example. In Chile the social pension has been increased quite dramatically. Kenya is planning to introduce a social pension program.

## Design of a social pension program

Once the decision to introduce a social pension program (or to expand and existing one) has been taken, the parameters of the respective program need to be looked at carefully. I will make some comments about three of the most critical of these parameters: eligibility ages, benefit levels, and income tests.

### Eligibility Age

From the perspective of economic productivity and health, ages have very different implications in different countries. Age 60 in Senegal is very different from age 60 in Bulgaria, which is very different from age 60 in the United States. In fact, there is ample evidence of a positive relationship between life expectancy at age 60 and income per capita (see Figure 4).

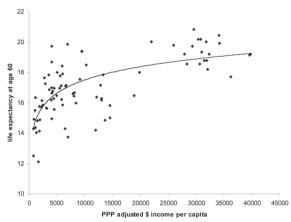
So, if social pension are going to be paid conditional to a permanent decline in productivity during life cycle, then the age at which payments should start should be different in different countries depending on the respective health status and the productivity status of old people. This means that there is a case for poor countries to have lower social pension eligibility ages, which reflects the fact that being aged 60 there is a much more difficult economic situation than it is, being 60 in a developed country.

Other factor that must be taken into account when deciding about eligibility ages for social pensions, is the age of eligibility in the contributory pension scheme. Although both ages should be coordinated, it happens that in many countries retirement ages in the contributory pension systems are still set at their levels of many years ago, even though life expectancy has been increasing fast. In fact, what we observe is a clustering of retirement ages in contributory schemes that is explained very little by the life expectancy in those countries (see Figure 5)<sup>2</sup>. Since the objective of social pensions is to help people that have declining productivity and would become poor without this benefit, eligibility age should depend on this condition happening, which may be at an age different from the legal pension age of the contributory pension system.

An increasing number of countries are introducing this kind of link by the way of adopting defined contribution pension schemes. If you allow for actually fair annuities to be determined, then the retirement age is effectively indexed to life expectancy. Also, some countries with pay as you go contributory pension schemes, are linking retirement age to life expectancy.

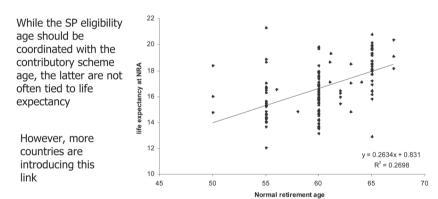
Figure 4
PARAMETERS - ELIGIBILITY AGE

Health and productivity of the elderly will be lower in poor countries and for poor within the country



Source: Prepared by the author.

**Figure 5**PARAMETERS - ELIGILITY AGE



Source: Prepared by the author.

Lastly, eligibility ages of both kinds of pension programs can be flexible as long as benefits are adjusted in an actuarially fair proportion. This means that the amount of the benefit should be adjusted depending of the age at which it starts to be received. If, in example, eligibility age for the social pension is set at 65, a person could start to receive benefit at 60 as long it's reduced in actuarially fair reduced; or a person could decide to start receiving the benefit at 67, but this will be increased in an actuarially fair proportion. The same condition should also apply for contributory pension schemes (in fact, a funded defined contribution pension scheme has this characteristic).

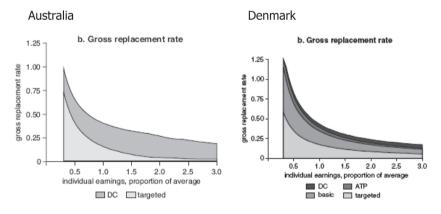
#### Benefit Levels

The benefit level of the social pension program should be set looking at this program in conjunction with what are the benefit levels expected from the contributory pension scheme.

Recently Edward Whitehouse (OECD) has produced a set of comparable replacement schedules for the different components of the pension systems in several countries, which helps us to think more clearly about what are the objectives of the pension systems.

Figure 6
PARAMETERS - BENEFIT LEVELS

Benefit level should be designed with both contributory and social pension components integrated into objectives



Source: Prepared by the author.

In Figure 6 you can see total replacement rate (pensions/wages) according to the income level of the worker in two different countries, Australia and Denmark. For example, an average wage worker in Australia –this is a person who during his entire career has had the average wage— has a total replacement rate somewhere around 48%, while a worker with a wage 50% of the average has a total replacement wage of 80% (the same worker in Denmark would have a replacement rate of almost 100%). From the graph we can also see what portion of the total pension comes from the contributory scheme and what portion comes from the social pension scheme.

Using this kind of measures, which shows the impact of every component of a pension system, policy makers can better decide on the objective of the social pension.

#### Income Tests

Although social pensions are not intended to help the rich, it turns out that a number of countries actually pay this pension to every resident at age 60 or 65. Examples include New Zealand, Mauritius, Botswana and Brunei.

Brunei (which is a very small country) is an interesting case since the Sultan of Brunei, being one of the richest men in the world, has the right to receive an universal flat benefit from the social pension scheme.

One argument in favour of "universal pensions" is that it is administratively simpler to pay a flat benefit to everybody reaching certain age, than to go out and figure out people's incomes (and pay the benefit only to the poorer ones). Of course, the other side of the coin is that more people will receive the benefit (and this costs money) and the redistributive impact of the program will be weaker.

In New Zealand, where they pay universal pensions to everyone aged 60 and above, this can be dealt with through the income tax system because they have a broad income tax and so they claw back some of that money through progressive income tax. But

most low and middle income countries have very weak income tax systems and do not capture most of the population in their schemes.

An alternative is introducing an offset to the amount of the pension depending on the income level of the individual. However, for similar reasons, it may be very difficult to assess people's incomes, which makes this solution very difficult to implement.

Another alternative which is being tried in a number of places is a pension test, which is easier to administer. Under this scheme the amount of the social pension is reduced in some proportion of the contributory pension (or other pensions) received by the individual. Since contributory pensions are much more easy to identify, this kind of scheme looks easier to implement. However, they also face two problems. The first is that by ignoring the non pension income, social pensions will not be delivered only to the groups of the population that are the main objective of the program. The second is that it could reduce the incentives to pay contributions to the contributory scheme.

We know that people's retirement behaviour is affected to a certain extent by how much the extra dollar that they work for is taxed at retirement. So, targeting is a desirable characteristic of a social pension program since it helps to keep tax rates at a lower level. Valdes-Prieto shows that optimum income tax policy is consistent with having a declining marginal tax on income for more productive workers, and targeting allows it to happen. On the contrary, if everyone receives universal flat benefits, more taxes will be necessary to pay for them.

A recent example of a "pension test" for targeting social pensions, is the recent proposal for a new "solidarity pension" in Chile. Figure 7 summarizes how the proposed scheme would work. Area 2 area shows the contributory scheme replacement rate; area 1 shows the "solidarity pension". At the lowest end of the income, "solidarity pension" makes most of total pension; as the level of the contributory pension rises, the amount of the "solidarity pension" is reduced; and at some level of the contributory pension, the "solidarity pension" becomes zero. So, there will be people

which only receives a "solidarity pension"; other which will receive a reduced "solidarity pension" plus a contributory pension; and some that will receive only contributory pensions (both mandatory and voluntary).

It can be seen that the proposed system results in lower marginal tax rate at higher contributory pension levels. According to theory this is an efficient design.

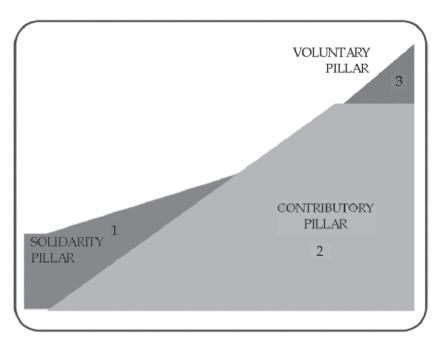


Figure 7
CHILEAN SP REFORM

Source: Prepared by the author.

# **Dynamic Social Pension Policy**

I will turn now to the issue of how a social pension program should be integrated into pension policy.

Most high income OECD countries have already decided what are the roles of contributory versus social pensions in their respective pension systems. However, their decisions have not been the same in all cases. In example, New Zealand 100 years ago made the decision to go with a large non contributory social pension program, which pays a benefit at age 60, financed out of general revenues. Recently they re-affirmed this decision with 97% of the population rejecting the idea of introducing a mandatory contributory pension scheme. Germany, Italy, and the United States have almost universal coverage, and the policy decisions as to the roles and relatives sizes of contributory and non contributory pension programs are also done.

But this is not the case in low and middle income countries which still have pension systems with low coverage and must decide on the role of contributory and social pension programs. Some countries have already started to make these decisions. The introduction of social pensions in Bolivia, just a decade ago, was a major change in the overall pension policy of the country. Chile's recent decision to expand the social pension program is also a move in this direction. However, and as we said, for the majority of these countries this is an issue which has not been solved.

I want to argue that optimal decisions about the role and size of contributory and non-contributory pension programs depend on initial conditions, and that social pension policy should adapt over time as the contributory pension scheme develops. To illustrate this idea I will start by dividing the world into four groups of countries (see Figure 8):

- (i) Low income countries (LIC's). They have below U\$ 4.500 income per capita, with about 17% coverage, and are young countries (as measured by the ratio of young people to old people).
- (ii) Middle income countries (MIC's). They are slightly older countries and have higher coverage rates (on average, about 50%).
- (iii) High income countries (HIC's). They have high coverage rates (90%), an income per capita greater than U\$ 15.000, and a penson policy which is in steady state.

(iv) Transition Socialist Economies (TSE's). I place them in a different category for reasons that I will explain in a moment. There's a very wide range of TSE's in terms of income levels, coverage, and of the initial conditions. What they have in common is that their coverage rates, which were very high in the past, are now falling. So, in most cases they have gone from universal coverage to partial coverage.

Figure 8
INITIAL CONDITIONS AND DYNAMIC SP POLICY

We focus on three stylized cases to see general policy implications of different SP policies

Country types	PPP\$YCAP	Coverage ratio	Ratio 20-59/60+ population
LIC	>4500	17%	7.6
MIC	4500 - 15,000	51%	6.3
HIC	15,000+	90%	3.4
TSE	2000 - 20,000	66%	3.7

Source: Prepared by the author.

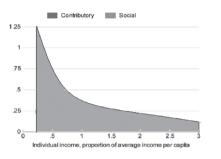
Now we will simulate different social pension policy choices. Only the case of low income countries will be developed. For these countries we have four alternatives (or cases).

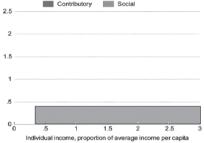
The first case implies a decision to shift completely into a social pension program (see Figure 9). We will assume that this program will pay a universal benefit equal to 40% of the income per capita (this would be a program similar to what is currently done in New Zealand).

In the second case a contributory pension system exists together with the social pension program. A pension test will also exists, such that for every dollar of contributory pension that a person receives, one dollar is taken away from his/her social pension. The target replacement rate of 40% of income per capita still holds (see Figure 10).

Figure 9
RESULTS FOR LIC

In the first year, there is only the universal pension... in case 1, this remains the long term policy

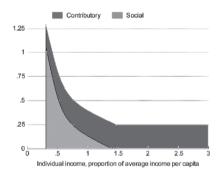


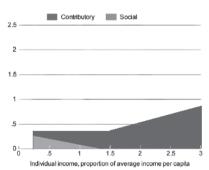


Source: Prepared by the author.

Figure 10
RESULTS FOR LIC

In case 2, we apply a 100% pension test and introduce the DC scheme so that at maturation it looks like this



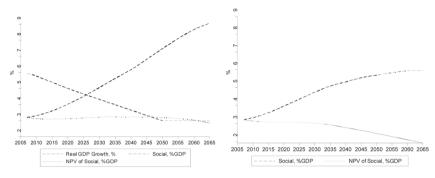


Source: Prepared by the author.

In the third case a contributory pension system also exists together with the social pension program, but the pension test takes away only 50% of the social pension for every dollar coming from the contributory program (see Figure 11).

Figure 11 RESULTS FOR LIC

In long run cost of the SP is significantly lower due to DC scheme



Source: Prepared by the author.

In case four (Figure 12), again a contributory and a social pension program exists, but the social pension program focuses on absolute poverty rather than relative poverty, so social pension is indexed to prices rather than wages (or income).

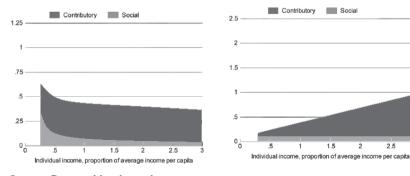
Figure 12 RESULTS FOR LIC

In case 4, the objective is absolute poverty, so the CPI indexed SP declines relative to incomes

Social

1.5

2.5



Source: Prepared by the author.

In cases two, three and four, by introducing a contributory pension scheme the burden on the social pension on the budget is reduced. Moreover, the contributory pension scheme expands gradually in terms of coverage over the next 60 years along with income per capita growth (this is based on the observed relationship between income per capita and coverage that was presented earlier).

In the first year of the introduction of the social pension program, that is the only pension. So, all income for retirees is coming from a universal pension equal to 40% of per capita income. Of course, the flat universal benefit represents a much higher proportion of income for a low income person compared to a high income person, so the replacement rate for the individual is much higher at lower income levels.

If, afterwards, we introduce a defined contribution scheme and we start to offset the social pension with the defined pension scheme benefit, the picture will start to look more like the Chilean new proposal. A gradual reduction in the social pension will be observed until this benefit is completely offset (case two). In this case the marginal replacement rate is increasing with income, which is a desirable result.

The pension offset allows us to reduce the costs of the social pension and while the target is still met, it is with a different composition of the total pension income. Some of it comes from the social pension and some of it comes from the DC scheme 40 years from now, when it matures.

If you only have the social pension as your only instrument, you are spending over time, something over 9% of GDP over the long run. In this case, you only have social pension covering everything, while in the latter case you have the offset from the contributory pension, so obviously, you will save a lot of money fiscally, if you force people to save for themselves. That is what the Figure 11 shows.

In the fourth case, the policy focused only on "absolute poverty". This means that the concern is to make sure that pensioners will

get enough income to buy a certain minimum basket of goods. For example, Kosovo has a universal flat pension which is indexed to the CPI for a basket of goods.

In this case the social pension declines relative to average income, which means that the amount of the total replacement rate that's coming from the social pension will be very small after 40 years. So, when the contributory scheme matures, and the social pension scheme has been indexed with prices, you end up with a fairly small role for the social pension program.

This is what we refer to when we speak about a "dynamic policy". As the contributory pension scheme matures and expands its coverage, it takes on a greater role in the overall pension system lifting the burden from the public budget. As it can be seen the fourth case is the cheapest option from the public budget perspective (see Figure 13).

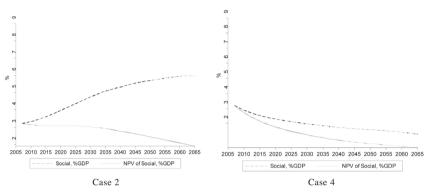
What would be the results of this kind of simulation for the case of middle income countries (MICs)?. Of course the graphs will look different since MICs have higher initial coverage rates, and they are older demographically. These two effects are offset one another from a cost perspective.

A MIC like Chile, for example, will have an older demographic structure than the low income countries. That increases the cost of the social pension but, on the other hand, they coverage of the contributory scheme will be higher. If a pension test and the respective offset is used, more money will be saved. MICs will reach the results reported for low income countries in 30 instead of 60 years.

The same is true for the TSE's, except that in this case there is a special pattern. For example, Hungarians are now seriously considering introducing some kind of social pension. The reason is that there has been a decline in coverage of the contributory pension program, which was close to 100% in the past, to maybe 60% in the near future. However, in 30 years from now coverage could be back up to 100%. That's a very typical process phenomenon that we see in the TSE's.

Figure 13
RESULTS FOR LIC

Case 4 has lowest long run fiscal cost



Source: Prepared by the author.

So, I think that in these countries social pension policy should be designed to bridge what was the high coverage contributory scheme in the past with what eventually will be a high coverage contributory scheme in the future. But you have to design it with that in mind. There is this set of cohorts that will not have the contributory pension and coverage that was there in the past.

#### **Conclusions**

There is increasing pressure in many countries to introduce or expand their social pensions programs. This is mainly due to the persistently low coverage of contributory schemes, funded or not. I would estimate that two thirds of the global work force are not covered by contributory pension schemes.

Social pensions are an answer to this problem. But the design of social pensions programs must be carefully done.

In particular, the critical parameters of the program must be decided taking into consideration their impact on incentives and the public budget. Also, the interactions of the social pension program with the contributory schemes should be carefully assessed.

Targeting of social pensions seems necessary in most cases. We think that, for many countries, pension tests are probably the most practical way of targeting social pensions and for controlling costs, simply because in many cases the income tax net is not wide enough and not efficient enough.

