



## Session 4: International Comparison of Funded Pension Systems

### A comparative analysis on Chile, México and Perú

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Brazil- OECD Conference  
on Private Pensions in  
Latin America  
Sao Paulo, May 12th 2008

## Contents

- Current state of the pension business in Latin America
- BBVA's model and forecast of basic parameters
- What and how to improve pensions systems?
- Conclusions



## Background

- There is not just one pension reform model. The choice depends on fiscal cost, maturity of the system and the preferences of the society.
- As a whole, pension reform in Latin America has been successful in increasing national savings, reducing fiscal costs, increasing portfolio returns and developing capital markets. These achievements are very important as a pre-requisite to spur better coverage in the long run.
- At the same time, responsible economic policies and well-designed social programs are needed in order to face short-term difficulties.

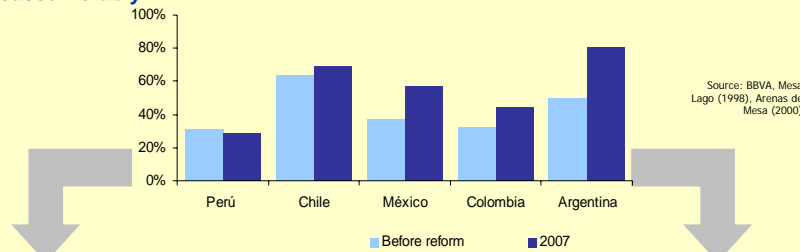
## Three elements to take into account

- Coverage
- Replacement rates
- Fiscal sustainability

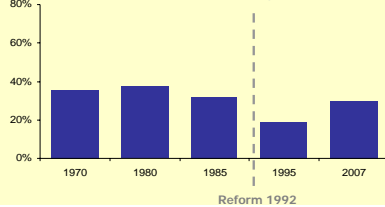
## Coverage

Coverage has not increased notably

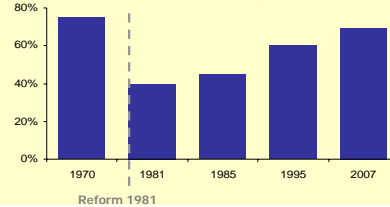
Coverage before and after reforms



Path of Peruvian coverage 1970-2007



Path of Chilean coverage 1970-2007

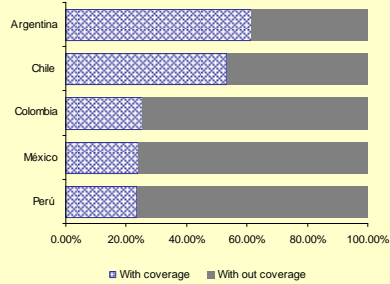


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5

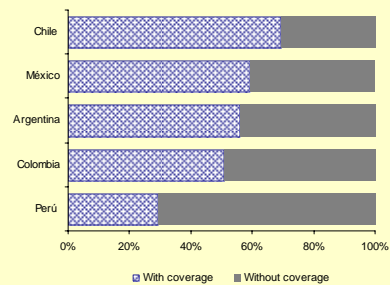
## Coverage

Coverage of the Elderly Pensioners/Pop >=65



Coverage ratio continue to be a big challenge in some Latin American countries.

Coverage of the labor force Affiliates/Pop 14-64



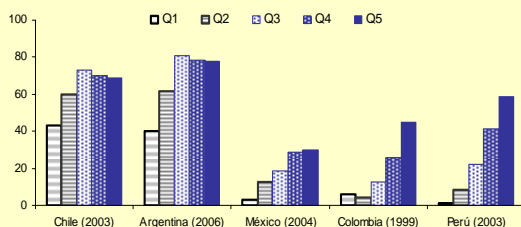
Structural economic factors like poverty, working conditions, high tax burdens and informality prevent to achieve a better performance.

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6

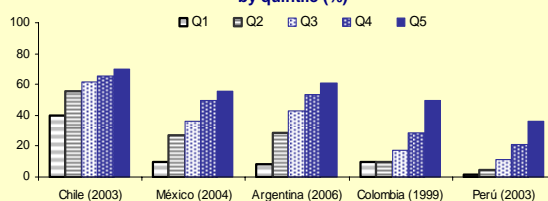
## Coverage

Coverage of the Elderly by quintile (%)



- Poor workers (Q1) have little or no participation in contributory pension systems, with the exception of few countries such as Chile and Argentina.

