Update of demographic and pension expenditure forecasts

28 September 2020

The diagnostic analysis of the sustainability of the social security system is one of the responsibilities of the Independent Authority for Fiscal Responsibility (AIReF)

Responsibilities

1. Compliance with stability targets
(Art. 17 and 20 OL AIReF)

← **Short term**

2. Pension Revaluation Index
(Law 23/2013 on the SF and PRI)

← **Medium term**

3. Sustainability of debt and structural deficit
(Article 23 OL AIReF - Article 22 Statute)

← **Long term**

AIReF issued an opinion in January 2019, differentiating between different time horizons

AIReF updates its long-term forecasts

September 2018

Demographic forecasts

January 2019

Pension expenditure forecasts

The update of the demographic and pension expenditure forecasts is published

- Technical and groundwork documents

- Working paper

- **Opinion on the sustainability of the social security system**

- **Technical document that essentially maintains the conclusions of the Opinion**

1. Conclusions of the Opinion in January 2019

SHORT TERM

The social security system has a structural deficit caused by the 2007 crisis that will remain in the absence of new measures (1.3-1.5% of GDP)

PROBLEMS

- ❑ Doubts about the sustainability ("system bankruptcy")
- ❑ Attention diverted from long-term problems
- ❑ Distortions in the decision-making of economic agents

The deficit should be viewed in those parts of the government that have tools to reduce it

PROPOSALS

- ❑ Close the social security deficit:
  - • Reduction in unemployment contribution in favour of the social security system, with the State assuming the loss of the State Public Employment Service (Spanish acronym: SEPE)
 - • State financing of non-contributory social security

The structural deficit of the general government (of at least 2%) needs to be taken into account

1. Conclusions of the Opinion in January 2019

LONG TERM

AIReF identifies a challenge resulting from the ageing population, with an increase in public expenditure of between 2 and 4 GDP points until 2048 (incorporating the sustainability factor as from 2023)

❏ The evolution of pension expenditure depends on interacting demographic, institutional and labour market factors
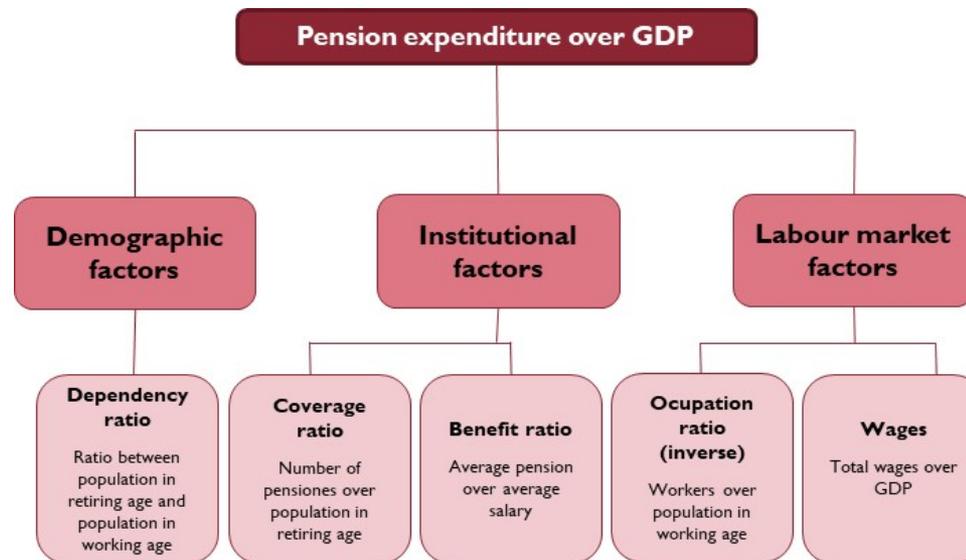
❏ Based on the national context and international experience, more extensive progress on the 2011 parametric reforms was considered the most viable solution

❏ This pathway towards further extending the 2011 reform: delay in the effective retirement age and extension of the contribution career period.

❏ Early implementation of the reforms would allow more gradual application, thus facilitating social acceptance and adaptation of agents' decision-making to the new situation.

The uncertainty surrounding the assumptions supporting any estimate of how pension expenditure will develop means that alternative scenarios should be developed

✓ AIReF estimates that pension expenditure in 2050 could stand at 14.2% of GDP, an rise of 3.3pp on current levels

✓ This baseline scenario is based on demographic and economic assumptions that are by definition uncertain and on full application of the 2011 reform and the sustainability factor

✓ The health crisis adds additional uncertainty both due to its impact on variables determining pension expenditure and in relation to its duration

✓ Against this background of uncertainty, the initial assumptions need to be specified since small variations in any of them have a significant effect on pension expenditure.

✓ AIReF presents alternative scenarios with a sensitivity analysis in relation to changes in the main variables and provides the public with an online tool to simulate different scenarios

The update of the forecasts strengthens the conclusions and proposals of the Opinion, with it being necessary to address short- and long-term challenges

✓ Resolving short-term imbalances should not reduce the need to address long-term challenges or make us forget that the structural deficit of the general government remains unchanged.

✓ An agreement within the Toledo Pact would be a good start, but its effectiveness will depend on implementing recommendations in the legislation.

✓ The high level of uncertainty means that it is advisable to begin studying and debating other options that will guarantee the system's sustainability, sufficiency and equity should more adverse scenarios materialise.

✓ In the long term, the challenge of an ageing population is common to other countries and the responses of peer countries should therefore be analysed

✓ The challenge of an ageing population not only has implications for pension expenditure and therefore needs to be addressed with a comprehensive outlook that takes into account its effect on health and dependency spending.

