



DC Pension Schemes and the Role of Government Guarantees

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Motivation

Why do governments introduce explicit guarantees on a DC pension scheme?

- Risk sharing
 - In a DC scheme the individuals bear all risks (investment risk, human capital risk, annuitization risk).
- Smooth consumption and alleviate poverty
 - Increase coverage of the pension system and a safety net for individuals who are not able to contribute or contribute infrequently.
- Guidance for fund performance
 - To limit the relative and/or absolute risk of the investments made by pension fund administrators.

Types of Guarantees

What type of guarantees might exist?

- Minimum Pension Absolute Level
- Subsidies that Complement Pensions
- Relative Minimum Return with respect to the average of the sector
- Relative Minimum Return relative to an exogenous Benchmark
- Absolute Minimum Return

Impact of Guarantees on Decisions

What type of decisions?

- Contribute or not contribute
- On the amount of the contribution
- On the timing of the contributions
- On the way in which the fund is invested

Relevant questions:

- What risks are covered by each instrument?
- What is the specific impact on incentives?

Key Trade-Off

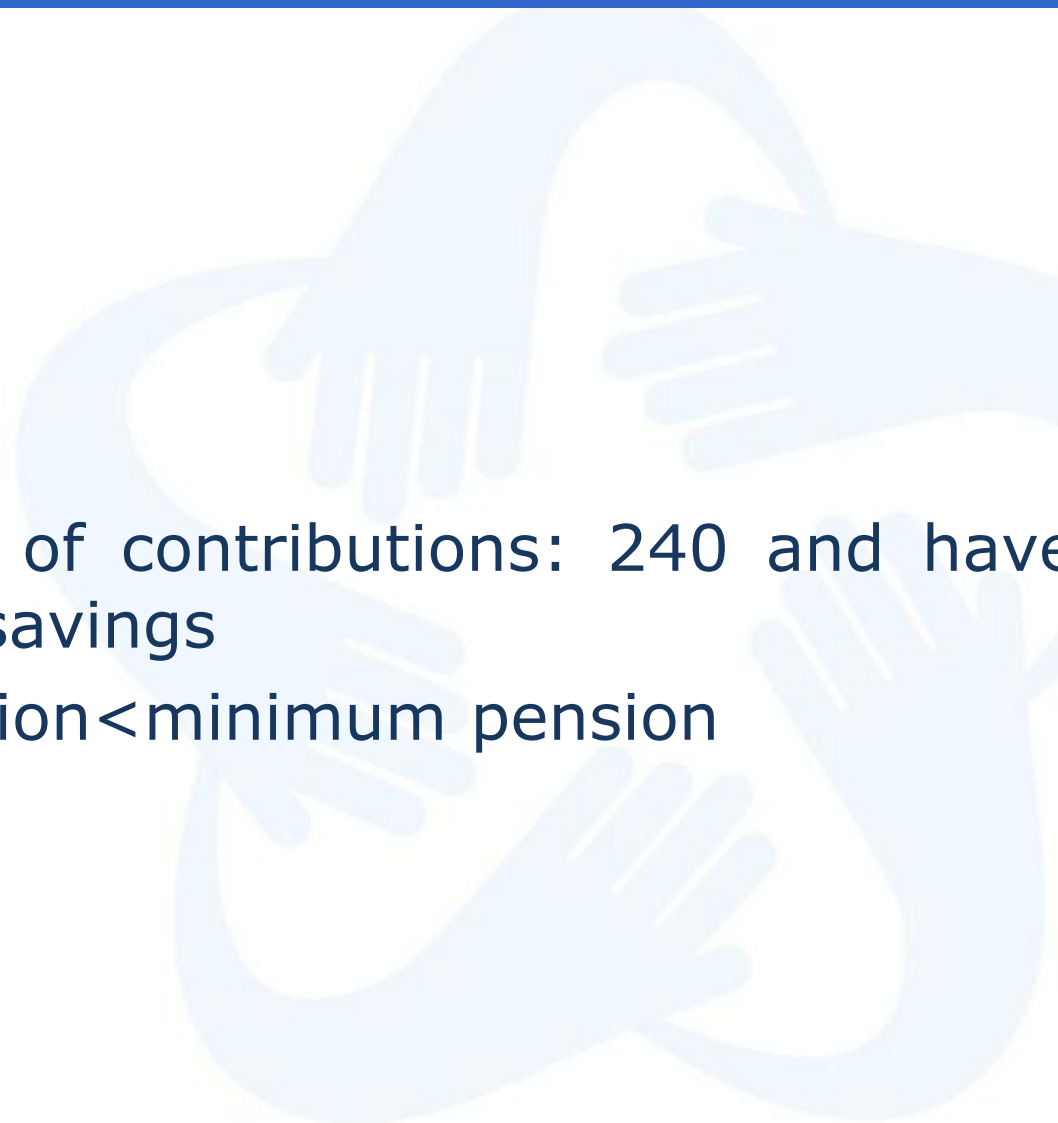
Protection and the need of risk-sharing versus the impact on incentives and the costs of the guarantees

