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Populations insulaires
I - Les dynamiques démographiques et de peuplement des îles

Population and mobility in the Portuguese islands: trends from 2001 to 2021

Population et mobilité dans les îles portugaises : tendances de 2001 à 2021

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Résumés

English Français
The aim of this paper is to analyse the demographic and migratory dynamics in the Portuguese island regions of Madeira and the Azores over the last two decades. The article begins with a brief overview of the historical and geographical context, which is essential for understanding the factors that shape population evolution and are reflected in the current situation. Beyond physical constraints such as insularity, it is important to highlight the significant historical influence of emigration in these regions and its relationship with the development of the islands over time.
There have been significant changes in population growth patterns from 2001 to 2021, with a decrease in natural growth and an increased importance of migration for demographic evolution. In particular, emigration emerges as a response to economic vulnerability, playing a crucial role in moments of crisis, such as the recession of 2011-2013.
Traditionally areas of emigration, the islands have experienced an increase in the proportion of foreign population, a phenomenon that reflects changes in migratory trends, particularly in Madeira, which receives a significant proportion of people from abroad.
From a demographic point of view, the islands face the challenge of an ageing population, although they still have a younger demographic structure than the mainland. However, despite these changes, vulnerability persists, as reflected in indicators such as life expectancy.

L'objectif de cet article est d'analyser les dynamiques démographiques et migratoires dans les régions insulaires portugaises de Madère et des Açores au cours des deux dernières décennies. L'article commence par un bref aperçu du contexte géographique, essentiel pour comprendre les facteurs qui façonnent l'évolution de la population et se reflètent dans la situation actuelle. Au-delà des contraintes physiques telles que l'insularité, il est important de souligner l'influence historique significative de l'émigration dans ces régions et sa relation avec le développement des îles au fil du temps.
Au cours de la période analysée, de 2001 à 2021, on observe des changements significatifs dans les schémas de croissance de la population, avec une diminution de l'intensité de l'accroissement naturel et une augmentation de l'importance de la migration dans l'évolution démographique. En particulier, l'émigration apparaît comme une réponse à la vulnérabilité économique, jouant un rôle crucial dans les moments de crise, comme la récession de 2011-2013.
Traditionnellement zones d'émigration, les îles ont connu une augmentation de la proportion de population étrangère, un phénomène qui reflète les changements dans les tendances migratoires, en particulier à Madère, qui accueille une proportion importante de personnes venant de l'étranger.
D'un point de vue démographique, les îles sont confrontées au défi du vieillissement de la population, bien qu'elles aient encore une structure démographique plus jeune que celle du continent. Cependant, malgré ces changements, la vulnérabilité persiste, comme en témoignent des indicateurs tels que l'espérance de vie.

Entrées d'index

Mots-clés : populations insulaires, Açores, Madère, Portugal, migration, dynamiques de population
Keywords: island populations, Azores, Madeira, Portugal, migration, population dynamics

Texte intégral

Introduction

1 Islands, often viewed as unique demographic laboratories, offer valuable insights into population dynamics [Baldacchino, 2008; King, 2009; Espínola, Cravidão, 2014]. The Portuguese archipelagos of the Azores and Madeira, with their distinct historical, cultural and geographical features, provide compelling case studies.

2 The specific attributes of each archipelago, in terms of size and internal diversity, have shaped their demographic trajectories, influencing patterns of growth, migration, and population structure [Brito, 1994; Silva, 1988/89]. The later demographic transition in the Azores compared to Madeira [Rocha, 2013, 2015; Oliveira, 2004], coupled with fluctuations in migration [Rocha and Ferreira, 2010; Espínola, 2022], underscores the pivotal role of migration in driving population dynamics in these insular territories. While some literature has highlighted the varied dynamics shaping island societies [Rocha and Ferreira, 2010; Rocha 2013], the focus on migration patterns within the Portuguese and Spanish outermost regions has revealed intriguing disparities. For instance, while both sets of islands have experienced a shift from emigration to immigration, the impact of migration on the Azores and Madeira, especially when compared to the Canary Islands, has been notably different [Marie and Rallu, 2012; Jerez-Darias, Domínguez-Mijuca, 2024].

3 This study aims to delve deeper into these trends, with a particular focus on migration, to contribute to a comprehensive understanding of the complex demographic landscapes of the Azores and Madeira in recent decades. The research adopts a comparative approach, examining both island regions in relation to mainland Portugal, with a particular focus on the demographic trends observed during the first two decades of the 21st century. The focus on this most recent analysis is a key contribution of the paper, providing an updated perspective on the most recent demographic developments in these regions.

4 The archipelagos of Madeira and the Azores, located in the North Atlantic, form a portion of the territory of Portugal (figure 1). They occupy 3,135 km² of the 92,225 km² of the national territory, representing approximately 3.4% of the country's total area. The archipelagos are home to 487,000 of Portugal's 10,343 million inhabitants, or 4.7% of the population (INE, 2021).

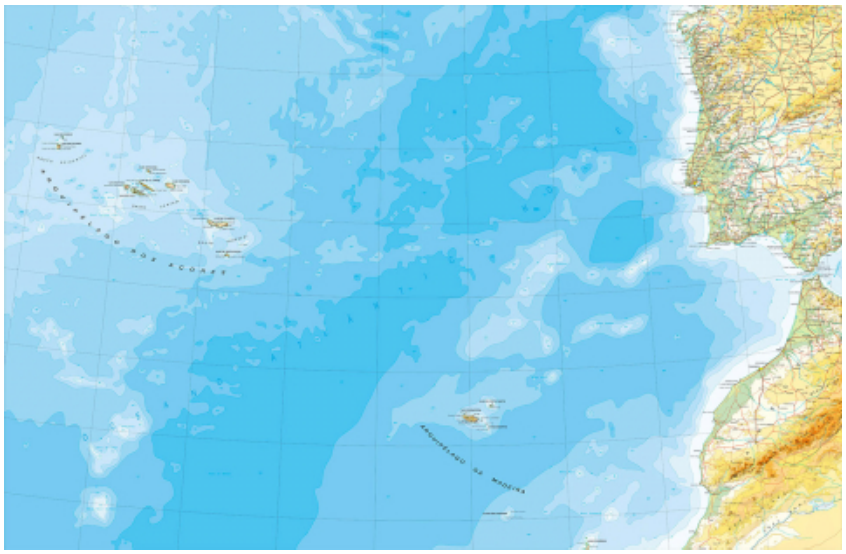
5 The Autonomous Regions of the Azores and Madeira, the two Portuguese island regions, have a special status that gives them political, administrative and financial autonomy from the central government. This status was first granted by the Portuguese Constitution in 1976 in a response to the geographical, social and economic diversity of the national territory. In the European Union, these island regions have their own framework and are classified as outermost regions (European Union, 2016). The vulnerability of the islands is a persistent and transversal dimension due to their discontinuity and peripheral position in relation to the mainland [Rocha, 2013]. Consequently, their demographic evolution reflects challenges and specificities. On the one hand, the dynamics of island populations show the continuity of long-term trends; on the other hand, they reveal the characteristics of the post-demographic transition, the disruptions brought about by the integration into a globalised world and the constraints of small populations.

6 While the primary focus of this study is an analysis of the current demographic dynamics in Madeira and the Azores, a comprehensive understanding of the islands' geographical setting and historical demographic patterns is crucial for a full comprehension of the complexities of the present situation. This is followed by an examination of the principal aspects of the demographic evolution of the island populations, including their dynamics, population structures, and mobility. The study also presents demographic statistics and other indicators provided by the Instituto Nacional de Estatística (INE).

Azores and Madeira: a brief geographical overview

7 The islands of Madeira and the Azores, both with volcanic origins, exhibit different physiognomies due to their varying latitudes. This results in different rainfall patterns and amounts. Additionally, the age of each island and volcanism type also contribute to these differences.

