SIM4SECURITY

Forecast and Spatial Analysis Model for Public Security

FCT Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA

IPRI INSTITUTO PORTUGUÊS DE RELAÇÕES INTERNACIONAIS UNIVERSIDADE NOVA DE LISBOA

NOVA IMS Information Management School

Referência Projeto:
PTDC/ATPDEM/1538/2014

Ageing, migrations and public security planning.

Portugal 2040.

Sara Ribeiro

Teresa Rodrigues

18 may 2017

BEYOND BORDERS
People, spaces, ideas
Universidade Autónoma de Lisboa
OBSERVARE 3rd International Conference
17-18-19 May, 2017

- Demographic trends influence political stability and security

- Portugal is currently the World's sixth country with the highest ageing rate, with one of the lowest fertility rates – two negative indicators in the social and economic development dynamics of a society, with strong impacts in the planning activities of the public policy sector, including the dimensioning and geographic distribution of security forces

- This work aims to highlight the added value of knowledge coming from demographic forecasting exercise in supporting decision-making within the public policy sector

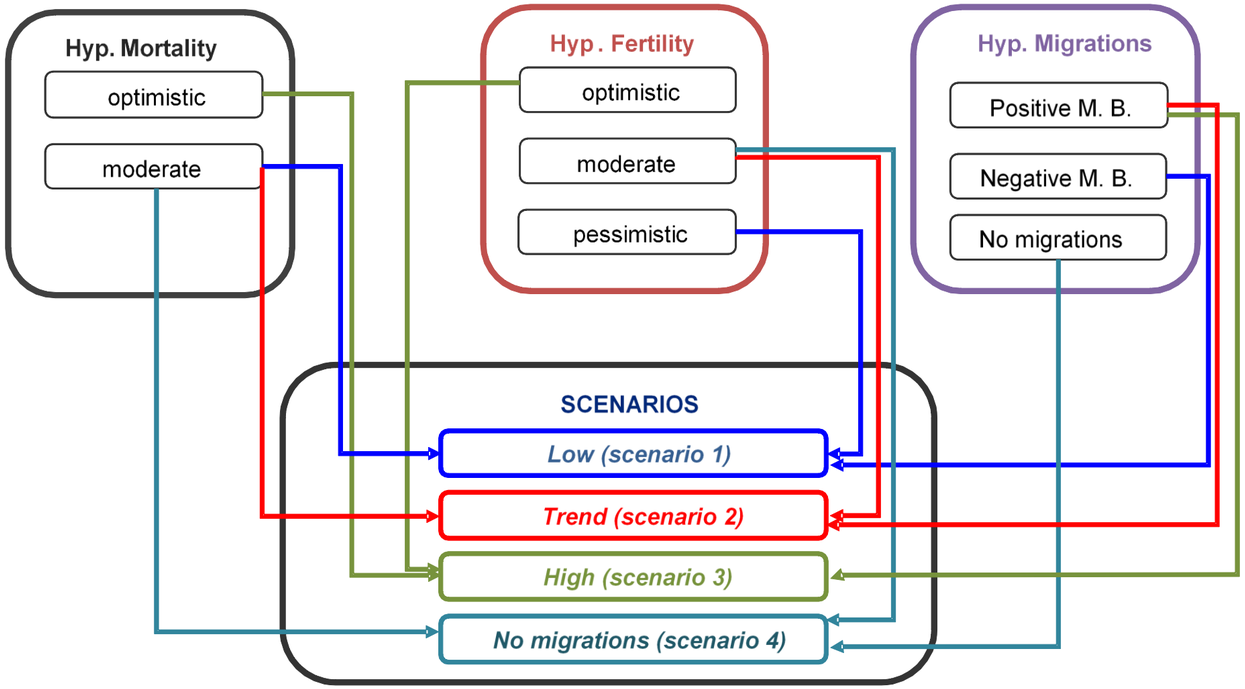
- SIM4SECURITY project

<u>Demographic projections by sex, age, and municipality</u> (2011-2040)

- Specific vulnerable groups (youth and elderly)
- Overlay of the output scenarios with local standards of wealth and the vulnerability of dwellings

<u>Demographic cohorts</u>

- Main tendencies of the dynamics of the Portuguese population
- Forecast of the impact of ageing in the population distribution
- Relationship of the demographic dynamics, of the socioeconomic changes and of the regional standard of wealth with the migratory tendencies
- Forecast of the future changes in the demographic structure