Coverage of the Economic Active Population by quintile (%)



- Poor elderly people (Q1) have little or no social protection, with the exception of Chile.

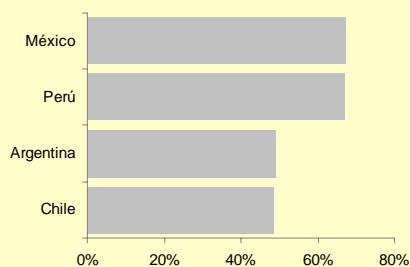
Source: Rofman and Luchetti (2006)

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7

## Replacement ratios varies according to different factors

Replacement rate (2006)



- Parameters of the system
- Frequency of contribution
- Income level
- Government generosity (with consequences on fiscal deficits)

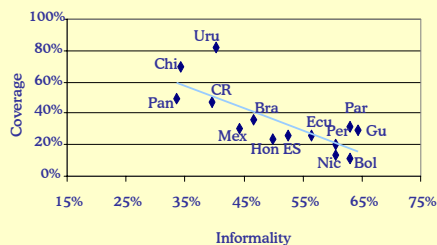
Source: BBVA and information of each country

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8

## The link between labour market informality and Coverage

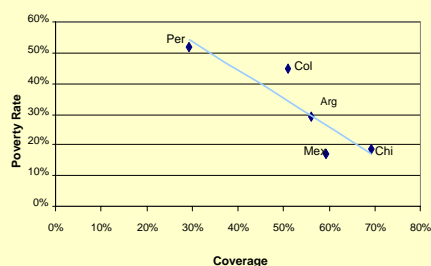
Informality and Coverage



In less developed countries coverage ratios are strongly related with labour market characteristics.

Poverty is a clear constraint to private saving schemes. Government focused support is highly recommended.

Poverty and coverage, 2005

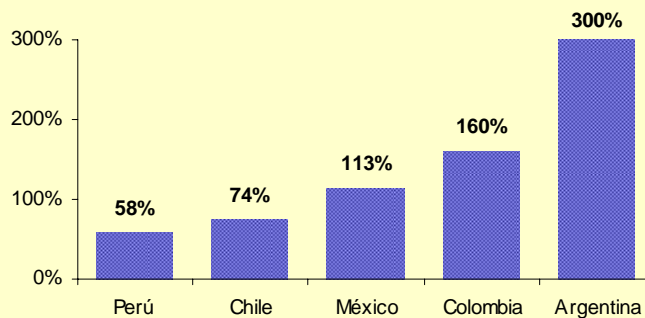


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9

## Fiscal sustainability

Fiscal cost  
Net present value as percentage of GDP



Economic policy decisions preempt the degree of success of fiscal conditions after reforms.

Source: BBVA and information of each country  
In the case of Argentina, source Carmelo Mesa Lago (2000)  
Note: According to available information. The projections consider in some cases, different discount rate and different horizons

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10

## Scorecard of pension system performance

### Measures and Conclusions

- **The implementation of reforms has been adequate**
- **But these reforms need to be improved**
- **They must be complemented from various angles**
  - Improvements in the pension system: penetration and salary replacement level
  - Economic subsystems: capital markets and job markets. Tax mgt

### A basis for successful future reform

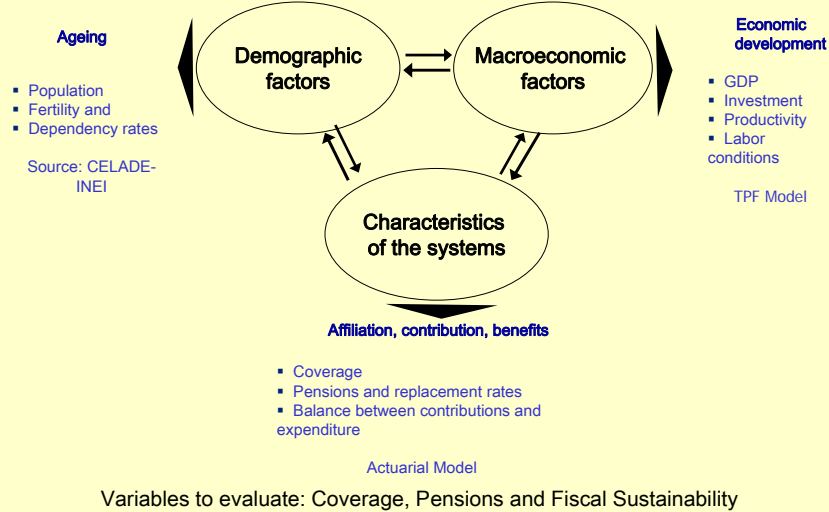
- **A public sector / private sector commitment is needed**
- **The new industry needs new know-how and a broader range of skills**