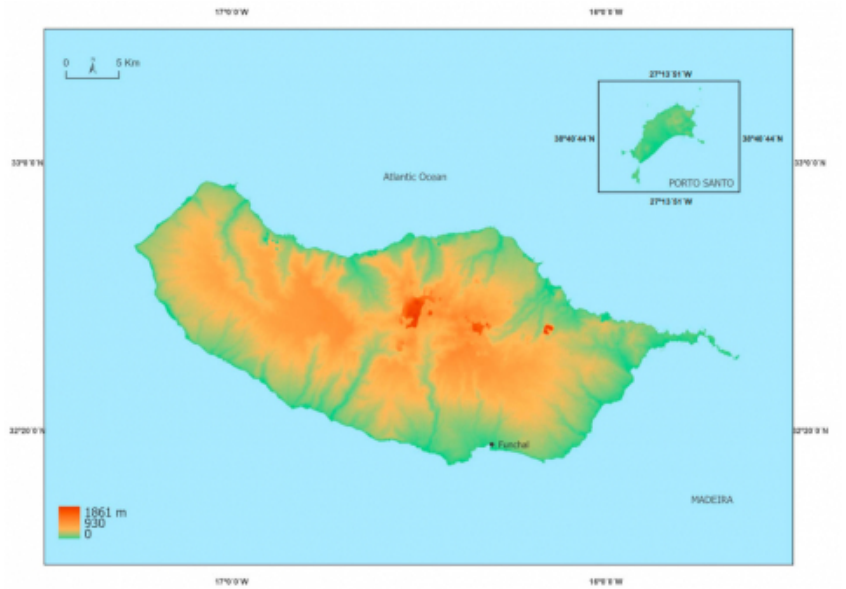
Figure n.º 1 - Portugal Mainland, Madeira and Azores



Source: https://www.dgterritorio.gov.pt/cartografia/cartografia-topografica/scn2500k

8 The Madeira archipelago is situated at a latitude between 30° and 33°N, approximately 1,000 km south-west of Lisbon and 800 km from the north-west coast of Africa. The archipelago is comprised of three principal islands: Madeira (the largest, with an area of 736 km² and which gave the archipelago its name), Porto Santo (50 km north-east of it) and the uninhabited islets of Desertas and Selvagens, totalling 801.1 km². The island of Madeira is characterised by a rugged orography, with peaks reaching heights of up to 2,000 meters and imposing coastal cliffs and deep ravines. In contrast, the more arid and flattened Porto Santo's landscape is the result of heavy erosion (figure 2).

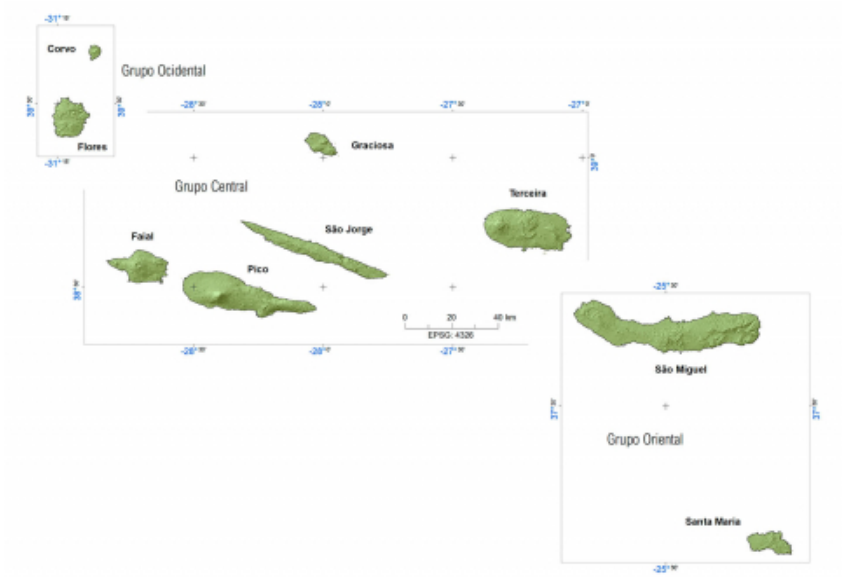
Figure n.º 2 - Madeira archipelago



Map: Authors

9 The Azores archipelago is situated between 36° 55' and 39° 43' north latitude and 25° and 31° west longitude, at the convergence of the mid-Atlantic ridge and the Gibraltar-Azores fracture zone. The distance from the west coast of mainland Europe is approximately 1,600 km, while the distance from Madeira is around 1,000 km and from Bermuda is 3,000 km. The nine Azorean islands cover an area of 2,334 km2, varying from the 759 km2 of the largest island, S. Miguel, to the 17 km2 of the smallest, Corvo. The archipelago is divided into the western group (Flores and Corvo), the central group (Terceira, Graciosa, São Jorge, Faial and Pico) and the eastern group (São Miguel and Santa Maria), which includes the Formigas islands. Pico island has the highest point in Portugal, reaching an altitude of 2,351 meters (figure 3).

Figure n.º 3 - Azores archipelago



Map: authors

10 The Portuguese islands are part of the European Union territory, caring the status of outermost region. The Azores act as Europe's westernmost frontier, assuming strategic importance due to the size of its exclusive economic zone and as a strategic connection point between America and Europe. From a biogeographical point of view, the Azores and Madeira are part of the Macaronesia region, along with the Canary Islands and Cape Verde.

The historical and demographic context of the islands

11 In the 15th century, the archipelagos of the Azores and Madeira, along with the Canary Islands, constituted the first systematic attempts to occupy overseas space within the context of European overseas expansion. As border areas between the Old and New Worlds, new societies were forged here, particularly in Madeira and the Azores, both unpopulated at the time, resulting in very particular political, social and economic configurations.

12 The inhabitants of the Atlantic archipelagos were a diverse population. In the case of Madeira, the contingent was essentially Portuguese, with a high proportion from the North of the country and the Algarve. The proximity to North Africa and the urgent need for labour rapidly led to the use of forced labour, which is estimated to have been around 10% of the population at the beginning of the 16th century [Pinto and Rodrigues, 2013]. In the Azores, the Portuguese contingent was supplemented by the Flemish and, here too, there was a high presence of slaves, many of whom were Moorish. In both cases, the foreign communities were not insignificant, particularly the English, French, and some Italian republics, which were fuelled by trade.

13 From a political standpoint, the archipelagos had been an integral part of the Kingdom of Portugal since the mid-16th century. In Madeira the city of Funchal (1508) has always been the capital. Angra do Heroísmo (1534), on the island of Terceira, was the political capital of the Azores until 1828.

14 With the definitive establishment of liberalism in Portugal (1834), administrative districts were created, forming those of Ponta Delgada, Horta and Angra do Heroísmo in the Azores, and Funchal in the Madeira archipelago. Finally, in 1976, the Autonomous Regions of Madeira and the Azores were established, with Ponta Delgada becoming the political capital of the Azores.

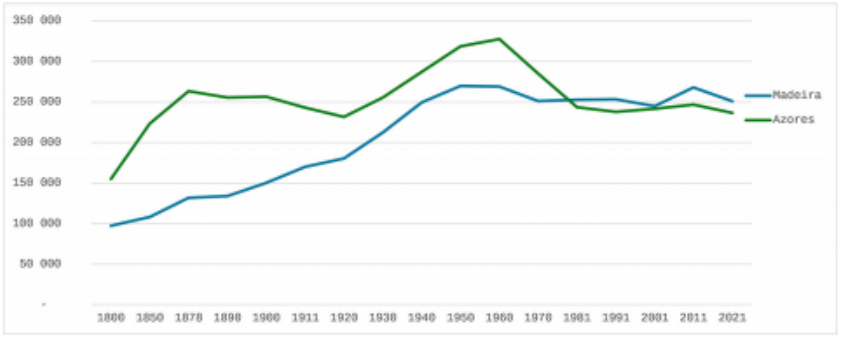
15 The islands were relatively marginal to the metropolis, although their geographical position - especially that of the Azores - gave them centrality as hubs for people, goods and cultures. The archipelagos were soon linked to the Americas, Northern Europe and Asia by the armadas of the Indies (The Indian Run), which were obliged to harbour at the Azores on their return journey. Therefore, due to the peripheral situation of mainland Portugal, the islands had important links with other geographies, which is also why their migratory history differed from that of the mainland.