Scenario 1 – Low – the most pessimistic

Combines the hypothesis of the most pessimistic evolution of the FSI with the hypothesis of moderate average life expectancy at birth and at all ages, and the hypothesis of keeping negative Migratory Balances (MB)

Scenario 2 – Trend

Combines the hypothesis of moderate evolution of the SFI with the hypothesis of moderate evolution of average life expectancy, and the hypothesis of return to positive MB

Scenario 3 – High – the most optimistic

Combines the hypothesis of optimistic evolution of the FSI, with the hypothesis of optimistic evolution of average life expectancy, and the hypothesis of return to positive MB

Scenario 4 – No migrations

Identical scenario to scenario 2, without the inclusion of the influence of the MB

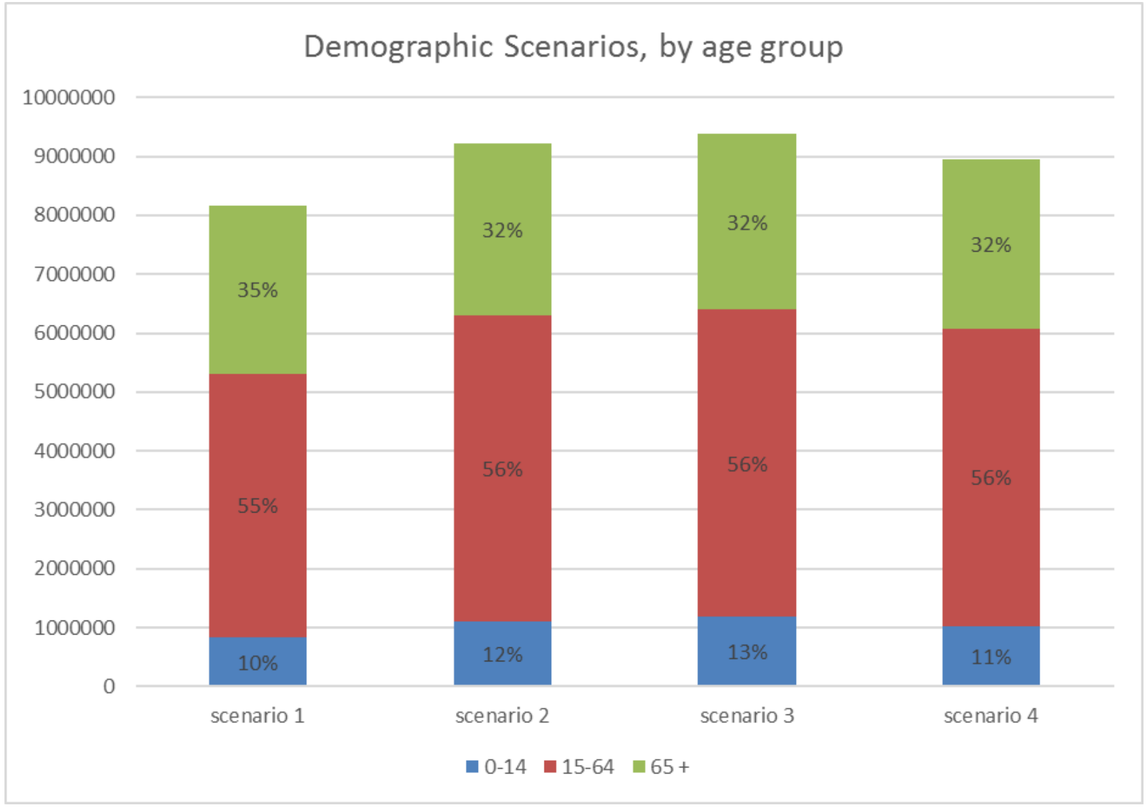
- Population (Continental Portugal, 2011) : 10 047 621 inhabitants

Scenario	2030	2011-2030	2040	2011-2040
1 – Pessimistic	8 931 846	-1 115 775 (-11%)	8 173 856	-1 873 765 (-18%)
2 – Trend	9 454 770	-592 851 (-6%)	9 210 083	-837 538 (-8%)
3 – Optimistic	9 533 041	-514 580 (-5%)	9 387 787	-659 834 (-7%)
4 – Trend + no migrations	9 428 233	-619 388 (-6%)	8 960 065	-1 087 556 (-11%)