We also think that a dynamic pension policy is most appropriate. Pension policy should look towards the future and bring into the decision making process an image of how things will look 30 or more years from now.

Finally, policy makers should not forget that initial conditions do matter. There will be different "optimal" combinations of social pensions and contributory pensions, depending on how old demographically the country is and how wide the contributory scheme coverage is at the moment of deciding the structure of the pension system.

# FISCAL EFFECTS OF PENSION REFORMS

Joaquin Vial<sup>1</sup>

I want to thank the organisers of this Conference and particularly our hosts who succeeded in creating a very fruitful atmosphere for productive work, as well as an environment where we could enjoy the beautiful city of Varna. It is a real pleasure to be here.

In my presentation I am going to speak about the fiscal aspects of the pension reform and before starting the topic, I would like to define some of the elements which are usually found in pension reform, even though not every reform contains all these elements.

Almost all reforms require transition from one system of defined benefits to defined contributions. This change means that the size of pensions is bound to the contributions made throughout the whole life, but there is also a risk which is transferred from the state to the individuals. This is the so-called "longevity risk" which means that the financial burden originated in increases in life expectancy at the retirement age will be borne by individuals instead of the government.

Another common element in pension reform is the transition from state managed funds to privately managed pension funds. In most traditional systems there is a common pool of funds, and there is a move from there to one based on individual accounts. Usually, in

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the old systems, there is no independent supervision on how the government manages pension funds. Pension reform entails putting in place a supervision system to oversee the way the pension contributions are used and so there is a shift to a system in which the state regulates and controls the private company funds and the public company funds as well.

From the fiscal point of view there is also a major change. There is a shift from implicit fiscal commitments to open fiscal commitments, usually with some mechanism to provide a solidarity pillar or the social pension, as we heard from the previous speaker.

All the previous changes have to do with regime changes. But from a policy point of view, there are also key considerations dealing with the transition from one system to the other. There is a whole generation of workers with contributions in the old system who might move to the new one, and special provisions must be made in order to respect key rights implicit in the old social contract. This is the generation which is working at the time of transition and will not retire under the rules of the old system. They will retire under the rules of the new system. Governments must make a commitment to compensate this generation so that the reform may proceed. This is not only a political requirement, but also is essential for the fairness of the reform process.

When looking at the fiscal effects of the pension reform, we have to be aware that the fiscal effect depends largely on the perspective that we use. In most countries the budget system has a one year time horizon. This means that for budgetary reasons we have to take into account annual cash flows.

When looking at cash flows we have to distinguish several effects, both long-term and for the transition period. First of all, state revenues fall as a result of the transfer of the workers who were contributing to the state system to the new system of individual accounts.

Second, the fiscal costs rise as usually the number of people retiring from the old system increases due to demographic reasons.

In addition to this effect there is the delayed cost of recognizing contributions to the old system by the workers in the transition generation. In the case of Chile this was done through the socalled "recognition bonds". One practical problem here is the adequate accounting of the fiscal commitments due to these bonds.

Third, the new system usually introduces some reinforcement of the first pillar, either through a Minimum Pension Guarantee by the state, or a Universal Basic Pension funded by the government, and/or subsidies to promote contributions by special groups (independent workers, the youth, etc.). If this is the case, it will entail higher fiscal commitments in the long term that will have to be factored into the projected cash flows.

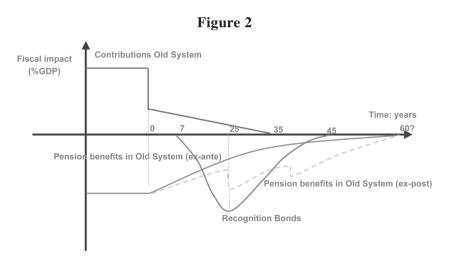
As a result of all this, in the first 20, 30, or even 40 years, costs could be very extensive, as shown in Figure 1, based on the Chilean experience. As we can see there, even after 20 or 25 years, the government has to devote about 3 to 4% of GDP to the pay for pension commitments, either with the old system or the transition generation.

(% OF GDP) 4.0% 3.5% 3.0% 2.5% 2.0% 1.5% 1.0% 0.5% 0.0% 1999 2000 2001 2002 2003 2004 ■ Operational Deficit INP ■ Recognition Bonds

Figure 1 CHILE: CASH FISCAL COSTS 20 YEARS AFTER THE REFORM

Source: Prepared by the author.

Figure 2 shows a typical time-path of fiscal cash flows during the transition phase, distinguishing between the ex-ante path of benefits for people who remains in the old-system from an hypothetical ex-post path. The Chilean experience shows that it is very difficult for the political authorities to keep frozen the benefits for those workers over time, and so political pressure for increased benefits for this group will arise from time to time. This also presents a major political risks, due to time inconsistency: people who moved from the old system to the new one might find out –ex-post - that they made the wrong decision due to these unplanned increases in benefits for those who stayed. This might express itself as pressure to come back to the old system, extending the transition period and increasing fiscal costs.



Source: Prepared by the author.

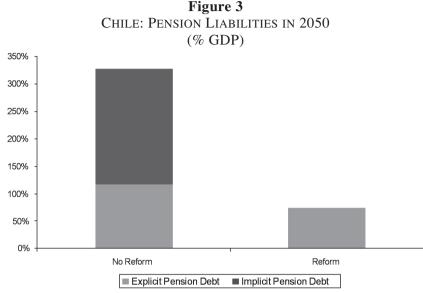
So much for the cash flows of pension reforms. From an economic point of view, what really matters, if capital markets function properly, is the net change in Fiscal Wealth originated in the reform of the pension system. In theory, if the government has access to financial markets, any cash deficits could be easily financed if the net worth of the government increases in the long term, especially if an unsustainable set of fiscal commitments is replaced by limited ones that are viable.

First of all, in the old defined-benefit system there is an implicit commitment to the present and future generations entering the labour market: current workers will fund pensions for those who reach retirement age, either through their contributions to the Social Security System or via increased taxation. Policy makers have to balance commitments made to the older generation and the new ones entering into the labour market. A change in regime from defined benefit to defined contribution usually entails the disappearance of the implicit debt of the government with future pensioners. However, the transition costs usually imply a negative cash flow when making a transfer from state to the private system, so that the explicit public debt is likely to increase.

However, the defined contribution system with limited fiscal guarantees usually is fiscally solvent, once the new regime is reached after the transition. Under this assumption we can expect that total debt reduction will start at a certain stage.

If we go back to the previous figures, based in the Chilean transition process, we see high fiscal deficits due to the transition costs over a long period of time. In this particular case, these figures are in the range of 3 – 4 percent points of GDP. From the view point of the cash flows, this is a very high value. However, if we look at the changes in the net worth of the public sector, once we include the present value of the implicit pension debt of the old system a completely different picture emerges. What we observe, as shown by a study made by the World Bank, is a drastic reduction of the fiscal commitments to the retired people. The net worth of the public sector increases with a well-designed pension reform.

This brings us to the following idea: in the long run, whether we do the pension reform or not, we will have a very serious fiscal impact. However, given the path of the demographic transition in most countries, as well as the design of the defined benefits system, not doing the reforms entails a growing fiscal implicit debt, that at some point along the road will become explicit, leading public finances into an unsustainable path. If the new system is fiscally solvent, countries should be able to finance the transition and the improvements in the solidarity pillar. If the latter



Source: Prepared by the author.

are not designed taking into account good actuarial projections, as well as the political incentives behind the specific design, then the new system might not be fiscally sound after all and this will impede the financing of transition.

Now let us review some of the main practical fiscal issues for pension reform.

First of all, there are major cash flow deficits during the long period of transition. How shall we finance them?.

There are governments with weak public finances that will surely find very difficult to raise additional money to finance the transition period. What we have often seen in Latin America is that governments will have to issue new debt, that will be purchased by the recently created private pension funds. This will make them extremely vulnerable to the evolution of public finances.

There is one important accounting issue here that we have to bear in mind. This has to do with the proper accounting of the so-called recognition bonds, which are a frequent feature of the transition mechanism in reforming countries.

The usual way in which the IMF treated recognition bonds merged interest and capital expenses, and treated them as current fiscal expenditures, computed "above the line" (i.e. adding the total amount to the fiscal deficit). If we look at Figure 4, based on Chilean data, this is represented by the dark brown – full – line.

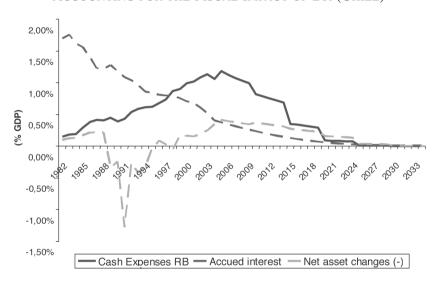


Figure 4
ACCOUNTING FOR THE FISCAL IMPACT OF BR (CHILE)

Source: Prepared by the author.

We can see an inverted "v" curve peaking at about 25 years after the reform, and this represents a very high percent of GDP (1% +). This is due to the fact that the recognition bonds maturity is coming.

The light grises curve, which has a very special form, is the change in the accumulated funds from the recognition bonds. At the end of the 80's, and the beginning of the 90's, a large number of recognition bonds that had been accumulated but not actually

emitted were recognised, which bought about an increase of almost 0.5% of the "GDP". This is the "outstanding debt" in Recognition Bonds, which under normal accounting procedures should be considered as a liability, and thus computed "below the line".

The dark grises curve shows accrued interest and they should be computed "above the line" as any interest payment accruing from a normal debt. Please keep in mind that this will have a major short-term impact in the transition face, even though it might decline quickly as the transition generation reaches retirement age.

In the Chilean case an agreement with the IMF was achieved in the early 2000s, in the context of a move from cash accounting to accrual accounting in public finances, under the new guidelines defined by the Fund. This was very fortunate for the Chilean government, because accrued interest payments were not accounted for as public spending during the phase in which they were very high.

Going back to the original question on how to finance the transition costs, there are several alternatives to consider.

One option used by some countries has been the privatisation of public enterprises. When the state sells assets, it gets a lot of money back but if there are no clear rules about how to proceed with this windfall, there is a very high risk of using these temporary revenues to finance new –permanent– expenses, and as a result of this process generating a permanent worsening of the fiscal position. In any case, privatization could be helpful and could replace part of the cash revenues lost in the pension reform transition, but this will happen only if the money from privatization goes to the public sector. In Bolivia, for example, part of this money was distributed amongst the retired people and did not help to improve public finances there.

Devoting part of the windfall to finance transitory fiscal deficits due to pension reform might be a superior way to use these revenues. But privatization and pension reform are different processes, both using a lot of political capital and they might coincide, but should not be made precondition for the other.

If privatization proceeds are not available, where do we find the resources to fund the transition?. In many developing and transition countries, domestic capital markets are too small to provide enough funding of the fiscal cash deficits resulting from the pension reform. This leaves only foreign financing, which carries serious currency mismatches. But still many governments have used international borrowing to finance the transition, which brings about some serious fiscal risks. However, if the fiscal situation improves in the final analysis due to the pension reform, it is in the interest of creditors –and multilateral organizations too—to secure enough cash flows to finance the fiscal costs of the transition. Cash flows should not be the main restriction to carry out pension reform, but this requires a sound design and credible actuarial projections to prove to potential financiers.

To finish the issues concerning the financing of the transition between old and new pension systems, let me mention briefly two practical lessons from the Chilean experience: one positive, the other negative.

On the positive side, one of the most remarkable features of the Chilean reform is that the fiscal consolidation was carried out before the pension reform during the 70's. Preparatory fiscal adjustments were carried out in advance of pension reform, which prevented the need for deficit financing, something that proved providential, given the fact that the Debt Crisis blew up right after pension reform.

There is also a very practical (negative) lesson from the Chilean experience: The administrators of the old system were not capable of creating a register and of collecting accurate data on the accrued rights for the transitional generation. This created really chaotic situation for the issuing of recognition bonds. There was too much uncertainty about the number and size of recognition bonds accrued, and that has been reflected by the fact that even today, 25 years after the reform, the state agency in charge –INP– is still issuing recognition bonds at a rate of about 20 thousand per year.

In addition to this problem, there is no information available about the demographic characteristics of the owners of the recognition bonds, making very difficult to project the expenses associated to them.

A second issue, which is part of the debate, is the social impact of pension reform. This involves pensions in the first pillar associated with the reform. This is very important because, as we heard yesterday in the presentation by Agnieszka Chlon-Dominczak, this is a political process. In a democratic society we should be able to guarantee a certain level of income to the poorest people. They should be protected in their old age, so that together, with the normal reform of a defined benefit system and its replacement by a defined contribution one, there should be a strengthening of the solidarity pillar as well, especially in those countries with low pension coverage and extended informality in labour markets.

One way to proceed could be to estimate the change in net fiscal wealth after the transition period, on the basis of no changes to the solidarity pillar. After we know the final fiscal position we can have an estimate of how much capital would be available for the strengthening of the solidarity pillar, and design the latter accordingly.

Agnieszka spoke yesterday and mentioned that the structure of the first pillar is very important for the incentives in the labour market and especially for the transition of the workers from the informal to the formal labour market. We believe that this should be borne in mind but this is not always the case.

Another problem that has emerged has to do with the Minimum Pension Guarantee (MPG). Original fiscal projections for expenses on this item were much higher than the actual realizations, even though the unit value of the MPG has risen much faster than envisioned in those projections. In fact, what happened was that very few people succeeded in completing 20 years of contributions required to get access to the MPG. This also impacted replacement rates, because density of contributions is a key parameter determining the size of the individual pension fund.

Some countries have built social insurance networks for the old age, using non-contributory pensions. This is very important, especially for the poorest people who have severe problems to get access to the formal labour markets. They might be necessary, but create incentives for the poorer workers not to contribute to the system and remain in the informal sector. As long as part of the beneficiaries could have financed part of their pensions, this will have a negative impact on public finances, raising the pension bill in the long term.

The last issue that I would like to address has to do with the portfolio of investments by the pension funds.

Figure 5 shows the composition of the investment portfolios in the Latin American countries that introduced major pension reforms in the recent decades. There are several important issues to remark upon.

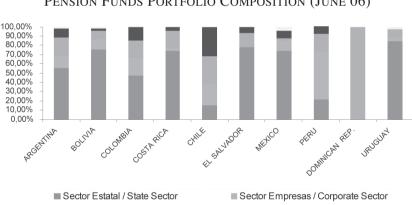


Figure 5
Pension Funds Portfolio Composition (June 06)

Source: Prepared by the author.

In countries like Argentina, Bolivia, Costa Rica, El Salvador, Mexico and Uruguay, we see excessive concentration of investments in domestic public debt. For example, in Argentina,

almost 65% of the pension funds are invested in public debt. This is a result of a combination of private decisions as well as of government pressures at a time of financial distress. Affiliates to the private pension system will bear part of the cost of the default of Argentina's public debt.

Excessive reliance on private banking might be a problem too. Chile went through a major banking crisis in 1983 - 84 and the government had to provide guarantees for bank depositors to prevent an even greater crisis. This was a very expensive undertaking, but the government felt that the new pension system survival would have been compromised otherwise, since the crisis happened just two or three years after the system was introduced, and the pension funds held a large fraction of their portfolios in bank deposits. Figure 5 shows that in the Dominican Republic the whole portfolio is invested in bank deposits. Probably you know that the Dominican Republic suffered a major banking crisis a few years ago, due mostly to poor banking regulations and practices. As a result of that, the government had to issue guarantees so that at the end, because of excessive concentration in one sector, pension funds ended up investing – indirectly - in public debt

#### **Final comments**

Probably the most important lesson we have learned from the Latin American experience with pension reform is that the strength of the newly created system depends critically on the fiscal performance of the governments. Those who have carried out pension reform expecting to avert a fiscal consolidation have ended up with weak pension systems due to the concentration of their portfolios in public debt. On the other hand, those countries able to consolidate public finances in advance of pension reform have been able to increase overall domestic savings and develop deep and sound financial markets, enhancing their growth prospects.

On a very practical note, I want to stress the importance of good institutions to rely on the management of the funds during the transition, as well as for supervision. The government must also make sure of the existence of good registers for all people

involved in the transition for all the accumulated funds. If there are no institutions to manage this type of data we might have very serious errors and distortions and we have observed this in many countries.

What we know for sure today is that the original first pillar, the social insurance to provide a minimum income security in old age might turn out to be insufficient due to labour market informality.

One important point from the Chilean experience: The number of people who transferred from the old to the new system was much higher than originally expected, which meant a higher fiscal cost for the transition, but on the other hand gave a stronger legitimacy to the new system.

And, at last, I would like to say, that one thing that we have learned from the experience of reforming countries, is the great flexibility embedded in the defined contributions systems. They have all the mechanisms and incentives in place to take care of key issues like increasing life expectancies, for instance. This is a crucial feature of these systems that has not received all the attention it deserves, especially now when there is a very real "risk" of dramatic changes in life expectancy due to all the scientific advances and material progress we are witnessing all across the world.