Another point of convergence between Madeira and the Azores was the economic plan designed by the Portuguese crown in which the archipelagos were intended to specialize in a particular exportation. Sugar cane made Madeira's fortune in the 15th and 16th centuries, supplying

European markets with quantity and quality. After that cycle ended, another emerged in the 17th and 18th centuries, that of vines and wine, as a commodity that was widely exported internationally. In the Azores, dye plants (such as heather) were one of the driving forces of the economy in the 15th and 16th centuries, followed by cereals and livestock and, much later, the export of oranges to England. However, this did not exclude more differentiated economic rhythms limited to certain islands, such as livestock farming on the island of São Jorge, or vineyards and wine on the island of Pico. Even so, the island's economy until the mid-20th century was fundamentally agricultural, with low productivity levels and incipient industrial development.

17 From a demographic point of view, what was most surprising was the rapid expansion of the population and, therefore, its high circulation. Two factors essentially contributed to this. Firstly, a "low-pressure" demographic system, in which milder mortality generated recurring population surpluses. Secondly, the ability to mobilize these surpluses abroad, mainly to Brazil. Thus, as early as the end of the 16th century, the Azores and Madeira fueled a flow of emigration to Brazil. In addition to individual emigration, whether legal or undocumented, the crown itself played an important role in managing these flows. On its initiative, important contingents of families from the archipelagos were transported to various parts of Brazil, something that would be on the horizon of the authorities until its independence in 1822 [Sousa, 2014].

Figure n.º 4 - Evolution of the population in the Azores and Madeira archipelagos, 1800-2021



Source: Matos & Sousa, 2008 (From 1800 to 1850); INE - Censos (From 1878-2021)

18 The data available since 1800 indicates that each archipelago has had its own population trajectory, to a certain extent dissimilar to that of the mainland (figure 4 and appendix I). Until 1878, the Azores grew at a very intense rate, only to begin a phase of stagnation and even population decline until 1920, when they began to grow very intensely up to the 1960s. These increases are related both to the restrictive emigration policies of the United States of America and to the intensification of natural population growth from the mid-1920s onwards (figure 4). From then on, the population began to decline once again, either due to an upsurge in emigration (especially to Canada) or a sharp decrease in natural growth.

19 Madeira's trajectory was quite different and simple to describe. Its population grew uninterruptedly from 1800 to 1950/60 due to very significant natural increase that it was able to absorb. Even so, the population increase coexisted with a high migratory flow, first to Brazil, then to the Antilles and Hawaii, and later to Venezuela and South Africa [Oliveira, 2013]. The scale of this growth was such that in 1981 Madeira surpassed the population of the Azores islands, whereas a century earlier it had only accounted for half. This resulted in a population density three times higher than that of the Azores.

20 Since 1981, the demographic growth of the archipelagos has been hesitant, practically stationary, and does not diverge markedly from the reality on the Portuguese mainland. The effects of the demographic transition were felt more acutely, resulting in a diminishing natural surplus, until it became negative in the 2010s. It was therefore from the 1980s onwards that the islands began a new demographic trajectory when the ageing and the sharp fall in fertility ceased to generate the usual surpluses which were then channeled through emigration.

Figure n.º 5 - Natural growth rate in the Azores, Madeira and Mainland Portugal

Source: INE - Estatísticas Demográficas 1886-2021

21 The 11 Portuguese islands currently host a population of less than half a million individuals, corresponding to 4.7% of the country's resident population in 2021. These islands exhibit a considerable range in population size, with the largest island hosting approximately 250,000 inhabitants and the smallest less than 500 residents. Collectively, the three largest islands (Madeira, S. Miguel and Terceira) account for 89% of the island population.

Table n.º 1 - Population distribution on the islands 2001-2021

Islands	Population			%
	2001	2011	2021	
Madeira and Azores - 11 islands	486 774	514557	487 157	100.0
Madeira - 2 islands	245 011	267785	250 744	51.3
Madeira	240 537	262302	245 595	50.3
Porto Santo	4 474	5483	5 149	1.0
Azores - 9 islands	241 763	246772	236 413	48.7
Santa Maria	5 578	5 552	5 406	1.1
São Miguel	131 609	137 856	133 288	27.1
Terceira	55 833	56 437	53 234	11.1
Graciosa	4 780	4 391	4 090	0.9
São Jorge	9 674	9 171	8 373	1.8
Pico	14 806	14 148	13 879	2.9
Faial	15 063	14 994	14 331	3.0
Flores	3 995	3 793	3 428	0.8
Corvo	425	430	384	0.1

Source: INE - Censos 2001, 2011 and 2021

22 The largest island, Madeira, accounts for 50% of the population of the Portuguese islands, while São Miguel and Terceira have 27% and 11% of the inhabitants, respectively. If we consider the next three islands, Faial and Pico (with 3% of the population each) and São Jorge (2%), they collectively account for 96% of the island population.

23 Concurrent with the population concentration on larger islands, these insular territories have exhibited greater resilience than the mainland. Despite experiencing population decline in 2021, they managed to maintain a higher population volume compared to 2001, a trend not observed on the mainland. Population fluctuations on islands are highly susceptible to small-scale events and economic and social activity, reflecting the intricate interplay of local socioeconomic contexts.

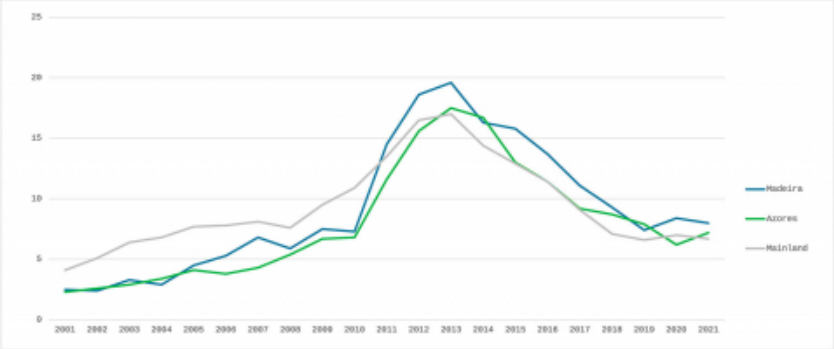
The Islands in the XXI century

a) The Portuguese Socio-Economic Context

24 The population trends observed in Portugal over the past two decades have been significantly influenced by migratory growth. These trends have been particularly affected by economic crises, with the 2011 crises following the intervention of the Troika (European Commission, European Central Bank and International Monetary Fund) representing a significant turning point. Subsequently, as was the case globally, the Covid-19 pandemic also had an impact, exacerbating the already weak natural demographic trends and limiting the migratory dynamics as a result of mobility restrictions.

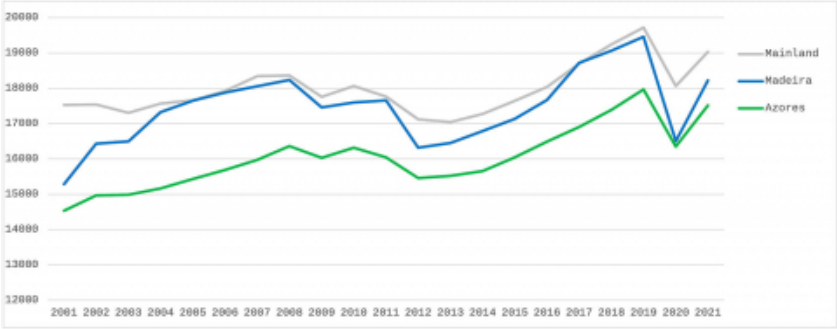
25 The natural growth rate in Portugal was relatively low at the beginning of the 2000s, approaching zero, due to the country's low fertility rate (annex II). Nevertheless, the trend has been one of gradual decline, which has worsened and turned negative in 2007. The socio-economic difficulties resulting from the economic crises have had a pervasive impact on Portuguese society. These factors have resulted in a postponement of births, a decline in population inflow and an increase in emigration. The swift response to the changes in living conditions reached its zenith in 2013 and commenced a gradual recovery in 2016 [Golaz, Lefèvre, Véron, 2018]. Initially, this recovery was tentative, but it became increasingly pronounced over time. Despite the recovery, the country's natural growth remains negative and declining, which is accentuating population ageing. The negative figures for 2020-21 are particularly significant due to the effects of the Covid-19 pandemic [Pimentel, Gomes, 2022]. The fluctuations in migration growth illustrate the country's attractiveness until 2008 and its subsequent retreat and decline after 2011. Following the conclusion of the Troika's involvement and the commencement of the country's socio-economic recovery in 2017, there was a resurgence in migratory growth, driven by the intensification of immigration. It is crucial to acknowledge that despite the imposition of mobility restrictions during the Covid-19 period, there was a notable increase in migration, albeit to a lesser extent than observed in the post-Covid period.