SIM4SECURITY
Forecast and Spatial Analysis Model for Public Security

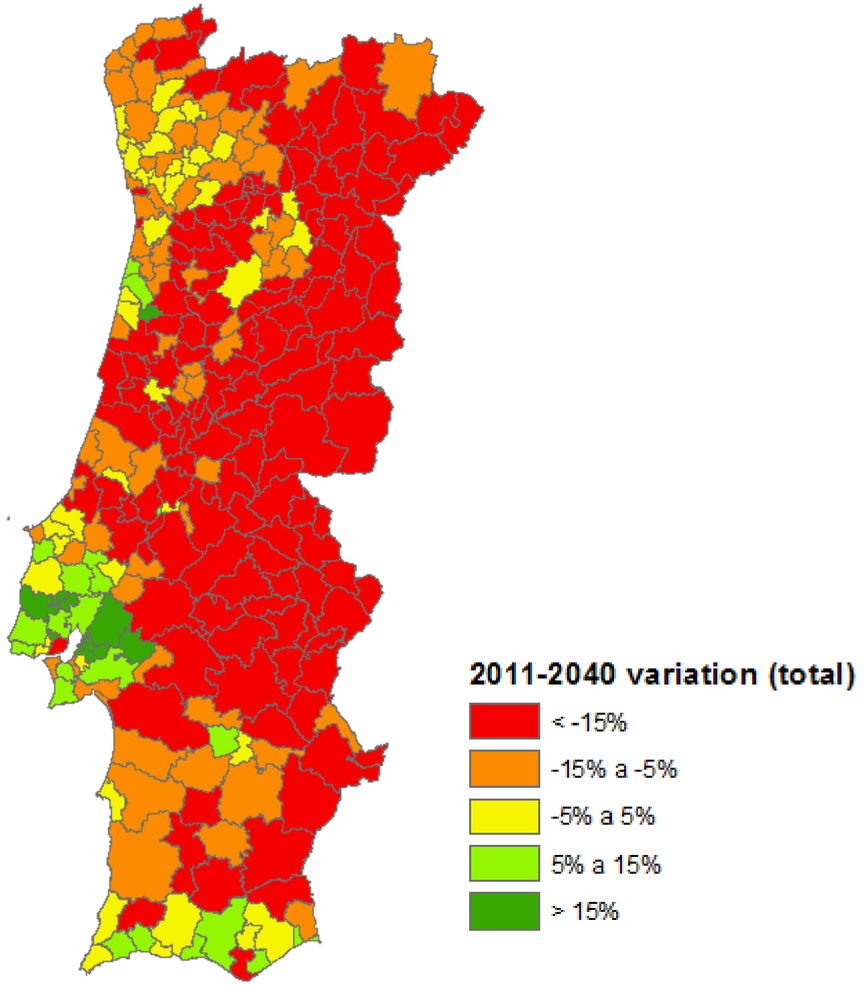
Demographic Scenarios – Age Groups 2040

Scenario	Age		
	0-14	15-64	65+
1 – Pessimistic	841 249	4 467 464	2 865 143
2 – Trend	1 101 205	5 193 726	2 915 152
3 – Optimistic	1 188 115	5 211 316	2 988 356
4 – Trend + no migrations	1 027 628	5 045 389	2 887 048