# **CHAPTER IV: Pension Fund Investment Policies** and Strategies





4.1 INVESTMENT POLICIES IN PENSION FUNDS

Juan de Dios Sánchez-Roselly

4.2 COMMENTS ON THE PAY-OUT PHASE OF FUNDED PENSION SYSTEMS

Iiri Rusnok

4.3 MULTIFUNDS: EXPERIENCES AND TRENDS

Eric Conrads

4.4 REGULATION AND MONITORING OF INVESTMENT RISK:
APPLICATION OF THE OECD GUIDELINES

Juan Yermo



# INVESTMENT POLICIES IN PENSION FUNDS

IUAN DE DIOS SÁNCHEZ-ROSELLY<sup>1</sup>

#### Introduction

The purpose of this presentation is to consider which investment policies should be applied in pension funds in order to fulfil the aim of the investors in such funds.

Before looking in depth at the subject that concerns us, it is necessary to clarify three aspects that often get left out.

A first point to be underlined is that the investment mandate stipulates, first of all, that the investment manager should, in his capacity as advisor, have a deep knowledge of the capital market. In the second place, the investment manager must do his duty as a fiduciary: in other words, meet at least six requirements: (i) Always act in a professional and ethical manner; (ii) Act for the benefit of the clients; (iii) Act with independence and impartiality; (iv) Act with skill, competence and diligence; (v) Communicate with clients in an appropriate and timely manner, and (vi) Abide by the rules governing the capital market.

A second aspect has to do with establishing a clear definition of what the investor in pension funds actually needs. The aim of the investor is to ensure that his/her purchasing power is maintained

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after retirement; in other words, that his/her capital is preserved once he/she retires. It is this aim that must be borne in mind when attempting to construct an investment portfolio that is as efficient as possible. And with that we emphasize the fact that the investor must achieve real, not nominal, returns that are as high as possible.

And a third, very important point: investing in pension funds means talking long-term. Therefore, all investment policies must take this fact into account.

Having clarified these aspects, we can pass on to list the requirements of the mandate for investment in pension funds. These are: an appropriate definition of the time-scale, maximization of returns and diversification of risk.

#### The Time-Scale

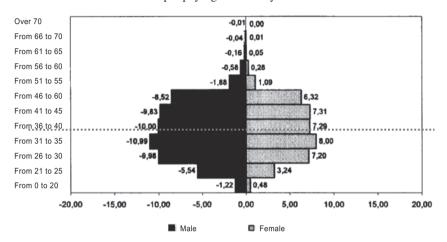
The first step in constructing an efficient asset portfolio is the proper definition of the investment's time-scale; in other words, the period of time during which the contributor will be saving prior to retirement. Making sure that this time-scale is firmly established makes it possible, in part, to design the most suitable investment strategies for each case. For that reason, this subject is of great importance.

Generally, the time-scale of the investment is underestimated. For the average investor in pension funds, the time-scale is much longer-term than is normally thought (over 20 years). For example, as we can see in Figure 1, for the average contributor in Uruguay, retiring age is over 25 years into the future.

Even for the investor who is approaching retiring age, the time-scale continues to be quite long-term, as life expectancies continue to increase. And this is not a minor point. As may be seen on Figure 2, life expectancies in Spain have increased for both women and men between the years 1980 and 1998, implying 3.6 and 2.8 years more pension for each of them, respectively.

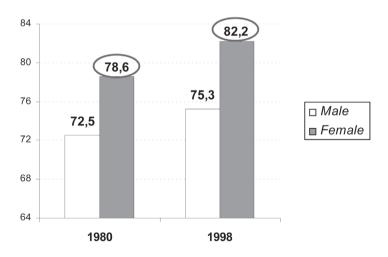
Figure 1

PYRAMID OF CONTRIBUTORS IN URUGUAY, BY AGE
People paying into the System



Source: FIAP.

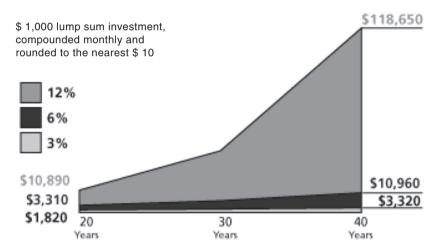
Figure 2
Spain – Life expectancy at birth



Source: INE

wo considerations are relevant when talking about a long-term time-scale. First, a 1% difference in return, in the long term, implies a significant impact on the increase of capital. For example, as we see in Figure 3, if an investor has an initial capital of US\$1,000, with a compound annual yield of 12%, after 40 years he/she will obtain an accumulated balance that is 36 times higher than the balance he/she would have obtained if the yield had been 3% per year.

Figure 3
EFFECT OF HIGHER YIELD ON THE ACCUMULATED BALANCE

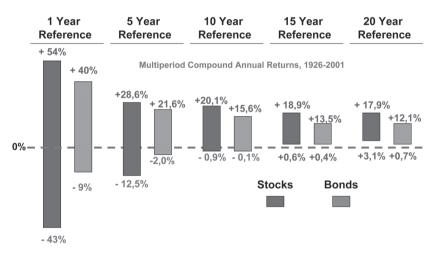


Source: Prepared by the author.

Secondly, a 1% increase in inflation will substantially erode purchasing power over time, thus becoming an enemy of the investor. By way of illustration: with an annual inflation rate of 3%, the investor may lose 46% of his/her original purchasing power after 20 years, in an investment whose principal value is assumed to be invariable.

It can be said, by way of recommendation, that, given the multiplicity of investment time-scales existing among contributors, they need to have different investment and asset allocation policies, because their risk tolerance will differ substantially according to the time-scale involved. This can be seen if we compare the returns and perceptions of risk in stock certificates and bonds, taking a reference term of one year, compared with the reference term of 5, 10, 15 and 20 years (See Figure 4). In conclusion, investors with longer time-scales should have a different asset allocation policy than that of workers who are approaching retiring age.

Figure 4
COMPOUND ANNUAL RETURN, MULTIPLE PERIODS 1926-2001



Source: Stocks, Bonds, Bills and Inflation: 2002 Yearbook, Ibbotson Associates.

#### The Maximization of Returns

The second requirement of the investment mandate is that the maximum possible real returns be achieved. The first thing to be said is that achieving a better real return for investors means investing in real assets that have a better return. The first big question that arises then is: "What assets should we invest in, in order to maximize the real return?".

Clearly there is no certainty about which assets will obtain the highest real returns in the future, so the only thing for us to do is to look at how certain types of instruments have behaved historically. In this respect there is a variety of studies on the real historic returns of stocks and shares versus bonds, which offer hard, conclusive evidence.

By way of illustration, Figure 5 shows the indexes of real return on long-term bonds and stocks in the U.S.A. (between the years 1802 and 2001). It may be seen, as in other studies, that stocks have been superior to bonds and bills in the long term (over at least 30 years).

Now, if we know that inflation is a key factor in eroding the purchasing power of the person investing in pensions, it is worth asking ourselves which kind of asset will keep ahead of inflation.

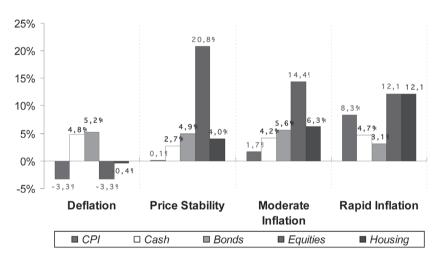
\$1,000,000 \$599.605 Stocks \$100,000 \$10,000 fotal Real Return Index **Bonds** \$1,000 \$952 \$304 Bills \$100 \$10 Gold Dollar \$0.07 1801 1811 1821 1831 1841 1851 1861 1871 1881 1891 1901 1911 1921 1931 1941 1951 1961 1971 1981 1991 2001

Figure 5
INDEXES OF REAL RETURN 1802-2001

Source: Jeremy Siegel: Stocks for the Long Run (1802-2001).

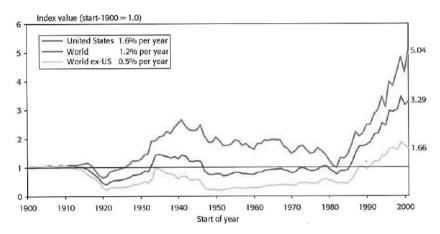
Well, as may be seen in Figure 6, the real-estate sector and stocks historically produce real returns that are equal to or higher than inflation, in any economic climate, whilst bonds suffer significantly in inflationary environments. It may be claimed that bonds provide the certainty of nominal returns and a high degree of capital protection, but little protection of purchasing power. In fact, as a result of the devastating effects of inflation, bonds in many countries were unable to provide positive real returns during the past century (see Figure 7).

Figure 6
ANNUAL RATE OF RETURN ON ASSETS, ACCORDING TO ECONOMIC ENVIRONMENT



Source: Morgan Stanley Investment Management & David M. Darst, 1871-2000 ("The Art of Asset Allocation").

Figure 7
ACCUMULATED REAL RETURN (IN US\$) OF THE
WORLD BOND INDEX, 1900-2000



Source: Elroy Dimson, Paul Marsh & Mike Staunton: Triumph of The Optimists ("101 Years of Global Investment Returns").

In conclusion, it may be stated that in all the studies and countries analysed, stocks have always done better than bonds, bills and inflation in the long term. The historic analysis describes a range of real returns for stocks between 2% and 8%, versus a range between -2% and -3% for bonds. This better result is not just a pattern from the past, but also coincides with the theory that higher-risk securities must be priced lower than safer securities. Risky stocks therefore offer better real returns and that, consequently, makes them an attractive long-term investment for investors with good risk tolerance. Meanwhile, bonds offer no protection whatever in the case of inflationary scenarios: an increase in expectations of long-term inflation could have very negative effects on conservative portfolios that prefer fixed income.

#### **Risk Diversification**

The third requirement of the investment mandate consists in minimizing the impact of negative scenarios. In a mandate that calls for protection of purchasing power and increase of capital, this objective can be achieved by adopting risk diversification strategies.

What kind of risk are we talking about? Well, we are referring not to volatility risk, but to the risk of losing purchasing power. For the long-term investor, the volatility of the return is not the main risk. The main risk is the reduction of purchasing power due to the erosive effects of inflation on consumer prices.

Risk diversification consists in combining assets that respond in variable ways to the forces that drive the markets. This produces a more efficient portfolio, since, by having more than one asset, the investor is protected against the contingency of everything being lost at the same time. So, as a certain level of risk, portfolios that are duly diversified produce better returns than portfolios that are less diversified and, at the same time, for a given level of return, well-diversified portfolios offer a lower risk than portfolios than are less diversified.

By way of example, Japanese investors who decided not to diversify have seen how their investments have shrunk by more than half after 27 years (see Chart N° 8). In this context, non-diversified securities cannot be considered as being secure in real terms, even if the investor has a long-term time-scale (20 years or more). By contrast, with a diversified portfolio, that risk is considerably reduced.

In this respect, it must be said that there are two diversification mechanisms. The first is international diversification. As may be seen in Chart N° 9, international diversification of portfolios has a positive effect in reducing risk: by increasing the number of countries in the portfolio from one to five, the risk is substantially reduced (measured as the standard deviation of the return), between 15% and 30%. Thus international diversification reduces the possibility of a negative result of exposure for a country with very negative returns.

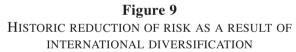
The second mechanism is diversification by asset class. Since it is so difficult to foresee which asset class will give the best/worst

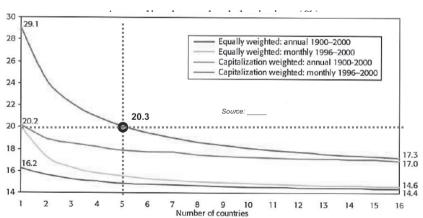
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Figure 8
Japanese Securities: NIKKEI Index

Source: Bloomberg.





Source: Elroy Dimson, Paul Marsh & Mike Staunton: Triumph of The Optimists ("101 Years of Global Investment Returns").

returns in the coming years, the most sensible approach is to diversify the risk between various asset classes. This makes it possible for the investor to be protected against concentration in assets that are performing very badly.

A diversification by asset class should include investing in small capital and emerging markets, since historically these have had higher returns compared with large capital and developed markets. In this sense, diversifying risk does not mean that all the portfolios are overloaded in developed economies. Investing in emerging economies, as Figure 10 shows, provides great potential for higher returns.

The real estate and infrastructure markets are also investments that may add value in the long term, because they can diversify risk and also increase return. This last may be seen in Figure 11,

310 POLONIA CHILE **MEXICO** MSCI Emerging Markets 260 **MSCI** Developed Markets 160 60

Source: MSCI.

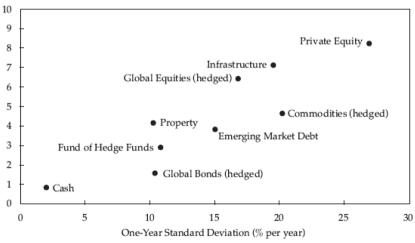
Figure 10 INDEX OF REAL RETURNS IN EMERGING ECONOMIES

which shows the risk and return expectations for a group of instruments, among which are the real estate and infrastructure markets.

Corporate bonds have had better results than government bonds, as was to be expected, due to the premium for insolvency risk of private sector issuers. Another instrument is Private Equity, which has had very strong returns recently, providing a great incentive to collect funds from this asset class. Finally, we must not forget to mention the importance of Hedge Funds, whose attraction as an asset class lies in their low correlation with the markets and their high historic returns.

By way of conclusion, the third requirement of the investment mandate that we have been referring to means that the portfolio manager has the duty to diversify to the greatest possible extent (internationally and in different asset classes) to reduce the impact of possible slump scenarios.

Figure 11
EXPECTATION OF RISK AND RETURN (30<sup>th</sup> September 2005)



Source: Roger Urwin, "Asset Allocation in a low-return environment". CFA Institute Conference Proceedings Quarterly.

It is impossible to end this presentation without touching on the recommendations made by the World Bank about pension fund investment portfolios. On the one hand, governments have the responsibility to ensure that the pension funds obtain decent returns for their members, especially if contributions are mandatory. On the other hand, the explicit and implicit guarantees of the pension securities mean that governments also have a financial interest in encouraging pension funds to perform well.

Now, this responsibility has been used to justify strict regulation of the pension funds' portfolios, the structure of the fund-management industry and the returns on investment. And this is the problem: these regulations have a price. The more liberal schemes have had better pension fund returns than those with stricter regulations.

Clearly, liberalizing the pension fund market should mean that better returns are obtained, with greater competition between funds, and that workers are able to choose a portfolio that will match their individual needs.



# **COMMENTS ON THE PAY-OUT PHASE** OF FUNDED PENSION SYSTEMS

IIRI RUSNOK<sup>1</sup>

# Increase of longevity in the region of CEE

Countries in Central Eastern Europe (thereinafter CEE) have experienced in the second half of the last century certain increase of longevity. Projections for the future are equally optimistic, and significant further increases in life expectancy are foreseen (see Figure N° 1).

LIFE EXPECTANCY AT BIRTH 85 80 **75** 70 65 60 1955 1970 1990 2005 2015 2050 Bulgaria Hungary Czech Rep Romania

Figure Nº 1

Source: Prepared by the author.

Executive Advisor to the Retail Management Committee and Director Pensions, ING Czech and Slovak Republics, President, Association of Pension Funds of the Czech Republic.

A majority of people in CEE are already enjoying pension benefits over a long period of time and the situation will not change in the future (see Figure  $N^{\circ}$  2). Moreover, since both the statutory retirement age and the real retirement age rather stagnated over the last decades, greater life expectancy means that the number of years spent in retirement will increase in the future.

20
15
10
1955
2005
2050

Bulgaria Hungary Czech R Romania

Figure  $N^{o}$  2 Life expectancy at retirement (set at 62 years)

Source: Prepared by the author.

So people will live longer, the quality of their life will be higher, and the number of years in retirement will also grow. But this means that their expectations about the future will also grow. The problem is that the gap between real financial reserves of the future retirees and their expectations seems to be increasing.

# Financial implications of ageing

The grow in life expectancies has several specific financial implications. These especially manifest in pensions and in health care/long term care. In pensions specifically, we observe the following trends and challenges.

First, given current and future demographics, PAYG state pensions are no longer affordable. In many countries of the region the current level of social contribution rates is already very high. It represents usually between 25 – 30 % of gross payroll. The ratio between contributors and beneficiaries is roughly 2:1. So the average replacement rate for old-age pension could be about 50% – 60%. After the next 40 – 45 years the ratio of contributors to pensioners will get down sharply at a level of roughly 1:1. So the replacement rate with the same contribution rate will have to be decreased by half, to approximately 25%– 30% of the average salary. With no reforms the real relative value of the pension benefit from the PYG systems will then need to be cut back significantly.

