PRESENT AND FUTURE OF PENSIONS IN LATIN AMERICA AND THE CARIBBEAN

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IDB
Improving lives

PENSIONS: A CONTENTIOUS TOPIC

CHILE, MARCH 2017

URUGUAY, NOVEMBER 2017

ARGENTINA, DECEMBER 2017

BRAZIL, FEBRUARY 2018

NICARAGUA, APRIL 2018

PARAGUAY, JULY 2018

A COMMON DENOMINATOR

Gaps between expectations and reality

PENSION SYSTEMS AS VERY COMPLEX AND IMPORTANT SOCIAL CONTRACTS

1. Very long-term
2. Much uncertainty
3. Micro and macro implications of a large magnitude

NEED FOR TRANSPARENCY

1. Inform citizens individually about the consequences of their actions
2. Inform society about how the pension system redistributes resources
3. Know the fiscal position and need for reform

WHAT ARE WE TRYING TO DO HERE

Provide **comparable measures** of adequacy and generosity of pension systems in LAC

Help policy makers understand the implications of **pension design** and parameter choice

Provide some structure when we talk about subsidies/taxes in pension systems

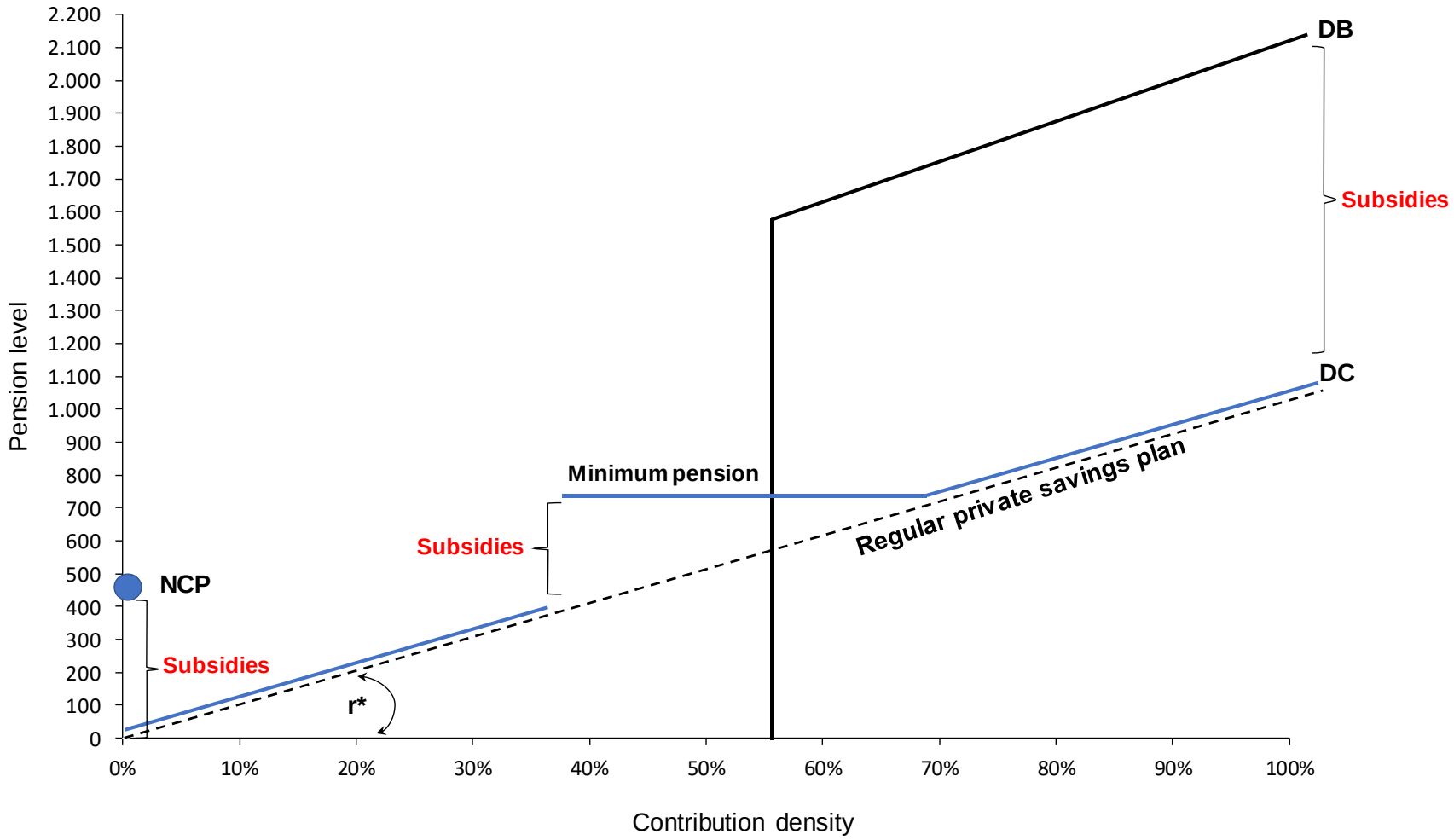
THIS PAPER PROVIDES THREE INDICATORS

1. Replacement Rates
2. Implicit rates of return
3. Implicit Subsidies/Taxes

CONTRIBUTION

1. Methodology to relate contributions to benefits at the individual level
2. Useful tool to think about pension design
3. Interactive public good that helps the debate with citizens