Guarantees in the Case of Chile: Minimum Pension Guarantee (MPG)

- Before the pension reform of 2008, there were 2 guarantee mechanisms in terms of absolute pension level:
 - Minimum Pension Guarantee, **MPG**
 - Welfare Pensions, **WP**
- Both aimed at providing a consumption floor for those who did not save for retirement or did so insufficiently.

Guarantees in the Case of Chile: Minimum Pension Guarantee (MPG)

MPG requirements:

- Age:
 - Women 60+
 - Me 65+
 - Minimum number of contributions: 240 and have depleted pension savings
 - Self financed pension < minimum pension
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- A faint, light blue background graphic showing several hands of different sizes and orientations, some holding a globe, symbolizing support or care.

Guarantees in the Case of Chile: Minimum Pension Guarantee (MPG)

What risks are covered?

- Human capital risk partially covered for those with more than 240 months of contribution that qualify to get the MPG.
- It partially covers investment risk, since the MPG is not related to the value of self-financed pension once the threshold is satisfied.
- It covers longevity risk, inflation risks for the ones that qualify for MPG.

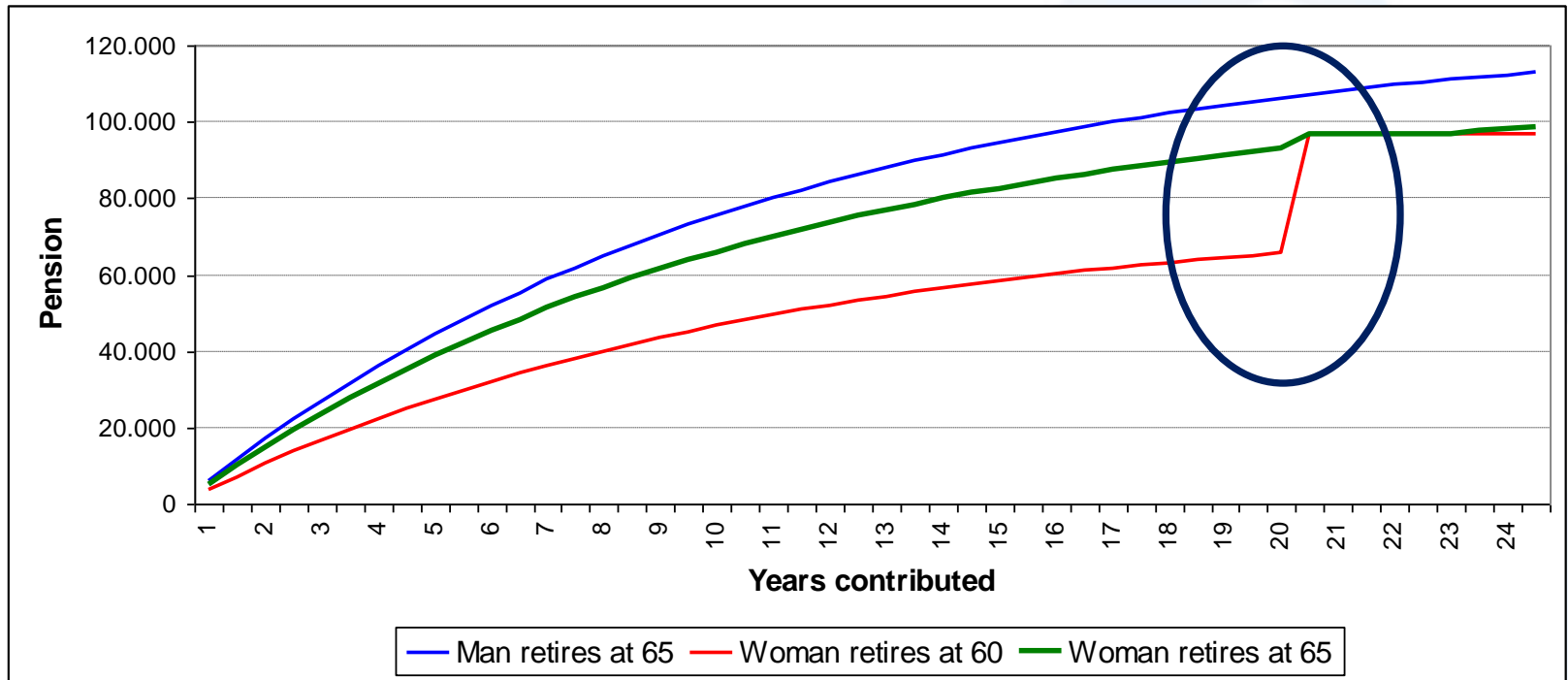
Guarantees in the Case of Chile: Minimum Pension Guarantee (MPG)