SIM4SECURITY

Forecast and Spatial Analysis Model for Public Security

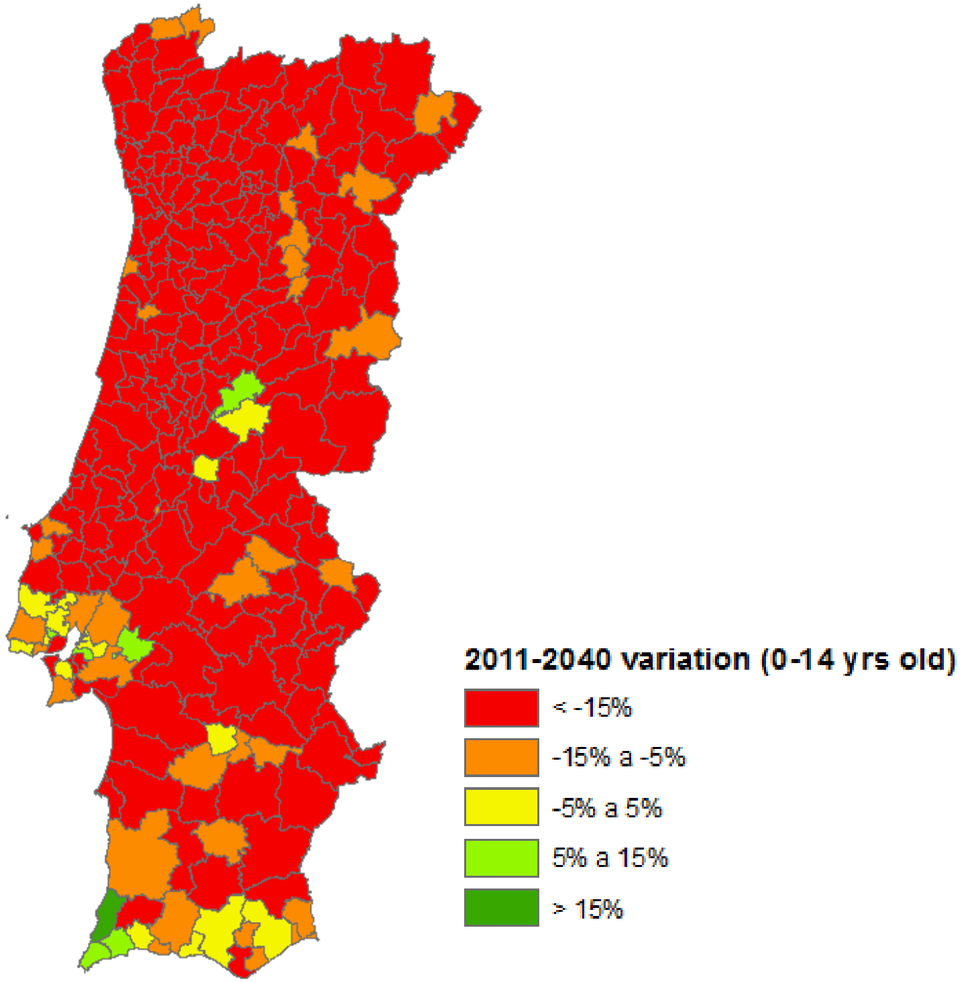


- 236 (of 278) municipalities decrease population
- 141 show a decrease higher than 15%
- Higher decrease:
  - Alcoutim (-55.7%)
  - Gavião (-44.1%)
  - Idanha-a-Nova (-44.0%)
  - Castanheira de Pêra (-41.8%)
- Only 8 show an increase higher than 15%
- Higher increase:
  - Arruda dos Vinhos (+35.2%)
  - Montijo (30.4%)
  - Alcochete (28.1%)
  - Mafra (27.1%)

SIM4SECURITY

Forecast and Spatial Analysis Model for Public Security

Scenario 2 – Population variation 2011 – 2040 (0-14 years old)

