



# Indicators of Pension Benefits of Social Security State-plans in Mexico

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# Introduction. Old-age pension benefits of state-plans in Mexico

- **Public sector workers: civil servants and other public sector employees in the military, education, publicly owned enterprises, etc)**

- Separate pension schemes, not as studied as national pension schemes
- Why? i) stable and attractive career; ii) shift cost of remunerating public servants into the future; iii) retire older civil servants in a politically, socially acceptable way

- **Public sector old-age pension plans (Palacios and Whitehouse, 2006)**

- Tend to offer more generous pensions
- Have lower funding and have higher liabilities
- Are becoming a large fiscal burden which may threaten the operation of other public programs, especially in countries with a low tax base

- **Public sector old-age pensions in Mexico (Aguirre 2012, Vazquez Colmenares 2012, Santin Quiroz 2009, Farrell 2009)**

- Lack of information for properly assessing the magnitude of public debt
- Pension plans in actuarial deficit

# Old-age pension benefits of state-plans in Mexico

**-AIM: examine Indicators of adequacy and financial sustainability for monitoring purposes, across states**

## •Replacement rate

- Value of pension in relation to an earnings measure
  - Do pensioners have acceptable standards of living with respect to their last salary?

## •Pension wealth

- Present value of expected pension benefits
  - An approximation of the debt incurred by a state pension plan at statutory pensionable age

# Types of pension plans across states in Mexico

**-Mexico has 32 states. Most of them have pension plans for public sector workers of the DB type (CONSAR 2012, Camara de Diputados 2010)**

- DB (defined benefit).

- Most states across the country

- DC (defined contribution).

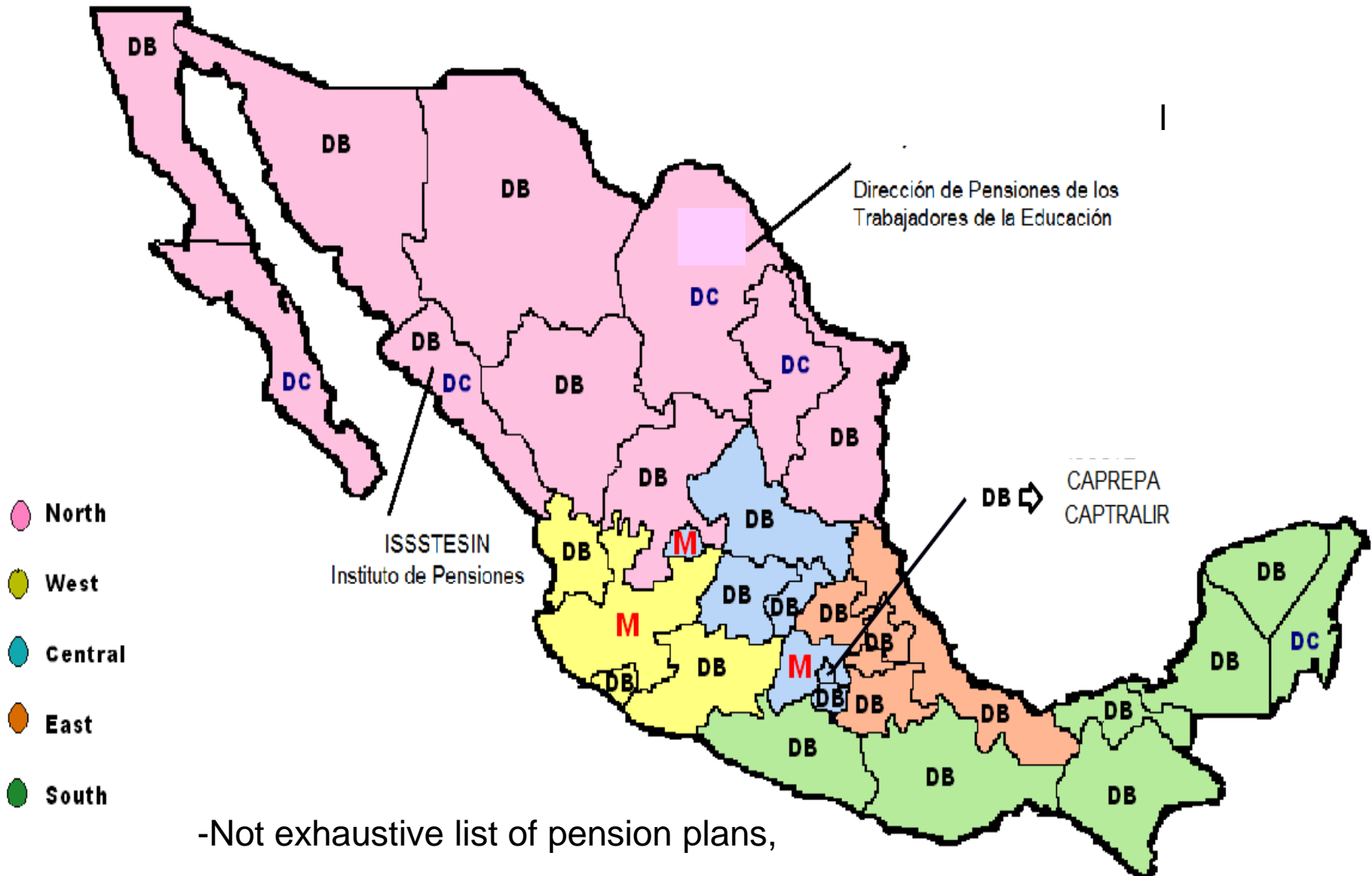
- Sinaloa, Coahuila (education), Nuevo Leon, Baja California Sur, Quintana Roo