What are the effects on incentives?

- It depends on gender, time path of contributions, level of labor income and age at retirement.
- Strong incentives to contribute to satisfy the requirements of 240 contributions.
 - Most probably for women, with low labor income, who retires at age 60.
 - Indifferent: Single men, who retires at age 65.
 - Some incentives: married men, and women who retires at age 65.
- Incentive to not make contributions more than 240 months.
- Implicit tax rate on pensions savings=100% after 240 months.

Guarantees in the Case of Chile: Minimum Pension Guarantee (MPG)

Incentives and Access to the MPG



The MPG was weakly integrated to the 2nd pillar
Individuals with unstable pension system participation did not access the MPG and the ones that meet the requirement were likely to self-fund a pension higher than the Minimum Pension

Guarantees in the Case of Chile: Subsidy to increase pensions

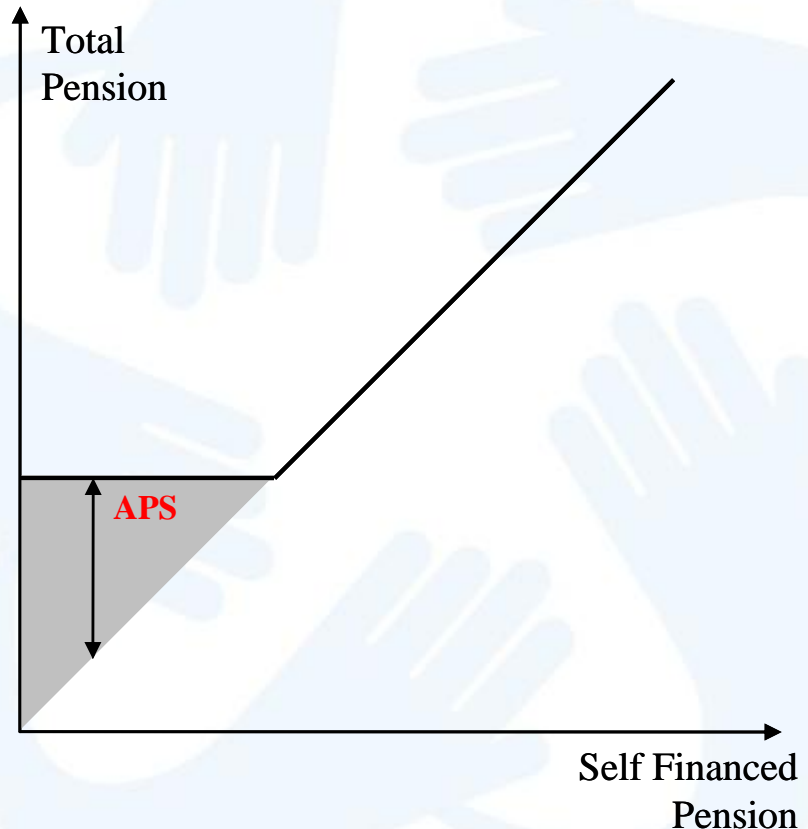
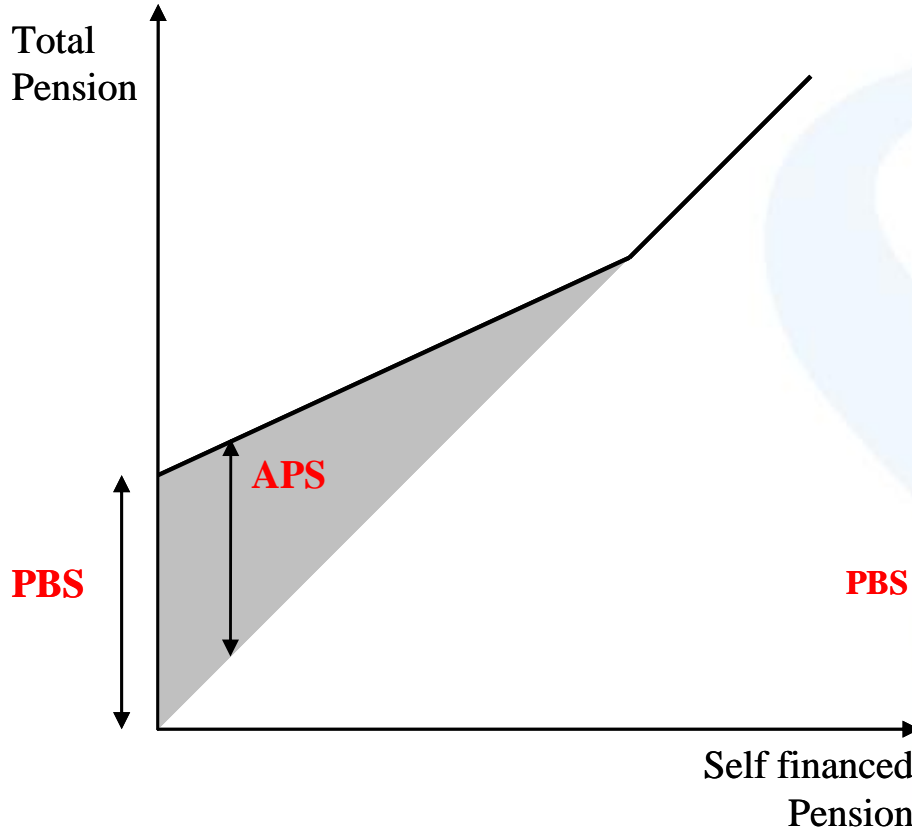
With the Reform of 2008:

- A wider **First Solidarity Pillar was introduced**
 - **Basic Solidarity Pension** for individuals who could not contribute: Old age and disability
 - **Solidarity Complement** for individuals who financed small pensions: Old age and disability
- Integrated First Pillar to the Second and Third Pillars
- In terms of the risks it covers (old age and disability) and in terms of providing protection at the same time it keeps the incentives to save.

Guarantees in the Case of Chile: Subsidy to increase pensions

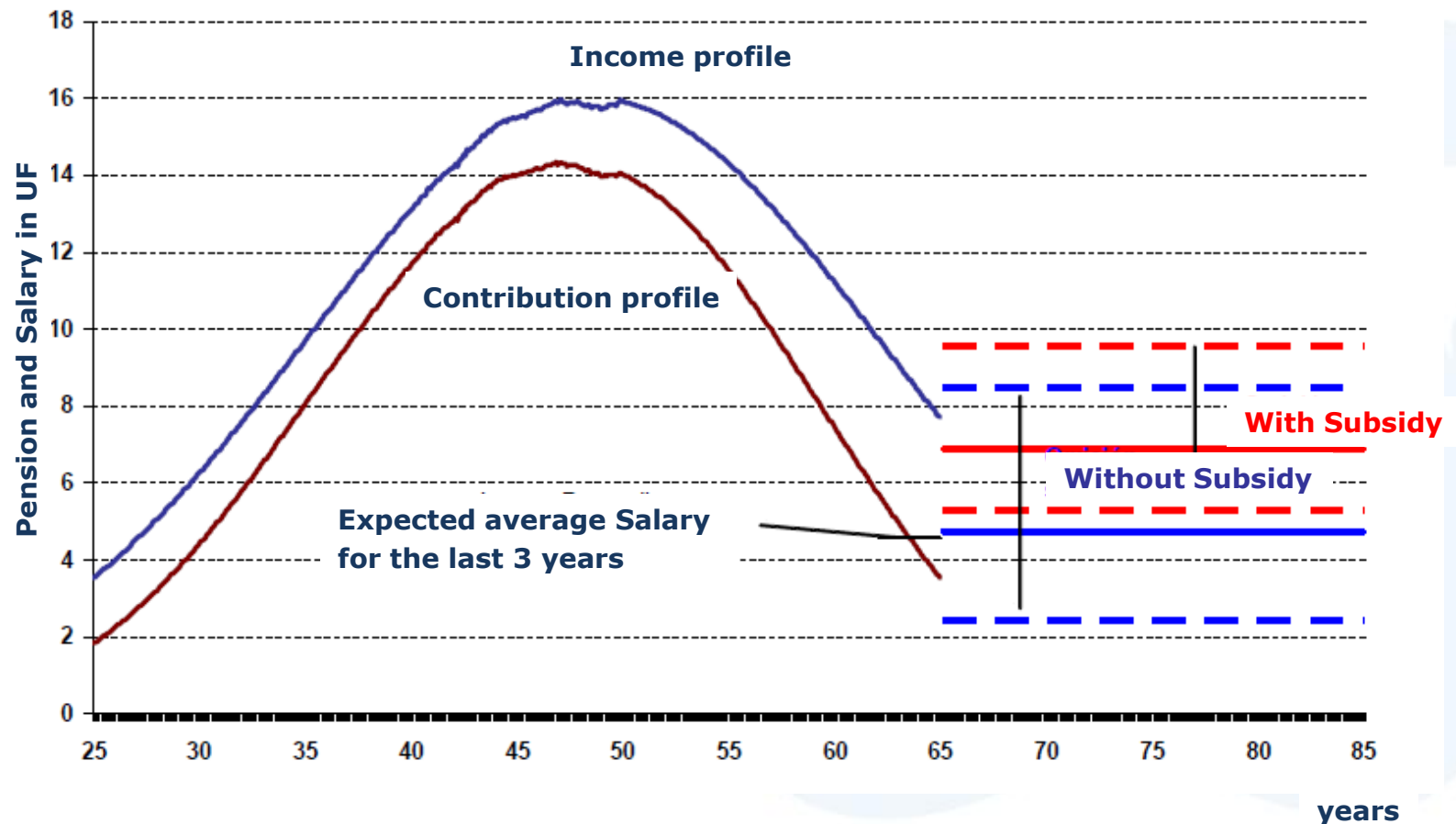
Old age Solidarity Benefits

Disability Solidarity Benefits



Guarantees in the Case of Chile: Subsidy to increase pensions

Impact on Pension Risk of the Solidarity Pillar



Guarantees in the Case of Chile: Subsidy to increase pensions

What risks are covered?

- The Solidarity Pillar insures against longevity and inflation risk.
- The Solidarity Complement insures against human capital and investment risk, since it is a complement to the pension, determined by the value of the self-financed pension.
- Since there is no requirement in terms of a minimum number of contributions, there is no incompatibility with having low density contributions, which is exactly the group of individuals we want to cover (those with high human capital risk, unstable jobs and very low contributions densities)

Guarantees in the Case of Chile: Subsidy to increase pensions

What are the effects on incentives?