OUR APPROACH IN A SIMPLE FIGURE



METHODOLOGY: REPLACEMENT RATE

$$TR(P_t) = \frac{P_R}{S_{R-1}}$$

1. Indicator of adequacy
2. In general it does not capture the relationship between contributions and benefits

METHODOLOGY: IMPLICIT RATE OF RETURN

$$\sum_{t=0-(R-20)}^{t=-1} \frac{C_t}{(1+r^*)^t} = K\left[\,[P_R^J = P_R\right]$$

1. Captures the interest rate necessary to fully fund the pension benefit (at the individual level)
2. Indicator of generosity
3. Requires additional assumptions
4. Not always defined

METHODOLOGY: SUBSIDIES/TAXES

$$S_{TR} = TR(P_R) - TR[P_R^J(r_E)]$$

$$S_{US} = K[P_R^J = P_R] - \sum_{t=0-(R-20)}^{t=-1} \frac{C_t}{(1+r_E)^t}$$

1. Given an **equilibrium rate of return (3.5%)** defines transfers at the individual level
2. Captures subsidies
3. Can be expressed in pp of replacement rate or local/international currency

METHODOLOGY: THE AVERAGE INDIVIDUAL

	Married men	Married women
Year of retirement	2015	2015
Spouses' age	3 years younger	3 years older
Start of contributions at	20	20
Retirement Age	Min Retirement age (men)	Minimum Retirement age (women)
Years Contributed	$R_H - 20$ / 100%	$R_M - 20$ / 100%
End of working life wage	Average formal wage	Average formal wage
Wage path	2%	2%
Survivors benefit	Yes	Yes

METHODOLOGY: KEY PARAMETERS & ASSUMPTIONS

Real rate of return: 3.5%

Discount rate for actuarial calculations: 2%

Pension benefits indexation: Inflation

Demographics: Country and gender specific Mortality Rates (United Nations)

MAIN CAVEATS AND QUALIFICATIONS

Stylized individuals: We are not estimating the pensions today

Stylized systems: Not every single aspect of each pension system is considered.

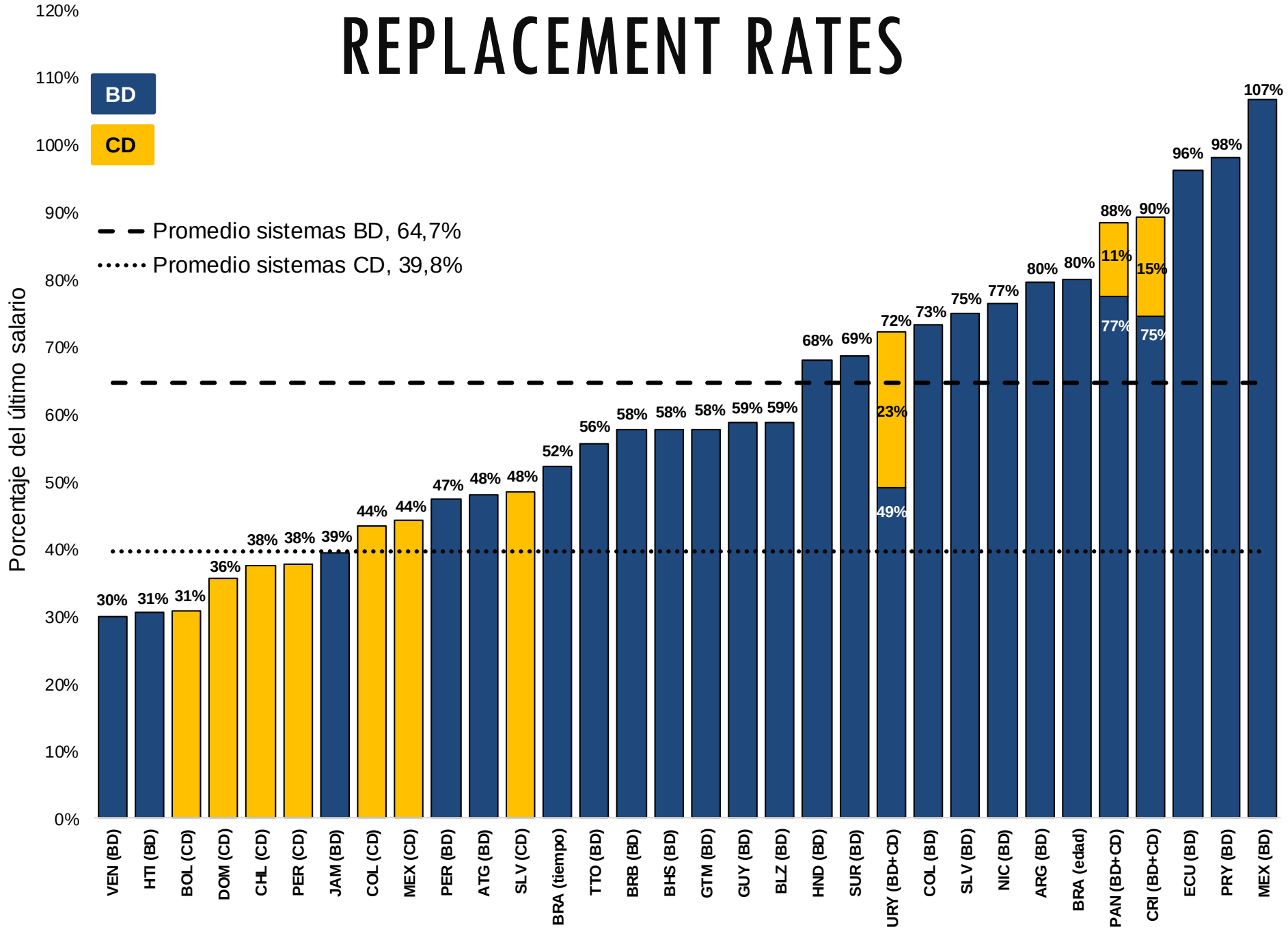
Exact numbers vs patterns and orders of magnitude