## Contents

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## Modeling the future of pension systems

### The model and some assumptions



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13

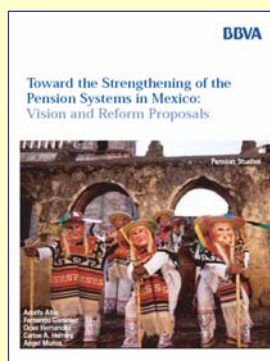
## BBVA's Research papers: Forecast towards 2050

Chile



(spanish version)

Mexico



(spanish and english version)

Peru



(spanish and english version)

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14

## The Case of Chile

### A Sustitutive Pension System with a recent reform

In Chile took place a complete switch from a defined-benefit pension (PAYG) system managed by the Government, to a fully-funded individual contribution defined scheme, managed by private sector.

PAYG system was closed for new workers since 1981.

#### Some economic, labor and social indicators of Chile

Poverty (2006)	13.7%
Informality (2006)	30.6%
GDP per capita US\$ (2007)	9,875
GDP mill US\$ (2007)	164,000
Annual growth rate (2007)	5.1%
Population (2007)	16.6 mill
Population growth (2006)	0.8%
Life expectancy at birth, years (2006)	78.3
Labor force (2007)	6.9 mill

#### Some parameters of the pension system

Features	Since 1981	Since 2008
Contribution rate (income %)	10%	10%
Retirement age	Men: 65 Women: 60	Men: 65 Women: 60
Years of contribution for minimum pension	20	No
Non-contributory minimum pension	US\$90	US\$160
Contribution obligation for self-workers	No	Yes

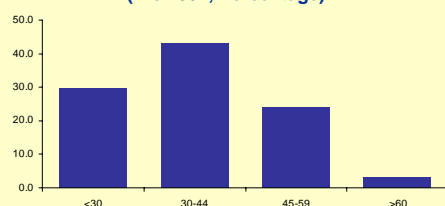
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15

## The Case of Chile

### Characterization by age and income

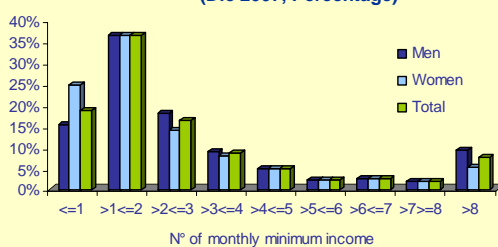
**Affiliates by age**  
(Dic 2007, Percentage)



Affiliates are concentrated in young groups

**Contributors by income**  
(Dic 2007, Percentage)

The majority of contributors get less than 2 minimum income



Source: BBVA, AIOS

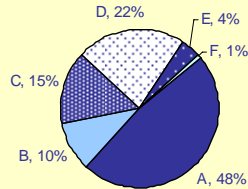
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16



## The Case of Chile Characterization by contribution density

Contribution density of total affiliates  
(Dic 2004)

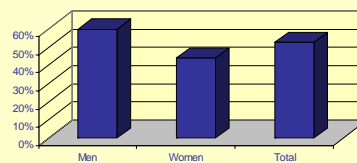


Groups	
A	Contributions in dic 2004
B	1-12 without contributions
C	13-108 without contributions
D	More than 109 months without contributions
E and F	For the dynamic projection of new workers

Important groups of workers are not contributing to the pension system. It will have serious effects in their pensions.

- 37% of the affiliates have more than 1 year without contributions
- The average contribution density is around 50%

Average Contribution Density  
(2002)