Second, defined benefit pension arrangements are under pressure. Due to the increased longevity and the constant effort to use as much as possible the human resources effectively, DB schemes are more and more under the pressure from pension schemes sponsors (see Table  $N^{\circ}$  1 and Figure  $N^{\circ}$  3).

Third, during last two decades in many countries we have observed a clear trend to move from public to private provision of goods and services. This has been the case mainly in emerging markets in CEE and in LA, but also in many most developed countries (i.e. Sweden).

In the area of pension policy the manifestation of this trend is an increased cooperation between public and private sector. For instance, in Poland, Hungary or Slovakia the new pension legislation assumes that pensions in the pay out phase will be fully provided by private life insurance institutions.

Fourth, in health care area the implications of ageing would be even more visible and painful, eventually because free access and equal treatment in this specific area are deeply rooted in the mind of the citizens (at least across the CEE region). In this area we should expect to see: (i) Increased costs of care, especially for senior citizens; (ii) Development of special product and service packages for senior citizens; (iii) Increased role for private sector.

 $Table\ N^o\ 1$  DC vs DB plans in personal and occupational plans in selected OECD countries, 2004.

	DC vs. DB plans in occupational		DC vs. DB plans in total occupational and personal plans	
OECD Countries	DC plans	DB plans	DC plans	DB plans
Australia	83	17	91	9
Austria	75	25		
Belgium	25	75		
Canada	7	93	37	63
Denmark	97	3	97	3
Finland	0	100	20	80
Germany	0	100		
Greece	50	50		
Iceland	82	18	84	16
Ireland	98	2		
Italy	75	25	79	21
Japan	1	99	4	96
Korea	0	100	61	39
Netherlands	9	91		
New Zealand	52	48	71	29
Norway	0	100		
Portugal	2	98	4	96
Spain	97	3	99	1
Sweden	5	95	41	59
United Kingdom	22	78		
United States	35	65	55	45

Source: OECD, Global Pension Statistics, various and OECD staff estimates.

Netherlands loeland Switz erland Uhited States United Kingdom (7) 88,9 117,4 1

Figure N° 3  $\label{eq:special_special} \mbox{Importance of pension funds in the economy, 2005} \\ \mbox{In percent of GDP}$ 

Source: OECD, Global Pension Statistics.

# Innovation needed in build-up phase

Social security has not been out of the worldwide trend from DB to DC pension plans. So, during the last years many emerging economies (mostly in CEE and Latin America) have introduce mandatory funded pension programs based on personal savings accounts. In the CEE region this has happened in almost all countries, with exception of the Czech Republic and Slovenia. The last attempt we are observing now is in Romania.

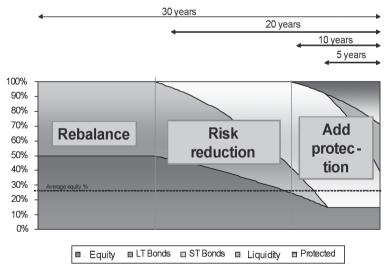
Some countries have also introduced notional DC (NDC) accounts to reform their previous state run dominant first pillar schemes (i.e., Poland. Latvia).

The search for an efficient solution for the dilemma between pension programs which offer higher security (but are costlier) and pension programs which are cheaper (but which offer less security at retirement) is leading now to the assessment of different alternatives, such as "hybrid" pension programs (DB to certain level, DC on top) and collective DC pension programs (which share risks and returns among all participants).

In funded pension systems, a different but very important trend is the shift from prevailing bond investments to investments in a worldwide portfolio with many asset classes.

The growing use of life-cycle investments strategies by pension portfolio managers is also a remarkable development. The objective of this concept is to reach a balance between participants who want freedom to invest and pension provider who has duty to provide care. Life cycle investment concepts balance the risk over the entire build-up phase, through more equities in initial phase, more fixed-interest instruments in later phase, and reduced risk and more protection as the pension date approaches (see Figure N° 4).

Figure N° 4
Life cycle fund balances risk over entire build-up phase



Source: Prepared by the author.

## Pay-out options in funded schemes

Many reformist countries have not yet paid enough attention to the pay-out phase of their funded pension programs. Moreover, even in traditional occupational schemes in developed countries, often providers do not give the necessary attention to the retirement phase.

For example, Poland which introduced a reform based in a first pillar NDC program and a fully funded second pillar, until today does not issue all regulations for the pay-out phase, although according to the current law first benefits from the second pillar should start to be paid already in 2009 (10 years since the start of the reform). Hungary, Slovakia and other reformist countries are in a similar situation.

There are different ways to get pensions in a funded defined contribution pension scheme. Many countries still have the lump sum option. This means that pensioners can take their balances in one payment. However, in this case there is no certainty that the beneficiary will actually use the money to finance a pension. In fact, evidence shows that lump sum payments are often used for other purposes than generating retirement income.

Programmed withdrawals also provide regular benefits over the estimated lifespan of the worker, and so could also be an option for pension programs.

Some countries allow early withdrawal of retirement savings. This provision is not consistent with the objectives of a mandatory or quasi-mandatory pension scheme. However, it could be a good way for individuals to deal with increasing statutory retirement age in the context of supplementary (Third Pillar) pension programs.

Annuities which provide regular income over entire retirement period are also an option. In fact, because of their characteristics, they could be the alternative which is most consistent with the goals of retirement savings' schemes. This is particularly true for mandatory or quasi-mandatory arrangements. In particular,

- Annuities are good instruments to provide life-long income stream.
- (ii) From the perspective of the objectives of the pension system, regular annuity payments are preferred over lump sum payments.

However, there are some challenges to the development of annuities markets:

- (i) Initial capital base is often low.
- (ii) Often lack of reliable mortality data.
- (iii) Capital markets initially underdeveloped: lack of sufficient long-term investment instruments.

And of course, there are some relevant questions regarding the regulation of annuities. For example, who should pay-out the annuities? (a centralized institution, pension funds or life insurers?). With their expertise in covering risks and offering guarantees, proving annuities is a natural role for life insurers, but eventually the regulatory framework of this industry will need to be improved to allow for an efficient annuities market to develop. What kind of life expectancy tables should be used: unisex of gender specific tables? What kind of supervisory model should be adopted?

# Challenges to regulation of pay-out phase

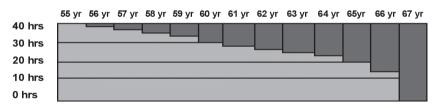
The growing volume of assets collected; the increased life expectancies at retirement age; and the volatility of capital markets, are all issues which raise some questions about the payout phase in funded pension systems.

Will life-long guaranteed pension benefits be sustainable? People live longer and want to actively enjoy a good pension. Since in many countries pay out is insufficient to provide adequate retirement income, more active management of accumulated pension capital is needed to generate sustainable and adequate retirement income.

Pension programs (and, in particular, pension rules) should also become more flexible, because of the rapidly changing characteristics of labor markets. More and more people works relatively long periods during their productive years on the basis of part-time contract (see Figure N° 5), and changes employment (and employer) more often. At the same time many older employees would like to continue to work at least on part-time basis also after they achieved their official retirement age. Portability of pension rights, shorter vesting periods, and flexible pension rules are needed to face this new reality. In short, solutions to the pension problem must give at least some freedom to workers to adjust the pension program to their reality and preferences.

In any case, a life-long pension will definitely remain the main instrument to assure the appropriate stream of income for retirement. However, because of extended lifespan and more volatile labor markets, guarantees over the level of retirement income are becoming more and more expensive. Because of this, the pressure to shift from DB to DC schemes will continue and we should probably expect that re-negotiation of benefits will occur more frequently than it has been the case so far.

Figure N° 5 From full-time work via part-time work/pension to full pension



Source: Prepared by the author.

As they reach maturity, a rapid growth of the size of the funded pensions market should also be expected by reformist countries. This development will present an important challenge to the regulators, supervisors and providers of pensions. In particular, from the perspective of the pension industry, it will be crucial to satisfy the needs of pensioners, volume is critical both in asset management business and in the pension services industry, so tough competition for clients should be expected.

## Financial industry and pensions

Advisors and financial services providers are accustomed to accumulating wealth rather than distributing it. And financial services companies want to hold assets as long as possible; customers want to consume their assets over time.

In face of a rapid growth in the demand for funded pensions, the financial industry must fully understand the problems of providing income for life and offer appropriate recommendations to its clients. The focus of the work should be in the development of products that facilitate careful de-accumulation of savings during retirement, along with insurance vehicles that address health-care issues. At the same time, the industry should place an emphasis on compliance, transparency, an dissemination of simple and straightforward information about the pension products. The industry and the supervisors should also make a joint effort to improve the "financial and pension education" of workers, since this is the way to increase the probability they will make the right retirement decisions.

Life insurance, long-term care, estate planning, equities, fixed income and annuities must be woven into a roadmap that can be adjusted if client circumstances change.

#### Final remarks

There are five important concluding remarks:

- 1) Life cycle investment concepts balance risk and return over the entire contract period.
- 2) The pay-out phase of pensions needs more attention.
- 3) Annuities are the preferred vehicle to generate regular lifelong retirement income.
- 4) More active investment management of accumulated retirement capital is needed.

5) Cooperation of all stakeholders and deployment of their specific strengths is essential to offer people sustainable, lifelong retirement income (see Figure N° 6).

Figure Nº 6

	Execution collective plans	
	Administration     Facenamics of scale	
Life insurers	Economies of scale	Asset managers
Risk control, guarantees		Investment expertise
Marketing know how	Client	Range of instruments
International expertise	Aware of need to make	Life cycle concept
	retirement provisions	
Intermediaries	Seek value for money	Regulators
Professional advice		Not too many, clear rules
Tailor-made solutions		Consumer protection is
Clear, honest information	Government	number one priority
	Offer basic pension (safety net)	
	Stimulate retirement savings (tax incentives)	

Source: Prepared by the author.



# MULTI-FUNDS: EXPERIENCES AND TRENDS

ERIC CONRADS<sup>1</sup>

I would like to thank Guillermo Arthur, President of FIAP, and the Bulgarian Association of Pension Funds, for giving me the opportunity to share with you the experience of multi-funds in some Latin American countries, mainly Chile.

I will try to offer an objective view of this particular feature of some of the new funded pension systems. As an European working on a daily basis the private experience of multi-funds in Chile, I believe I can bring you another twist to this issue.

First I will argue that multi-funds are a necessary element of funded pension systems. Then I will briefly describe the particular design of multi-funds in Chile and I will show how people have made their choices. After that I will make some comments on the way Mexico and Peru introduced multi-funds in their own pension systems, to finish with some lessons from all of these experiences.

# Why multi-funds?

Multi-funds gives the individual an opportunity to choose not only the asset manager (which is a feature common to all new funded pension systems), but also the type of portfolio which betters fits to his/her risk profile.

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In the particular case of Chile, five different portfolios are available for most individuals. There exists an age restriction (individuals closer to retirement age can not choose the portfolio with highest exposition to equity) and also a default option for those who don't make a choice. These particular regulations are very relevant, since they help to control risk exposure for those who lack enough information and financial education. Last issue is a critical one. Since with multi-funds the worker is much more involved in the dynamics of his retirement, demands for more pension and financial education are much greater compared to a traditional defined benefit system which offers no choice opportunities. The education of pension fund members represents, then, a mayor challenge for the implementation of multi-funds. And this is an issue not only in developing or underdeveloped countries. Sweden faced exactly the same problem when they introduced a similar privately managed and funded pension system with multiple portfolio choices for members.

Multi-funds also fosters competition between pension fund managers. A new dimension of competition is added (or reinforced) and investment return became as important as quality of service and fees (see Figure 1).

SERVICE COMPETITION FUND RETURNS RISK CONTROL

BASED ON...

FUND TYPE FAMILY CLIENT FREEDOM OF CHOICE (AFP)

Figure 1
PHILOSOPHY PILLARS: COMPETITION & FLEXIBILITY

Source: Prepared by the author.

Multi-funds also helps to the stabilization and deepening of the local capital market. The Chilean Stock Market is probably one of the least volatile among developing countries and also provides opportunities to buffer the global volatility.

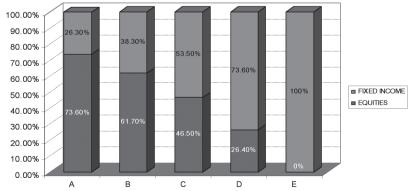
However, this result does not come automatically. An important condition is to authorize pension funds to invest in a wide spectrum of asset classes and instruments. The larger pension funds are, the more difficult will be for them to find investments opportunities in local markets as long as they are repressed by regulation. So, to allow the market to grow organically, a combination of flexible investments regulation for pension funds and efficient regulation of local capital markets is needed.

#### Multi-funds in Chile

In Chile each pension company (AFP) manages five different portfolios ("multi-funds"), called A to D. Fund A can invest up to 80% in equity; fund B up to 60%; fund C up to 40%; and fund D up to 20%. Fund E can only invest in fixed income instruments (actual composition of portfolios is reported in Figure 2).

Figure 2 AFP CHILE: EXAMPLE OF DETAILED PORTFOLIOS  $December\ 2006$ 

5 FUNDS SYSTEM: different RISK-RETURN PROFILES... DIFFERENTIATED BY LIMIT OF EQUITY EXPOSURE



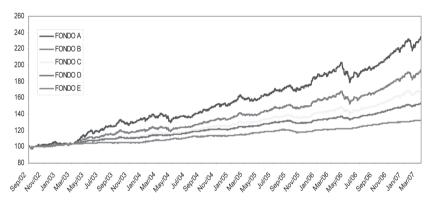
Source: Asociación de AFP.

Because of differences in portfolio composition, differences in returns between funds are also observed (see Figure 3). Multifunds were launched in Chile in October 2002, when stock markets were basically close to their lowest point. This was fortunate since as the market rebounded, pension funds returns become very attractive, a result which did have a very positive impact on the public's perception of the system (in contrast, in Sweden –which introduced the system in the late 90's- people is still barely recovering their money).

Figure 3

MULTI-FUNDS: EMPIRICALLY DIFFERENT RETURN PROFILES

return (base 100)



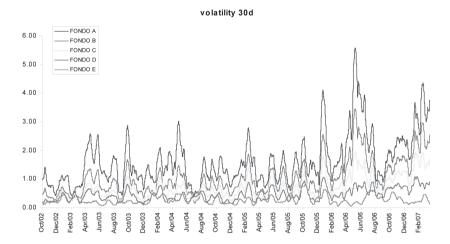
Source: Prepared by the author.

It's the regulator primary responsibility to remind investors that investment is a numerator (return) and a denominator (risk). There is a return but there is also a risk and we believe that when there are portfolio choices open for individuals, this trade – off should be emphasized.

Figure 4 will give you an idea of the different volatility and risk profile of the multi-funds. Then, in Table 1 you can see a different dimension of the problem which is the differences in return between portfolio managers.

The messages are first, that volatility can be relevant and differences in return between periods are sizable and, second, that differences in return between different portfolios and between different managers are relevant. So, an adequate selection of portfolio and pension fund manager is critical looking at the future pension.

Figure 4
MULTI-FUNDS: DIFFERENT CHESTS OF RISK PROFILE



Source: Prepared by the author.

Table 1

RETURN DIFFERENTIALS = COMPETITION & TRANSPARENCY

2004	BEST	WORST	INDEX	DIFFERENTIAL
FUND A	16.2%	14.6%	15.5%	1.6%
FUND B	14.0%	12.2%	12.8%	1.8%
FUND C	11.9%	10.6%	11.4%	1.3%
FUND D	9.7%	9.0%	9.3%	0.7%
UND E	8.3%	6.8%	7.9%	1.5%

2005	BEST	WORST	INDEX	DIFFERENTIAL
FUND A	15.5%	14.1%	14.9%	1.4%
FUND B	11.9%	10.8%	11.4%	1.1%
FUND C				
	9.1%	8.2%	8.5%	0.9%
FUND D	7.2%	6.5%	6.7%	0.7%
FUND E	5.3%	4.2%	4.8%	1.1%

2006	BEST	WORST	INDEX	DIFFERENTIAL
FUND A	25.6%	24.3%	24.7%	1.3%
FUND B	22.1%	20.9%	21.2%	1.2%
FUND C	18.4%	17.8%	18.1%	0.6%
FUND D	14.5%	13.2%	13.7%	1.3%
FUND E	10.2%	8.7%	9.6%	1.5%

Source: Prepared by the author.

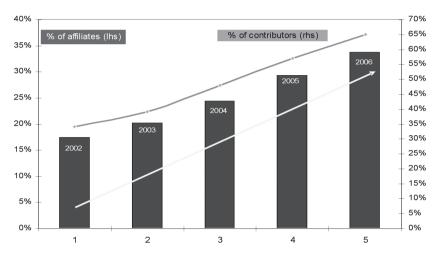
#### How people have made their choices?