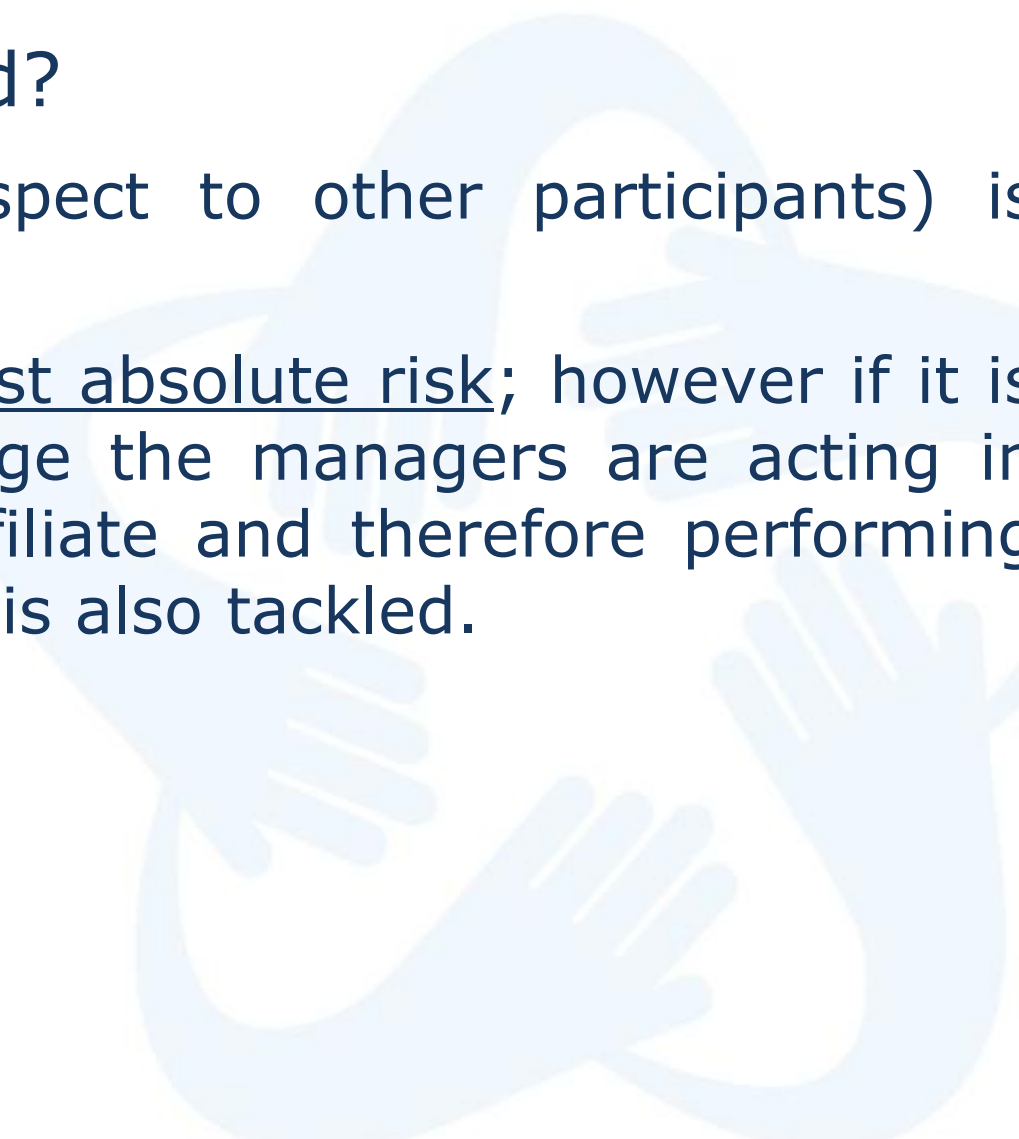
- Keeps to some extent the incentive to save
- The solidarity complement means that the pension is strictly increasing in pension savings.
 - The Solidarity complement has an income effect (higher pension benefits) and a substitution effect (implicit tax rate on pension savings) that would decrease pension savings.
 - However, the implicit tax rate on pension savings is 30% as opposed to 100% for the MPG.

Guarantees in the Case of Chile: Relative Minimum Return

- In Chile there is a mechanism of minimum rate of return in relative terms, related to the average rate of return of the system over a period of 36 months.
- This mechanism considers that if in this period an administrator has a yield below the average of the system minus 50% or 4 percentage points (whichever is the smaller), in the case of funds A and B, or 2 percentage points in the case of funds C, D and E, the administrator must put in its own funds to offset the difference between its own yield and the system average.

Guarantees in the Case of Chile: Subsidy to increase pensions

What risks are covered?