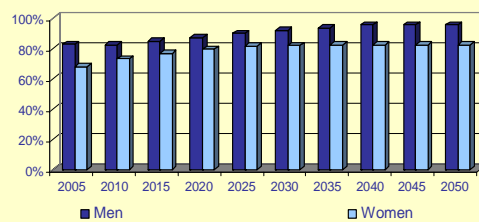
Source: BBVA, Social Protection Survey

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17

## The Case of Chile Forecast of Coverage for different cohorts

Affiliates / Pop 14-64

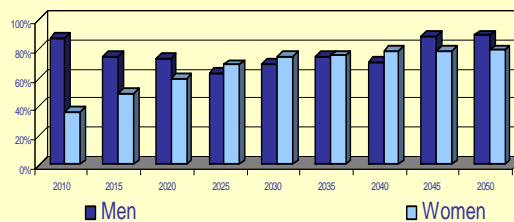


- The coverage will increase remarkably

Source: BBVA,

Pensioners / Pop >65

- But this growth will not be enough in the case of women

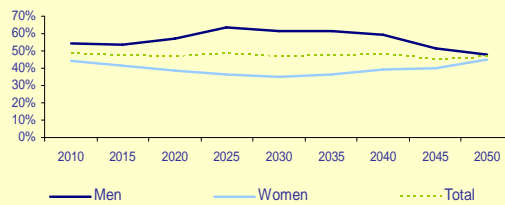


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18

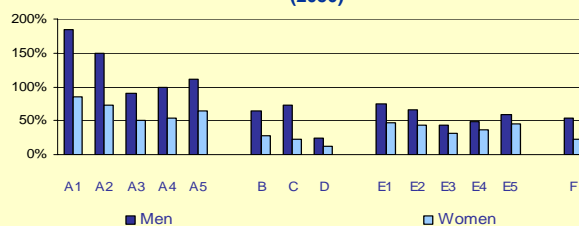
## The Case of Chile Forecast of Replacement Rate for different cohorts

Replacement rate, projection prior 2008 reform



- The replacement rate will not be enhanced
- Again, women are the focus of the problem

Replacement rate by cohorts (2050)



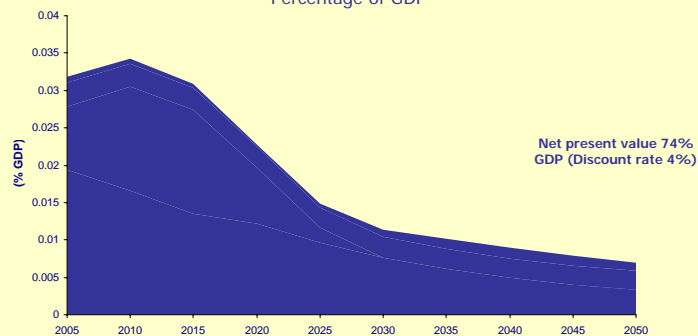
Source: BBVA

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19

## The Case of Chile Forecast of the fiscal cost

Forecast Implicit Pension Debt 2050, prior reform 2008  
Percentage of GDP



Source: BBVA

For the period 2008-2010 the estimated effect of the 2008 reform reached about 1,500 million dollars.

In regime (by 2025) the additional financial spending generated by the reform will exceed 3,000 million dollars.

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20

## The Case of Mexico A substitutive pension system

### Some parameters of the pension system

In Mexico took place a switch from PAYG system managed by the Government, to a fully-funded individual contribution-defined scheme, managed by private sector.

PAYG system was closed for new workers since 1997. Nevertheless some affiliates can choose pensions in the old system when they have the age of retirement.

### Some indicators of Mexico

Poverty (2000)	54%
Informality (2006)	51%
GDP per capita US\$ (2007)	17,447
GDP mill US\$ (2007)	884,970
Annual growth rate (2007)	3.1%
Population (2007)	105 mill
Economic Active Population (2007)	45 mill

Features	Since 1997
Age of retirement	65 years old, men & women
Contribution time	At least 1250 working weeks to gain access to pension guaranteed. (density=60.1%)
Pension guaranteed	1 Minimum wage of 1997, inflation-protected.
Contribution rates	6.5% on earnings plus social quota *
Management fees	1.96% on balance (2008), 0.5% in BBVA's projection
Real returns	8% historical (97-07)

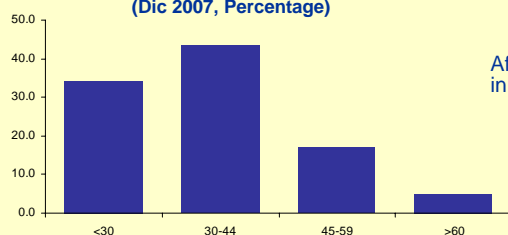
\* / A government contribution to retirement savings accounts with an initial value of 5.5% on the minimum wage of 1997 (updated quarterly with the CPI)