Some have argued that, when people are given the opportunity to choose, they will not do it. However, at least Chile's experience with multi-funds has shown the opposite: people have actively used their right to choose.

In Figure 5, the percentage of pension fund members and contributors choosing a portfolio is reported. Although in 2002 nearly 70% of the people stayed in the fund to which they were allocated by default, probably because of lack of knowledge, the proportion of people making choices is increasing fast. Now we have close to 65% of contributors choosing.

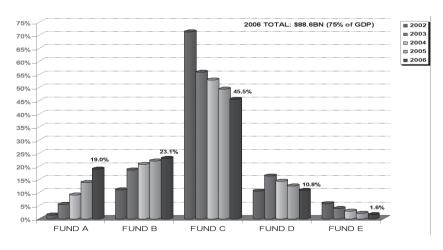
As Figure 6 shows, most of them are going into funds A and B because these have performed the best. Moreover, a younger population has a preference for portfolios with higher exposition to equities.

Figure 5
MULTI-FUNDS: AFFILIATES ARE USING THE FREEDOM OF CHOICE!



Source: Prepared by the author.

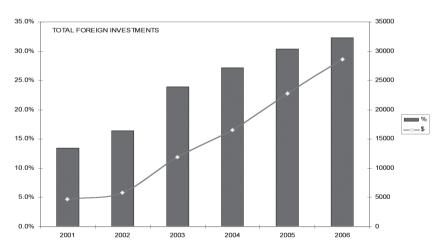
Figure 6
FUND TYPE EVOLUTION: CLIENTS MIGRATE TO HIGHER RETURN FUNDS



Source: Asociación de AFP.

I would like to make a short detour here to call your attention (again) to the issue of investment regulations. As you may know, in Chile currently pension funds have a maximum limit for foreign investments of 30% of their portfolio (see Figure 7). Because of appreciation in the value of the respective assets, actually foreign investments are today a little bit over 30% (because of this situation, there is a proposal to raise the limit incrementally to 35%, 40%, and then 45% of the portfolio during next year). The maximum investment limit in foreign assets has hurt pension fund possibilities to get better riskreturn combinations. So, investment regulation should be consistent with the fact that people has been offered opportunities to decide the asset allocation they like the most. It does not make much sense to introduce multi-funds and, at the same time, keep a very rigid and strict maximum investment limits regulation.

Figure 7
AFP FOREIGN INVESTMENTS EVOLUTION: NEEDS OF FLEXIBILITY!



Source: Asociación de AFP.

#### International experience

There is no "one size fits all" solution for multi-funds. However there is now an opportunity to take the best practises from different practical experiences.

Chile was cautious in introducing portfolio choices. It started with two funds, one particularly designed for people close to the pension age which didn't want to take the risk of return volatility in the period close to their retirement. Later on, three more funds were introduced.

Mexico also started offering a choice between two funds. However, in this case the limit on equities was set at 15% in the most "aggressive" fund (in the other the limit is zero) which it's very likely does not provide younger workers with a portfolio composition which fits their risk-return profile. Eventually for this reason, Mexico has recently changed its regulation and moved from two funds to five funds. At the same time, the maximum investment limit in equities has been raised to 30% in the most aggressive fund called "Siefore Básica 5".

In 2006 Peru introduced three funds, called "aggressive", "balanced" and "conservative". What is particularly interesting in this case is that managers could offer as many funds as they wanted. However, in some way the industry quickly found an equilibrium at three funds.

A lesson from these experiences could be that three funds, as in Peru, is enough to capture the risk profiles of most workers, while five funds or more could make decision making too complex. At the same time, it's important to take into account the reality of the local capital market. As we said, the multi-fund concept has to be implemented hand-in-hand with a flexible investment limits regulation so to avoid the traditional home bias and permit the investment managers to use all the resources available to reach the best return possible.

In any case, collaboration between the regulator, government and private managers is the key to identify the best solution for each particular case.

#### Some lessons from multi-fund experiences

I will highlight six different lessons that can be drawn from multifund experiences in Latin America:

- 1) Multi-funds offer risk-return alternatives to pension fund members. However, so far it seems that individual's decisions have been driven mainly by return considerations. Maybe, return has been the main selling point because the multi-funds launch has coincided with rising markets and most people learn risk only by experience. But I don't think that we want to see that in the pension industry. I think that we have an important mission and a responsibility of educating our clients about the risk dimension of investment decisions.
- 2) As multi-fund options are offered, we should expect people to become actively involved in their pension planning process.
- 3) Multi-fund schemes should include default options based on age since this is the criteria which make the most sense. Eventually, options open to individuals should also depend on age.
- 4) Financial and pension education should come together with multi-funds. It's essential to realize that the most sophisticated and complicated is a pension system, and the more the options that are offered to individuals, the more is the education that will be needed. Regulators, the government and the pension industry must collaborate to solve this challenge successfully.
- 5) Multi-fund should be strictly differentiated. Once the profiles of each portfolio have been defined, there is a necessity of a supervisor to enforce the limits assigned previously since, if the limits are not respected or implemented, then the funds will not be aligned with the client expectations.
- 6) Private management and public regulations are an odd wedding that requires melting flexibility of investment decisions within a publicly regulated limited field to ensure a minimum return.

We can't forget that asset allocation is the leading factor when dealing with investor performance. The danger is that an excess of regulations could end up with the regulator doing the asset allocation. There are always opportunities in financial markets. There are always assets in which you can generate a return. So, why so many limits and restrictions?

Mandatory pension funds need investment limits since there are risks that a social security program can not take. But limits will have a cost because of opportunities lost. Is it correct to restrict pension funds foreign investments? Is it correct to have an "aggressive" fund holding 20% in cash? Is it correct to set a maximum limit of 30% in equities for an "aggressive" fund? Is it wise to keep most of investments locally when the market tripled in a year?

So, although multi-funds are in the right path there are still some imperfections to deal with that can be solved by sharing global experiences in the interest of the contributors.

#### **Concluding remarks**

Multi-funds are an inspiration for funded pension systems, private or public. There are strong reasons to move from a single portfolio regulation to multiple portfolios.

However, multi-funds should be introduced together with a good educational program. For workers to use efficiently the opportunities of choice which the existence of multi-fund provides and so involve themselves in a productive way in planning their future retirement, pension and financial literacy are necessary.

For countries which have not yet adopted a funded pension program, the recommendation is, start with multiple portfolios and do not follow the strategy of moving from one to multiple funds. This is because in the latter case two steps will be needed and there are transition and eventually, political costs involved.

Choosing a portfolio is not only a matter of return; risk differentials are also important. So, when introducing multi-funds,

risk measures need also to be introduced. At the same time, a long term perspective towards investments should be promoted. What strikes me is that although the pension funds investments almost by definition should be oriented to the long term, clients and managers are more short-term oriented. Return rankings are a good example of this situation. Usually, last year's returns are used to show performance. However, one year of good returns by a fund manager is not a demonstration of capability, moreover when the risk dimension is not considered at all. It could be luck (maybe a three-year rolling Sharpe index might be a better indicator. Eventually, pension fund members could not be allowed to switch to a manager with an inferior three years Sharpe index).

Let me finish with a brief summary of the lessons on how to introduce multi-funds:

- 1) Define multi-funds on the basis of life cycle investments.
- 2) Introduce not more than four funds: three dynamic ones (aggressive / balanced / defensive) and one focused in the needs of those close to retirement (or already retired).
- 3) Keep an open and active dialogue between managers and regulators, to monitor and improve the regulations.
- 4) Invest in financial/pension education of participants.
- 5) Enforce the limits which differentiate among portfolios.

## REGULATION AND MONITORING INVESTMENT RISK: APPLICATION OF THE OECD GUIDELINES

JUAN YERMO<sup>1</sup>

Investment risk can mean different things to different people. It cannot be defined without reference to a time horizon and an expected outcome determined by the preferences of the investor. For members of defined contribution (DC) pension plans, the short term volatility of returns does not capture the investment risk they care about, which is the possibility that their fund's value at retirement will be less than what they need to buy an annuity paying an income equal to their target replacement rate. The cost of buying an annuity also changes over time with interest rates, so the measure of investment risk should take into account the risk in annuity conversion rates. Furthermore, a pension fund member may also be interested in more than the second moment of the frequency distribution of returns, as investment returns rarely conform with the normality assumptions required by the standard mean-variance framework of portfolio optimisation. A long-term investor can benefit from mean-reverting returns and is therefore less affected by short-term market volatility than a myopic investor.<sup>2</sup>

From a policymaker's perspective, monitoring and regulating investment risk in a mandatory DC system is a non-trivial exercise. Each fund member has different preferences and

Director Private Pension Unit, Financial Issues Division Organisation for Economic Co-operation and Developtment (OECD).

See for example Campbell J.Y, Viceira L. M. "Strategic Asset Allocation: Portfolio Choice for Long-Term Investors", Cambridge University Press, 2000.

investment horizons. Hence, theoretically, investment risk should be monitored at the member level. Such approach is clearly not viable and so regulators must device proxies that allow them to monitor investment risk in a standardised way. What is certain is that in such systems, a policymaker's measure of investment risk does not necessarily correspond to the notion of volatility as risk widely held by market players in the pension fund investment industry.

#### Risk measures for DC pension funds

The measures of risk that seem more appropriate for regulators to monitor are so-called downside risk measures, such as the expected shortfall or expected tail loss, value-at-risk and stress testing, measured over a sufficiently long investment horizon. Why are such risk measures more relevant for policymakers?. Quite simply, because in a mandatory DC system, a pension fund member's biggest worry is being unable to maintain his or her standard of living after they retire. In finance, this worry is measured as a downside risk.

Does this mean that a pension fund member does not care about volatility over the accumulation or working phase?. Clearly an investor's main concern is the value of her terminal wealth and its transformation into an annuity. Intermediate wealth and the short term volatility of investment returns, however, are also relevant. First, because they signal information about the statistical properties of different asset classes, allowing the investor to rebalance her long-term portfolio accordingly. Second, they may signal information about the net value added by active fund managers. And I say may, because it is by no means obvious that the average pension fund member is able to discern excess returns from noise when choosing a pension fund manager.

Of all the quantitative risk measures I just mentioned, the expected shortfall or tail loss (also sometimes called the conditional Value-at-Risk) is probably the most relevant for DC plan members. The expected shortfall is a measure commonly used in the insurance industry, but unlike value-at-risk it has not yet spread widely to the investment management industry. While Value-at-risk (VaR)

focuses on the maximum loss with a given probability and over a specific horizon, the expected shortfall or tail loss measures the conditional expectation of loss for losses beyond the VaR level. For a DC pension fund member, whose main worry is that its retirement income is below a certain level, the expected shortfall is a more meaningful risk measure than VaR. VaR disregards any loss beyond the VaR level (the "tail risk"), yet those losses are precisely the ones that will hurt most the wefare of a DC member. The expected shortfall also has more appropriate statistical properties. It is subadditive, which means that a portfolio of two instruments has a lower or equal risk level than the sum of the individual risks of these two instruments. This assures its coherence as a risk measure, which is not the case for VaR.<sup>3</sup>

In order for expected shortfall, VaR and other downside risk measures to be useful for policymakers, they also need to be calculated in a manner that is consistent with the investment horizon and the retirement benefit goals of the plan member. Risk measures calculated over one horizon may not only be irrelevant but may even cause a dislocation to the investment strategy. Equally, the annuitisation objective should be incorporated into the risk measure. This will affect the relative risk of different asset classes as their statistical properties will be assessed against those of the target pension benefit.

#### Regulating investment risk in DC plans

Mexico's CONSAR is the only regulator of a mandatory DC pension system that has introduced a quantitative risk measure to regulate investment risk. Their chosen measure is the VaR, measured over one year, which has all the draw backs just mentioned. Fortunately, these drawbacks can be addressed by using expected shortfall risk measures and calculating them in a way that is consistent with the retirement benefit objectives of DC fund members.

See, for example, Artzner, P., Delbaen, F., Eber, J., and Heath, D. (1999). "Coherent measures of risk". *Mathematical Finance*, 9 (3):203-228 or Daníelsson, J., Jorgensen, B. N., Sarma, M., de Vries, C. G. and Zigrand, J., "Consistent Measures of Risk", London School of Economics, May 24, 2006.

By necessity, such a quantitative risk measure would not be able to take into account each investor's special needs and preferences. A regulator, however, can safely make an assumption about the minimum replacement rate that a member is aiming for, given a certain contribution schedule. It can then set a risk measure consistent that objective.

Another question that needs to be addressed is whether the regulator should limit the maximum expected shortfall of a pension fund, requiring corrective action once this ceiling is breached. This question is related to the broader discussion over quantitative versus qualitative regulations. Countries with a strong self-regulatory tradition are more likely to opt for a qualititative approach, promoting the use of quantitative risk measures by market players, but without actually setting regulatory risk limits.

Quantitative risk regulation is also superior to the traditional portfolio ceilings set by regulators in some countries. This indirect approach to regulating investment risk is used widely in countries in Latin America and Eastern Europe that have introduced mandatory DC systems. Quantitative portfolio rules, however, do not ensure appropriate risk diversification or even low aggregate risk. Good examples of this are the limitations in foreign investment imposed in countries with weak domestic financial systems. Moreover, they can be difficult to change, as they are often set in the pensions law. Finally, portfolio ceilings are often based on the basis of perceptions of risk, rather than actual risk measures that are relevant to long-term investors. Hence, a regulator may limit investment in equities because of its higher short term volatility without considering its real value for a pension fund member.

The quantitative portfolio approach to investment regulation has been gradually abandoned by many OECD countries. Some examples of relaxation of equity investment include the lifting of the 65% ceiling in Belgium in 2002, the lifting of the 25% ceiling in the Czech Republic in 2004, the raising of the ceiling from 50% to 70% in Denmark in 2002 and in Mexico from 0 to 15% in 2005. While still about half of OECD countries impose ceilings on equity investments, the levels in most cases are non-binding, as they have been set relatively high (see Figure 1).

10% 20% 50% 70% 80% No limit Australia Austria Belgium No limit Canada Czech Rep. No limit Denmark Finland Germany Hungary Iceland Ireland No limit Italy Nolimit Japan Mexico Netherlands No limit New Zealand No limit Norway Poland Portugal Slovak Reo. No limit Spain Sweden Switzerland Turkey

Figure 1
CEILING ON PENSION FUND EQUITY INVESTMENTS
(% OF TOTAL ASSETS, 2005)

Source: Prepared by the author.

UK United States

Foreign investment limits have also been lifted (e.g. Japan in 1999, Canada in 2005 - in both cases the ceiling was set at 30%) or raised (e.g. from 20% to 30% in Korea in 2003, from 0% to 20% in Mexico in 2005, from 5% to 10% in Denmark in 2005). Few OECD countries still impose limits on foreign investment in other OECD countries (see Figure 2).

While many countries are moving away from setting portfolio limits by asset class, other type of diversification rules are still popular, such as limits on the share of the portfolio that can be invested in individual securities or issuers, limits on ownership concentration and limits on investment in non-transparent or illiquid instruments. These regulations are defended on prudential grounds, though they can also be left to self-regulation via the prudent person rule.

CEILING ON PENSION FUND FOREIGN INVESTMENTS (% OF TOTAL ASSETS, 2005) 0% 10% 20% 30% 40% 50% 60% 70% No limit No limit OECD countries No limit OECD countries

80%

Figure 2

Australia Austria \* Belgium Canada Czech Rep. \* Denmark \* Finland\* Germany No limit No limit in EU and EEA countries Greece\* Hungary <sup>4</sup> Subject to 20% ratio Iceland No limit OECD countries Irobnd No limit OECD countries Italy \* Nolimit Japan Mexico Nathorlande New Zealand No limit Norway Poland No limit OECD countries Portugal\* Slovak Rep. Spain No limit No limit Sweden Turkey No limit No limit No limit UK United States

Source: Prepared by the author.

#### **Concluding remarks**

There are three main forms of pension fund investment regulation: directly, by setting risk measures, indirectly, by setting ceilings on portfolio allocations, and via self-regulation, otherwise known as the prudent person rule. The use of quantitative risk measures to regulate investment risk in mandatory DC plans is appealing but challenging. It requires the construction of a risk measure that can be applied across different pension funds in a consistent manner without requiring knowledge of each individual investors specific preferences. The VaR measure has some drawbacks that makes it less suitable for regulatory purposes than the expected shortfall measure, otherwise known as expected tail loss or conditional VaR.

Policymakers also need to decide whether such risk measures should be simply promoted and monitored or whether a quantitative risk ceiling should be set. In countries with a tradition of imposing portfolio ceilings on pension funds, a quantative risk ceiling may be the natural outcome, as happened in Mexico recently when the VaR was introduced by CONSAR.