- Mixed (combine DB and DC components).

- Jalisco, Edo. de Mexico, Aguascalientes



# States by region and type of pension plan for public sector workers



-Not exhaustive list of pension plans,

-Valid as from 2010, according to CONSAR and Camara de Diputados

# Methodology. Modeling prospective pension benefits

## -Baseline scenario. Calculations inspired by OECD pension models

- Single worker
- Enters labor market in 2011 at age=20
- Makes uninterrupted contributions until reaching the statutory pensionable age
  - For example, career length = 40 if pensionable age=60,
    - Not modeled: benefits of dependants, invalidity and survivorship benefits
- Examine variation across the distribution of salaries
  - Low salary=0.5 times the average salary in the country- sample (data from Encuesta Nacional de Empleo, ENOE 2011)
  - High salary=5 times the average salary

# Assumptions

**-Standard set of assumptions to control for economic conditions; this allows to focus on institutional differences at the state level**

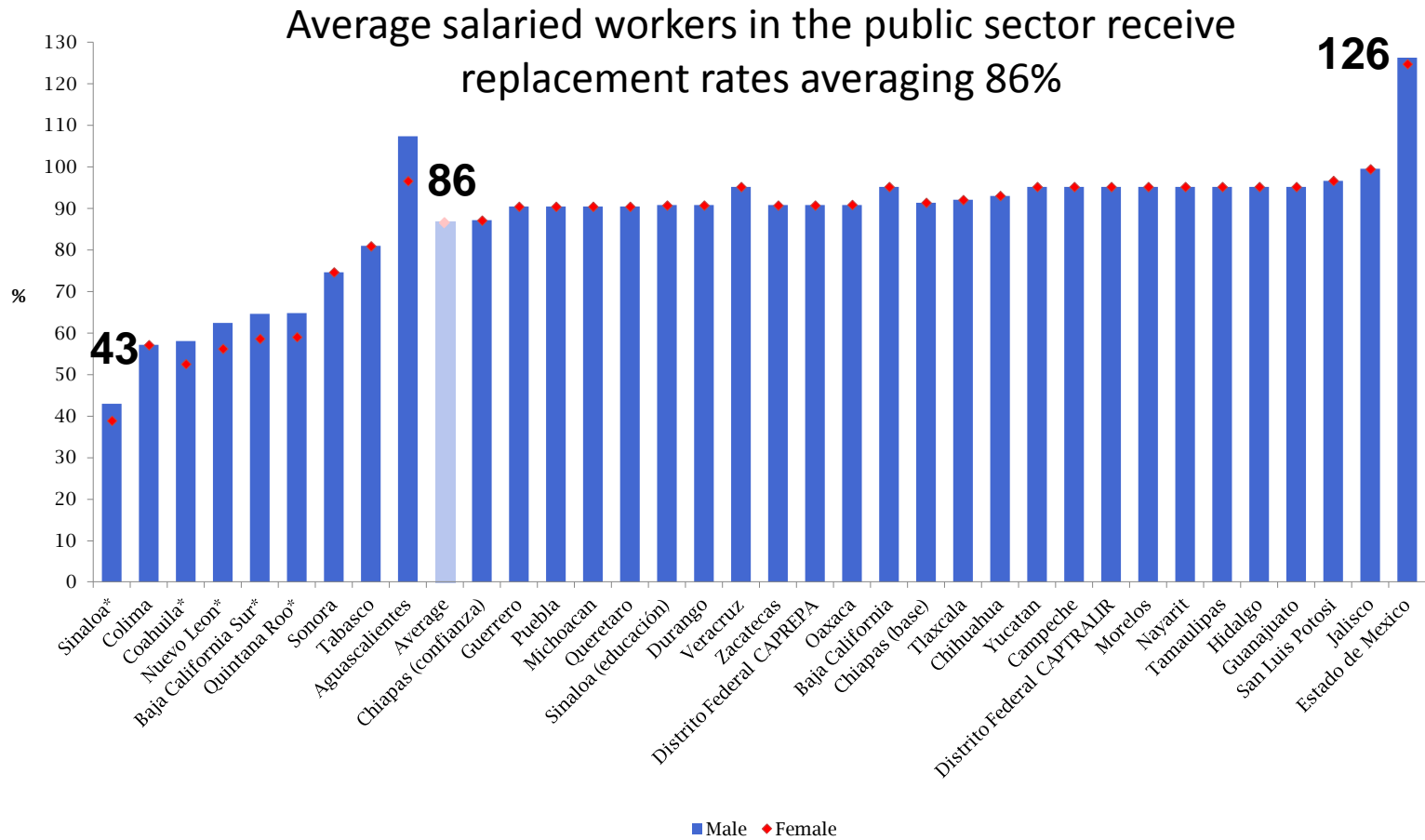
- Price inflation; 4% per year
- Real salary growth: 1% per year
- Real minimum salary growth: 0.25% per year
- Real return after administrative charges on funded DC pensions: 3.5% per year
- Discount rate for actuarial calculations: 3% per year
- Mortality rates: At the national level: United Nations. At the state level: own calculations of life expectancy based on projections by CONAPO.