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21

## The Case of Mexico Characterization by age and income

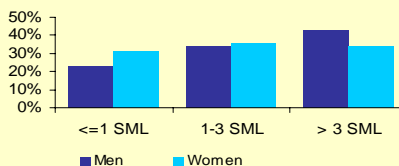
Affiliates by age  
(Dic 2007, Percentage)



Affiliates are concentrated in young groups

The majority of the affiliates get less than 2 minimum salary

Contributors by income  
(Dic 2004, Percentage)



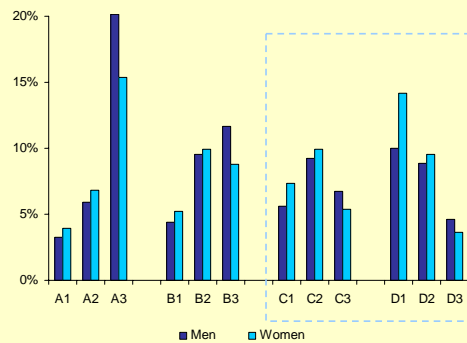
Source: BBVA, CON SAR

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22

## The Case of Mexico Characterization by contribution density

Distribution of contribution densities  
(By gender and income level, %, 2004)



Groups	
A	96.2% (38 years of contribution)
B	76.2% (30 years of contribution)
C	44.5% (18 years of contribution)
D	14.8% (6 years of contribution)

Three income levels

- 1: Up to 1 MW\*
- 2: Between 1 and 3 MW
- 3: More than 3 MW

\*Minimum wage

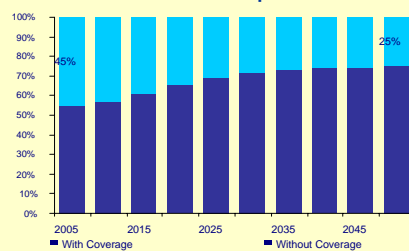
Important groups of workers are not contributing to the pension system (C and D groups). It will have serious effects in their pensions.

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23

## The Case of Mexico Forecast of Coverage for different cohorts

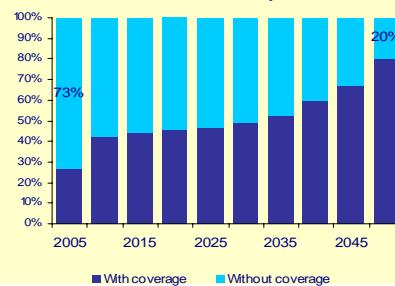
Coverage of the labor force  
Affiliates/Pop 14-64



Source: BBVA

•The coverage will increase remarkably

Coverage  
Pensioners/Pop >65

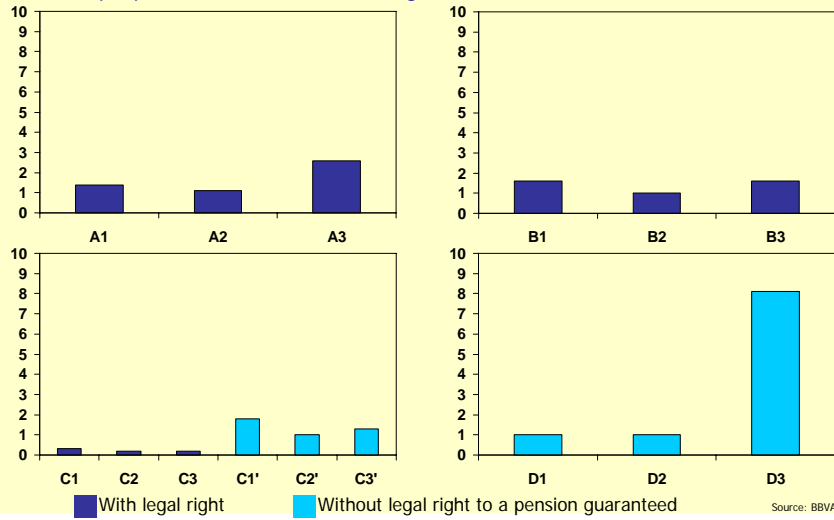


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24

## The Case of Mexico Coverage of the Pension Guaranteed in 2050

Legal coverage of the Pension Guaranteed in 2050 by cohorts  
Number of people with at least 1250 working weeks (millions)

