

# Long Run Growth and Redistribution in the Italian Social Security System

Carlo Mazzaferro

*University of Bologna (Italy) and CAPP*

Marcello Morciano

*University of East Anglia (UK), Institute for Social and Economic Research (UK) and  
CAPP*

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## The (main) reforms in the Italian pension system

1992    1995    1997    2004    2007    2010    2012

1<sup>st</sup>    2<sup>nd</sup>    3<sup>rd</sup>    4<sup>th</sup>    5<sup>th</sup>    6<sup>th</sup>    7<sup>th</sup>

- 1992: standard parametric reform which:
  - increases legal retirement age;
  - reduces accrual factors;
  - modifies indexation of pension benefits.
- 1995: introduction of the Notional Defined Contribution (NDC) system
  - Sustainable and homogeneous internal rate of return in the PAYGO system.

## The slow transitional phase to the NDC

However ...

... reforms splitted into three groups current and future workers according their seniority at work:

- More than 18 years in 1995: (generous) earnings-related system
- Between 1 and 18 years in 1995: mixed regime
- New entrants (after 1995): (N)DC system

- 1997: tighten eligibility criteria for seniority pensions
- 2004: further increase in retirement age
- 2007: partial return to the past
- 2010: increases in retirement age automatically linked with gains in life expectancies at 65
- 2012: speed up the transition to NDC and introduce more strict eligibility condition to retirement

## Pension reforms and adequacy in Italy

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### Background:

- ▶ Unsustainable and inefficient pension system
- ▶ Demographic transition
- ▶ Low Labour Force Participation Rates

### Goals of the reforms in the 1990's:

- ▶ Obtain a financially sustainable system;
- ▶ Reduce distortions in the labour market (typical of DB systems)

### Key points of the last reform (end 2011):

- ▶ Speeding up the transition to the NDC system
- ▶ Significant and sudden rise in legal and anticipated retirement age;
- ▶ Tighten conditions for retirement based on the value of accrued pension benefits.

**First wave of the reform more worried about sustainability and efficiency.  
Second wave more worried about adequacy without compromising sustainability.**

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## Policy Questions

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- ▶ Will the NDC pension system guarantee adequate benefits in the medium-long run?
- ▶ How changes in the structure of the population and eligibility criteria for retirement translate into changes in labour market participation and finally on pension benefits?
- ▶ Under which conditions (in the labour market) the policy goals could be achieved?

**We make projections using a population-based dynamic microsimulation model (CAPP\_DYN)**

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## CAPP\_DYN

Simulates the likely evolution (2015 – 2050) of a representative sample of the Italian population

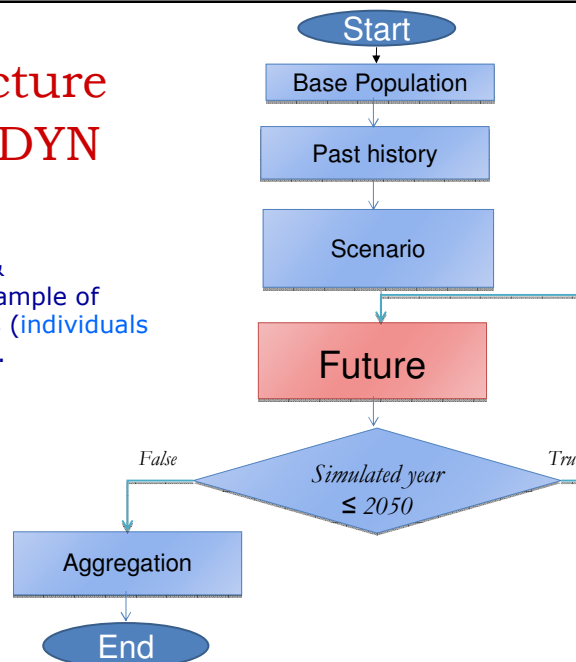
Features:

- ✓ Population based;
- ✓ Closed;
- ✓ Dynamic ageing process;
- ✓ Discrete time;
- ✓ Probabilistic with finite and discrete Markovian processes and MCmethod;
- ✓ Individual or household simulation unit.

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## The structure of CAPP\_DYN

We use a large & representative sample of economic agents (individuals and households).