3. Long-term challenges

In the long term, identifying challenges and recommendations requires making forecasts on pension expenditure, taking into account the interaction of demographic, labour market and institutional factors.
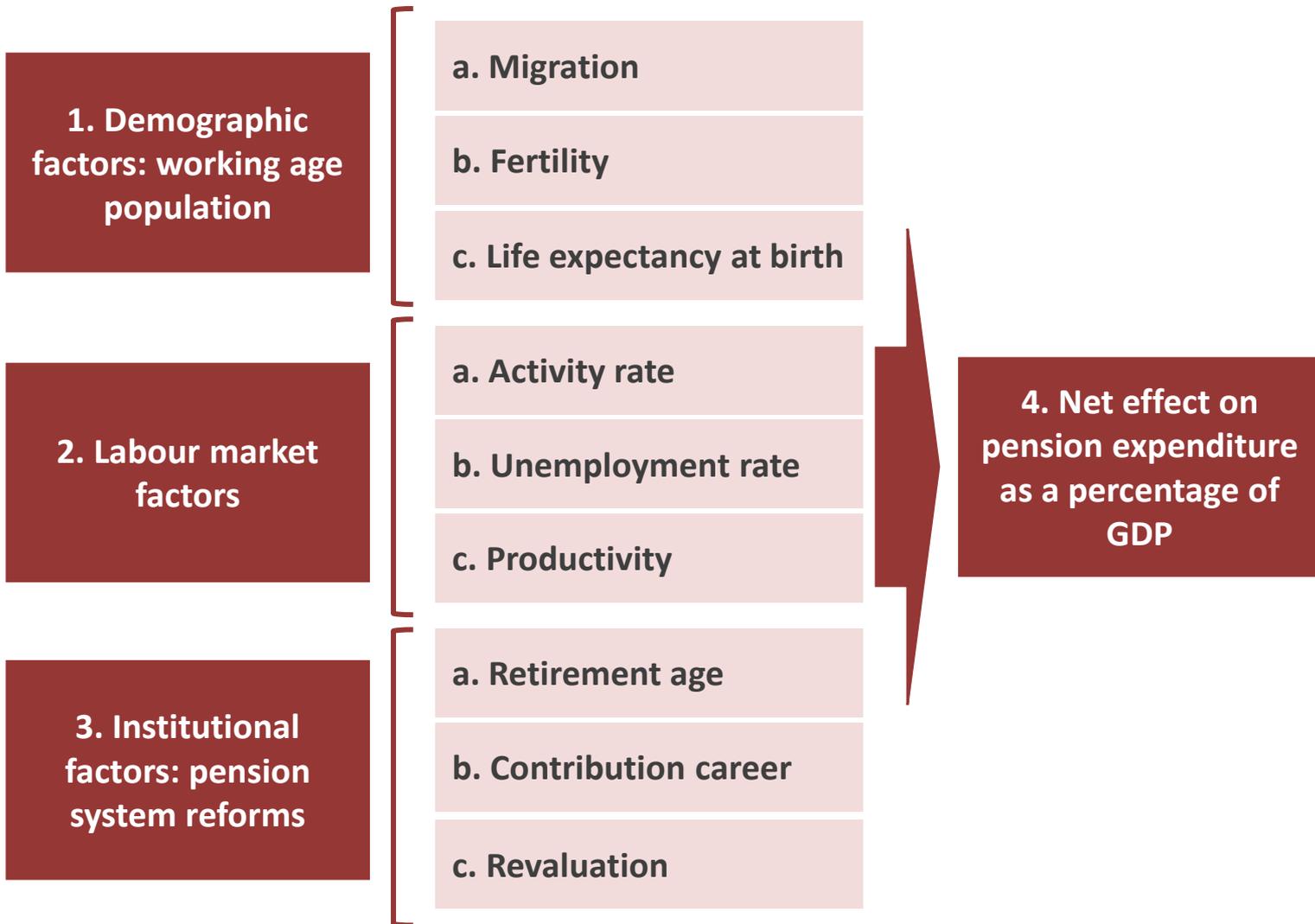
1. Demographic factors: working age population
- a. Migration
- b. Fertility
- c. Life expectancy at birth

2. Labour market factors
- a. Activity rate
- b. Unemployment rate
- c. Productivity

3. Institutional factors: pension system reforms
- a. Retirement age
- b. Contribution career
- c. Revaluation

4. Net effect on pension expenditure as a percentage of GDP

What elements does this update include?

New data: update of the starting point

Methodological improvements to AIReF's forecasting models

Attempt to incorporate the impact of the COVID crisis

3. The impact of the coronavirus crisis

	Short term	Long term
Migration	Restrictions on mobility reduce net flows to 150,000 people by 2020	UNCERTAIN Rebound effect? Asymmetric impact of the crisis?
Fertility	UNCERTAIN Delay in the decision to form households?	UNCERTAIN
Mortality	Excess deaths in 2020 Life expectancy for men 79.8 and women 85.3 years in 2020	UNCERTAIN
Labour market	Rise in unemployment and ERTEs (job retention schemes) with asymmetric impact by sector	UNCERTAIN Hysteresis effects? Need to reallocate resources across sectors?
GDP	Fall in 2020 (-10.1%/-12.4% depending on scenario) and partial recovery in 2021	UNCERTAIN Will it affect potential GDP growth? What impact will the Recovery Plan have?

In light of the situation of uncertainty, it has been decided to assume in the long-term forecasts that the current crisis will not have structural effects on the Spanish economy