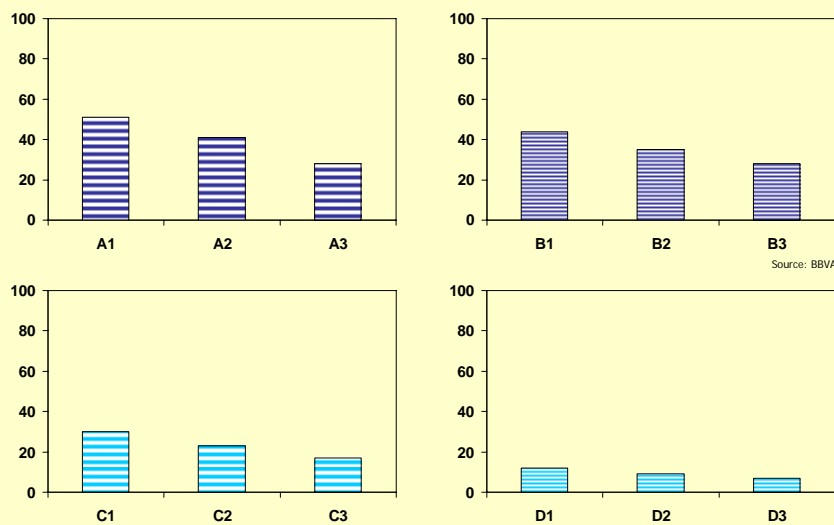


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25

## The Case of Mexico Forecast of Replacement Rate for different cohorts

Replacement Rates in 2050 by cohorts, % on last 10 years of earnings

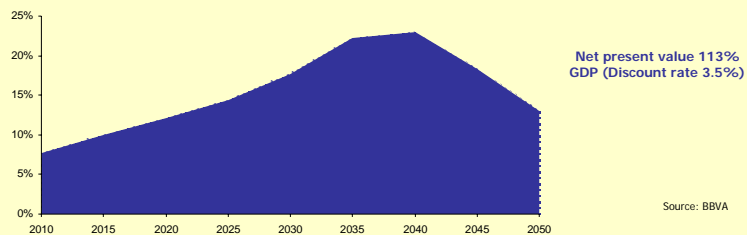


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26

## The Case of Mexico Forecast of the Fiscal Cost

Forecast Implicit Pension Debt 2050  
Percentage of GDP



Mexico will face serious fiscal pressures, especially in the period 2030-2045  
Stronger reforms are needed....

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27

## The Case of Peru A Parallel Pension System

In Peru took place a parallel model reform in 1992. In this model, the public system continues operating and the private system is an alternative to the existing regime.

### Some economic, labor and social indicators of Peru

Poverty (2006)	45%
Informality (2007)	71%
GDP per capita US\$ (2007)	3,886
GDP mill US\$ (2007)	108,796
Annual growth rate (2007)	8.3%
Population (2007)	28 mill
Economic Active Population (2007)	15 mill

### Some parameters of the pension system

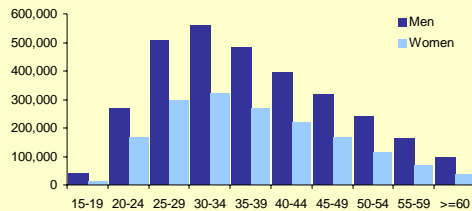
Features	SNP	SPP
Workers choose one system	Pay as you go	Funded system. Individual accounts
Contribution rate	13% of the salary	12.9% of the salary (considering fees)
Retirement age	65 years old	65 years old
Years of contribution for minimum pension	20	20
Minimum pension	US\$ 160	US\$ 160
Maximum pension	US\$ 330	none
Pension for wife/husband survivor	50% of the pension	42% of the pension
Life table	SP 2005	RV 2004
Movements between systems	Yes. Temporary. With at least 20 years of contribution. Only for workers affiliated until 1995	

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28

## The Case of Peru Characterization by age and income

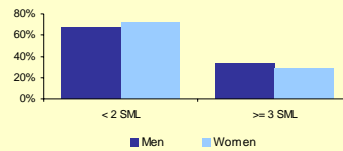
Number of Affiliates by age



Affiliates are concentrated in young groups

Average income: Total pension system

The majority of the affiliates get less than 2 minimum salary



Source: BBVA, ONP, SBS

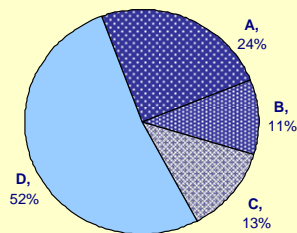
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29