This is a living tool: We welcome corrections and qualifications

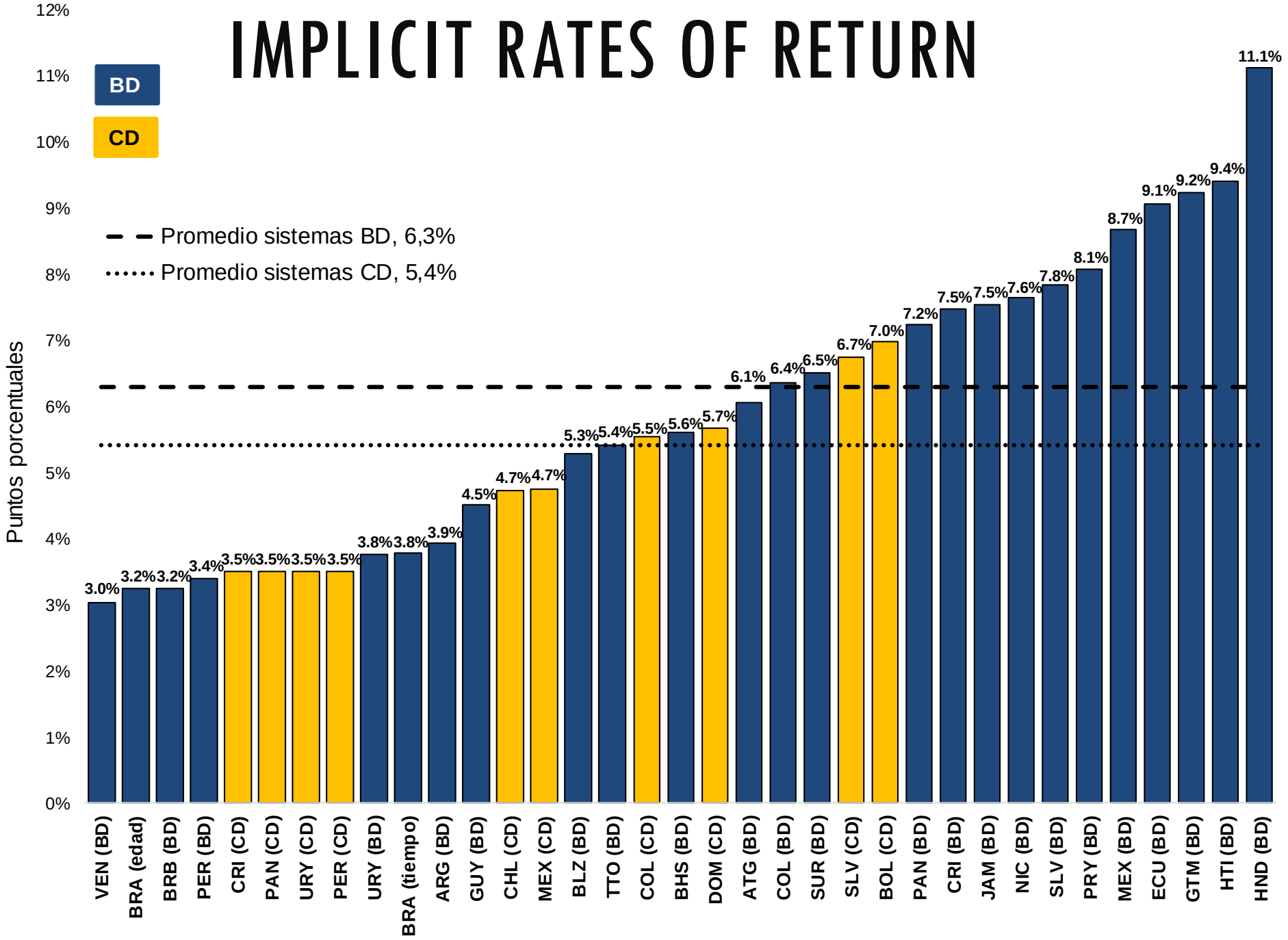
MAIN FINDINGS IN STYLIZED FACTS

1. What pensions systems are design to do for the average worker
2. Heterogeneity across workers of different density, income, and gender
3. The impact of aging on pension systems