3.1. Long-term challenges: demographics

1. Demographic factors: working age population

- **a. Migration**
- **b. Fertility**
- **c. Life expectancy at birth**

2. Labour market factors

- a. Activity rate
- b. Unemployment rate
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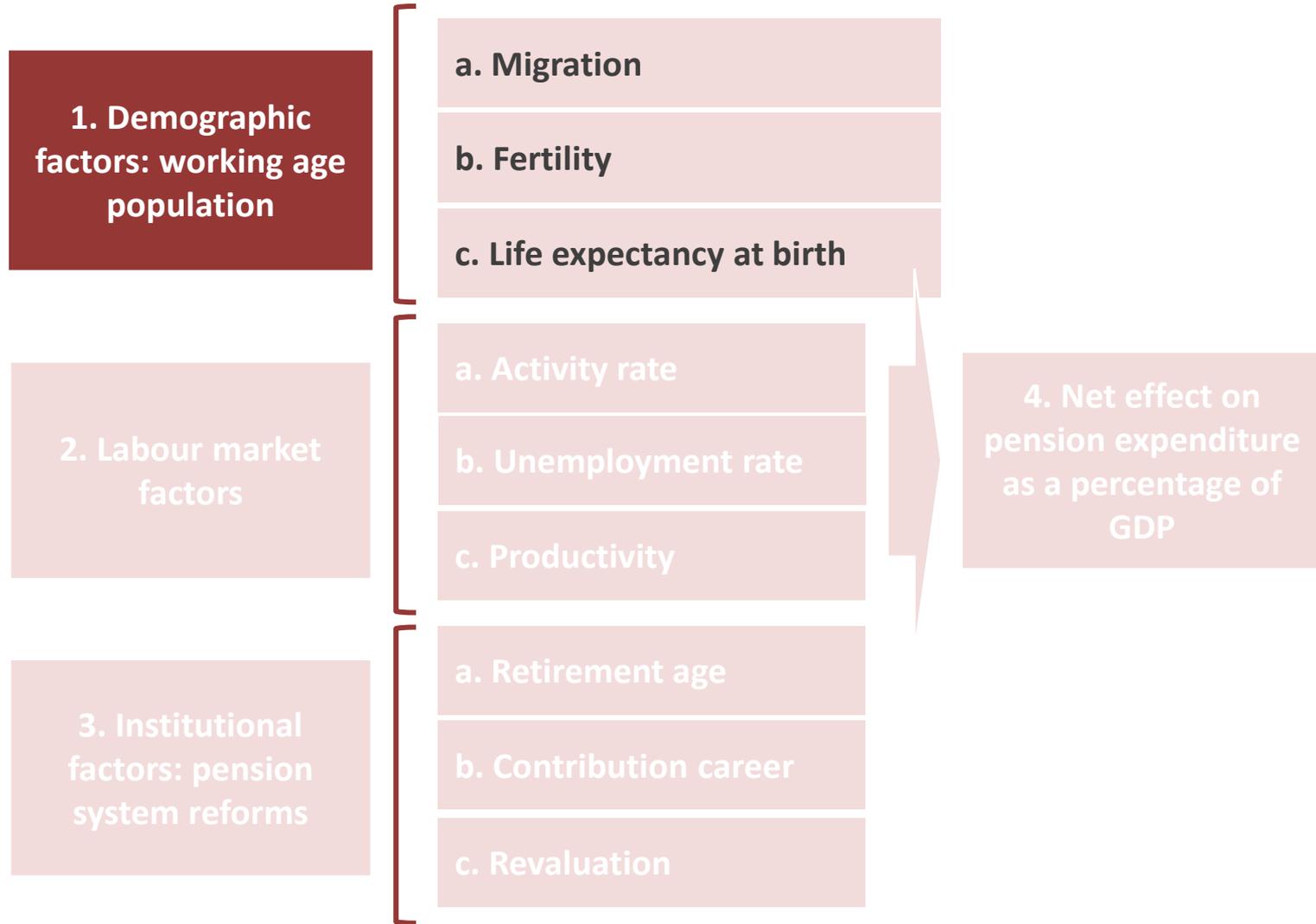
A. Migration Average net annual inflow over the period 2020-2050: 330,000 people

Net Migratory Flow (Thousands of People)

AIReF average flow 2020-2050: 330 thousand

Opinion average flow 2020-2050: 275 thousand

INE average flow 2020-2050: 219 thousand

Eurostat average flow 2020-2050: 197 thousand

Legend: Historical — Baseline — Confidence Bands — 2019 AIReF Opinion — Eurostat 2020 — INE 2020
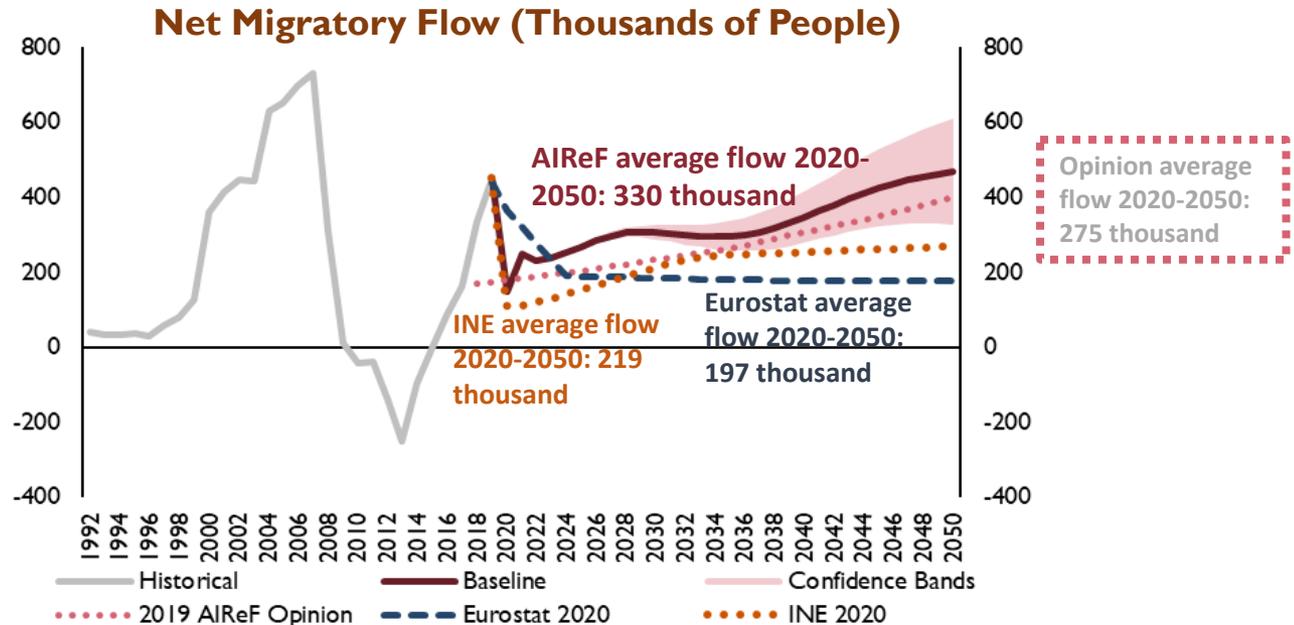
Source: INE, Eurostat and AIReF.