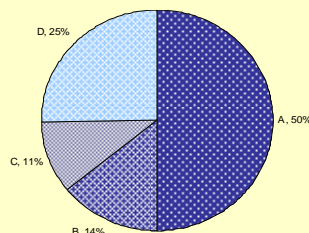
## The Case of Peru Characterization by contribution density

✓The majority of the affiliates contribute less than 50% of their labor horizon

Private system



National system



100% 90% 50% 10% 0%  
A B C D

✓Only 35% of affiliates contributes regularly to the system (A + B)

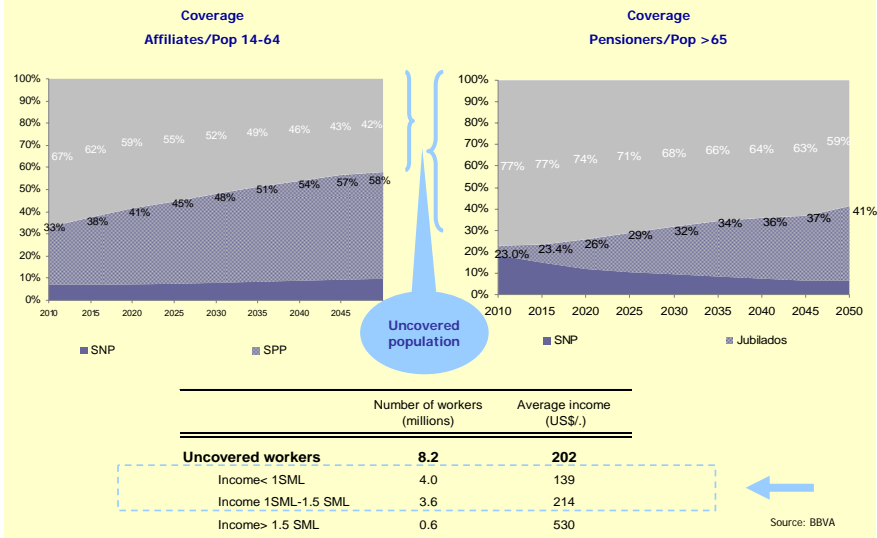
✓64% of affiliates contributes regularly to the system

Source: BBVA, ONP

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30

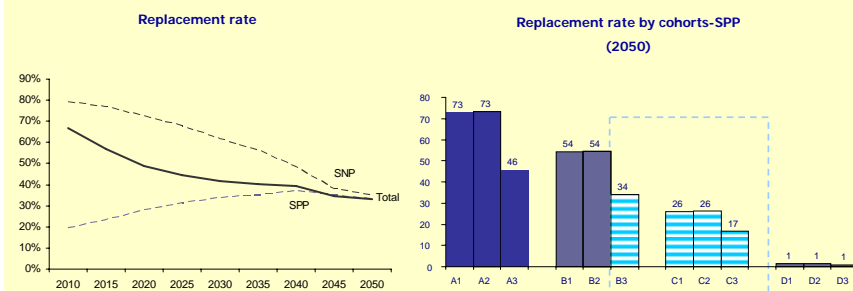
## The Case of Peru Forecast of Coverage for different cohorts



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31

## The Case of Peru Forecast of Replacement Rate for different cohorts



✓The replacement rate will converge in the long term

✓Nevertheless, the level of convergence for some groups will be very low, especially for the poorer workers

Source: BBVA

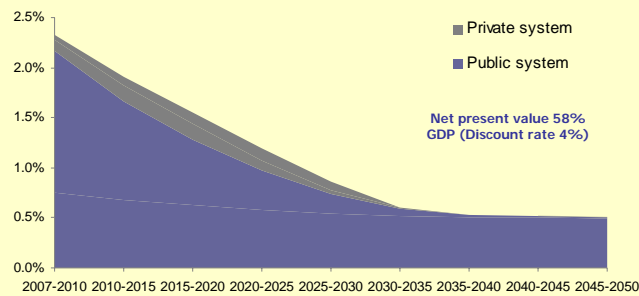
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32



## The Case of Peru Forecast of the Fiscal Cost

Forecast Implicit Pension Debt 2050  
Percentage of GDP



✓The fiscal cost will decrease in the future as percentage of GDP, especially in the period after 2035

Source: BBVA, MEF and ONP

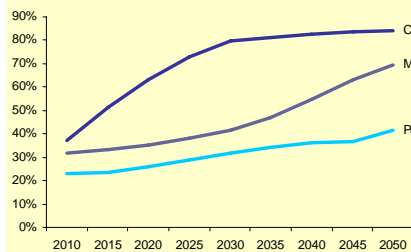
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33