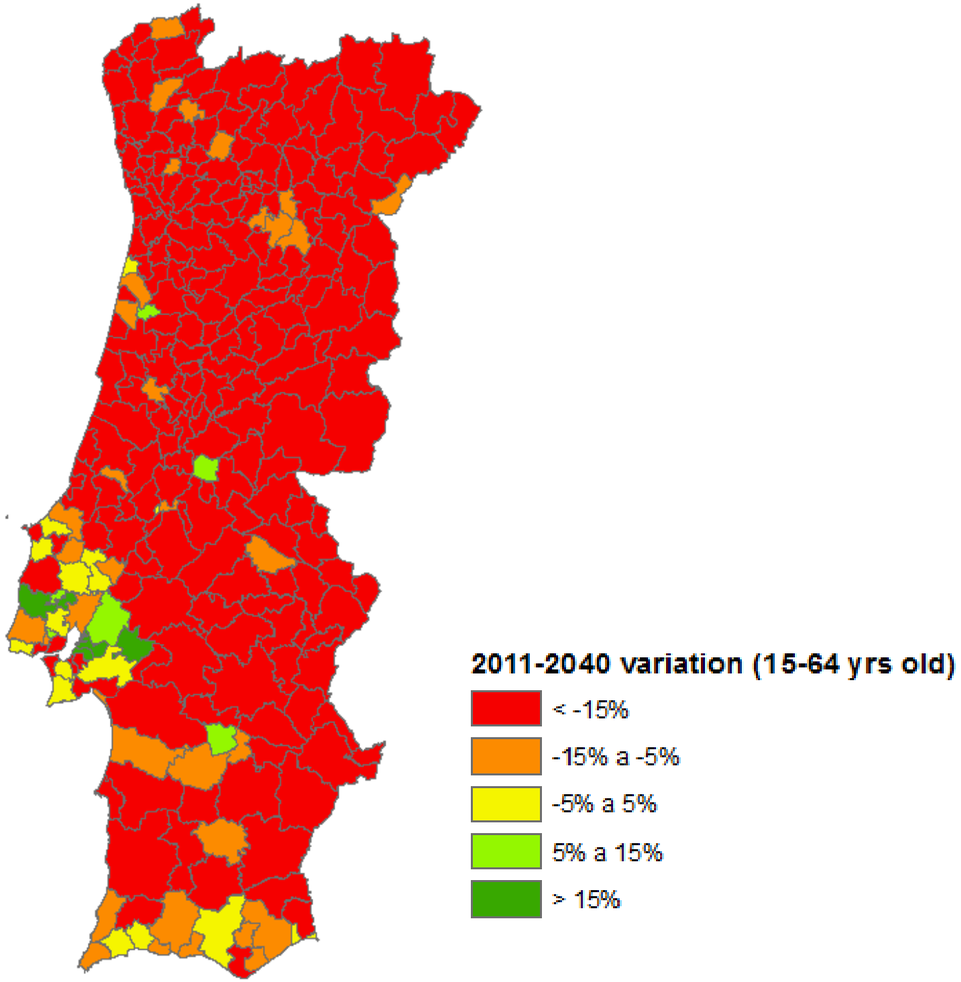


- 266 (of 278) municipalities decrease young population
- 223 show a decrease higher than 15%
- Higher decrease:
  - Porto (-55.4%)
  - Abrantes (-51.5%)
  - Soure (-48.3%)
  - Alcoutim (-47.8%)
- Only Aljezur shows a decrease higher than 15% (23.4%)
- Higher increase:
  - Aljezur (23.4%)
  - Vila do Bispo (12.3%)
  - Odivelas (10.5%)
  - Pampilhosa da Serra (9.7%)

SIM4SECURITY

Forecast and Spatial Analysis Model for Public Security

Scenario 2 – Population variation 2011 – 2040 (15-64 years old)