The move to direct monitoring and regulation of investment risk is also superior to the practice of portfolio ceilings that has been popular up to today in countries in Latin America and Eastern Europe that have introduced mandatory DC pension systems. As set out in international pension fund regulatory standards promoted by the OECD, regulators should rely more on effective governance and risk control requirements, without necessarily setting portfolio limits on pension fund investment.



# Pension Fund Reform Perspectives in the European Union





5.1 WORKING FOR PENSIONS IN EUROPE

Chris Verhaegen

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#### **WORKING FOR PENSIONS IN EUROPE**

CHRIS VERHAEGEN<sup>1</sup>

The EFRP is the European umbrella federation of national federations of pension institutions. In total our federation covers 29 Member Associations across 16 EU Member States and 5 in non-EU Member States<sup>2</sup>. Our core membership are privately funded institutions which are financing pension schemes arranged through the work place, either at corporate level or at industry level. In addition, the professional associations of liberal professions like doctors or dentists have also industry-based or professional-based pension institutions.

75 million of EU citizens rely on EFRP membership for their supplementary retirement income. In 2005 our members were managing a total of 3.6 Trillion Euros (= 4.47 trillion US\$ in 2005 value).

We are doing representative work and lobbying work with the European Union Institutions. We work closely together with the European Commission where we sit on different expert and consultation groups. One of them being the Pension Forums of the European Commission which is a responsibility of the "DG" of the Employment and Social Affairs.

We are observers in OECD (Organisation for Economic Cooperation and Development) and IOPS (International Organisation of Pension Supervisors).

General Secretary of the European Federation for Retirement Provision (EFRP).

EU Member States: Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Slovakia, Sweden, UK. Non-EU Member States: Croatia, Guernsey, Iceland, Norway, Switzerland.

I would also like to point out that EFRP has embarked on an initiative that may interest this audience. In October 2006 our General Assembly decided to establish a CEEC Forum (Central and Eastern European Countries) that had its first meeting in Bratislava in March 2007. This Forum should bring together new EU Member States that have implemented pension reforms such as those described at this conference. We want to address their concerns since they now have joined the European Union. We have to deal with this fact, or, they have to deal with the EU. It depends on how you want to put it.

The mission of my federation –our political statement– is as follows:

- we want to promote affordable pensions for large sections of the population, meaning a maximum of coverage of working population.
- helping to maintain living standards throughout the retirement period.
- while providing a degree of intra- and inter-generational solidarity.
- which are administered by funding institutions that can benefit from a European Passport. This means they can provide services throughout the European Union.

All this taking into account the EU principle of subsidiarity<sup>3</sup> and national diversity in pension provision.

Subsidiarity was established in EU law by the Treaty of Maastricht, signed on 7 February 1992 and entered into force on 1 November 1993. The present formulation is contained in Article 5 of the Treaty Establishing the European Community (consolidated version following the Treaty of Nice, which entered into force on 1 February 2003):

<sup>&</sup>quot;The Community shall act within the limits of the powers conferred upon it by this Treaty and of the objectives assigned to it therein."

<sup>&</sup>quot;In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community."

<sup>&</sup>quot;Any action by the Community shall not go beyond what is necessary to achieve the objectives of this Treaty."

Our basic job is to ensure that pension institutions can develop across the EU in order to provide adequate and affordable supplementary or occupational pensions.

The EU is currently a block of 27 countries. We have to consider there is much diversity in the pension systems across the Union but all the Member States are facing similar challenges such as: the aging of societies, budgetary deficits in some Member States. In some Member States the debt ratio to GDP are still a point of concern, though low economic growth seems to be improving. We have had some years of continued low growth figures, especially in the "old" Member States, which is really a problem. Also, in the old member states rigid labour markets are not helpful. We need more flexible labour markets. This is a desperately needed reform and we don't see much movement. Globalisation is of course a challenge for all, also for Europe. Looking at all those challenges, there is a need for action and we are looking at the European Commission for taking this leading role. I will leave it to Ms Paserman to explain how the Commission is trying to make proposals to generate debate and if possible action to achieve reforms.

While discussing pensions policy or pension systems, EFRP thinks that there should be a preliminary discussion on the "EU-27 pension model" before any further legislative initiatives can be tabled. We did have, more or less, an agreed model when we were at "EU 15". Now there are 12 new Member States, that are on a different model, which is based on the World Bank model. So we are asking ourselves: how we model the EU-27 as to pensions policy?

I will not speak out the word "convergence" because that would amount to too much. Yet what we must achieve is a reference or model so that we know what we are speaking about when we are discussing private pensions within the European Union.

Convergence: strives to achieve commonly agreed outcomes through concerted action, where each Member State contributes towards raising the European average performance. There is no Treaty definition nor article on this concept.

So I have here outlined, just to remind you, what this EU-15 multi pillar model was about. We have a state organised (statutory) pillar, always and everywhere. It is interesting to note that all of 12 "old Member States" have, organised this as a "Pay as You Go" publicly-financed system claiming those pensions would deliver pensions at sufficiently high rates of replacement. It has been acknowledged, more and more lately, that they will have difficulty in keeping the value of those promises and some reforms have decreased the replacement rate to face financing problems.

Table 1
EU-15 MULTI-PILLAR MODEL

	Social assistance programmes for the elderly
First	Mandatory – PAYG - publicly financed and managed
Second	Occupational pension - linked to paid work - usually organised as group schemes set up in the framework of a company, a group of companies or of sectors of industry or professional groups
Third	Voluntary individual savings for retirement

Source: Prepared by the author.

The origins of the private pension provision dates back from before "World War II" but only its real boost after the war. Many industries and companies voluntarily started to build up a "second pillar pension". These are privately-managed schemes organised at industry or at company level or at professional organisations level. The financing vehicle can be a life-insurance company or a pension institution, pension funds or similar.

The next pillar is the voluntary "third pillar" which we view as an individual based pension provision or old age saving.

Let us now look at what is already under reform in the 15 countries. What do we see?

**Table 2** EU-15 MULTI-PILLAR *IN REFORM* 

	Social assistance programmes for the elderly
First	Mandatory – PAYG - publicly financed and managed
	Funding elements (DK, SE, FI) + demographic funds + increasing retirement age
Second	Occupational pension - linked to paid work
	- usually organised as <b>group schemes</b> set up in the
	framework of a company, a group of companies or of
	sectors of industry or professional groups
	Personal Pensions (UK) - PRSA (IE) - Riester (DE) +
	shift away from DB to DC
Third	Voluntary individual savings for retirement

Source: Prepared by the author.

We see that more funding is coming into the first pillar and those assets are managed by market based institutions. Governments are taking some measures to decrease the increase of expenditure –due to ageing population– within the statutory first pillar; demographic reserves are just one example of a technique to avert unsustainable pressure on public finance in the future. Another technique which in fact has come back are the mandatory "individual accounts" which are funded by part of the social security contributions. In fact, there is a split up of contributions to the first pillar: one part is directed into the PAYG statutory pensions and one part is channelled to individual accounts that are managed by market based institutions. The latter are under a special supervisory regime.

Also, another reform which is related to parametrics, and not funding, is the increasing of retirement ages. Although very unpopular, it is politically wise; but there are some countries that have taken that decision and so this is important to state.

Within this first pillar among the EU-15 Member States some have introduced a "notional DC" scheme tying the benefit more closely to the contribution such as Italy.

In the EU-15 second pillar where we have already some tradition, we see there is a shift from "DB" to "DC". Also we note that having a tradition in occupational pensions does not warrant high coverage of population in second pillar although Governments do want it. Currently, the coverage in second pillar doesn't exceed 60% of the working population which is too low for adequate coverage but considered 'high' in voluntary second pillar systems of those Member States.

Our governments are also taking some initiatives: in the "UK" with the personal pensions, personal retirement savings accounts in Ireland, the "Riester Rente" in Germany which you can use either in second pillar (with maching employers' contributions) or in the individual third pillar. We see more diversity developing in those 15 Member States.

Looking at the EU-12 new Member States we have tried to model their pension system as well. I apologise if I have made any

Table 3
EU-12 (NMS) MULTI-PILLAR MODEL

	Social assistance programmes for the elderly
First	Mandatory – PAYG - publicly financed and managed PL- LV _ notional defined contribution systems (NDC)
Second	Mandatory funded individual accounts operated by private pension management companies
Third	Voluntary funded individual accounts (occupational and individual)

Source: Prepared by the author.

mistakes. However simplicity should be our objective if we want to make ourselves understood.

What we see in common is the statutory first pillar pension: mandatory and financed through public expenditure in Pay-As-You-Go. There are also EU Member States with "notional DC" schemes in this first pillar.

The main differences between EU-15 and EU-12 are to be found in the second and the third pillar. In the EU-15 ('old') Member States both the second and third pillar are considered 'voluntary' whereas in the EU-12 the second pillar is mandatory and the third pillar is voluntary. The voluntary second pillar in the EU-15 is work based and can be organised at industry level, professional organisation level or company based.

The second pillar of the EU-12 we would describe as a split part of the first pillar since part of the mandatory social security contribution has been re-directed towards this second pillar which is managed through individual accounts with private pension management companies. In fact, part of the statutory first pillar is privatised whereas in the EU-15 the second pillar is a voluntary or quasi-voluntary supplement to the first pillar. This is what we think the main difference is. Whether the EU-15 first pillar will deliver adequate income is another issue.

The third pillar is voluntary both in EU-12 (new) and EU-15 (old). It is purely individual in EU-15 whereas in EU-12 it can also be company based.

When you look at the models comparatively, we see the feasibility of finding some common terminology. We even see the possibility to build an "EU 27" model. EFRP is promoting a solid three pillar model for Europe.

I think we all can agree there is in each Member State a first pillar that should provide a basic state pension based on PAYG schemes or a phased in 'notional DC' over time. This pillar is financed by public expenditure (tax or contributions to social security institutions).



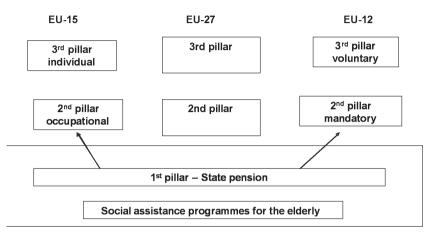
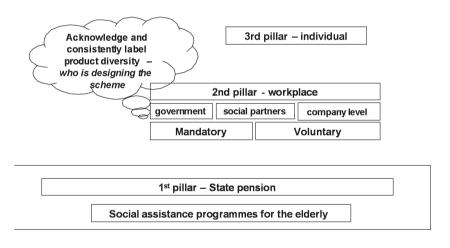


Table 5
EFRP Proposal EU-27 Pension Pillar Terminology (1)



The second pillar should contain all private pension schemes with a link to employment or a professional occupation. You can say "Look, this is tied to your career, it mirrors your working life." This pillar is pre-funded through employer and/or employee contributions or through contributions paid by self-employed

workers and professionals. It is privately managed by a diversity of financial institutions (i.a. Institutions for Occupational Retirement Provision, life-insurers, pension fund management companies)

This second pillar can be voluntary, quasi-mandatory or mandatory. As a matter of fact, some governments of the EU-15 (old) Member States are wondering how they can increase coverage of the working population and although there is outspoken reluctance to make second pillar mandatory, some voices advocate doing so. The whole art is to know how making second pillar contributions mandatory without it being seen as an additional tax or social security contribution.

It is noteworthy that in some EU-15 (Old) Member States social partners<sup>5</sup> play an important role in managing the occupational pension schemes. In the EU big multinational companies want to streamline their corporate pension benefits across the 27 countries' block. This has been made possible through the Pension Funds Directive<sup>6</sup> which introduces the European passport for pension institutions while the pension scheme has to comply with the social and labour law of each Member State into which those pan-European pension institutions provide pension schemes.

The third pillar throughout the EU-27 would then be understood as individual pension provision. This means that the individual deliberately and voluntarily purchases specific retirement savings products to top up second pillar provision.

Our proposal is pragmatic and acknowledges the diversity in second pillar pension provision throughout the EU. If we can agree on the terminology then debate will be furthered and misunderstandings avoided.

Please allow me to repeat my key messages:

For example: Belgium, Denmark, Italy, Netherlands, Spain, Sweden, UK.

<sup>6</sup> Directive 2003/41/EC on the activities and supervision of Institutions for Occupational Retirement Provision – IORPs.

European Federation for Retirement Provision.

- EFRP<sup>7</sup> is the European industry representative focusing on funded and work place pension provision.
- The EU-enlargement with 12 new member states has increased diversity in EU pension systems
- Europe should reflect on a "European Pension Model" by combining the pension systems of EU-15 (old) and EU-12(new).

### PENSION REFORM PERSPECTIVES IN EUROPE

HERMANN VON GERSDORFF<sup>1</sup>

Thank you very much for the invitation, and most of all for allowing me to be back here in Bulgaria amongst friends. I also want to take the opportunity to recognise two people in the room here. Mr.Abadjiev was already talking about the creation of the new Bulgarian pension system. You already saw Mr. Yordan Hristoskov and in the room is also Minister Ivan Naikov. I think that, without both of them, we probably wouldn't have been here today, so I want to thank them for the successful launch of the Bulgarian Pension System.

Let me try to clarify what we mean by pension reform. For me, today, it will mean "systemic reform with introduction of funded systems" and I see my job today as trying to make some prediction of where we're going today in Europe and what kind of issues will be coming up. Which countries will be reforming?. To do this prediction of what might happen, I start by setting up a framework.

The first point to consider is the Reform Initiation Process. Most of the time this doesn't have much to do with the needs of a country.

There are some countries that should really be doing major pension reform but they are not doing it and others are doing it, taking advantages of the good times the system is in. So it is very hard to predict what will happen on the basis of need.

Sector Manager Social Protection, Eastern Europe and Central Asia, World Bank.

The second consideration is as follows: even if somebody comes up with the perfect scheme for a country, this is neither a necessary nor sufficient condition for a successful reform.

Many times these perfect models stay on the shelf or get discussed and some of them luckily get implemented but they are not sustained because the requirements that are put on the country or the supposed beneficiaries are too strong, and we have heard in this Conference, several times, that the political economy of reform is crucial. I have a limited understanding of the political economy, so once again, I have appreciated very much the presentations like the one Agnieszka made. It helps us understand a little bit better what's happening.

The lack of understanding of the political economy, my guess is that it has a little bit to do with the arrogance of the economists. We sit thinking that we know what needs to be done but many times are unable to transfer this message to the politicians.

The argument of limited reform experience is not valid any more. We see in the room here, so many participants, I think we have plenty of experience that should have taught us more.

The third set of considerations is: What triggers reform?. I think that one important element is the regional diffusion process. If you see what your neighbours are doing, you start questioning your self; well, can I do the same, can I not? The latest major reform that was done, the one in Slovakia, they travelled all around, seeing what the neighbours had done. To Poland, to see what they did. They also went to Sweden. They learnt from all the others that had done the reform. In terms of prediction, those who are closer to others doing reform, are probably the most likely candidates to take the next step.

To trigger a reform, there has to be a credible reform paradigm. Reform fantasies don't go really very far and here again, something that has been mentioned many times in this Conference, the issue of information and communication. You have to sell the idea of the reform. But launching a reform is not everything.

#### What is important to complete a pension reform?

Pension reform is not the only thing that a government has to do. The pension reform has to be integral to the rest of the reforms of the country, particularly if you want it to succeed. If we do pension reform, and the capital markets are not reformed, probably all of the money will end up in government bonds. We have already heard what issues are involved there.

Another part on how to succeed is to be inclusive. We might say that pension reform occurs when you legislate a reform. I would like to send a message to politicians: don't trample on the opposition. They might be the next government. If you trample on them now, they will be very happy to turn back your reform when it's pay-back time. So we are speaking of a long-term commitment from governments. Of course, as in everything else in life, you need luck. If you launch a pension reform and then you have a major crisis, your chances of succeeding to completion will be low.

Therefore, when we look at who will be doing pension reforms, you have to look for several things. The first one is the concept of reform. It has to be technically sound. That is where the experts come in to play, and there are several here, but these experts are the first step.

The next step is to translate the technical concept into policies. Here is where politicians come into play.

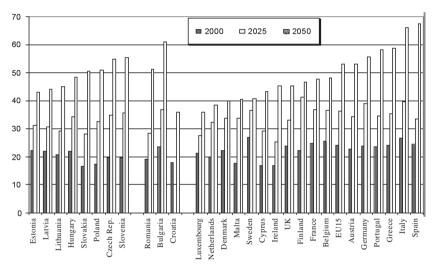
The policies are very generic, so you need to transfer those into programmes. That's where the government comes into play.

Finally, the programmes have to be translated into practice. That is where the whole administration comes into play.

In terms of what will happen, looking at some of the triggers for reform, many are still valid (see Figure N° 1). I am presenting some dependency ratios. Based only on this dependency ratio, I would say that our friends from Spain will have the largest dependency ratio in the next couple of years. Based only on this, I would say that you are the next ones.