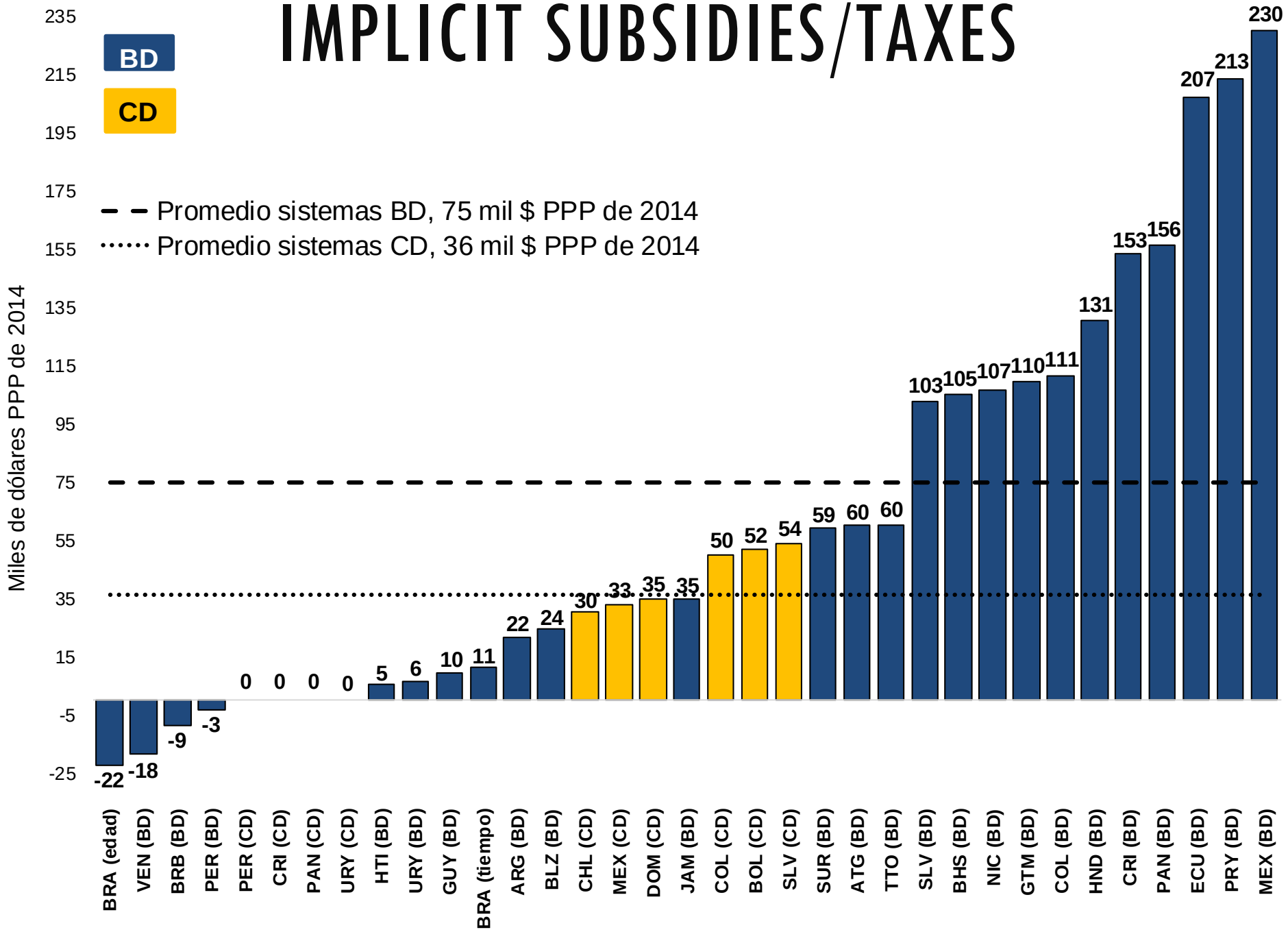
REPLACEMENT RATES



IMPLICIT RATES OF RETURN



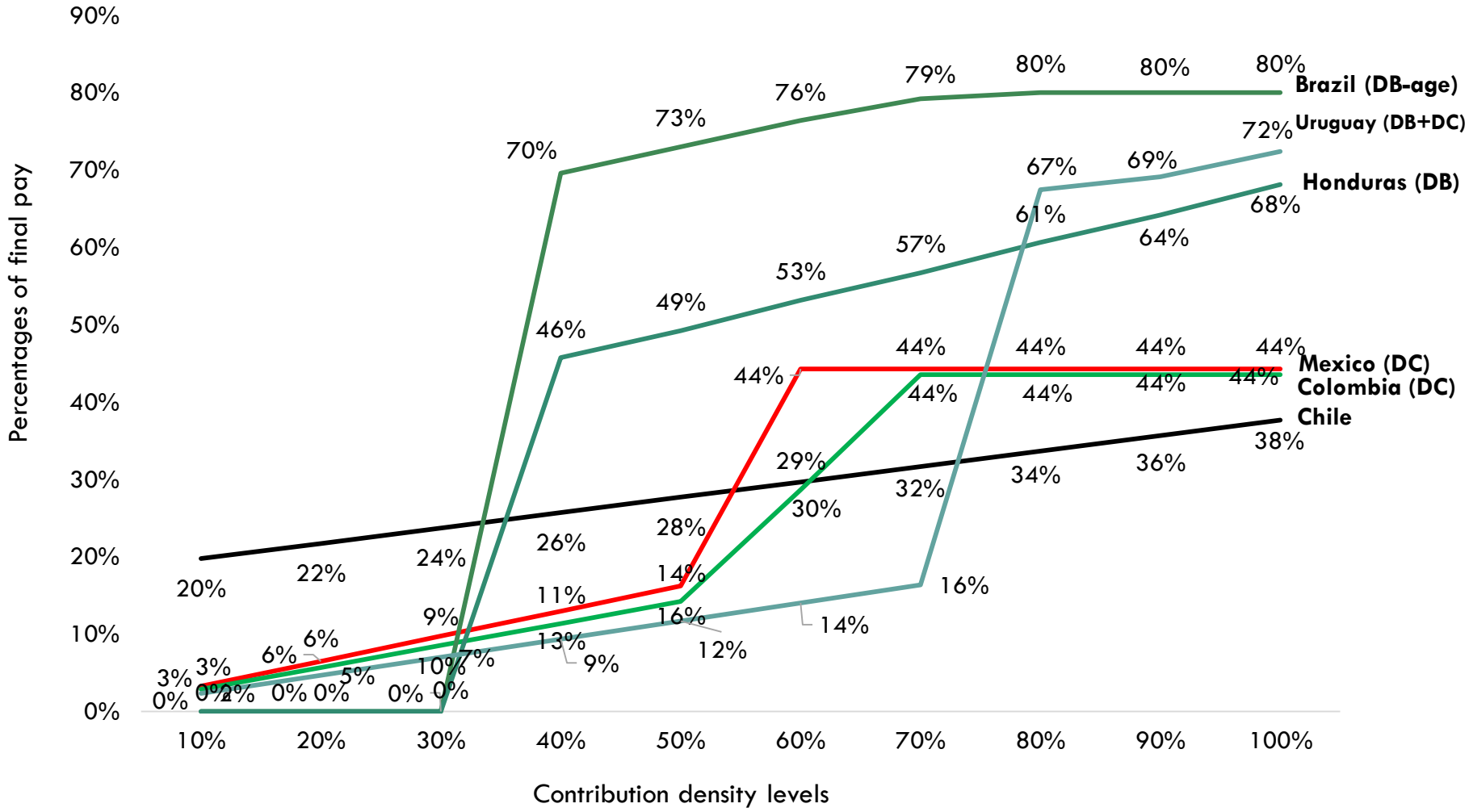
IMPLICIT SUBSIDIES/TAXES



DENSITY OF CONTRIBUTION

In defined contribution systems low density workers