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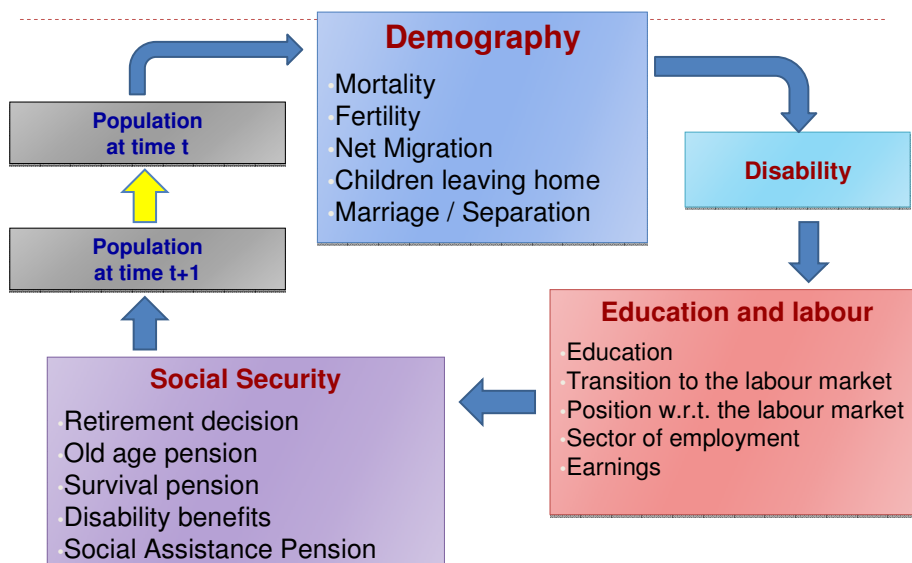
## THE CAPP\_DYN SCENARIO

CAPP\_DYN makes projections on the basis of specific assumptions about the evolution of a number of (macro) exogenous variables

- ▶ **Demographic scenario:**
  - ▶ The latest demographic projection (ISTAT, central scenario);
- ▶ **Socio-economic structure of the population:**
  - ▶ We take into account cohort effects observed in the past and projects them in the future;
- ▶ **Macroeconomic scenario:**
  - ▶ Constant real GDP growth; endogenous occupation and productivity as residual. No inflation.
- ▶ **Eligibility for retirement:**
  - ▶ In line with rules in force in Italy in January 2012.

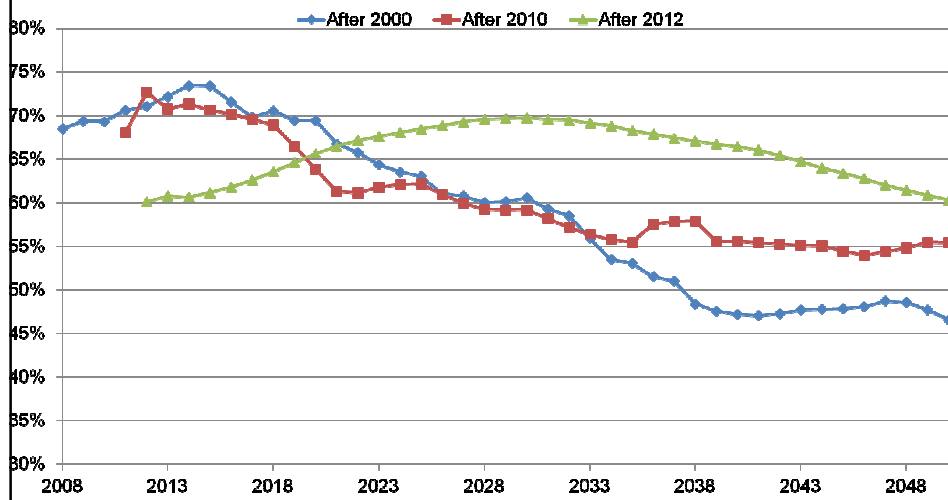
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## The block "FUTURE"