# Results. Replacement rates: Value of pension in relation to last salary

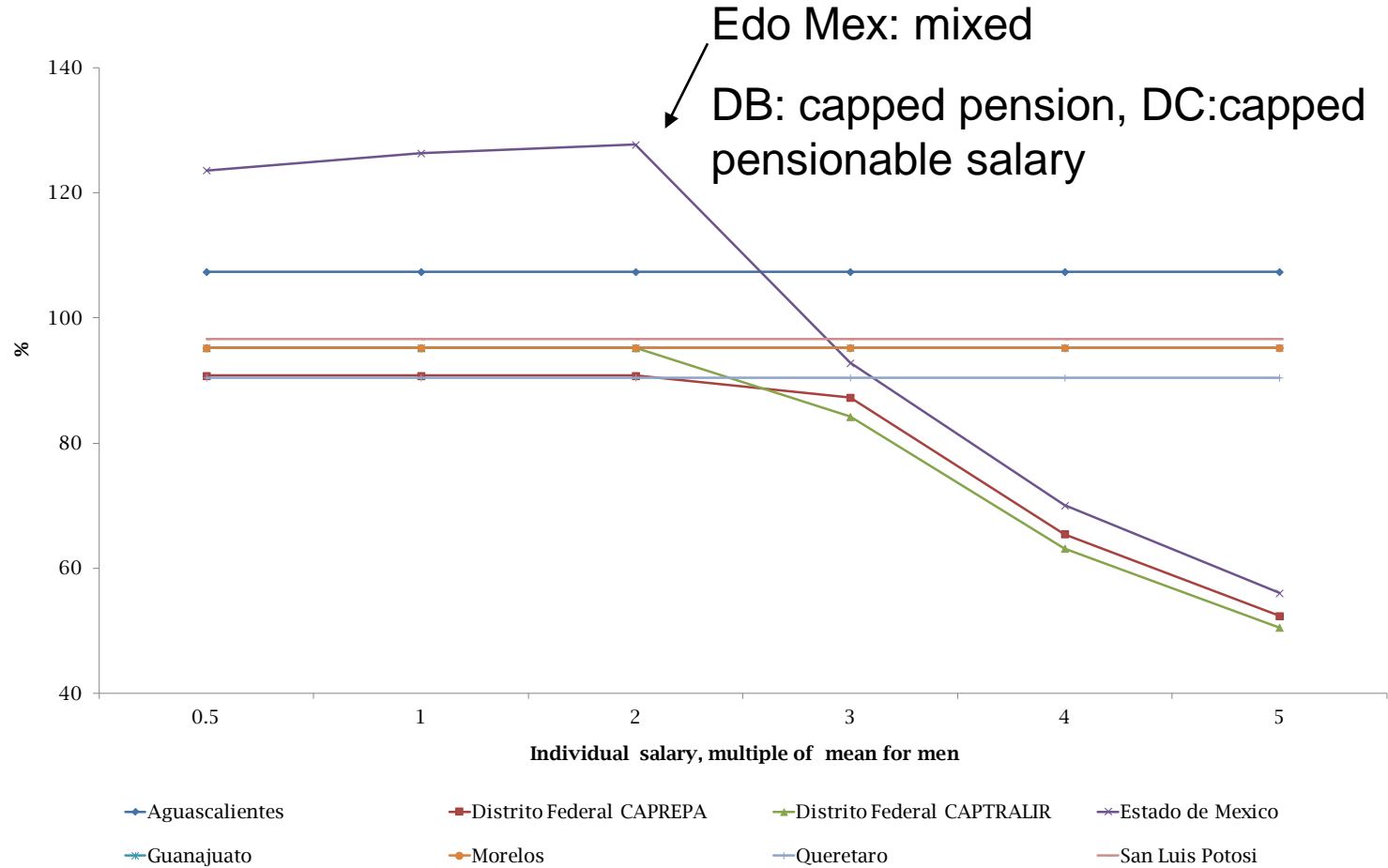
## Average replacement rate (calculated using net pension and net salary) in Mexico