do not pay a tax but (in general) do not receive any subsidy.

NEW INDICATORS: REPLACEMENT RATES BY DENSITY OF CONTRIBUTIONS*



Source: IDB Flagship

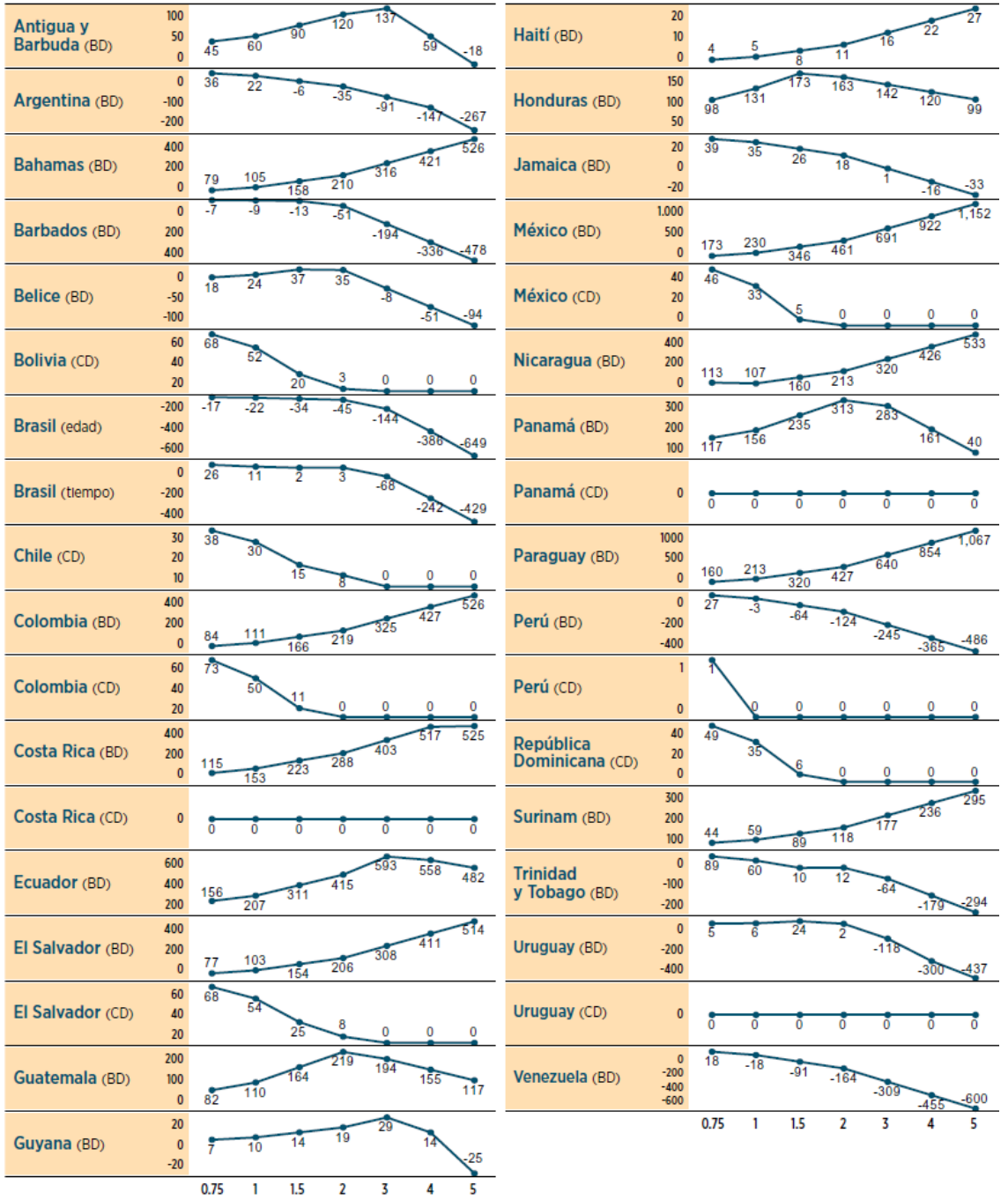
* For workers earning 1 average formal wage.