- The provisional figure for 2019 reflects 450,000 net immigrants, more than 275,000 higher than estimated in the Opinion for that year

- Net immigration is derived from modelling bilateral flows across more than 100 countries (gravity model)

- The accumulated stock of immigrants in 2050 would stand at 18% of the total population

- It is assumed that current migration policies will be maintained

Number of children per woman

Source: INE, Eurostat and AIReF.
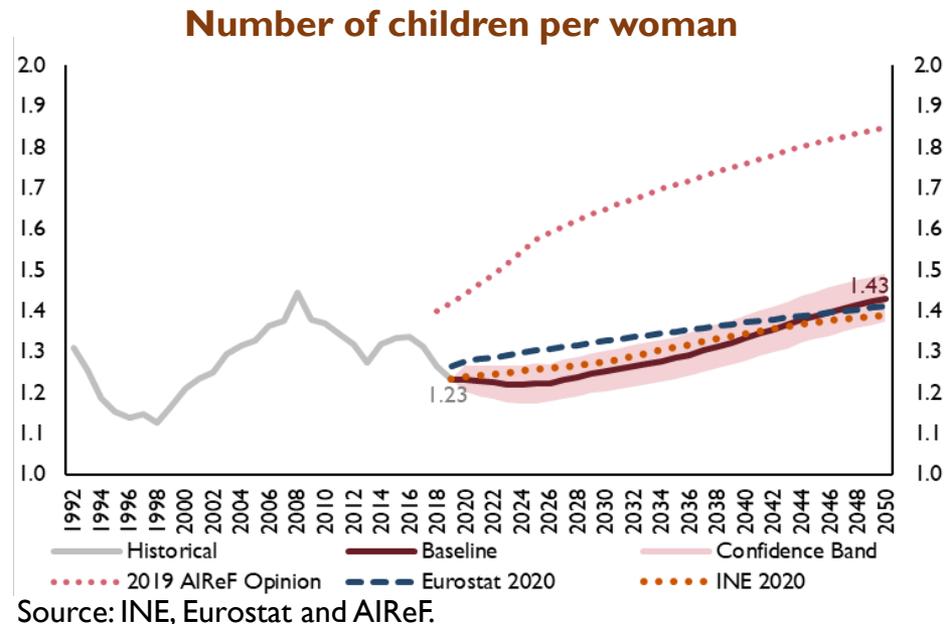
- **2019 figure**: 1.23 children per woman (1.17 Spanish). The number of children per woman of foreign mothers tends to fall, approaching the value for Spanish mothers

- Downward revision in relation to the Opinion in accordance with the latest available data

- A similar trend can be seen in the countries of our immediate environment, with some stabilisation as from the 1990s at around 1.5 children per woman

Life expectancy at birth (years)
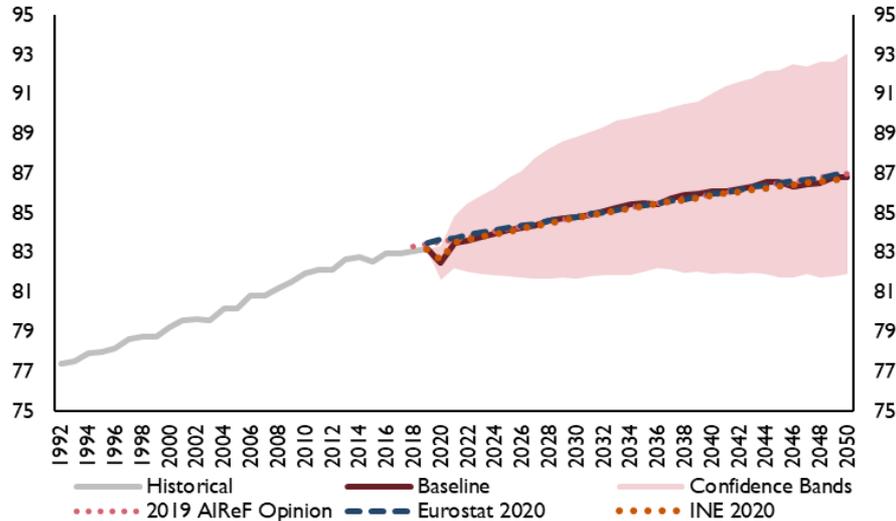
Source: INE, Eurostat and AIReF.

- In every recent decade, except the last decade, life expectancy has increased by about 2 years

- Over the forecasting horizon, the increase is approximately 1 year per decade:

  o Life expectancy at birth for men of around 84.3 years in 2050

  o Life expectancy at birth for women of around 89.5 years in 2050

- **COVID-19 impact:** In 2020, life expectancy at birth for men would stand at 79.8 years, compared with 80.7 years in the absence of Covid-19. In the case of women, life expectancy in 2020 would stand at 85.3 years compared with 86.1 years in the absence of Covid-19