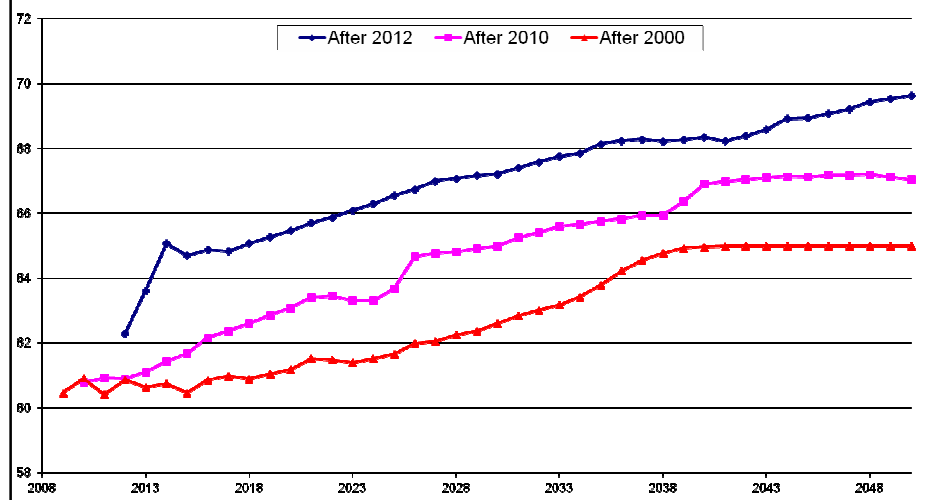


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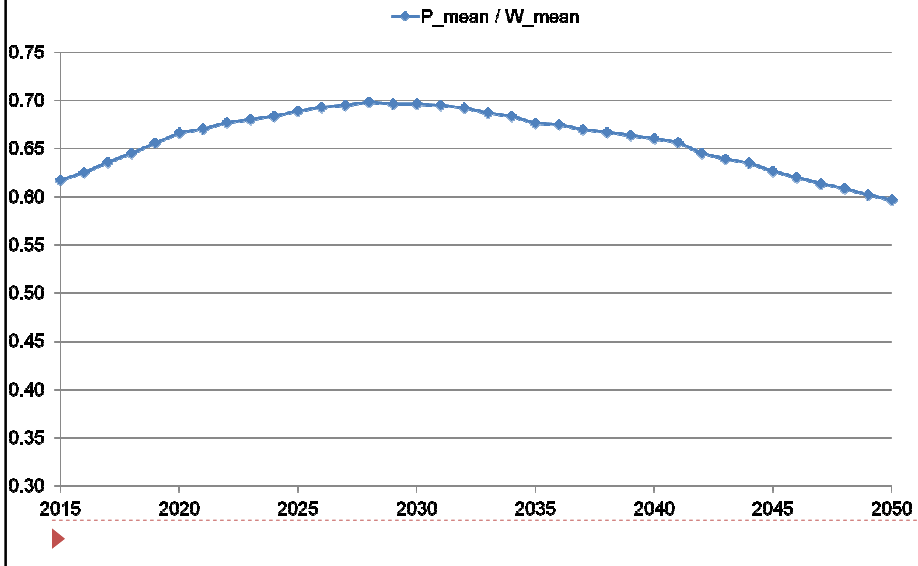
### Replacement rate between pension and last wage in three different years



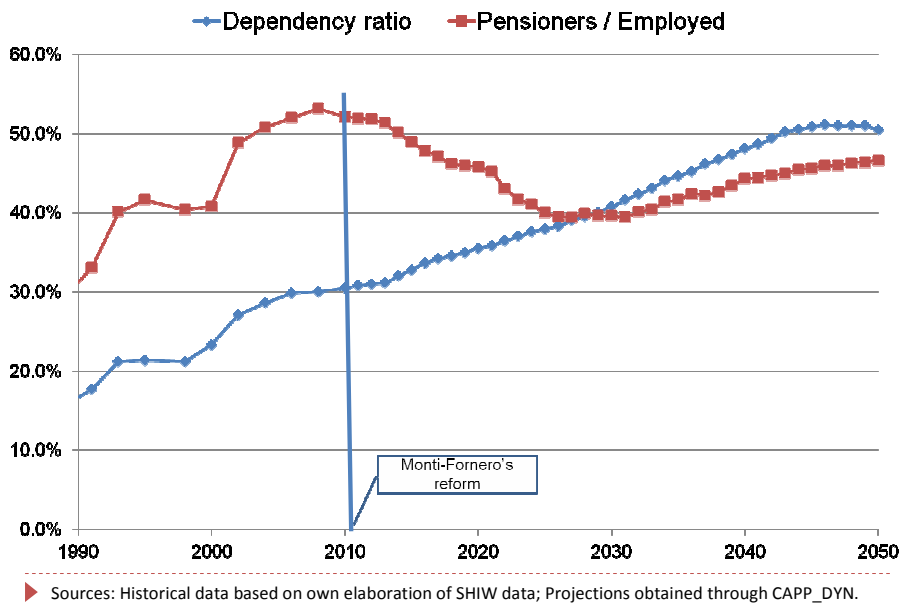
### Average retirement age in three different years