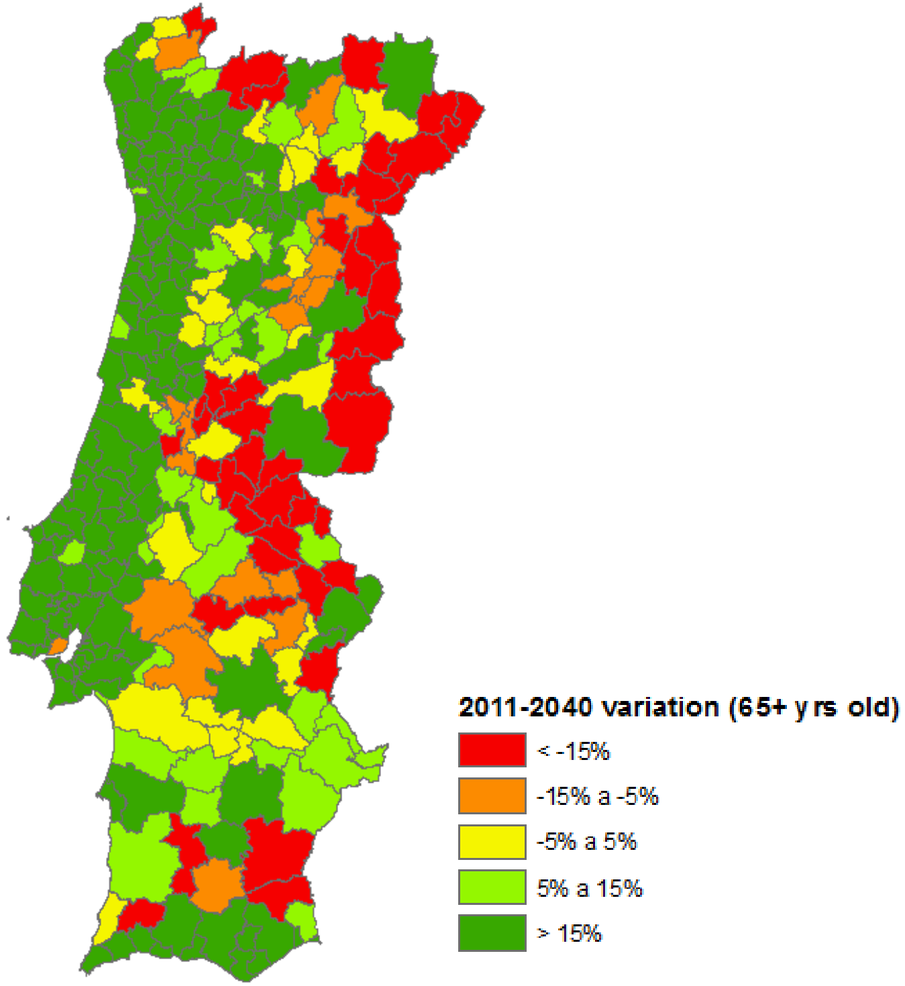


- 264 (of 278) municipalities decrease adult population
- 219 show a decrease higher than 15%
- Higher decrease:
  - Alcoutim (-62.1%)
  - Porto (-54.9%)
  - Castanheira de Pêra (-54.2%)
  - Manteigas (-50.8%)
- 4 municipalities show a decrease higher than 15%
- Higher increase:
  - Arruda dos Vinhos (31.3%)
  - Montijo (25.2%)
  - Mafra (18.9%)
  - Alcochete (17.9%)

SIM4SECURITY

Forecast and Spatial Analysis Model for Public Security

Scenario 2 – Population variation 2011 – 2040 (65+ years old)