Figure n.º 6 - Unemployment rate in Portugal Mainland, Azores and Madeira 2001 -2021



Source: INE - Employment statistics 2001- 2021

Figure n.º 7 - GDP per capita at constant prices in Portugal Mainland, Azores and Madeira 2001 -2021



Source: INE - National Accounts 2000-2021

26 All regions experienced fluctuations in unemployment rates, with the Azores and Madeira exhibiting heightened volatility, particularly during the economic crisis of 2011-2013. A subsequent recovery period happened from 2014 onwards, converging unemployment rates by 2021. However, Madeira consistently demonstrated a higher unemployment rate compared to both the Azores and the mainland, indicative of persistent labour market shortage in the region.

27 The socio-economic situation of the islands reflects greater vulnerability, although after the pandemic Madeira experienced one of the most significant increases in GDP in the country (INE, 2024 highlight). The Azores and Madeira continue to lag behind the national average in terms of regional development, although Madeira has made notable progress in recent years. The 2011 economic crisis had a negative impact on both archipelagos, with a more immediate effect in Madeira and a slightly delayed one in the Azores. The latter tend to be in a more fragile economic

situation, as can be seen from the evolution of GDP. Income inequality is significantly more pronounced in the Azores compared to Madeira and the mainland. The Gini coefficient, an indicator which measures income inequality, reached approximately 36% in the Azores for the period 2017-2020, while in Madeira and the mainland it was at around 32% (INE, 2021).

28 Although studies indicate a reduction in monetary poverty in Portugal [Rodrigues 2024], deprivation indicators reveal persistent challenges, particularly in the insular regions. Post-pandemic, the Gini coefficient demonstrates that the Azores and Madeira continue to exhibit higher levels of inequality, highlighting their greater vulnerability within the national context.

b) Demographic Dynamics

29 Comparing the evolution of population growth on the mainland with the two island regions highlight the greater variation in the autonomous regions, particularly in Madeira. The Azores archipelago tends to follow the downward trend observed on the mainland.

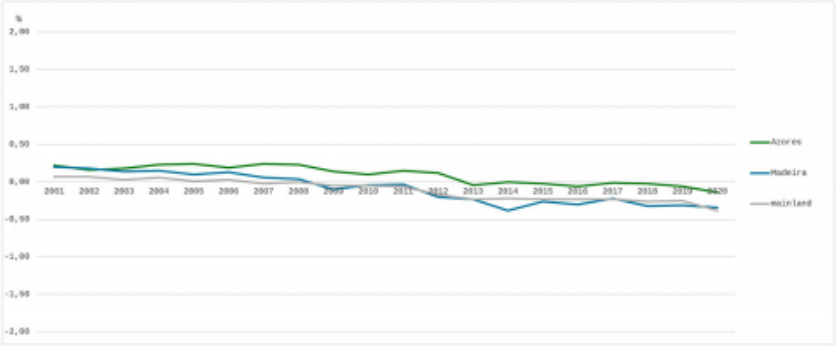
30 This trend is strongly influenced by the cycles of economic crises, with 2011 marking a turning point in terms of demographic dynamics. In the first decade of this century, the population of Madeira grew more strongly than that of the mainland, but from 2011 the trend was reversed, with a greater loss. Population growth has only recovered in recent years, first in Madeira, following the trend on the mainland, and then in the Azores. Although the 2011 crisis was felt later in the Azores, it persisted and became more pronounced until 2019, only converging with the national trend in 2020.

31 A comparison of natural and migratory growth rates shows that migration has been the main driver of population dynamics over the last two decades. While natural growth was close to zero (and with a declining trend), the intensity of migratory movements clearly determines the overall growth trends.

Figure n.º 8 - Total Growth Rate 2001-2020 (%)

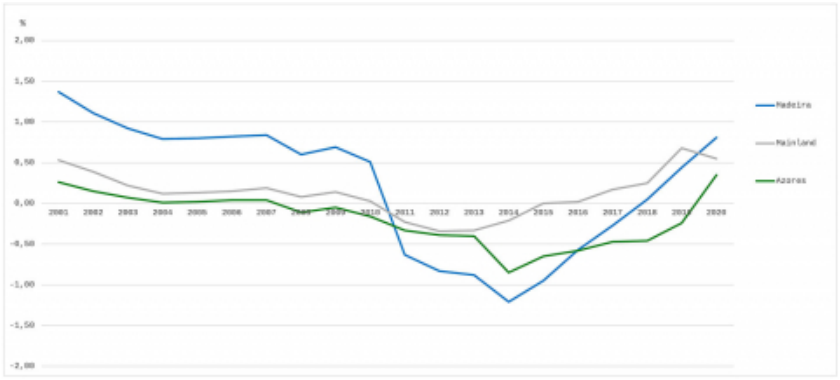
Source: INE Estatísticas Demográficas 2001-2020

Figure n.º 9 - Natural Growth Rate 2001-2020 (%)



Source: INE Estatísticas Demográficas 2001-2020

Figure n.º 10 – Migration Growth Rate 2001-2020 (%)



Source: INE Estatísticas Demográficas 2001-2020

32 The decline in natural growth is common to all regions[1]. Nevertheless, the Azores always show a much higher (and positive until 2012) natural growth throughout the period than the mainland and Madeira. On the other hand, the decline is much more abrupt in Madeira and reaches lower levels than on the mainland from an early stage.

33 Several peculiarities can be observed in the increase in the rate of migration. The Azores show a trend in migratory growth that is very similar to that of the mainland, yet characterized by consistently lower values, especially between 2014 and 2020. Madeira, on the other hand, shows a completely different evolution of migratory dynamics: in the first decade it has a much higher positive migratory balance, while after 2011 there is a rapid and sharp reversal, as in the case of natural growth. From the second decade onwards, the migratory dynamics show losses both on the islands and on the mainland, but it is on the mainland that a recovery is first noted, followed later by the Azores.

34 Overall, it can be concluded that over the last two decades the Portuguese islands have mirrored, to varying degrees, the demographic trends on the mainland. However, a more detailed analysis shows that, between 2001 and 2011, the region of Madeira experienced strong population growth because of high migration growth (+9.3% and 8.4% respectively), which is not the case for the archipelago of the Azores and the mainland (with growth of +2.1% and +1.8% and negligible migration of 0.1% and 1.7% respectively). Between 2011 and 2021, the decline is more pronounced in the two archipelagos (- 6.4% and -4.2%), which is also heavily affected by migration losses (- 4.2% and -4.3%), while on the mainland the population decline is less pronounced (- 1.9%) and more due to natural evolution (-2.3%)[2]. A detailed description for each one of the eleven islands is included in Annex III.

Population Structures

35 At the beginning of the 21st century, the population of the islands was much younger than that of the mainland. The young population (up to 15 years old) accounted for around 21% in the Azores and 19% in Madeira, while it reached 16% on the mainland. On the other hand, the elderly (aged 65 and over) accounted for around 13-14% in the island regions, while it was much higher on the mainland (24%).