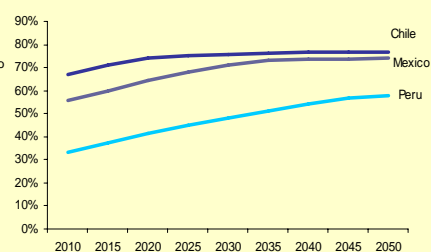
## Comparing the three cases

### Coverage

Coverage  
Affiliates/Pop 14-64



Coverage  
Pensioners/Pop > 65



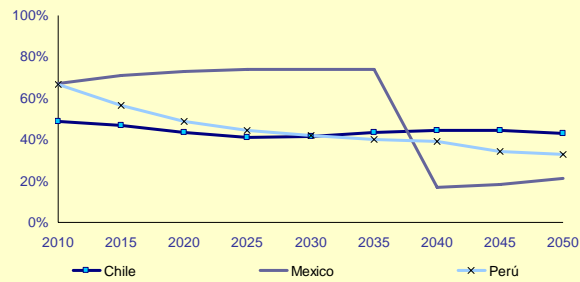
Source: BBVA

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34

## Comparing the three cases

### Replacement rates



Source: BBVA

\*On last 10 years

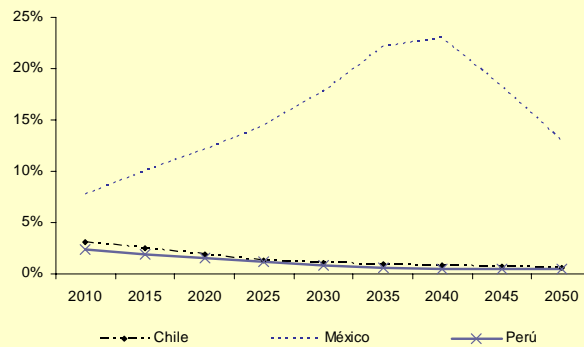
In the case of Mexico, the replacement rate considers the public rate until 2035, and the private rate between 2035 and 2050

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35

## Comparing the three cases

### Fiscal cost



Source: BBVA and information of each country

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36

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- Current state of the pension business in Latin America
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- Conclusions

## Proposals

### •To improve coverage:

- Matching contribution and semi-contributive pensions
- Incentives

### •Replacement rates:

- A reduction of replacement rate in public systems
- Flexible access to guaranteed pension

### •Fiscal sustainability

- Create a National Pension System and close some others regimes

## Proposals

### • Proposals

	Chile	Mexico	Peru
<b>Coverage</b>	Incentives for independent workers: tax treatment, health and loans.	Incentives for independent workers: parallel contribution by government (a matching grant scheme).	Incentives for independent workers: fixed contribution called "1 and 2 sol pension program" that guarantee a part of minimum pension (a matching grant scheme).
<b>Pensions</b>	- Extension of minimum pension to all the affiliates and gradual access based on contribution period .	- Focused government contribution only for workers with pensions less than 3 minimum salaries.  - Reduce years of contribution for access to minimum pension and gradual access based on contribution period.	- Reduce years of contribution for access to minimum pension and gradual access based on contribution period.
<b>Fiscal cost</b>	- After liquidation of recognition bond (year 2025), it is possible to allow more fiscal cost focused on solidarity	- Close the public system and improve the expedition of recognition bond	- After liquidation of recognition bond and the public regime DL 20530 (year 2030), it is possible to allow more fiscal cost focused on solidarity
<b>Others</b>	- Improve the limit of foreign assets  - Rise the retirement year for women from 60 to 65	- Create a new National Pension System  - Rise the contribution rate from 6.5% to 11.3% gradually	- Improve the speed of adjustment of replacement rate in the public system, reducing it from 50% to 30% - Improve the returns of public pension funds

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## Conclusions

- The implementation of reforms has been adequate. But these reforms need to be improved.
- There are challenges that must be faced:
  - Improve coverage and replacement rate
  - Continue reducing fiscal costs, especially in countries with high fiscal pressures
  - Improve contribution density
- Other Economic reforms:
  - Capital markets and job markets
  - Improve coverage of independent and informal workers
- A public sector / private sector commitment is needed
- New Chilean Reform 2008 is a first step

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41

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