REPLACEMENT RATES BY INCOME LEVEL

1. Replacement Rates are **decreasing with income** (except for Mexico (BD), El Salvador (BD), Haiti, and Paraguay)
2. In some systems in DB the decline is very slow (Colombia, Ecuador)
3. In DC the fall in fast (Dominican Republic)

SUBSIDIES/TAXES BY INCOME LEVELS (IN PPP DOLLARS)

1. Subsidies in PPP dollars can be **increasing with income:** Mexico (BD), El Salvador (BD), Haiti, and Paraguay, Colombia(BD))
2. Inverted U-Shaped (Ecuador, Panamá)
3. Decreasing (Argentina, Brazil and all DC countries)

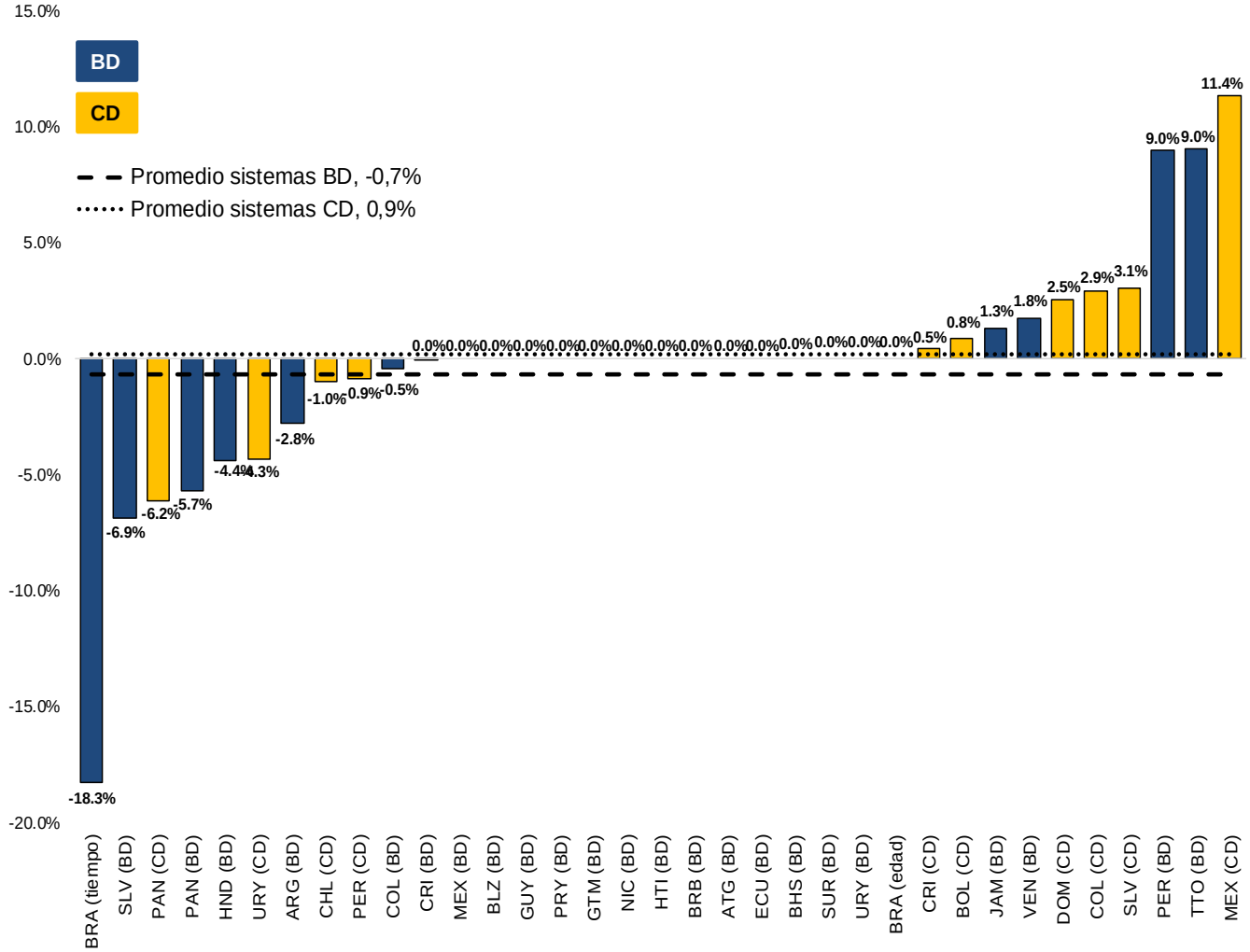


GENDER DIFFERENCES

In most countries men get higher replacement rates stemming mostly from higher retirement ages; while women exhibit higher implicit returns and more subsidies Stemming mostly from lower wages, lower retirement ages and higher life expectancy.

GENDER REPLACEMENT RATES DIFFERENCIAL

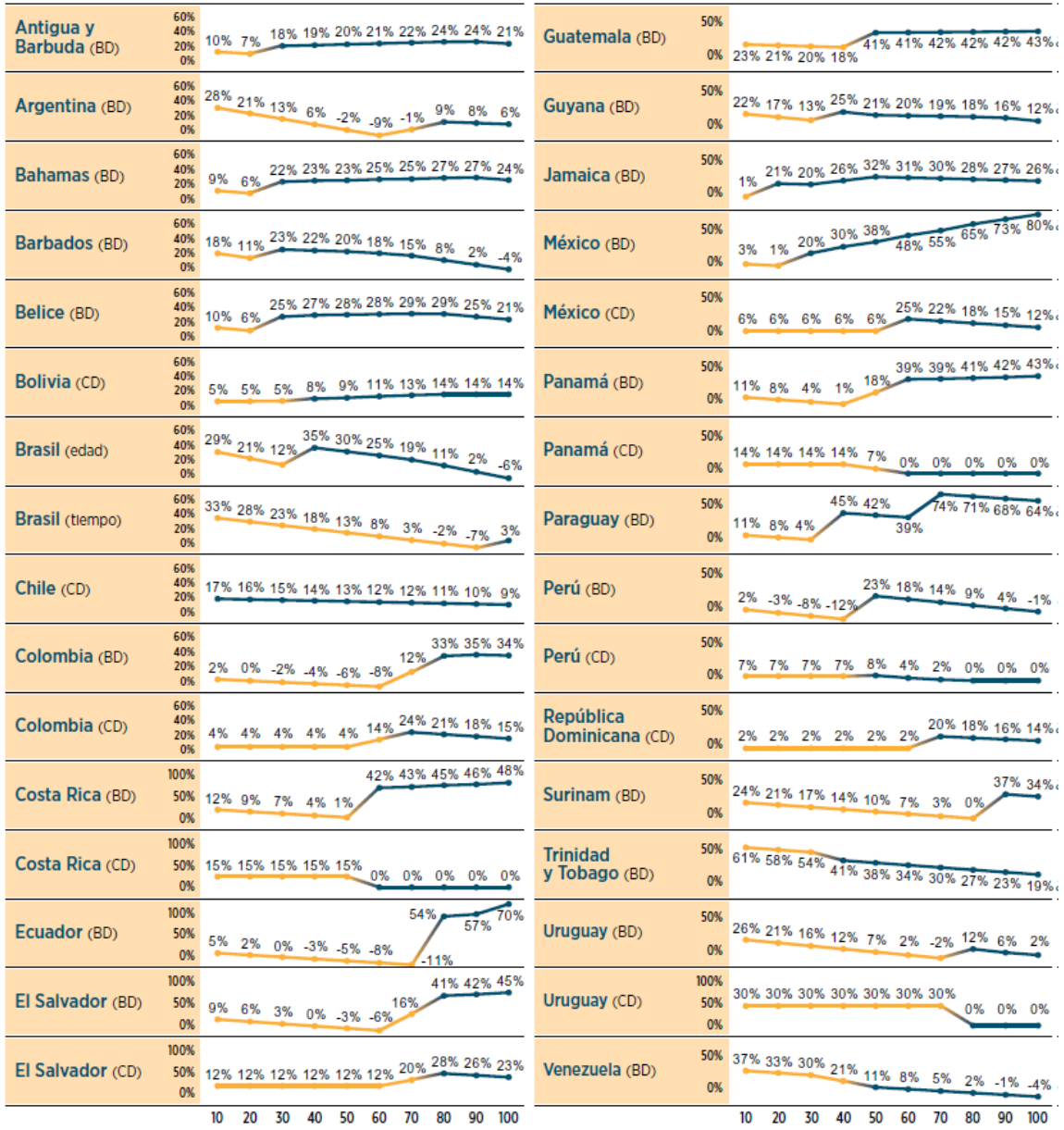
women minus men



NON CONTRIBUTORY PENSIONS

Non-contributory pensions largely offset the taxes that individuals with sporadic contributions pay in defined benefit systems.