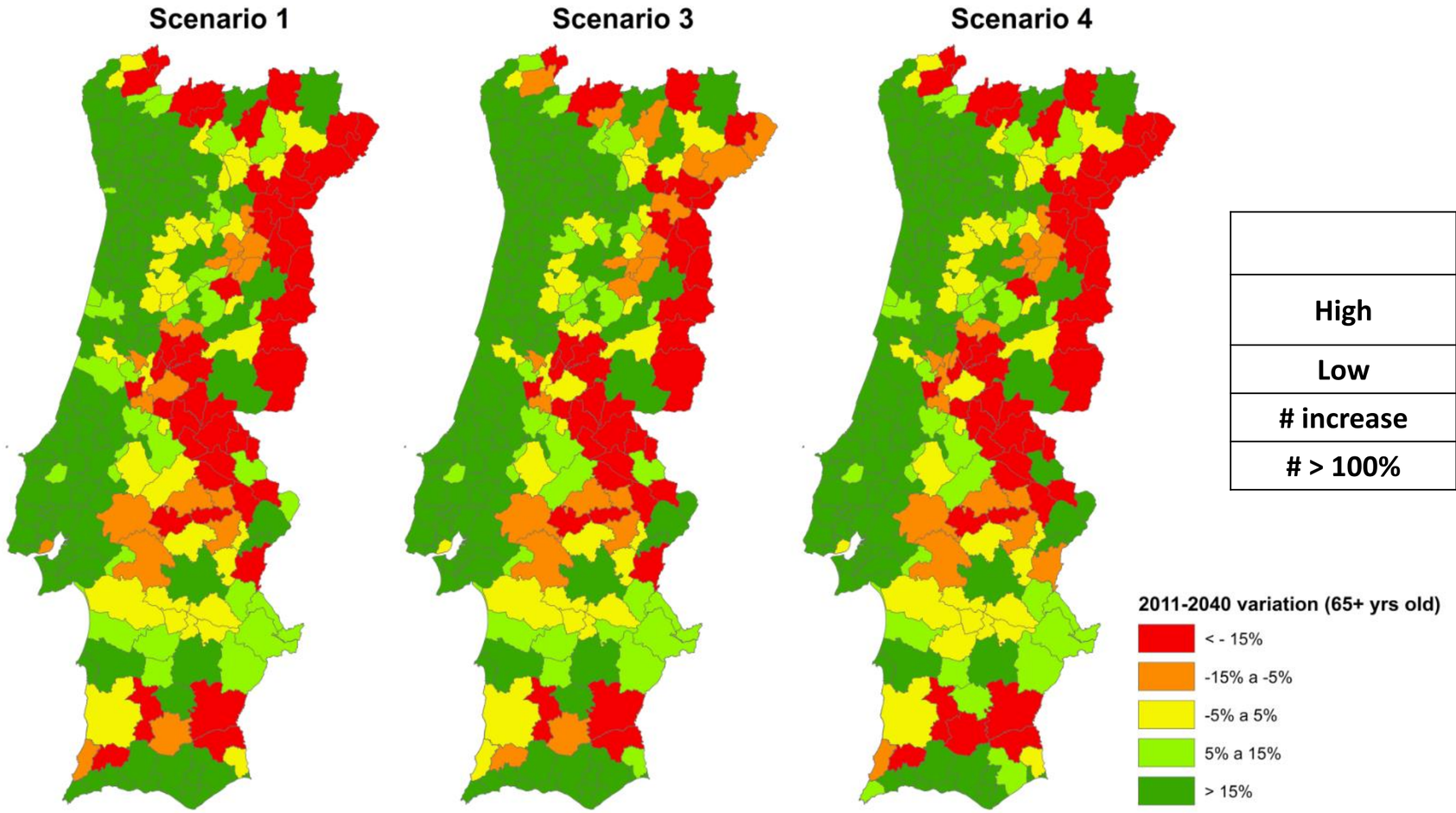


- 201 (of 278) municipalities **increase** elderly population
- 151 show a **increase** higher than 15%
- 25 show a **increase** higher than 100%
- Higher **increase**:
  - Paços de Ferreira (176.9%)
  - Vizela (172.5%)
  - Lousada (169.8%)
  - Paredes (168.2%)
- 43 show a **decrease** higher than 15%
- Higher **decrease**:
  - Alcoutim (-50.1%)
  - Idanha-a-Nova (-48.5%)
  - Penamacor (-47.7%)
  - Vila Velha de Rodão (-41.6%)

SIM4SECURITY

Forecast and Spatial Analysis Model for Public Security

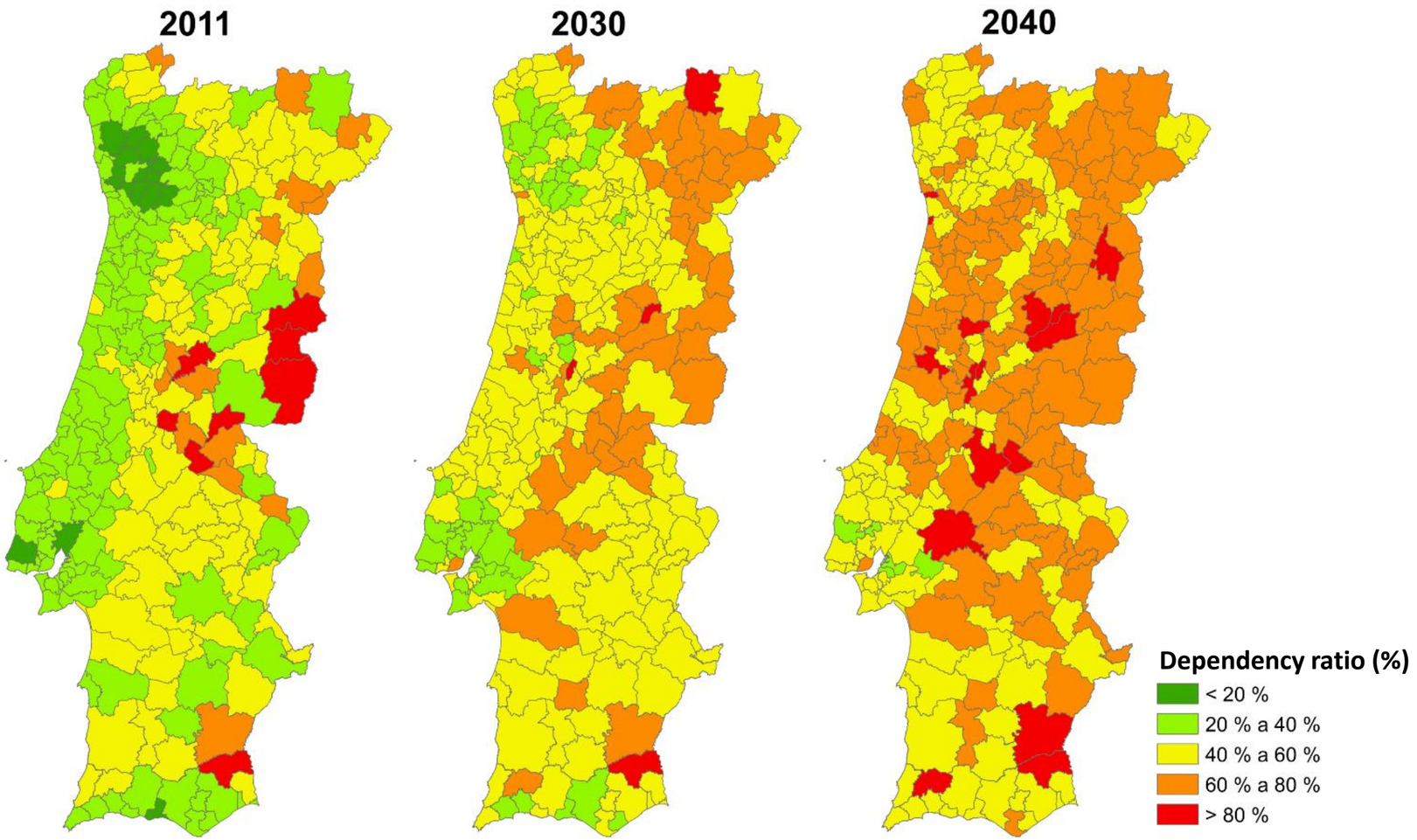
Scenarios 1, 3 and 4 – Population variation 2011 – 2040 (65+ years old)