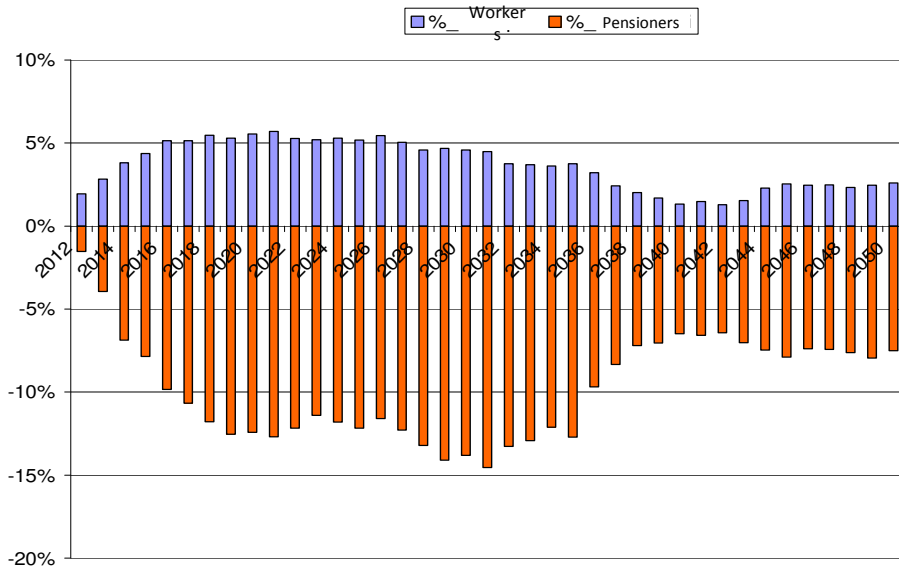
## Average pension benefit over average earning after the 2012 reform



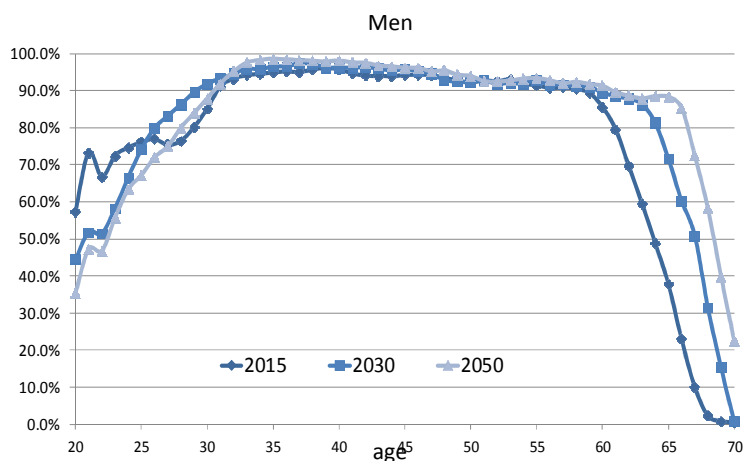
## Dependency ratio and ratio between pensioners and workers. 1980 - 2050



### % changes in the number of employed and retired people after the 2012 reform



### Labour market participation rate by age and gender 2015, 2030 and 2050



Sources: Projections obtained through CAPP\_DYN.  
 Gender-specific econometric estimates of the individual's labour force participation at the intensive/extensive margins based on Italian LFS data 1993-2010. Estimated parameters used in simulating probability of being in the labour market and (conditional on participation) the intensity of participation at each simulated year (projections). Controlling characteristics: polynomial of age, education, marital status, experience, area of residence, immigrant status, etc.