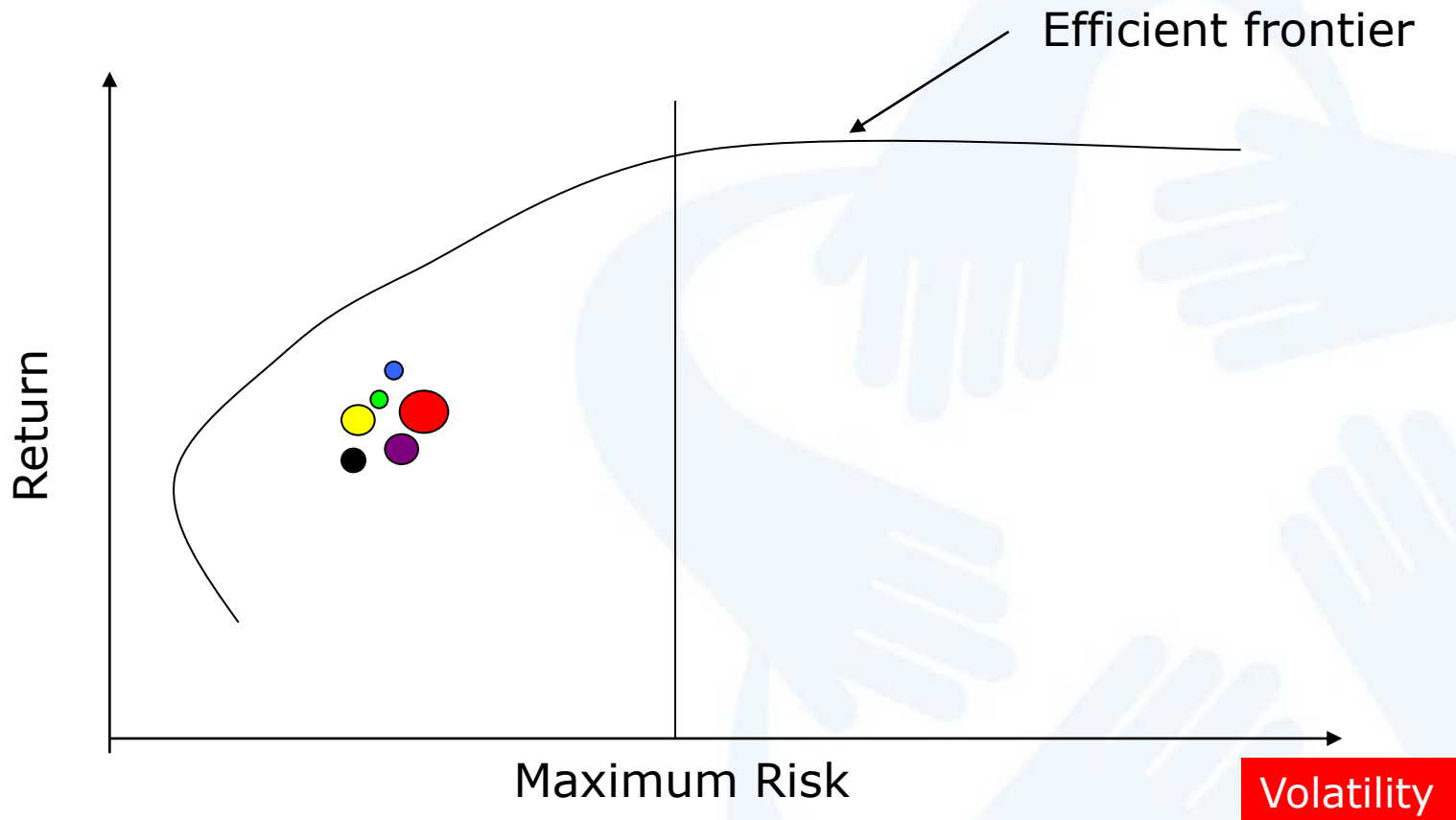
- Relative risk (with respect to other participants) is covered.
 - It does not cover against absolute risk; however if it is assumed that in average the managers are acting in the best interest of affiliate and therefore performing well, then absolute risk is also tackled.
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Guarantees in the Case of Chile: Relative Minimum Return

What are the effects on incentives?

- Pension fund managers, as a group, may have the incentive to choose high-risk assets with the potential for high short term gains.
 - Effective positions on variable income implies maximum limits are binding
- Herding of funds managers, which is reinforced by the short period over which the rates of returns are assessed.
 - This might not be necessarily be the best for pensions are that are long-term investments

Absolute versus Relative Risk



Final Remarks

- Guarantees are desirable in a DC context: risk sharing
- Careful design of guarantees: which are the risks that want to be covered and the impact on incentives and the costs of the guarantees
- The solidarity pillar in the case of Chile is better instrument in terms of protection and incentives than the MPG
- For rate of return guarantees in Chile there are challenges ahead:
 - Converge to a definition of a benchmark for each fund type taking into account the investment horizon of the affiliates, and the level of absolute risk defined as “reasonable”
 - The design of the benchmark has to consider the existence of a solidarity pillar.



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