3.1. Long-term challenges: demographics

Total Population (Million People)
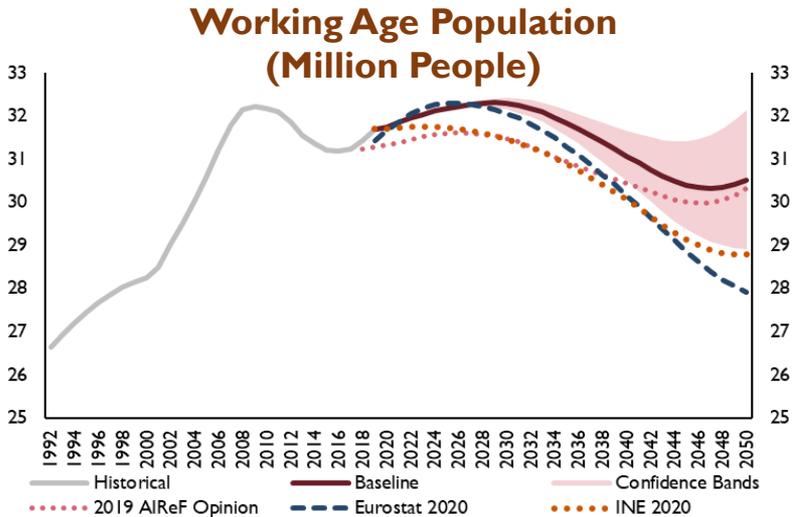

Source: INE, Eurostat and AIReF.
At 31 December
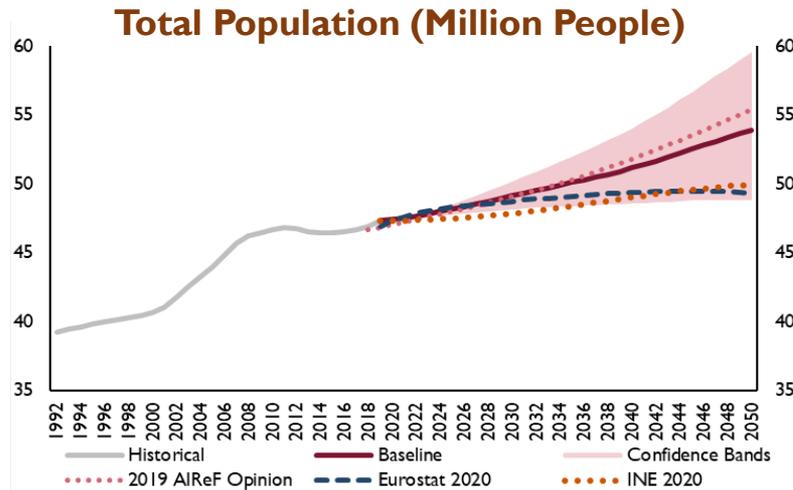
Working Age Population (Million People)

Source: INE, Eurostat and AIReF.
At 31 December

According to AIReF's estimates, the population will increase to 54 million by 2050. The working age population will fall from 2030, resuming an upward path in 2048.

Dependency ratio	2010	2019	2050
AIReF 2020	21.9	26.0	53.0
INE 2020*	21.9	26.0	50.3

Source: INE, Eurostat and AIReF.
* *INE taking the population between 16 and 66 years.*

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3.1. Long-term challenges: Demographic pyramid
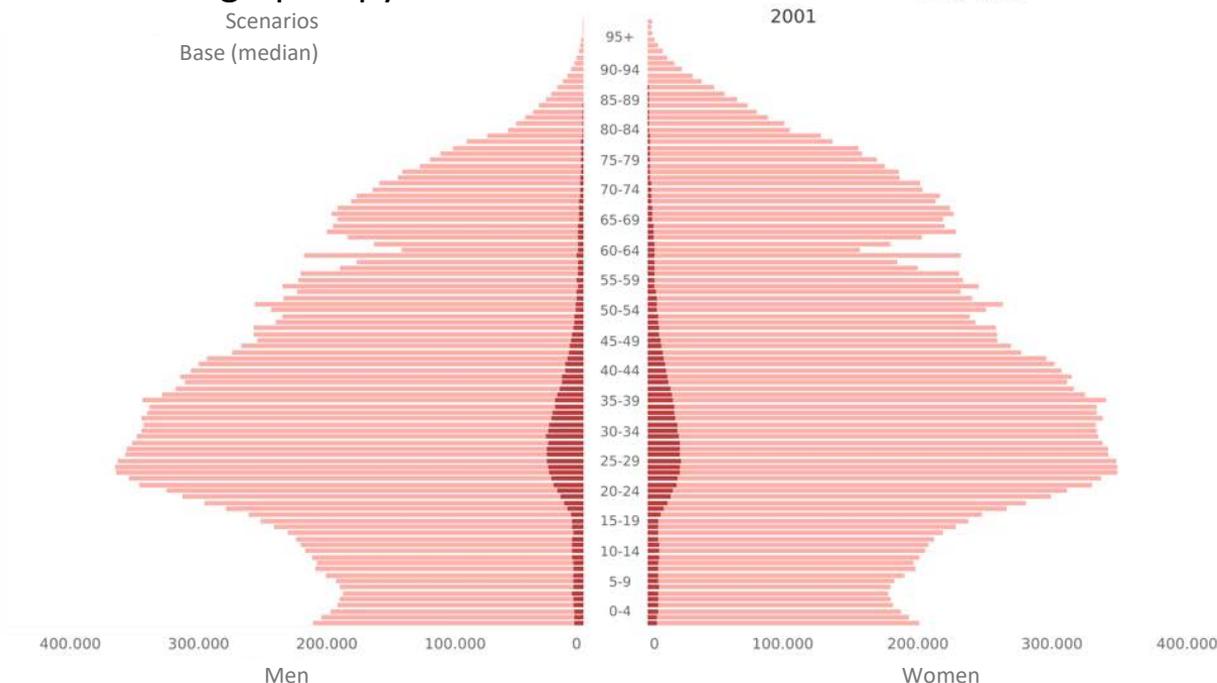
Scenarios:
1. Base scenario with hypothesis stablished in the median
2. Scenario in the percentile 20 of the distribution of the dependency ratio: Assumptions of high fertility, low life expectancy and high immigration.
3. Scenario in the percentile 80 of the distribution of the dependency ratio: Assumptions of low fertility, high life expectancy and low immigration