	Scenario 1	Scenario 3	Scenario 4
High	Paços de Ferreira (174.1%)	Paços de Ferreira (185.9%)	Paços de Ferreira (173.3%)
Low	Alcoutim (-50.9%)	Alcoutim (-48.8%)	Penamacor (-48.9%)
# increase	196	209	199
# > 100%	22	26	21

SIM4SECURITY

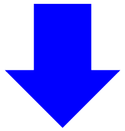
Forecast and Spatial Analysis Model for Public Security



Dependency ratio = Pop 65+/Pop 15-64

- DR in Continental Portugal:
  - 29.2% (2011)
  - 56.1% (2040)
- Municipalities with higher DR:
  - Alcoutim (120.3%)
  - Castanheira de Pêra (97.5%)
  - Manteigas (94.3%)

- Change in the volume of working age people
- Need to create services to support the elderly
- Reformulation of the pension scheme systems
- Rethinking of healthcare
- Elderly living in less populated areas will decrease their security perception
- Elderly living in urban areas will need more attention from security forces and services (SFS)



- Replanning security forces and services to proximity strategies

Main nationalities present in Portugal (2013)

Nationality	Total
Brazil	109787
Cape Verde	42401
Ukraine	41091
Romania	34204
Angola	20177
China	18846
United Kingdom	16471
São Tomé and Príncipe	10304
Moldavia	9971
Olthers	98098

From EU, USA, Canada and Northern Europe countries:

- Average or high qualifications
- Education, health and management

From other European and South American countries:

- Medium qualification
- Service sector (retail trade, restaurants, tourism)
- Sporadically occupy management positions

From African and Asian countries:

- Low qualifications
- Service sector (cleaning, small retail, construction, agriculture)

	2011/2016	2016/2040
Pessimistic Scenario	-159875	-490000
Moderate Scenario	-137900	50000
Optimistic Scenario	-107900	750000

SIM4SECURITY
Forecast and Spatial Analysis Model for Public Security

Foreign Population in Portugal. SWOT Analysis

Strengths	Weaknesses
• Mitigation of the demographic ageing (top and bottom) • Positive impacts on fertility • Population increase in young working age • Economic development and increased consumption • Increase of cheaper, younger, and more flexible labour supply, which fosters productivity gains • Strengthening of natural identity, understood as “super identity”	• Increase of complexity of the immigrant’s profile • Decrease of the average levels of education • Decline in average skill levels of the workforce • Difficulty to access to certain services • Change of the social structure, which enhances tension • Inability of the labour market to take advantage of immigrant human resources • Increase in illegal/irregular situations
Opportunities	**Threats**
• Reducing the population decrease in interior areas • Greater demographic mechanism • Full integration of skilled labour with training and knowledge • Streamlining the working population • Contribution to the public State accounts • Taxes paid by legal immigrants exceed the social benefits they have access, such as education and health • Positive impacts on local economies	• Increase of the percentage of illegality, increased vulnerability and social, economic and cultural differentiation hindering social integration • Ease of insertion in the informal labour networks • The existence of people in illegal situation has negative impacts on public finances • Increased sense of insecurity and intolerance towards diversity • Pressure on health, education, employment and social security systems • Strengthening of welfare regional asymetries • Polarising effect of the Metropolitan Area of Lisbon

- Europe has a highly ageing population and this is a difficult process to reverse within the current social and economic context
- Migration can be seen as a way to mitigate this fact, so to increase youth and working population; however, due to the increase of complexity of the immigrants' profile, a increased sense of insecurity and intolerance towards diversity should be expected
- Ageing also has impacts on public policies, and in the planning of security forces and services so to increase the level of security perception amongst elderly people; Proximity policies and specific programs for elderly should be implemented
- Responses to this predictable future scenario in the form of public policies will have to be applied as soon as possible, as their results will not be felt in the short term

SIM4SECURITY

Forecast and Spatial Analysis Model
for Public Security

Thank you!

http://sim4security.novaims.unl.pt/