- Is 79% (across states, salaries and gender)
  - On average women have lower rates (78) than men (80)
  - States with DB and mixed (DB and DC elements) pension plans have higher average replacement rates than countries with DC regimes
    - DB: 87 (most states)
    - Mixed: 101 (Aguascalientes, Estado de Mexico, Jalisco)
    - DC: 50 (Sinaloa, Coahuila-ed, Nuevo Leon, Baja California Sur, Quintana Roo)

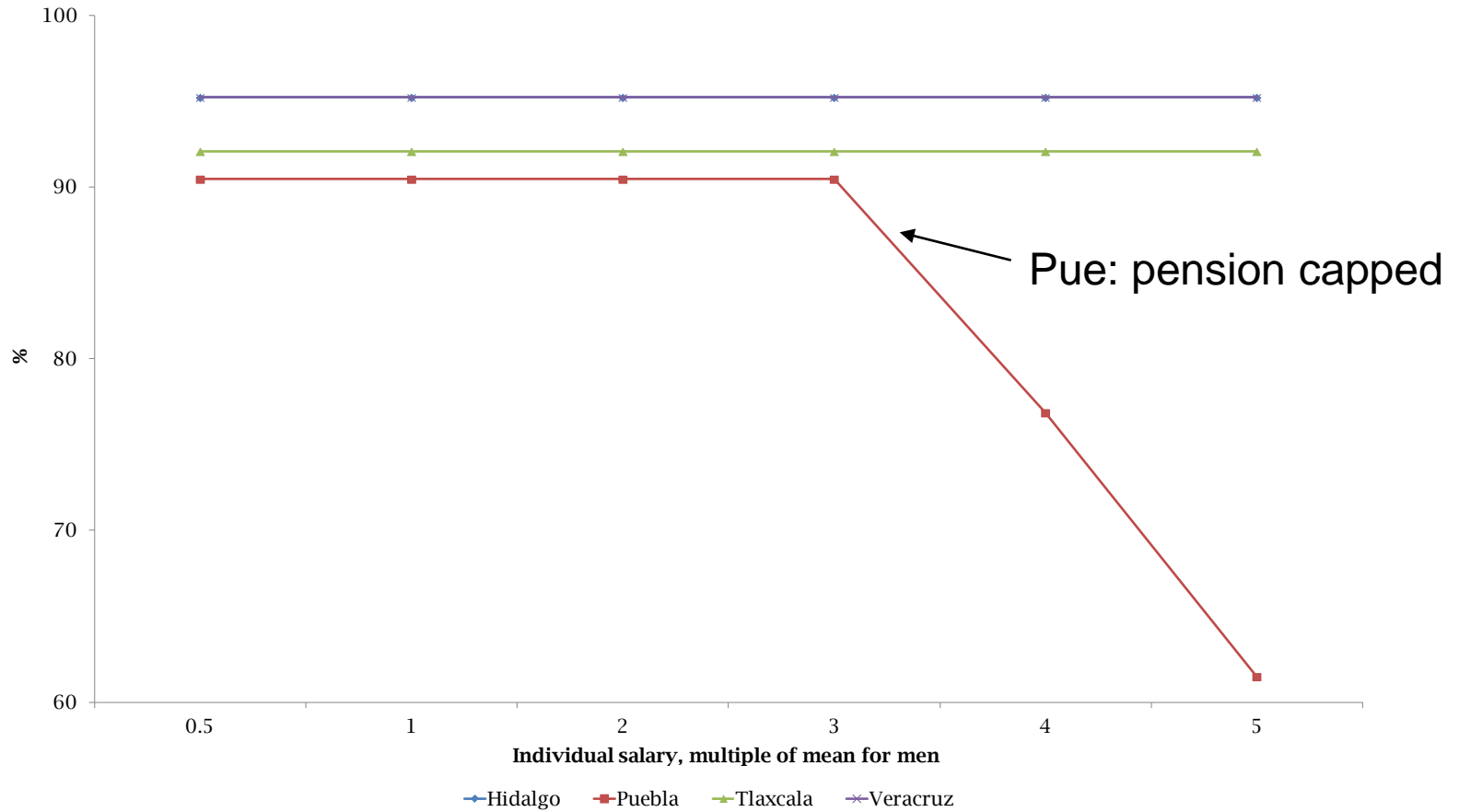
# Replacement Rates for the **Average-salaried** in Mexico