Source: Instituto Nacional de Estadística y AIReF

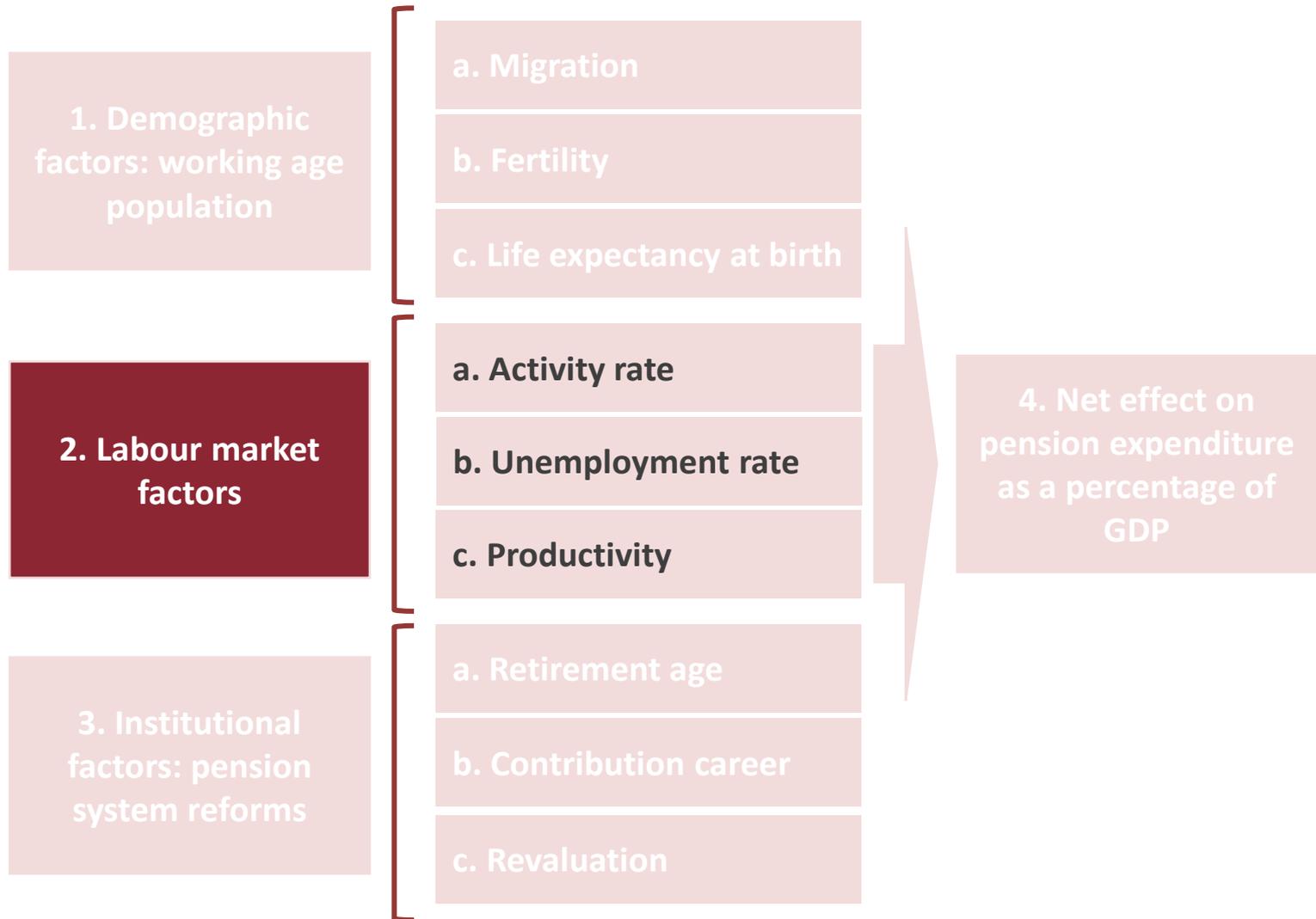# 3.2. Long-term challenges: labour market

1. Demographic factors: working age population

- a. Migration
- b. Fertility
- c. Life expectancy at birth

2. Labour market factors

- a. Activity rate
- b. Unemployment rate
- c. Productivity

3. Institutional factors: pension system reforms

- a. Retirement age
- b. Contribution career
- c. Revaluation

4. Net effect on pension expenditure as a percentage of GDP

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In the labour market, AIReF expects that by 2050:

a. Activity rate	The activity rate increases by 2 pp
b. Unemployment rate	Long-term convergence is expected to a rate of around 7% (common practice in the literature due to the fall in the working age population)
c. Productivity	It is assumed to grow by 0.9%. Average historical growth stands at 0.9% and the recent trend is close to zero

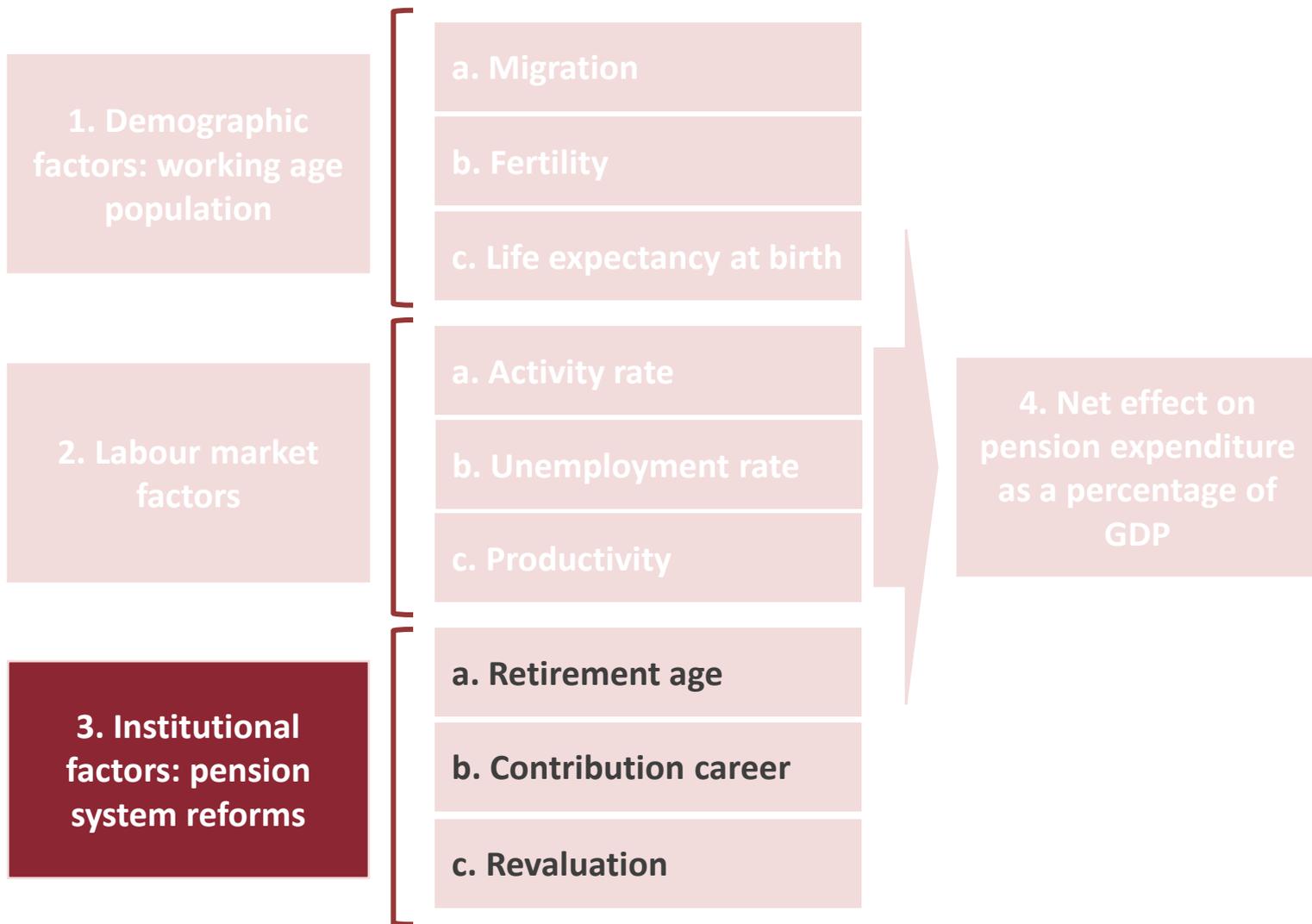| GDP	Growth 2020-2050: 1.4% - Employment 0.5% - Productivity 0.9%