Table n.º 2 - Population Structures (%) in Portugal Mainland, Madeira and the Azores 2001-2021

Structure		Mainland	Madeira	Azores
0-14	2001	15,8	19,1	21,4
	2011	14,8	16,4	17,9
	2021	12,8	12,7	14,6
15-64	2001	67,7	67,2	65,6
	2011	65,9	68,7	69,0
	2021	63,5	67,3	68,8
65 +	2001	16,5	13,7	13,0
	2011	19,3	14,9	13,1
	2021	23,7	20,0	16,5

Source: INE-Censos 2001, 2011, 2021

36 Two decades later, the weight of the younger population decreased much more sharply in the islands than on the mainland, but this difference was accompanied by different trends in the other age groups: in Madeira, the percentage of elderly people increased almost as much as the number of young people decreased, while in the Azores both the elderly and the working-age population increased. In 2021, all regions show a pronounced ageing, with the islands having a comparatively younger age structure, especially in the Azores archipelago. This ageing of the islands' population was particularly marked in the last decade, when the proportion of elderly people increased most, and less marked in the first decade, when the decline in the number of young people was still increasing the working-age population.

37 In terms of ageing, the percentage of elderly people is always higher on the mainland, with a two-decade gap compared to the Azores and a one-decade gap compared to Madeira. Concerning the proportion of the young population, the Azores are a decade behind the mainland, while Madeira is making faster progress and will be similar to the mainland by 2021.

Population Mobility in Insular Regions: 2001-2021

Emigration

38 Islands have traditionally been places of emigration, and the archipelagos of Madeira and the Azores are no exception. Over the centuries, the Portuguese islands have maintained a close relationship with migration. The nature of this relationship and the types of migration that result from it depending on the role that the islands have played at each moment in history [King 2009]. As previously mentioned, the island of Madeira was "the first test of European colonisation" [Ribeiro, 1989, 761] and since the 15th century, emigration has not ceased to be present in the demography of the Portuguese archipelagos. Madeira's high population density, the asymmetry of its distribution and the physical and human constraints made it difficult to develop the islands, so emigration has always been an "escape valve".

39 Many also left the Azores, attracted by new lands, "pushed" by poverty or following earthquakes and volcanic eruptions that destroyed houses and fields. Due to the archipelago's location and the mobility, emigration to North American countries has been mainly Azorean. Since then, emigration has not stopped, but the improvement of living conditions for the population has contributed to a reduction in the number of emigrants. The exception was the 2011-2013 crisis, when, like the Portuguese mainland, Azoreans and Madeirans left the islands in greater numbers, the former choosing traditional destinations, particularly the United States and, more recently, Bermuda, while the United Kingdom became the preferred destination for Madeirans. The forms of migration are also changing, with permanent family emigration being replaced by temporary or circular migration, which is increasingly individual and adapted to job opportunities and migration projects.

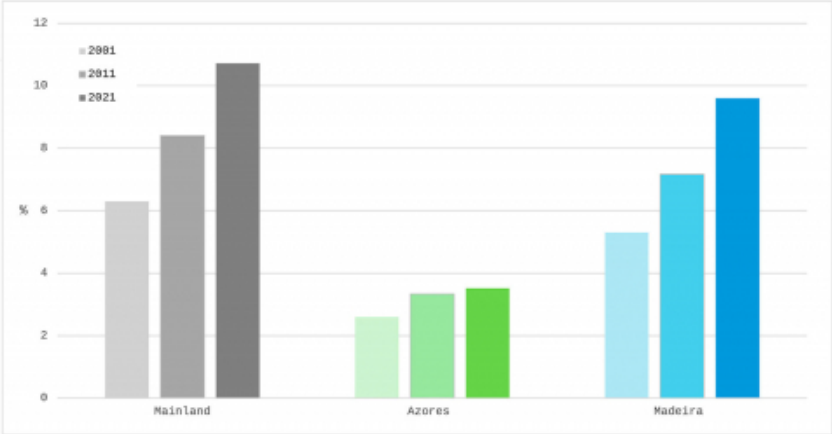
40 As data on emigration by region is not published, the intensity of the phenomenon on the islands can only be gauged from the migratory balances. Between 2011 and 2021, the migratory balances were negative in both archipelagos with a similar magnitude (-10,413 in Madeira and –10,180 in the Azores). Of this balance, more than 80% corresponded to the period between 2011 and 2015, which was characterised by emigration as a response to the economic and social crisis.

Immigration

41 Foreign immigration to the island regions is relatively recent. According to the censuses, at the beginning of the 21st century, less than 3% of the resident population of the Azores was born abroad, while in the Madeira archipelago the proportion was slightly higher (5.3%), with a national average of 6.3%; twenty years later, the proportion had practically doubled in Madeira (9.6%), while in the Azores it had risen to 3.5% (the national figure was 10.5%). When analysing the origins of these flows, the majority come from the American continent, both in the case of the Azores and Madeira, and even more so in the case of the latter, given the importance of American destinations in the emigration of islanders over time. In 2021, there were 24,062 people of foreign origin living in the Madeira region, 20.2% more than in 2011. Of this population, 49.9% was from Venezuela, followed by people from the United Kingdom (8.4%), South Africa (7.5%), Brazil (5.0%), Angola (4.4%) and France (4.0%). In the Azores, there were 8,314 foreign-born residents,

practically the same number as in 2011. Of those, 32% came from the United States and Canada, followed by Brazil (14.9%), Angola (11.6 %), Cape Verde and Mozambique (5.4% each) and Germany (4.9%).

Figure n.º 11 - Percentage of foreign-born population in Portugal Mainland, Azores, Madeira 2001-2021



Source: INE-Censos 2001, 2011, 2021

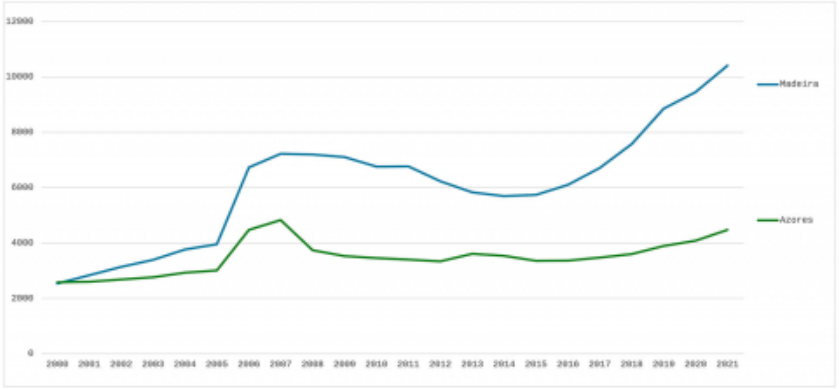
Table n.º 3 – Geographic origine of foreign born (% of total foreigners)

	2001			2011			2021		
	Azores	Madeira	Portugal	Azores	Madeira	Portugal	Azores	Madeira	Portugal
Europe	12,9	18,1	29,6	16,1	25,2	32,3	22,4	23,9	28,9
Africa	33,7	29,2	53,7	31,3	23,2	42,4	25,1	16,4	32,0
America	51,0	51,4	13,9	48,8	49,5	21,3	48,4	58,0	31,0
Other regions	2,4	1,3	2,8	3,8	2,1	4,0	4,1	1,7	8,1
TOTAL	100	100	100	100	100	100	100	100	100

Source: INE-Censos 2001, 2011, 2021

42 A comparison of the foreign population with resident status reveals a positive evolution between 2000 and 2022, the most recent year for which data is available. However, the observed trends differ between the two archipelagos. The number of foreign residents in the Azores, has doubled. In Madeira, the number of foreign residents has increased almost fivefold (figure 12). This trend is reflected in the proportion of foreigners in the resident population. In 2000, the number of foreigners with residence permits was similar in the two archipelagos, with the proportion of the total population being identical (1%). In 2022, foreigners represented 2.1% of the population in the Azores and 4.7% in Madeira. Notwithstanding this expansion, the proportion of foreigners in the islands remains below that of mainland Portugal (7.7% in 2022). In line with the national trend, there has been a more pronounced increase in the proportion of foreigners since 2017, a trend that is more evident in the Madeira region (figure 13).