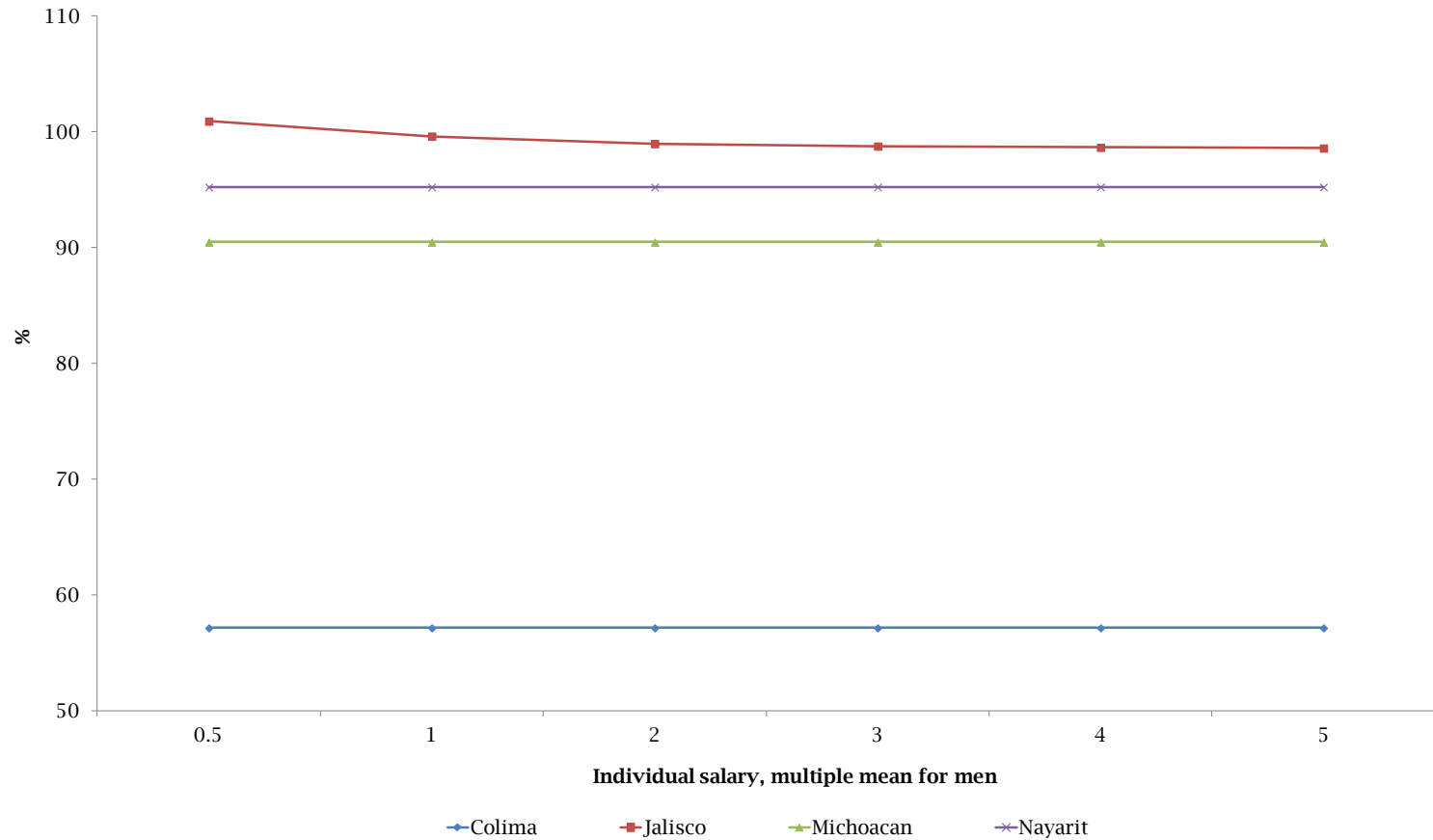
# Replacement Rates across the Salary Distribution, Males, Central