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3.3. Long-term challenges: reforms

1. Demographic factors: working age population

- a. Migration
- b. Fertility
- c. Life expectancy at birth

2. Labour market factors

- a. Activity rate
- b. Unemployment rate
- c. Productivity

3. Institutional factors: pension system reforms

- a. Retirement age
- b. Contribution career
- c. Revaluation

4. Net effect on pension expenditure as a percentage of GDP

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3. Long-term challenges

> **AIReF has updated the forecasts, which suggest that pension expenditure in 2050 would stand at 14.2% of GDP, an increase of 3.3pp on current levels**

Pension expenditure over GDP (pp)

Final expenditure of the period (% of GDP)
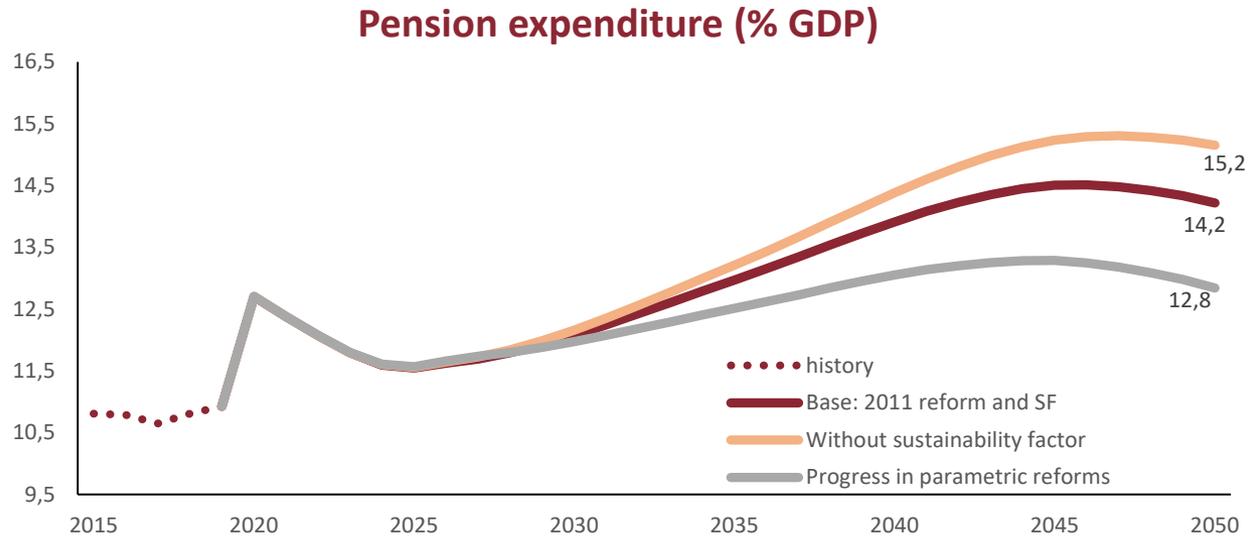
| 10.9% | 11.5% | 12.1% | 13.9% | 14.2% |
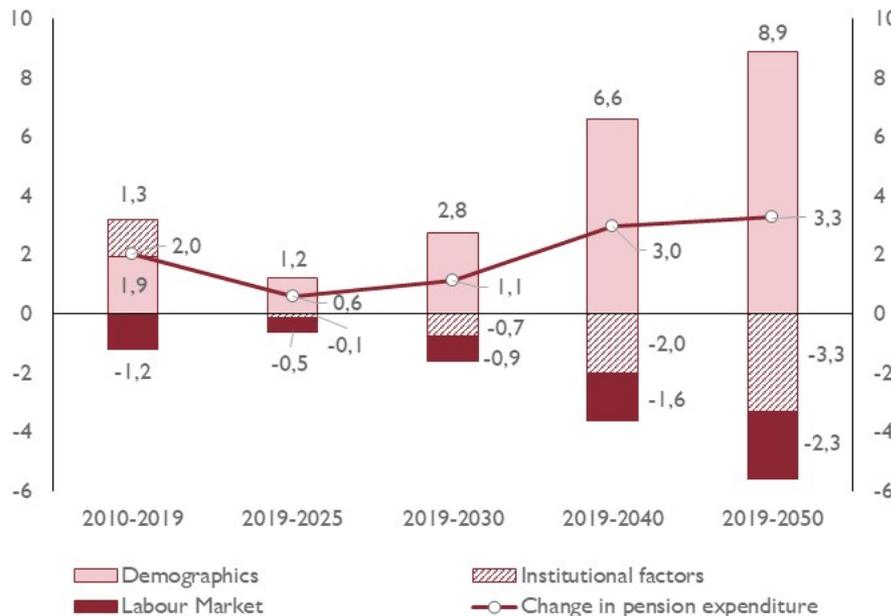
- **Demographics:** has a decisive impact as from 2030, softened by migratory flows

- **Labour market:** remains a compensating factor of the expenditure

- **Institutional factors**: rising effect due to cumulative impact of the 2011 reform and the sustainability factor

Pension expenditure / GDP	2010	2019	2050
AIReF 2020	8.9	10.9	14.2
AIReF 2019	8.9	10.7	13.2