Bulgaria clearly has a problem with dependency ratios. They are lucky enough that they have already launched their reform. The message here is that there will probably be a need for more reforms because Bulgaria's problem in terms of dependency is so large, that you will have to do some additional work.

Figure Nº 1
TRIGGERS FOR REFORM VALID
Dependency ratios 2000-2050



Source: Prepared by the author.

When we look at triggers in terms of public expenditure (see Table  $N^{\circ}$  1), of what can be expected for the future changes in pension expenditure over a whole array of countries, I think the winner, in terms of increased expenditure as a percentage of "GDP" is Cyprus . Cyprus will increase expenditures by 13 percentage points, unless of course they do some reform.

I just want to point out two countries that are together in the table; Poland and Portugal. Poland, through the reforms it's managing, will cut pension expenditure by almost 6% of "GDP" over the next 40 something years. Portugal, unless they reform, their pension

expenditure will increase by about 10% of "GDP", so here we have quite a nice picture. The difference between doing pension reform and not doing pension reform can amount of up to 15% of "GDP".

**Table N° 1**Gross Public Pension

Expenditure as a share of GDP between 2004 and 2050

Gross public pension expenditure as a share of GAP between 2004 and 2050

Public pensions, gross as % of GDP							Change	Change	Change		
Country	2004	2010	2015	2020	2025	2030	2040	2050	2004-2030	2030-2050	2004-2050
BE	10,4	10,4	11,0	12,1	13,4	14,7	15,7	15,5	4,3	0,8	5,1
cz	8,5	8,2	8,2	8,4	8,9	9,6	12,2	14,0	1,1	4,5	5,6
DK	9,5	10,1	10,8	11,3	12,0	12,8	13,5	12,8	3,3	0,0	3,3
DE	11,4	10,5	10,5	11,0	11,6	12,3	12,8	13,1	0,9	0,8	1,7
EE	6,7	6,8	6,0	5,4	5,1	4,7	4,4	4,2	-1,9	-0,5	-2,5
GR											
ES	8,6	8,9	8,8	9,3	10,4	11,8	15,2	15,7	3,3	3,9	7,1
FR	12,8	12,9	13,2	13,7	14,0	14,3	15,0	14,8	1,5	0,5	2,0
IE	4,7	5,2	5,9	6,5	7,2	7,9	9,3	11,1	3,1	3,2	6,4
IT	14,2	14,0	13,8	14,0	14,4	15,0	15,9	14,7	0,8	-0,4	0,4
CY	6,9	8,0	8,8	9,9	10,8	12,2	15,0	19,8	5,3	7,6	12,9
LV	6,8	4,9	4,6	4,9	5,3	5,6	5,9	5,6	-1,2	-0,1	-1,2
LT	6,7	6,6	6,6	7,0	7,6	7,9	8,2	8,6	1,2	0,7	1,8
LU	10,0	9,8	10,9	11,9	13,7	15,0	17,0	17,4	5,0	2,4	7,4
HU	10,4	11,1	11,6	12,5	13,0	13,5	16,0	17,1	3,1	3,7	6,7
MT	7,4	8,8	9,8	10,2	10,0	9,1	7,9	7,0	1,7	-2,1	-0,4
NL	7,7	7,6	8,3	9,0	9,7	10,7	11,7	11,2	2,9	0,6	3,5
AT	13,4	12,8	12,7	12,8	13,5	14,0	13,4	12,2	0,6	-1,7	-1,2
PL	13,9	11,3	9,8	9,7	9,5	9,2	8,6	8,0	-4,7	-1,2	-5,9
PT	11,1	11,9	12,6	14,1	15,0	16,0	18,8	20,8	4,9	4,8	9,7
SI	11,0	11,1	11,6	12,3	13,3	14,4	16,8	18,3	3,4	3,9	7,3
SK	7,2	6,7	6,6	7,0	7,3	7,7	8,2	9,0	0,5	1,3	1,8
Я	10,7	11,2	12,0	12,9	13,5	14,0	13,8	13,7	3,3	-0,3	3,1
SE	10,6	10,1	10,3	10,4	10,7	11,1	11,6	11,2	0,4	0,2	0,6
UK	6,6	6,6	6,7	6,9	7,3	7,9	8,4	8,6	1,3	0,7	2,0
EU15 1)	10,6	10,4	10,5	10,8	11,4	12,1	12,9	12,9	1,5	0,8	2,3
EU10	10,9	9,8	9,2	9,5	9,7	9,8	10,6	11,1	-1,0	1,3	0,3
EU12 1)	11,5	11,3	11,4	11,8	12,5	13,2	14,2	14,1	1,6	0,9	2,6
EU25 1)	10,6	10,3	10,4	10,7	11,3	11,9	12,8	12,8	1,3	0,8	2,2

1) excluding Greec

Source: Prepared by the author.

The ones that do something will manage to control expenditure and those that don't do it will obviously get into trouble.

Having said this, who are the next countries that I expect to do systemic pension reform?.

Romania. I love Romanians, but they have been put in a bad position before. Romania has already passed a pension reform. In 1996 a law was passed but the government changed and immediately the new government abolished the old law. Once again, they are about to launch a pension reform in Romania.

Then we have other countries that are in a different phase.

We have a delegation from Armenia here, they are in a "decide and commitment" building phase, but Armenia is obviously in a rush to move to do things and a reform could happen within the next few years.

Serbia was one of my candidates, but looking at their recent problems in even forming a government, I think that we will not see it so actually happening.

Albania, and here is one of the examples, of how a neighbourhood can have an impact. Kosovo did a pension reform, they have a funded scheme. Albania is considering seriously that they should be doing the same now.

Moving farther away from the EU to Central Asia, where there is also a strong pressure to reform. Kazakhstan's pension reform has influenced everybody.

Ukraine is an interesting case: they haven't launched a new pension system but they passed a legislative framework in 1998. Since then they have been working on trying to comply with all the conditions for success and now they think that they are ready and we expect them to launch a funded pension system next year.

Without plans for a systemic reform, there is Belarus, the Czech Republic, Moldova, Slovenia, although they are doing other types of reform but its not the kind of reforms introducing a mandatory funded scheme. Of course, we can add: France, Spain, and Austria. Those countries are even farther away from a systemic reform.

#### **Unsolved Problems**

In terms of issues that will need to be addressed with the next pension reforms, I want to bring out a big one: It is Female Pensions (see Table  $N^{\circ}$  2).

**Table N° 2**Some unsolved problems
Female pensions

	Life expectancy at age of 60 (2003)		Average exit age from the labor force (2004)		Employment rate 15-64 (2005)		Ratio of estimated female to male earned income (HDR
	men	women	men	women	men	women	2005)
CZ	17.3	21.4	61.3	58.9	73.3	56.3	0.64
EE	15.4*	21.3*	n.a.	n.a.	67.0	62.1	0.64
HU	15.9	20.8	60.3	60.7	63.1	51.0	0.62
LT	16.2	21.9	n.a.	n.a.	66.1	59.4	0.68
LV	15.4	20.6	n.a.	n.a.	67.6	59.3	0.62
PL	17.1	22.0	60.0	55.8	58.9	46.8	0.62
SI	17.9	23.1	n.a.	n.a.	70.4	61.3	0.62
SK	16.4	21.0	60.3	57.0	64.6	50.9	0.65
BG	16.1	19.9	62.1	59.5	60.0	51.7	0.67
RO	16.3	20.0	60.4	58.8	63.7	51.5	0.58
HR	16.2**	20.7**	n.a.	n.a.	61.8***	47.8***	0.56

There are four indicators here of women in the labour force.

First, we have all heard several times already, that women live longer after retirement.

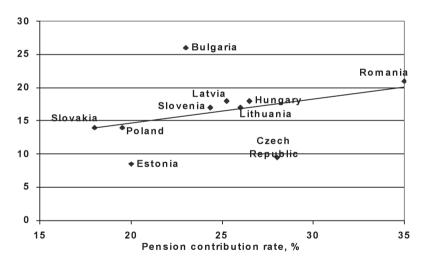
Second, is that they tend to retire earlier; I think that the only ladies that deserve an applause here are the ladies from Hungary, they are the only ones that work longer than their male counter parts. Third, the amount of work that they do over the time that they are in the labour force, in terms of being employed, is also much less than that of men. To make matters even worse, women wages, their expected income while they are working, is at best, about two thirds of what men get.

Adding up this all together, womens pensions will be very low unless something is done. Here, I am not only looking at pensions, but also the whole issue of the labour market, and other kinds of policies. Without additional reforms, there will be a crisis of female pensions, the more we move from a system that is

redistributive to one where the benefits of the pension received are similar to what was paid into the system.

The other issue that is unresolved in my opinion is the problem of coverage, and here I will have to contradict my friend Augusto Iglesias. There is some relationship between the coverage and contribution rate (see Table N° 3). The vertical axis represents undeclared work (informal and black market), and the horizontal axis represents the level of the pension contribution. You can see that there is a positive slope as the economics would predict, but of course, it is not a strong relationship.

**Table N° 3**Some Unresolved problems *Coverage* 



Source: Prepared by the author.

We see cases like Romania, for example, where with the very high contribution rate (it is being lowered), undeclared work is relatively large. But there are outliers, and one of these big outliers is Bulgaria. They've been doing all sorts of measures but at least with the information that I have, Bulgaria, undeclared work is very

high relative to what to expect from the level of the contribution rate. You would expect undeclared work to be much lower.

The outlier in the other direction is the Czech Republic. A country with such high level of contribution rate, you would expect to have higher undeclared work. Maybe Bulgaria and the Czech Republic could be working together, to see what they can learn from each other, one in terms of reducing the contribution rate and the other in reducing undeclared work.

#### **Status of Reformed Pension Schemes**

Let me start with our host, and saying they achieved one of the things that surprised me; I'm not a big friend of slowly increasing the contribution rate to the funded scheme. I did expect that the contribution rate to the funded pension scheme would never increase, and that it would stay at 3%. Congratulations, you managed to increase the contribution to the funded pension system. The main issue that I see in Bulgaria is the number of disability pensions. The Old Age Pension System problems are pretty much fixed but disability pensions are growing.

In Poland, the big challenge will be in 2009, when the first women, and only women because of their lower retirement age, start retiring under the new scheme. Here again, comes the issue of female pensions with its problems. It will be the first pensions paid in Poland by the new system. If they turns out to be ridiculously low, this will have a very negative impact on all of you or us here in the room in terms of the reputation of funded pensions.

Hungary has overcome big challenges and issues in their large fiscal deficits, and Croatia, they have also made progress, but in the last couple of years, there has been a slow erosion of the pension reform because of reform reversals, because of problems in the first pillar, and I think that there are some risks. I don't think that they will reverse the reform, but I think that at least there will be a fiscal impact.

Talking about the problems of the first pillar, one of the issues that is coming up is the whole issue of replacement rates (see Table N°

4). Croatia's replacement rate has fallen substantially, from almost 50% to almost 32% of average wage. This is a very large drop, but this is something that is not only happening in countries with funded schemes. Some of the other countries that are trying to make the traditional pension system more sustainable, like the Czech Republic that I mentioned before, also has been cutting replacement rates. A most impressive case has been Slovenia, cutting replacement rates from an average 69% to 44%, in line with what other countries have had.

**Table N° 4**Status of reformed pension schemes Replacement rate

	Gr	e s		
		Year		Year
CZ	48.6	1996	40.7	2005
EE	25.0	1995	28.8	2005
ΗU	57.9	1996	39.8	2005
LV	62.8	1994	33.1	2005
LT	n.a.	-	30.9	2005
PL (1)	55.4	1995	51.6	2004
SK	42.5	1994	44.7	2005
SI	68.7	1996	44.3	2005
BG	31.0	1995	42.9	2004
RO	43.1	1994	27.6	2005
HR	48.6	1997	32.4	2005

(1) includes rural and urban pensions

Source: Prepared by the author.

The problem is bigger in countries that already have low replacement rates. Latvia, that has a funded scheme, cut basically its replacement rate in half. So, the challenge is: how the funded systems will respond to compensate for this reduction in the replacement rates, in the public system?

There will be a need to really deliver because, if people see that a funded system is not delivering on its promise, while at the same time, the public system is paying less and less, there is a big challenge.

Slovakia's reform is too young to say too much about performance. The biggest problem that they have is that we expected that about two hundred thousand people would join the new system. Well, we were slightly wrong by about one million people. It ended up being one million two hundred thousand instead of just two hundred thousand that joined the new pension system. The change in Government and their ambitions to join the Euro created some problems for the reforms in terms of attempts at reversing the reform.

Russia is a typical example where you launch the new system just before the government changes; the new government did not like it. Russia, in terms of having a funded system, is the country that is most at risk. If I would make a prediction, over the next three years, they may even abolish the new funded system.

Macedonia has had a very good history, they had all odds against them and they have been working hard and successfully solving the challenges.

Kazakhstan has a particular problem. With the oil boom, the level of benefits relative to the wages has dropped dramatically and of course, with all this oil money, and the appreciation of the currency, the rates of return are even negative during recent years. For a funded system Kazakhstan's bonanza has been a problem.

#### Rates of Return

Rates of return are a key issue here, because, for new reformers, they need to be able to point out what is happening in other countries, and rates of return is an essential element, the big advantage of the funded system over the pay as you go system.

If rates of return are low, why do this whole exercise?. And here I want to congratulate Bulgaria, Croatia and Poland. Their rates of return (see Table N° 5) really can stand up and say: In our system, the rates of return will provide you with a better pension than if you paid into the pay as you go.

But, when you have other countries that are in the range of 1% of its real rate of return, this creates a problem.

**Table N° 5**STATUS OF REFORMERS
Rate of return

Czech Republic	non-weighted, net		1996-2004
Estonia	internal real rate of return		2002-2004
Hungary	non-weighted, net		1998-2004
	weighted, net	1.5	1990-2004
Latvia	internal real rate of return	1.7	2001-2004
Poland	weighted	4.8	1999-2004
Slovakia	non-weighted	1.8	2005
Slovenia	non-weighted		2003-2004
Bulgaria	weighted	5.9	2002-2004
Croatia	weighted	6.6	2002-2004

How can I go to the Czech Republic or Slovenia and say: we need to have contributions to the funded system to improve pensions when the rates of return are so low. Basically, they are lower than wage growth? People would end up with worse pensions. This is something that needs to be addressed. Something can be done to reduce costs and increase net returns, but the key challenge is how to increase rates of return. Unless rates improve in a number of countries, I think that the momentum of funded pension reforms and of pension funds, will suffer.

# EUROPEAN UNION PENSION REFORM OUTLOOK

RUTH PASERMAN<sup>1</sup>

I have been asked to talk about the background to the European Union's work on pensions. The European Commission takes the approach of looking at pensions overall: public pensions, occupational pensions, and private pensions. The aim is to see whether the overall package delivers adequate pension provision in a sustainable manner.

I will not talk about in detail here about public pensions, but I should mention that legislation on coordination of social security schemes exists. This legal framework is based on cooperation between the member states. This means you can move between countries in the European Union. One of the main principles of the European Union is free movement of workers. It follows from that principle that workers can and should be allowed to move around Europe and take their pensions with them. This is made possible by coordinating social security schemes, in particular the Pay As You Go public systems. It is a preoccupation that goes back a long way in the European Union. The first regulation dates back to 1958. It is currently governed by Council Regulation No 1408/1971.

As regards occupational and private pensions, there is currently a move towards more legislation. As I said, social security schemes are coordinated to enable freedom of movement for European Community citizens under Regulation 1408/1971. Workers can move around Europe and their contribution period in the different

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schemes in the European Union is added up and used to calculate their benefit, which is then paid in their country of domicile. This concerns the statutory pension, the Pay as You Go scheme. There is no comparable scheme for supplementary pensions.

For supplementary pensions, there are of course all the insurance directives. There has been a directive on safeguarding the supplementary and pension rights of employed and self employed persons moving around the Community since 1998. There is the famous Directive 2003/41, which addresses the supervision of *institutions of occupational retirement provision* (IORP) which is relatively recent. The Commission is also currently proposing a new directive on portability of supplementary pension rights in order to ensure that, if workers move around the Community, they can also maintain their supplementary pension rights when moving from one job to the other.

Since 2000, policy coordination has started. There are discussions on various pension reforms that take place at European level, the idea being to enable mutual learning and policy exchange. Policy is coordinated by means of the so-called "open method of coordination" which covers social inclusion, pensions and healthcare and long term care. Basically, the Commission and member states of the European Union set common objectives and agree indicators; then member states produce national reports, and then there is a joint evaluation, which leads to a synthesis report. The open method of coordination brings together different experiences and facilitates mutual learning and the exchange of good practice. This is done via committees whose members are high-level representatives of member states, in the social protection committees (representatives from Social Affair Ministries) but also linking with Economic Policy Committees (representatives from Finance Ministries) and the Employment Committee (representatives from Labour Ministries).