# Replacement Rates across the Salary Distribution, Males, East



# Replacement Rates across the Salary Distribution, Males, West



# Results. Pension Wealth:

## Present value of pension benefits paid until death

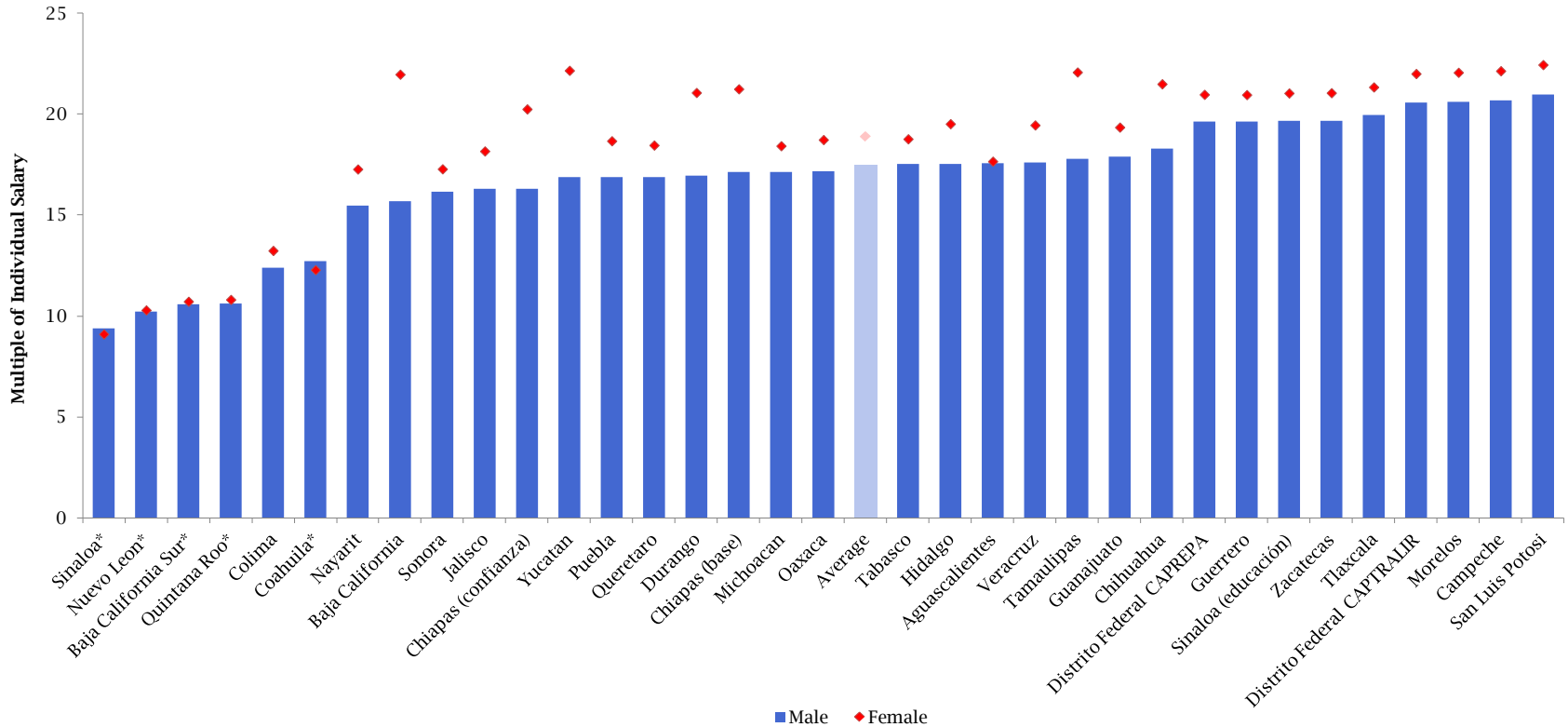
Calculation of pension wealth requires information on expected mortality by age and rules on pension indexation

- In DC regimes benefits are annuitized
  - Unless specifications of national legislations are different, we indexed pensions to prices, annually
- Average pension wealth (across states, salaries and gender) is 16.4 times the annual salary
    - Women have higher pension wealth (17.2) than men (15.3) because of higher life expectancy, although they may have lower wages