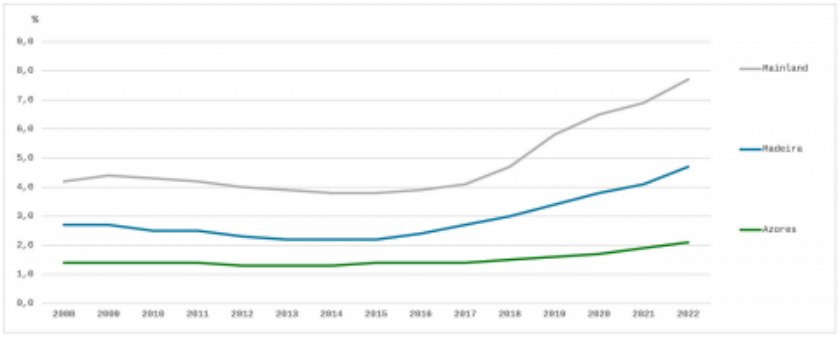
Figure n.º 12 - Foreigners with legal resident status in the Azores and Madeira



Source: INE-AIMA/MAI 2000-2022

Figure n.º 13 - Proportion of foreign population with legal resident status in relation to resident

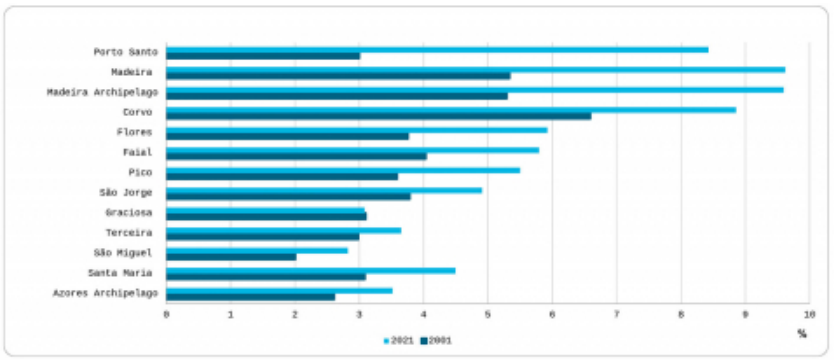
population 2008-2022 (%)



Source: INE-AIMA/MAI 2000-2022

43 Additional relevant information can be obtained by analyzing at an island level. The proportion of foreign population is more significant on the smaller islands, namely Flores and Corvo, where at the end of the first decade of the 2000s, more than 6% of the resident population was foreign. However, in recent years, the attractiveness of islands such as Faial and Pico have led to an increase in the foreign resident population on these islands. In 2022, approximately 6% of the population of Faial was foreign, while Pico's was at 4% (in comparison to 2.1% of the Azores as a whole). In contrast, the Madeira archipelago exhibited a comparatively high proportion of foreign residents, with approximately 9% of the population of Porto Santo and 4.6% on the island of Madeira in 2022. These figures represent a departure from the regional average of 4.7%.

Figure n.º 14 - Proportion of foreign population by islands of the Azores and Madeira in 2001 and 2021



Source: INE-Censos 2001, 2021

Migratory background

44 The importance of migratory dynamics in the two regions can also be measured by the number of residents who declare having lived abroad for at least one year. In 2021, more than a fifth of Madeira's population had lived in another country, and almost 28,500 people arrived in the region in the last 20 years, most of them between 2016 and 2021. In the Azores, this proportion is lower (around 9% of the population will have lived abroad), and the number of arrivals in the region over the last 20 years is more than 9,400 (table 4). In both cases, these figures partially reflect the return of those who emigrated between 2011 and 2015, during the most acute phase of the crisis, which was expected after the recovery of the Portuguese economy from 2016 onwards, and, in the case of Madeira, the arrival of Portuguese and their descendants who emigrated to Venezuela a few decades ago.

Table n.º 4 - Resident population in 2021 who lived abroad for a continuous period of at least 1 year, total and by arrival date

	Total	%	By Arrival Period		
			2001-10	2011-15	2016-21
Mainland	1 535 691	15.6%	283 452	121 985	289 972
Azores	20 692	8.8%	4 173	1 611	3 629
Madeira	51 711	20.6%	9 846	3 597	15 020

Source: INE-Censos 2021

Internal mobility

45 According to the 2021 Census data, about 7% of the Portuguese population changed their municipality of residence compared to the previous year.

46 These are individuals who changed their residence between January 2020 and April 19, 2021 - a period significantly marked by the Covid-19 pandemic and encompassing two national lockdowns - experienced a surge in movements to secondary or family residences outside urban areas. Consequently, it remains unclear whether individuals considered these pandemic-induced displacements as permanent changes of residence. Given the lack of specific guidance to the population on this matter during the census operation, the observed values for inter-municipal mobility in 2021 should be interpreted with caution.

47 While the balance of inter-municipal mobility is negative on the mainland (-952 persons), it is positive in the Autonomous Regions, with an increase of 635 persons in the Azores and 317 in Madeira.

48 The Madeira archipelago has the peculiarity of receiving more people from abroad, a higher proportion than in Portugal and the mainland (around 1.4%), a trend that has continued since the beginning of the century. Regarding the change of residence to another municipality, the Azores have a slightly higher proportion of people who have changed municipality (entered the municipality in which they live), although the number is lower than in Madeira. From 2001 to 2021, there was an increase in residential mobility between municipalities in Madeira (table 5).

Table n.º 5 - Proportion of resident population by place of residence one year before the date of the Census (%)

Place of residence one year before the Census		Mainland	Azores	Madeira
In-Migrants from another municipality	2001	2,4	2	1,9
	2011	2,6	2,4	2,3
	2021	7,1	6,4	6,1
Out-Migrants to another municipality	2001	2,4	1,9	2
	2011	2,6	2,3	2,3
	2021	7,1	6,1	6
Net Internal Migration	2001	0	0,1	-0,1
	2011	0	0,1	0
	2021	0	0,3	0,1

Source: INE-Censos 2001,2011, 2021

Conclusion

49 Over the past two decades, the Portuguese islands have experienced notable shifts in demographic trends, deviating from the conventional pattern of population growth. However, certain contingencies persist. As Rocha [2013] observed, the demographic evolution of the Portuguese island regions is largely the result of geography [Rocha, 2013: 101]. In Madeira, the greater concentration and proximity to the urban centre, as well as to decision-making centres, resulted in a population dynamic that, in the Azores, was impeded by geographical dispersion. Nevertheless, even in the Azores, it was the larger islands with more substantial urban centres that exhibited the most substantial growth.

50 Concurrently, there has been a notable shift in demographic behaviour, with the decline in fertility representing a paradigmatic example. By 2021, the fertility rate in both island regions was lower than that observed on the mainland, representing a significant shift from historical trends where these regions had the highest birth rates in the country.

51 There has been a convergence of the demographic patterns of the Portuguese island regions with those of the rest of the country, albeit at different rates. The island of Madeira has undergone a more rapid alignment with the national demographic contours, whereas the Azores have followed a comparatively slower process. Migration has played a pivotal role, influencing both population growth dynamics and ageing patterns. The mobility of people, both in and out of the islands, reflects the connections to the wider world, as well as the local and national socio-

economic conditions. This highlights the complexity of the ongoing transformations.

52 It is crucial to emphasize the influence of the socio-economic context on population dynamics. In instances where economic indicators are unfavourable, the rate of growth on the islands is lower, resulting in a greater number of population losses and a reduction in retention capacity. This contrast with periods of more favourable economic indicators, during which greater population growth is observed.

53 Despite improvements in living conditions, vulnerability persists, as evidenced by the lower life expectancy observed in the islands, particularly in the Azores. Furthermore, the ageing process has accelerated in the islands, though the Azores have experienced a less pronounced ageing phenomenon than Madeira, which has approached the level observed in the mainland. Nevertheless, in 2021, the islands still exhibited one of the youngest populations in Portugal.