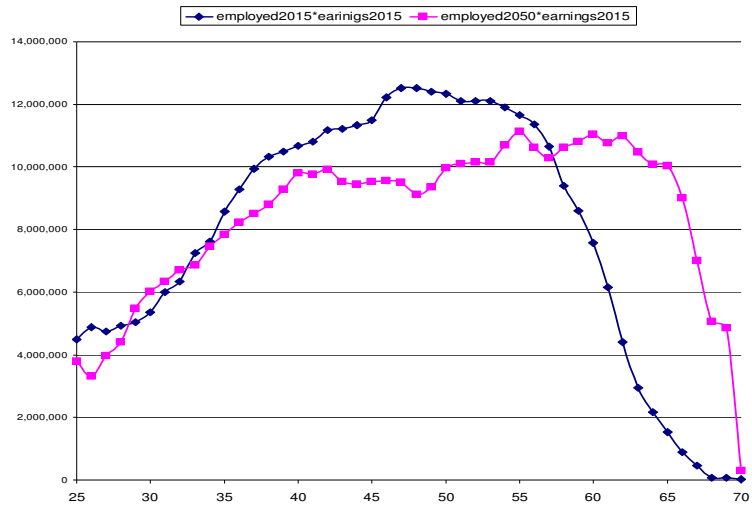




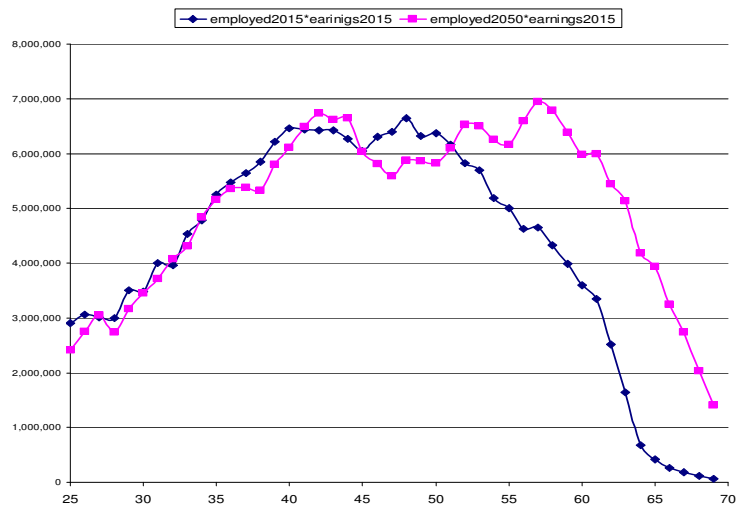
### Projected changes in the composition of the labour force and pensioners

years	2012	2025	2035	2050
<b>LABOUR FORCE COMPOSITION</b>				
average age	41.2	43.4	44.3	44.5
<b>by age classes</b>				
18-35 years	33.1%	30.8%	28.7%	28.6%
36-55 years	54.8%	47.9%	47.1%	46.6%
56-70 years	12.0%	21.3%	24.2%	24.8%
% of women	42.6%	43.3%	44.7%	45.4%
% high educated	16.9%	18.7%	19.6%	23.2%
% net migration	9.6%	16.8%	22.1%	25.6%
<b>PENSIONERS COMPOSITION</b>				
average age	72.6	77.0	77.7	79.1
<b>by age classes</b>				
less than 70 years	43.9%	24.0%	19.4%	11.5%
between 71 and 80	38.7%	44.1%	47.9%	48.8%
81 and more	17.4%	31.9%	32.7%	39.8%
% women	44.9%	45.0%	46.4%	51.1%
% net migration	0.7%	1.8%	3.3%	9.1%

### Composition of the wage mass in 2015 and 2050 with 2015' earnings. Men.



### Composition of the wage mass in 2015 and 2050 with 2015' earnings. Men.



## Discussion

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### Significant changes in the labour force level and composition caused by:

- ▶ Demographic transition;
- ▶ Cohort effects (already in force and observed in the past 20 years);
- ▶ Reforms in the pension system;

### Open questions for future analyses:

- ▶ With such strong cohort trends + policy reforms how the labour market would “adjust” itself?
  - ▶ Changes in the relative wages between:
    - younger and mature workers;
    - gender;
    - Immigrants vs. natives;
- ▶ How accounting the consequences of the ageing of a population on productivity?