3.3. Long-term challenges: reforms

> **More extensive progress in the 2011 parametric reform would contain spending by 1.4 points of GDP**

Pension expenditure (% GDP)

Legend:
- ······· history
- —— Base: 2011 reform and SF
- —— Without sustainability factor
- —— Progress in parametric reforms

Values noted: 15,2 · 14,2 · 12,8

Scenarios	Pension expenditure (% GDP)	Coverage rate	Increase in debt (% GDP)
a. Baseline scenario with reforms: ➢ 2011 parametric reforms ➢ Application of the sustainability factor	**14.2% of GDP**	**53.3%**	**+56.3 pp of GDP**
b. Elimination of the Sustainability Factor	**Increase in expenditure of 0.9 points of GDP**	**56.9%**	**+65.9 pp of GDP**
c. Progress in reforms: ➢ Increase in the effective retirement age from 64.1 to 66 ➢ Increase in contribution career: from 25 to 35 years	**Saving of 1.4 points of GDP**	**52.7%**	**+40.2 pp of GDP**

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3.4. Long-term challenges: uncertainty

There is a high level of uncertainty around the demographic and macroeconomic projections and more adverse scenarios may materialise

- The high migratory influx is closely linked to maintenance of a favourable macroeconomic scenario in relation to other economies (America, Africa and Eastern Europe, mainly)

- Reducing structural unemployment from the levels estimated prior to the COVID-19 crisis, close to 15%, to 7% - a common assumption in projection exercises - requires labour market reforms

- Added to this is the impact that COVID-19 may have on migratory flows or mortality rates and the possibility that the duration of the crisis may cause structural damage to the economy and have a longer-lasting effect on growth than estimated

- On the positive side, the Recovery and Resilience Plan may be the trigger for structural reforms that will improve productivity, potential growth and employment
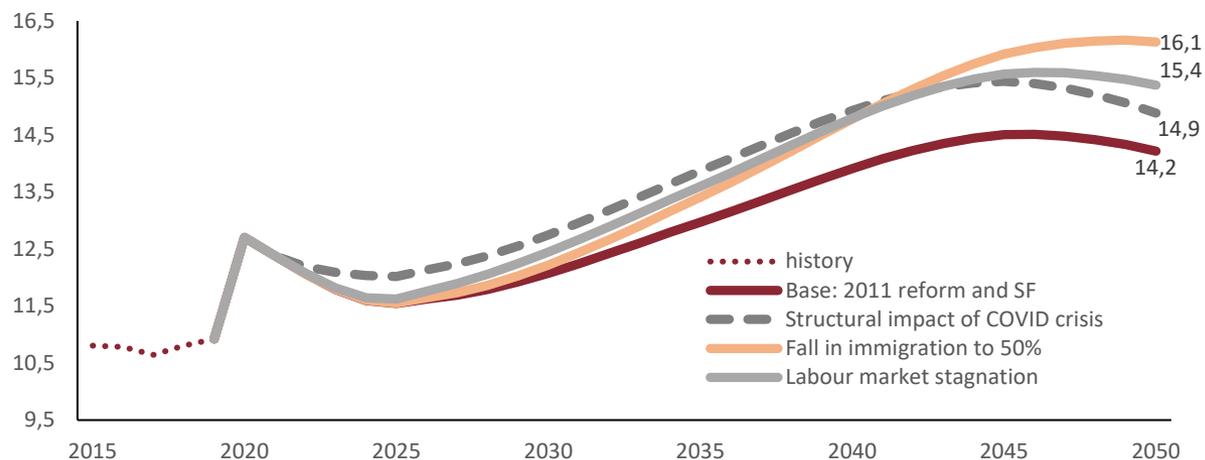
3.4. Long-term challenges: risks

There are significant risks that would further raise expenditure should they materialise

Alternative scenarios for pension expenditure (% of GDP)

Legend:
- ······· history
- Base: 2011 reform and SF
- - - Structural impact of COVID crisis
- Fall in immigration to 50%
- Labour market stagnation

Values at 2050: 16,1 / 15,4 / 14,9 / 14,2

Scenarios	Pension expenditure (% GDP)	Replacement rate	Increase in debt (% GDP)
a. Structural impact of the COVID-19 crisis ➤ Potential GDP falls in 2020 ➤ Slower convergence of productivity	Increase in expenditure of 0.7 points of GDP	55.2%	+78.2 pp of GDP
b. Drop in immigration ➤ Annual migratory flows fall by half	Increase of 1.9 points of GDP	53.1%	+79.4 pp of GDP
c. labour market stagnation ➤ Unemployment converges to 10% ➤ Lower activity rates	Increase of 1.2 points of GDP	54.6%	+74.2 pp of GDP

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3.4. Long-term challenges: sensitivity analysis

> **Changes in initial assumptions from the baseline scenario may have a significant impact on pension expenditure in 2050**

	Pension expenditure		
	2019	**2035**	**2050**
Expenditure / GDP	**10,9**	**13,0**	**14,2**
↓ Net inmigration down 50% every year 2019-50		0,4	1,9
Δ Fertility + 0,3 children per women in 2050		-	-
Δ Life Expectancy + 2 years in 2050		-	0,4
Δ Productivity convergence to 1,6pp		-0,3	-0,7
Δ Activity + 2 p.p. 2050		-0,3	-0,2
Δ Unemployment 3 p.p. in 2050		0,2	0,4
Δ Unemployment to historical value 2002-2019 in 2050 (16,3%)		0,5	1,5

4. Conclusions

- Resolving short-term imbalances should not reduce the need to address long-term challenges or make us forget that the structural deficit of the general government remains unchanged.

- Early implementation of the reforms would allow more gradual application, thus facilitating social acceptance and adaptation of agents' decision-making to the new situation.

- An agreement within the Toledo Pact would be a good start, but its effectiveness in guaranteeing the social security system's sustainability will depend on implementing the recommendations in the legislation.

- Addressing the challenge of ageing population, which also affects other policies, and ensuring the sustainability of public finances requires a comprehensive outlook and a medium- and long-term fiscal strategy.

4. Pension expenditure simulator

AIReF has <u>an online tool</u> to simulate different scenarios. Only available in Spanish.

www.airef.es

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