54 Migration dynamics have become an increasingly significant factor influencing demographic trends, with a notable impact observed in Madeira. The mobility of the population in both archipelagos is indicative of the extent of their connections with the wider world and the contextual conditions that affect the country and the regions in question. The impact of migration varies between islands due to the effects of scale on small populations. Schneider and Schneider [1976] highlight that emigration is a response to economic vulnerability, offering an expedient solution to economic challenges and social setbacks in Portugal.

55 Migration has become the primary driver of demographic change in the Portuguese island regions. This phenomenon is reflective of profound socio-economic transformations and modernisation processes. The movement of people, both in and out of a given area, has not only contributed to population growth but also to the ageing of the population. The current demographic characteristics of the islands are directly the result of these modernisation processes and the changes associated with migration.

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Annexe

Annex I

Table n.º - Annual growth rates in the Azores, Madeira and Portugal mainland, 1800-2021

Period	Azores	Madeira	Mainland
1800-1850	0.73	0.22	0.35
1850-1878	0.59	0.7	0.62
1878-1890	-0.23	0.12	0.97
1890-1900	0.05	1.15	0.67
1900-1911	-0.5	1.13	0.94
1911-1920	-0.53	0.65	0.16
1920-1930	0.99	1.65	1.12
1930-1940	1.17	1.61	1.31
1940-1950	1.04	0.79	0.93
1950-1960	0.28	-0.03	0.46

1960-1970	-1.38	-0.68	-0.27
1970-1981	-1.42	0.06	1.33
1981-1991	-0.23	0.02	0.12
1991-2001	0.16	-0.33	0.46
2001-2011	0.19	0.82	0.13
2011-2021	-0.43	-0.66	-0.19

Source: INE- Estatísticas Demográficas

Annex II

Table n.º - Growth rates in Portugal (2001-2022)

	Effective growth rate (%)	Migration growth rate (%)	Natural growth rate (%)
2001	0.62	0.54	0.07
2002	0.48	0.40	0.08
2003	0.27	0.24	0.04
2004	0.21	0.14	0.07
2005	0.16	0.15	0.02
2006	0.20	0.16	0.03
2007	0.20	0.21	-0.01
2008	0.09	0.09	0
2009	0.10	0.15	-0.05
2010	-0.01	0.04	-0.04
2011	-0.29	-0.24	-0.06
2012	-0.52	-0.35	-0.17
2013	-0.57	-0.34	-0.23
2014	-0.47	-0.25	-0.22
2015	-0.26	-0.03	-0.22
2016	-0.23	-0.01	-0.23
2017	-0.08	0.14	-0.23
2018	-0.02	0.23	-0.25
2019	0.40	0.65	-0.24
2020	0.18	0.56	-0.37
2021	0.26	0.69	-0.43
2022	0.44	0.83	-0.39

Source: INE- Estatísticas Demográficas

Annex III

The islands of the Madeira Archipelago

The Madeira archipelago, which consists only of the islands of Madeira and Porto Santo, is more than three times as densely populated as the Azores archipelago and much less geographically dispersed. The two islands have different sizes and demographic trends.

Table n.º 8 - Population, Population Structures, Natural and Migration Balances in the Madeira Archipelago 2001, 2011 and 2021

Volumes	Population			Natural Balance			Migration Balance		
	2001	2011	2021	2001-21	2001-11	2011-21	2001-21	2001-11	2011-21

Madeira Archipelago	245 011	267 785	250 744	-4 480	2 148	-6 628	10 213	20 626	-10 413
Madeira	240 537	262 302	245 595	-4 536	1 967	-6 503	9 594	19 798	-10 204
Porto Santo	4 474	5 483	5 149	56	181	-125	619	828	-209
Structures	0-14 (%)			15-64 (%)			65 + (%)		
	2001	2011	2021	2001	2011	2021	2001	2011	2021
Madeira Archipelago	19,1	16,4	12,7	67,2	68,7	67,3	13,7	14,9	20
Madeira	19,2	16,5	12,8	67,1	68,6	67,2	13,8	14,9	20
Porto Santo	17,8	14,9	11,3	71,8	71,7	69,9	10,4	13,3	18,8

Source: INE-Censos 2001, 2011, 2021. Estatísticas Demográficas 2001-2021

The population of Madeira will increase from 240,5 thousand to a maximum of 262,3 thousand (+9.0%) in 2011 and then fall to 245,6 thousand (-6.4%) in 2021. Demographic increase in the first decade is mainly due to the migration balance, which is about ten times higher than the natural balance (+8.2% and +0.8%), while in the second decade the population decrease is more due to migration, but the differences are less significant (- 4.2% and -2.7%). While in the first decade Madeira loses young people and gains working age and elderly people, in the second decade only the percentage of elderly people rises.

The island of Porto Santo experienced a significant increase in its population from 4.5 thousand to 5.5 thousand residents (+22.6%) during the first decade of the century, followed by a slight decrease to 5.1 thousand (-6.1%). This growth in the first decade and the subsequent decline in the second are primarily due to migration balances (+18.1% and 4%, and -4.1% and -2.8%). In terms of age structure, the demographic evolution of Porto Santo is similar to that of Madeira Island: the decline in the youth population is mainly reflected in the increasing percentage of elderly residents, although the decrease in the working-age population is already noticeable on this island."

The islands of the Azores Archipelago

In the Azores, the population of the two largest islands increased in the first decade and decreased in the second, as observed in Madeira.

Table n.º 9 - Population, Population Structures, Natural and Migratory Balances in the Azores Archipelago 2001, 2011 and 2021

Volumes	Population			Natural Balance			Migration Balance		
	2001	2011	2021	2001-21	2001-11	2011-21	2001-21	2001-11	2011-21
Azores	241 763	246 772	236 413	4 544	4 723	-179	-9 894	286	-10 180
Santa Maria	5 578	5 552	5 406	-54	-2	-52	-118	-24	-94
São Miguel	131 609	137 856	133 288	8 988	6 393	2 595	-7 309	-146	-7 163
Terceira	55 833	56 437	53 234	-653	154	-807	-1 946	450	-2 396
Graciosa	4 780	4 391	4 090	-610	-360	-250	-80	-29	-51
São Jorge	9 674	9 171	8 373	-856	-381	-475	-445	-122	-323
Pico	14 806	14 148	13 879	-1 351	-772	-579	424	114	310
Faial	15 063	14 994	14 331	-419	-91	-328	-313	22	-335
Flores	3 995	3 793	3 428	-438	-192	-246	-129	-10	-119
Corvo	425	430	384	-63	-26	-37	22	31	-9
Structures	0-14 (%)			15-64 (%)			65 + (%)		
	2001	2011	2021	2001	2011	2021	2001	2011	2021
Azores	21.4	17.9	14.6	65.6	69.0	68.8	13.0	13.1	16.5
Santa Maria	20.7	17.3	14.3	66.7	69.8	68.2	12.6	12.9	17.5
São Miguel	23.7	19.7	15.6	65.4	69.4	70.4	10.9	10.9	14.1
Terceira	19.7	16.2	13.4	66.5	69.4	67.7	13.8	14.3	18.9
Graciosa	17.1	14.8	14.4	61.7	65.2	63.8	21.2	20.0	21.8
São Jorge	17.7	14.6	12.5	64.7	66.4	65.5	17.6	19.0	22.0
Pico	16.4	13.8	13.3	64.5	66.4	64.9	19.2	19.8	21.8
Faial	17.8	16.0	13.5	67.2	68.7	66.6	15.0	15.2	19.9

Flores	16.9	14.3	12.7	65.2	67.3	67.5	17.9	18.3	19.8
Corvo	12.7	14.2	12.8	68.2	69.3	71.9	19.1	16.5	15.4

Source: INE-Censos 2001,2011, 2021. Estatísticas Demográficas 2001-2021

On São Miguel, the largest island in the Azores, the population will increase from 131,6 thousand to 137,9 thousand (+4.7%) in 2011 and then fall to 113,3 thousand (-3.3%) by 2021. However, unlike in Madeira, natural growth here is always positive and even quite significant, especially in the first decade of the 21st century. It is the only Portuguese island to demonstrate a positive and significant natural growth dynamic between the two census periods. While in the first decade, natural growth more than compensated for the small migratory losses, in the second decade, migratory losses far outweighed the natural gains, so that the island's population declined mainly as a result of migration. At the beginning of the century, São Miguel was the youngest island, with 23.7% young people and only 10.9% old people. It is perhaps for this reason that it is the island where the loss of young people has been most significant, although the relative gain is essentially in the proportion of the population of working age. Although the proportion of the population aged over 65 has increased significantly, especially in the last decade, it will still be the island with the lowest proportion of this group in 2021.