# Pension Wealth for the Average-salaried in Mexico

Average salaried workers in the public sector receive average pension wealth of **18.2** (17.5 for males and 18.9 for females)



# Comparing results in the baseline and alternative scenarios

## -Alternative scenario

-The minimum number of contributed years are met in order to be eligible to claim the old-age pension, at pensionable age (example: required number of **contributed years=30** and pensionable age=65; we assume the age of entry=35)

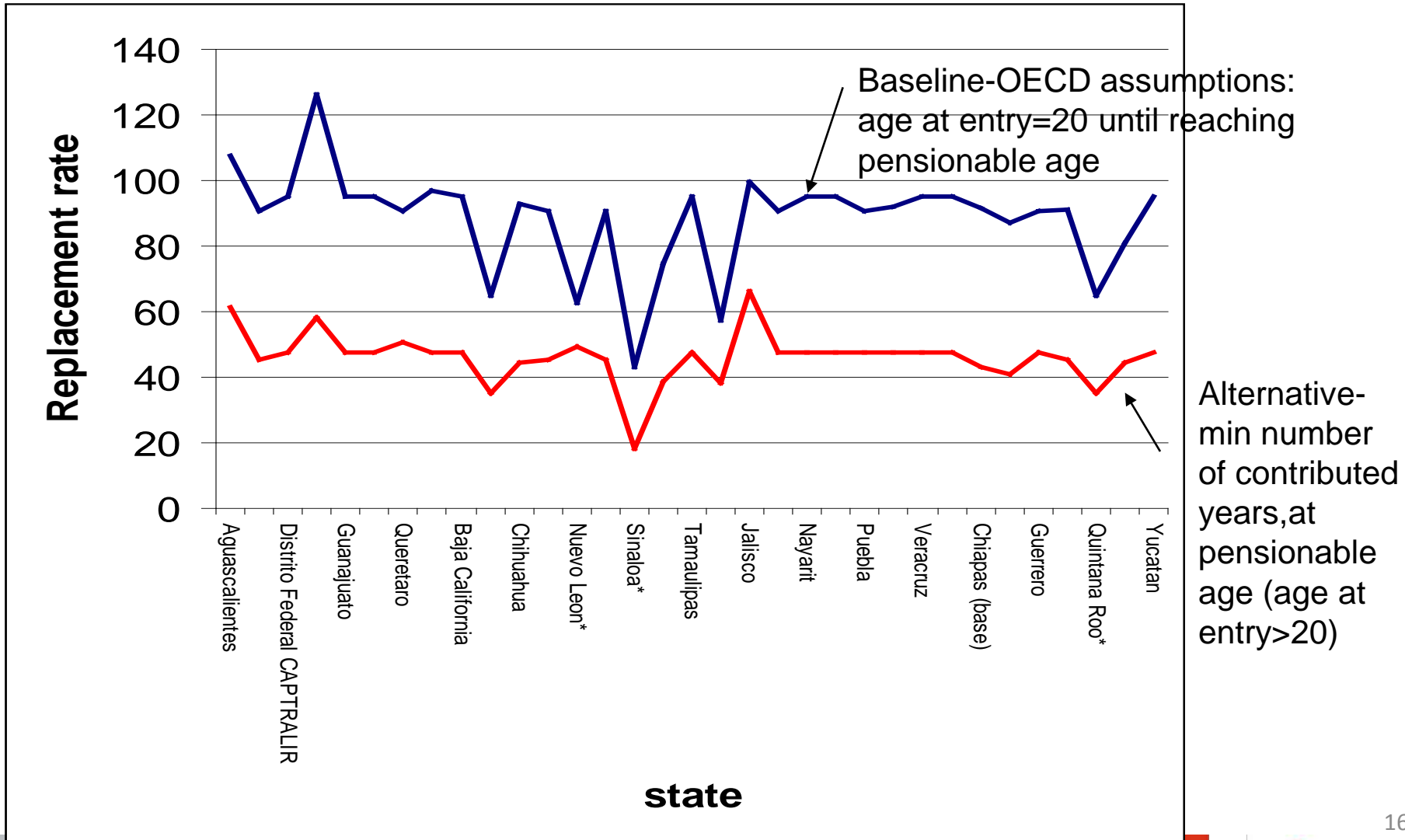
## -Baseline scenario

-Uninterrupted labor market careers from the age of 20, until reaching the pensionable age (here, number of **contributed years=45**)