### Why have this policy coordination, which is relatively recent?

I think that we have found that member states depend on each other, that there are similar challenges, that they can learn from each other in policy design and that, in a way, it also gives legitimacy to difficult reforms. Member states look around, and see what your neighbours have done in other countries. Maybe national governments also say, "The European Commission says we have to do this". I mean, we play the bad guy quite often. I have to say, too, that the introduction of the open method of coordination has also led Member States to look at pension issues not only from the point of view of public finances and financial sustainability but also taking into account the adequacy of pension provision for future pensioners.

When we look at pension systems, there are three main objectives:

- 1) Generally linked to **adequacy**: to insure an adequate level of income on retirement, so that retirement income is a reasonable substitute for your income before retirement. So, the objective is not only poverty prevention.
- 2) Of course, **sustainability**: we want to ensure systems are sustainable in the long run, that they don't explode. As you know –and it has been discussed by various speakers– the issue of public pensions sustainability has been, and still is, crucial.
- 3) Finally, there is the issue of **modernisation**. By modernisation we mean reforming the old Pay As You Go system, based on a model of society that doesn't exist any more. It is no longer the case that there is a single, male bread-winner in the household, who works his whole career, possibly with no career breaks, and possibly all his life with the same employer. There are many more broken careers because of longer spells of unemployment in Europe, because there is now a need for greater mobility, changing between jobs. Also because there are more women in the labour market, and they take more career breaks; all these aspects have to be integrated into pension models.

The synthesis report that we produced in 2006<sup>1</sup> identified various policy challenges. The main policy challenge for Europe is the

http://ec.europa.eu/employment\_social/social\_protection/docs/2006/rapport\_pensions\_final\_en.pdf

issue of working longer. More people have to work longer. Unemployment is very high in Europe, but this is not only a question of getting more people into work. It's also about people actually working until their retirement age, rather than retiring at 61 – this is the current average exit age from the labour market in the EU. Life expectancy is increasing and the main way to improve the sustainability and the adequacy of people's pensions is to ensure that the period of inactivity does not increase at the same rate as life expectancy. The increase in life expectancy, these extra two or four years that we will live, has to be balanced between activity and inactivity.

A lot of reforms are trying to focus on strengthening the link between contributions and benefits so that there are stronger incentives to keep on working and to declare work to increase one's pension entitlement.

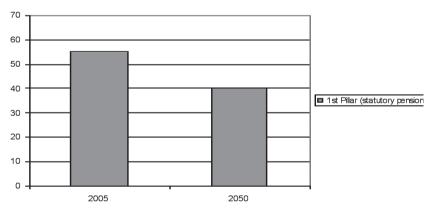
There is also a lot of debate on minimum pensions, minimum provision incomes for the elderly and social pensions, as mentioned this morning by Robert Palacios. This is because on the one hand of the stronger links between contributions and benefits and on the other because of the the changes in society mentioned above. These mean that there is an increased possibility that people will not have a full contributory history. Some countries predict that the number of people who do not reach the minimum level of contributions will increase, leading to a need to increase the social assistance component. I have to say that other countries take the opposite view, that the more women enter the labour market and acquire their own rights, the less need there will be for minimum pensions.

There is an issue of improved governance which has also emerged: basically, member states have realised that it is not such a good idea to reform pensions in the 1950s and then never to look at them again for 40 years; people get very upset when they are suddenly asked to work an extra two years or to increase contributions. So, now pensions are constantly on the agenda of European governments, to ensure overall acceptance of the need for reform.

Over time, the other point which has emerged as a common policy challenge (and it is the theme of the conference) is the issue of private pensions.

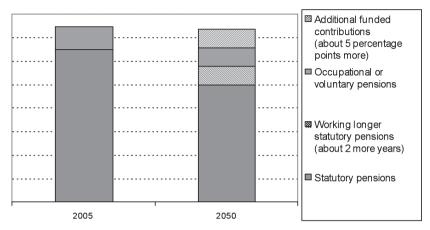
There is a lot of interest in private pensions in Europe because, as previous speakers have said, most actuary schemes expect replacement rates to decrease in the future and we expect this decrease to be partly compensated by supplementary pension provision. So, in this stylised example on theoretical replacement rates in Europe, the statutory pension used to provide about 55% of replacement income, with about another 10% coming from occupational and private pensions. The expectation overall in Europe, is that the statutory pension will only provide around 40% in 2050, but that this will be compensated by a rise in additionally funded pensions and extra pension entitlements accumulated because people work a couple of years longer.

Figure 1
TREND OF REPLACEMENT RATES AT A GIVEN AGE
A trend toward a decline in most statutory schemes



Source: Stylised illustration from ISG results on gross replacement rates.





The contribution of privately managed schemes to the income of retired people is clearly expected to increase, but I would like to stress that, in Europe, certainly in all EU member states, Pay as You Go pension schemes are still expected to remain the principal source of income for pensioners.

In order to give you the data for Europe, and to look at the coverage of the workforce, we have divided countries into four groups.

Coverage of private pension provision is: low, medium, high, or very high, according to whether it is below 10%, between 10% and 50%, between 50% and 90%, or over 90% — the latter in the countries with very strong coverage of occupational pension schemes: Sweden, Denmark and the Netherlands.

We have also broken down the current private pension contribution to the income of retired people into four groups: low or ineligible: below 10%; medium: between 10% and 25%; high: above 25%; and very high: over 50%, but no country is currently in this situation in Europe.

 Table 1

 CURRENT SITUATION

		Covera	Coverage (% of the workforce)				
		Low (<10%)	Medium (between 10% and 50%)	High (between 50% and 90%)	Very high (> 90%)		
Average	Low or negligible (<10%)	EL FR IT	CZ ES LV LT LU AT SK	BE EE HU PL SI			
contribution to the income of retired	Medium (between 10% and 25%)	FI PT		DE IE	SE		
pe op le	High (> 25%)			UK	DK NL		
	Very high (More or around 50%)						

The only country for which private pension provision provides a high contribution of pensioners' income, outside the countries with very strong occupational schemes, is the UK, but this contribution is still below 50%. And in a substantial number of countries the contribution of private pensions is extremely low or currently negligible. I stress "currently", because it is expected to rise in the future. This is what member states expect. In some countries, with Latvia being the prime example, big changes are occurring. These countries expect to jump from almost no private pension provision to a substantial mandatory private pension provision, with more than 50% to come from this source. A lot of other countries have similar expectations: Lithuania, Denmark, Estonia. Even Italy, for example, expects substantial private pension provision. Italy had a system which was completely Pay As You Go. They have introduced pension reforms which count a lot on a part of pension provision to come from privatelymanaged pensions.

Current situation

Expected development

UK

PL

AT

DE

SE

O

Coverage level (% of active population)

Figure 3
CURRENT SITUATION AND EXPECTED EVOLUTION IN
SELECTED COUNTRIES

There are quite a lot of changes expected but nonetheless, the Pay As You Go system cannot be forgotten because it constitutes the bulk of current pension provision.

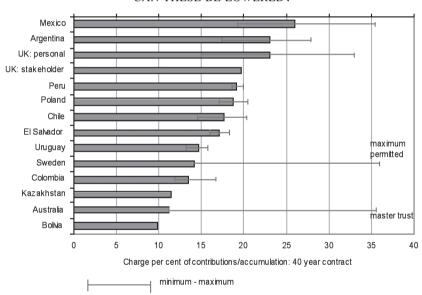
In the next year, we will issue a report in which we will continue analysing private pension provision in the EU Member States, and we will be looking at many issues which have been mentioned by previous speakers.

We are going to be looking at transition costs: the impact of changing from "PAYG" to "Funded Provision".

We are going to be looking at the problems caused by a big accumulation phase, which, as mentioned this morning, are greatly underestimated. We are going to look at the issue of information requirements, and all the problems to do with the financial literacy of the general population and how they can be guided (I think that was one of the words used this morning) towards rational choices.

Financially, we are going to be looking at administrative costs. You know that administrative costs vary quite substantially in pension funds and, as was mentioned by a previous speaker, a 1% difference in charges makes a lot of difference overall. He was talking about inflation, but I would talk about administrative costs, the effect is the same; the cumulative effect of 1% higher costs from administrative charges is really quite substantial. This is really a subject for investigation.

Figure 4
International experiences of administrative costs—
CAN THESE BE LOWERED?



Source: Prepared by the author.

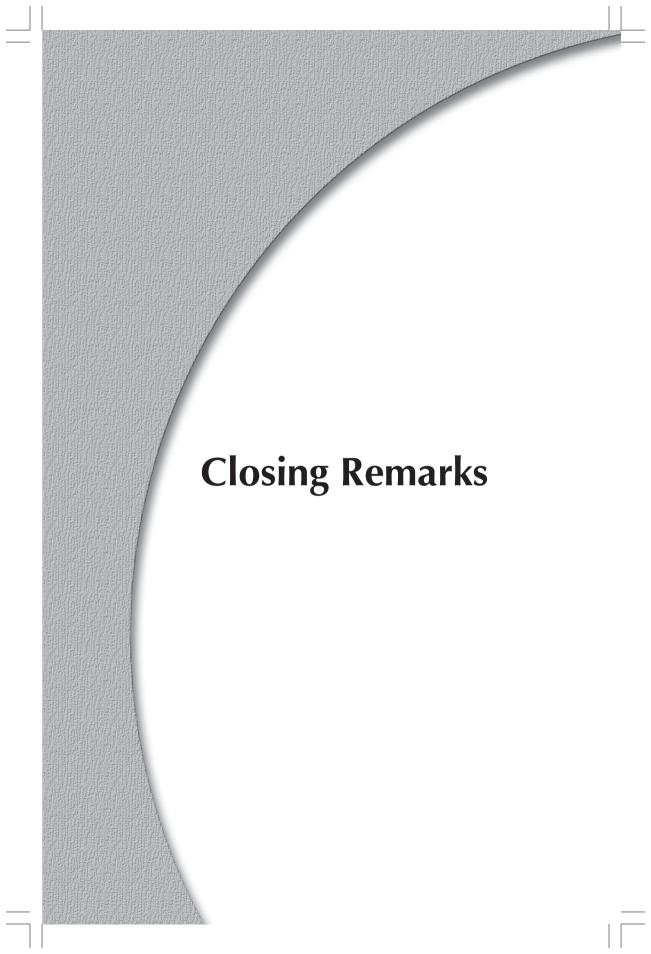
So I think that I would conclude here. I would just like to mention here that the overall structure of pension systems is becoming more complex.

The role of the state is not diminishing in its complexity. Although the state may no longer be the direct provider of the financial component, there is still quite a role for the state, to ensure a sound regulatory framework for all the different phases which are necessary, to ensure supervision, to develop information and financial literacy.

I would like to conclude by stressing that whatever the modalities of pension provision, public or private, the challenges remain the same:

- How to manage the risk of life expectancy
- How to ensure adequacy

of pension income for groups which are not the average wage earner, working exactly 40 years in a good career, and to ensure that the outcome for all individuals is adequate.





### **CLOSING REMARKS**

GUILLERMO ARTHUR E.

As we conclude the debates and presentations of this seminar, I believe we have made it even clearer that the introduction of individually funded accounts in the Second Pillar of Social Security is both necessary and urgent.

Listening to the experts' presentations has reinforced our conviction that individually funded systems are the best way to overcome the problem of workers' pensions and, at the same time, contribute to the economic development of the countries.

I remember the early seminars, in which we were just a few countries providing evidence of our experience, in the face of the scepticism of many. Today it is a universal trend and the number of countries adopting these social security systems is increasing all the time.

The presentations given by those who were actors in the processes of reform prove that their implementation was by no means immune from difficulties and criticisms, but they managed to overcome them with the strength that the systems themselves are showing in improving workers' pensions.

We have also been able to analyse the advisability of adopting flexible regulations in the investment are, which include greater diversification and the adoption of different portfolios or multifunds to produce more yield and security for the workers' funds.

FIAP, as representative of all those associations from countries that have a Second Pillar with a system of individual funding, will continue to provide a meeting-place for encouraging these debates,

in order to stimulate those who have not yet enacted their reforms to join with us, and to strengthen those who have already done so.

Finally, I want to express once again my special gratitude to Nikola Abadjiev for this marvellous reception and for the warm welcome that has been given us in the wonderful city of Varna.

I hope that we shall soon be having more, equally positive, meetings. I look forward to seeing you in Lima next year.

### **EARLIER PUBLICATIONS**

One of the aims of our Federation is to make known the advantages of pension systems based on individual saving and support the governments that wish to adopt them. With this in view, one of our regular activities as a Federation is the organization of seminars and round-tables. As a result of these activities, we have published five books, which summarise the presentations given at those seminars, and are sure that these have contributed towards improving the literature on this subject. These books are described below:

# "Regulación de los Sistemas de Pensiones de Capitalización Individual: Visiones de los Sectores Público y Privado". (Seminar held in Lima, Peru in December 2002)<sup>1, 2</sup>

This publication tackles aspects such as the challenges of the new pension systems, the models and priorities of supervision, collection of contributions and management of individual accounts, coverage, regulation and supervision in the area of benefits, price formation in the social security industry, regulation and supervision of marketing and sales, and regulation and supervision of pension fund investments. The authors deal with these subjects from different points of view, which contributes to an enrichment of the debate on the subject of pensions in the countries that have carried out social security reforms, especially in Latin America.

This book is the only one on the list that was published not by FIAP, but by the International Labour Office (ILO). However, it is included on this list because the seminar on the basis of which it was written was organized jointly by the International Association of Pension Fund Supervisory Authorities (AIOS) and FIAP.

This book is not available in an electronic version on the FIAP website.

## "Pension Reforms: Results and Challenges" (Seminar held in Cancún, Mexico, May 2003).

In this book an analysis is made of the results of the new social security systems, both in Latin America and in Central and Eastern Europe, from the point of view of how they have influenced improvement in pensions and contributed to the growth and economic development of the countries. In order to do this, it reviews the rates of return of the investments of social security resources and matches them with the growth of workers' wages. At the same time, it measures the impact of the reforms on savings and investment, thereby attempting to measure the contribution that they signify for the economic development of the country. There is also an analysis of the main challenges in the social security area for the industry, the regulators and the political system.

## "Pension Reforms in Eastern Europe: Experiences and perspectives" (Seminar held in Kiev, Ukraine, May 2004).

This book summarises the experiences of social security reforms in the countries of Eastern Europe, such as Bulgaria, Croatia, Hungary, Poland, Kazakhstan and Kosovo. Also presented are the main perspectives for reform in Slovakia and Macedonia. The common denominator in all these countries is that they possess individually funded systems in expansion. The book follows with an analysis of the challenges for implementing reforms, in terms of the regulation and supervision of pension funds and their fiscal and economic impact. The book concludes with an analysis of the conditions necessary to ensure the success of the reforms.

## "Pension Fund Investment" (Seminar held in Lima, Peru, November 2004).

This book contains a diagnosis of pension fund investment regulation in Latin America. It contains an analysis of the improvements to that regulation, dealing especially with the case of the multi-fund system in Chile, Mexico and Peru. It also looks in depth at the development of the capital markets and analyses the political risks of pension fund investment in the region. Among the most important conclusions to be drawn from the aforementioned subjects are the role of the yield of the investments as a deciding factor in improving pensions and the need for greater diversification, including investment abroad.

# "The Strengthening of the New Pension Systems: The Role of each pillar in the Solution of Pension Problems". (Seminar held in Cartagena de Indias, Colombia, in May 2005).

This publication analyses reforms to social security systems that have included mandatory individual capitalization/funding systems in their second pillar, in response to the criticisms and objections that are being levelled at them, and analyses future improvements. The role of each pillar within the social security system is highlighted and an in-depth study made of the structure of first-pillar programs in Latin America. The key issues of mandatory contribution programs in the second pillar are reviewed and experience in the area of voluntary social security saving (third pillar) is described. One of the most important conclusions arising from the discussion is that the criticisms made of the mandatory individual saving systems are seen to include aspects that, though part of social security, are not the responsibility of the contributory systems, as is the case of coverage.

## "Pension Funds Investment Perspectives". (Seminar held in Santiago, Chile, May 2006).

This book discusses which are the best investment alternatives for pension funds. The facts show that 1% of additional yield over the course of the whole working life of a member of a pension fund administrator may result in a pension that is 30% higher. To corroborate this, an in-depth analysis is made in this publication of issues such as the historic performance of the pension funds in Latin America, the regulation and control of investment risks, the best portfolios for social security funds, the characteristics of the multi-fund systems, the strategies for the international diversification of pension funds, the financial impact that occurs in the stage just prior to retiring age, and the importance of corporate governance in pension funds.

For your information, these publications are available in an electronic version on the FIAP website, www.fiap.cl ("FIAP Publications" section). Copies of these publications may be obtained writing to fiap@fiap.cl.