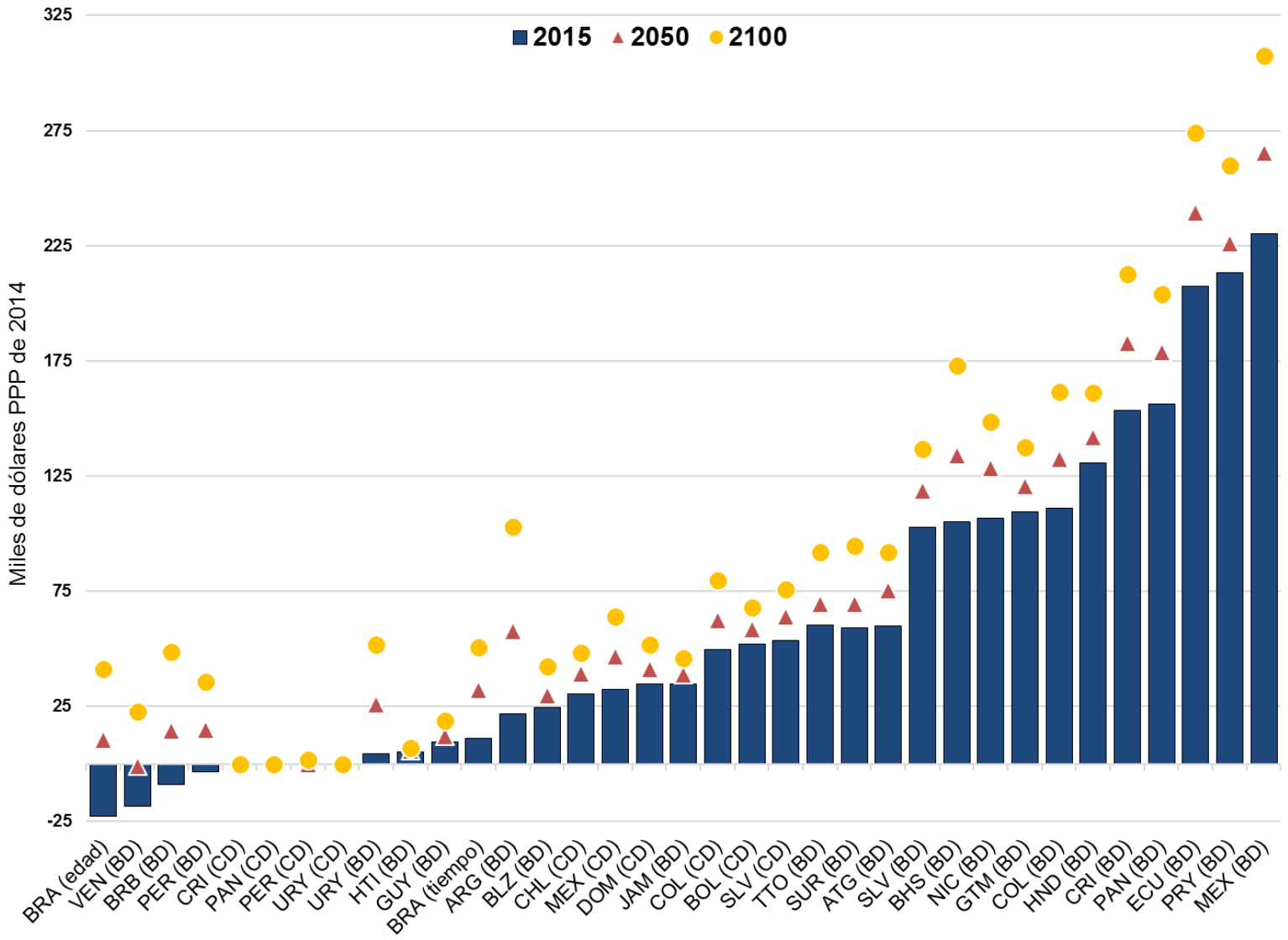
Implicit subsidies/taxes in percentage points of the replacement rate by contribution density (with imputation of non-contributory pensions)



THE PRICE OF INACTION IN THE FACE OF DEMOGRAPHIC CHANGE

Aging implies lower pensions in defined contribution systems—the same pension finances a larger retirement period—but also higher subsidies because the median worker will struggle reaching the required years of contribution to get a minimum pension. On average, replacement rates will raise for lower income workers and decrease for higher income workers.

Implicit subsidies/taxes
(2015, 2050, y 2100)



* Monetary figures in US dollars, adjusted by PPP, 2014.

FINAL REMARKS

1. Comments very welcome on the approach and results
2. This is an ongoing project as we continue to update the dataset
3. The ultimate goal is for this to be a useful tool for the discussion on pension design and debate

THANK YOU!

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