On the island of Terceira, the population rises from 55,8 thousand to 56,4 thousand (+1.1%) and then falls sharply to 53,2 thousand (-5.7%) in 2021. In the first decade, the demographic increase is mainly due to immigration, while in the second decade the population decrease depends more on out-migration. Terceira also had a relatively young population (19.7%t young and 13.8% old), but as with the other islands, there is a strong ageing trend.

All the other Azorean islands (except for Corvo) have experienced successive population losses over the last two decades. This is because all of them have always had a negative natural balance, only occasionally combined with a positive migratory dynamic, but without sufficient magnitude to compensate for it.

The island of Faial has experienced a significant decrease in its population over the last ten years (-0.5% and -4.4%), mainly due to the combination of negative natural and migratory dynamics in the last period, reaching 14,3 thousand inhabitants in 2021. As a result of these dynamics, the island has proportionally lost younger population and gained older population, especially in the last decade.

The island of Pico, on the other hand, experienced a more pronounced decline in population in the first decade and a more moderate one in the second (-4.4% and -1.9% respectively), reaching 13,8 thousand inhabitants in the latest census. On this island, the decrease in population is certainly due to the very strong negative natural balance, especially in the first decade, as there was a positive migratory balance in both decades (the only island where this happened). This positive migration balance is probably linked to the slight increase in the percentage of the population of working age. Despite this slight increase, there has been a general reduction in the number of youngsters and an increase in the number of elderly people (note that Pico has always been this island with the lowest percentage of young people).

Looking at the islands with the smallest populations, it is here that the greatest population losses have occurred over the last 20 years: the greatest decrease is on Graciosa (-14.4%), closely followed by Flores (-14.2%), São Jorge (-13.4%) and Corvo (-9.6%), the only exception being the island of Santa Maria (-3.1%).

Among these five islands, S. Jorge is the most populous. The population on this island decreased from 9.7 thousand to 8.4 thousand residents over the two decades (-5.2% and -8.7%), mainly due to a significant negative natural balance (-381 and -475), coupled with less prominent but still important migration losses (-122 and -323). The reduction in the younger population is also accompanied by an increase in the elderly population (-5.2% and +4.5%).

On S. Maria, the population declined from 5.6 thousand to 5.4 thousand inhabitants, particularly in the last decade (-0.5% and -2.6%). This decline was primarily driven by migration losses (-24 and -94), which were more substantial than the decrease resulting from the natural population change (-2 and -52). Although these variations are minor in absolute terms, they do not result in significant relative changes. As with most of the islands, there has been a reduction in the younger population and an increase in the elderly population (-6.4% and +4.9%).

On Graciosa Island, the population fell from 4.8 thousand to 4.1 thousand over these two decades, representing the largest relative population decline (-14.4%) among the Portuguese islands. This decline was significant in both decades (-8.1% and -6.9%), primarily due to a negative natural balance (-360 and -250), combined with smaller migration losses (-29 and -51). Despite this negative trend, largely driven by the natural balance, the decrease in the younger population has been largely offset by an increase in the working-age population (-2.6 pp and +2.1 pp), with minimal aging at the top of the age structure. Graciosa, which already had the highest percentage of elderly residents, continues to hold this distinction

The population of Flores Island decreased from 4.0 thousand to 3.4 thousand residents, with the decline being more pronounced in the second decade of the 21st century (-5.1% and -10.7%). This reduction was largely driven by a significant negative natural balance (-192 and -246), with less impact from migration losses (-10 and -119). On this island, the decrease in the youth population has been matched by similar increases in both the working-age and elderly populations (-4.2 pp versus +2.3 and +1.9 pp).

Finally, on Corvo Island, the population dropped from 425 inhabitants to 384 in 2021, following a slight increase of 5 inhabitants (1.2%) and then a decrease of 46 residents (-10.7%). The natural balance was consistently negative (-26 and -31), though migration gains in the first decade offset this, a trend not continued in the second decade (+31 and -9 people). On Corvo, the proportion of young people remained steady, while the working-age population increased, and the elderly population decreased (+3.6 pp and -3.7 pp). This is the only case where a reduction in aging at the top of the population pyramid is evident, as even on Graciosa, the change was minimal. This decrease is likely tied to the already advanced aging of these populations at the start of the millennium, contributing to the particularly strong negative natural balance on these two islands (-7.5 and 6.1)

Annex IV

Table n.º 10 - Resident population by place of residence one year before the census date

	Census	Mainland	Azores	Madeira
In a municipality other than the one where they lived at the time of the Census	2001	235 108	4 840	4 738
	2011	263 515	5 922	6 178
	2021	697 502	15 158	15 401
Population who lived in this municipality a year ago and moved to another municipality	2001	235 242	4 551	4 893
	2011	263 945	5 622	6 048
	2021	698 454	14 523	15 084
Abroad	2001	101 552	1 245	2 908
	2011	78 435	1 146	2 197
	2021	141 429	1 349	3 691

Source: INE-Censos 2001, 2011 2021

Notes

1 Life expectancy at birth is always lower in the islands than on the mainland. In 2001, the difference was more than three years (3.3 for the Azores and 3.6 for Madeira), and although it is now less than it was two decades ago, it is still very significant (3.1 for the Azores and 2.3 for Madeira).

Traditionally, the island regions have been among the areas with the highest birth rates in the country, and this was still the case at the beginning of this century. Since then, the decline has been much more considerable in the two island regions than on the mainland. This decline is particularly marked in Madeira, where the figure was around one child per woman in 2013-14. In the Azores, the decline is more gradual, but by 2015 fertility was lower than on the mainland. Despite the recovery in Madeira, but not in the Azores, both island regions currently have lower fertility rates than the mainland.

2 In the Azores, at a local, municipal scale, natural dynamics reveal a progressive decline, with a negative natural growth rate. This trend of population loss has spread to several municipalities, accompanying the development of the demographic aging process. In 2021, only Ribeira Grande exhibited positive, albeit very slight, growth, while Ponta Delgada recorded null growth; it is worth noting that these are two of the largest municipalities in the archipelago. As for migratory growth, a progressive affirmation of its importance is observed. If in the 2000s several municipalities, around 12, were penalized by population outflow, during the 2008-2013 crisis, population loss became more widespread but did not affect Madalena, Lajes das Flores (except in 2014), and Corvo (except in 2012). In other words, it was mainly the smaller municipalities that were least affected by population repulsion. At the beginning of this century, only one municipality presented negative migratory growth, and in subsequent years, growth was always positive.
Over these two decades, migratory growth in Madeira has always had a significant impact on population growth. Comparing natural and migratory growth, it stands out that the municipality of Câmara de Lobos maintained positive natural growth for the longest time, but it was also the one that recorded continuous population repulsion until 2022. The high natural growth of Porto Santo is noteworthy, exceeding 2% between 2001 and 2002, and remaining above 1.25% until 2010. In 2011, it fell abruptly, only to recover from 2021 onwards. The oscillations, which in some cases are very pronounced, observed in the growth indicators reflect the variation of small populations but also mobility and the change in behavioral patterns, together with the socioeconomic conditions of the island, thus revealing the influence of economic activities, particularly the tourism sector

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Titre	Figure n.º 3 - Azores archipelago
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