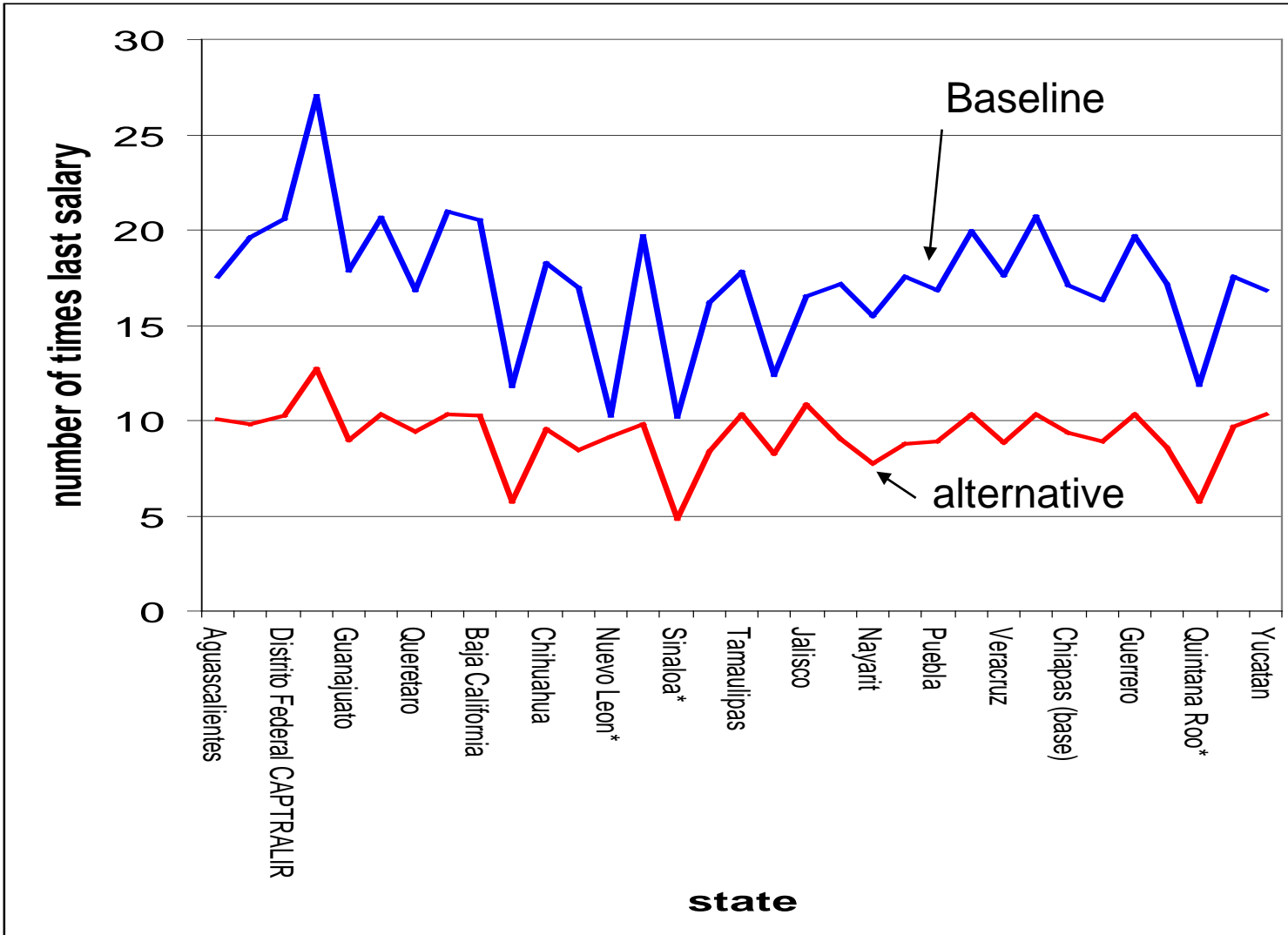
**This exercise has the purpose of looking at variations in the indicators with respect to the length of the labor career**



# Differences in replacement rates; males



# Differences in pension wealth; males



# Conclusions

- Simulation of old age pension benefits:
  - individuals assumed to begin work at age 20
  - until they reach the statutory pensionable age
- Average replacement rate in Mexican states is found to be around 79%
  - A person can expect to work for about 40 years to receive almost 80% of the pre-retirement salary
  - In LAC the average worker in the private sector expects a replacement rate of about 49% (CISS 2011)
  - In Mexico, social security for private sector workers provides a replacement rate of about 40% (CISS 2011)
- Average pension wealth is 16.4 times the annual salary of public sector workers
  - Indication of average cost of paying the pension promise across states

**Thank you**  
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