

## Employment and occupational prospects and Lifelong Learning in Greece

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### Abstract

The present paper addresses employment and occupational prospects in Greece, in the period 2011-2022, highlighting the dynamic, stagnant and declining occupations and it also addresses employment and occupational prospects in the near future (2022-2030). The role that Lifelong Learning can play in an environment of abrupt changes is also discussed. The study reveals that in the period 2011-2022, the total employment rates in Greece increased by 1.0%, with the creation of 43,002 new jobs. A large number of jobs was created for general and keyboard clerks, health professionals, and information and communication technology professionals but on the other hand, a large number of jobs were destroyed. Therefore, the employment and occupational prospects in Greece shortly require further attention. The estimates presented in this paper concern the period 2022-2030, in a two-digit occupation code and they are derived from the application of the Oxford model (Oxford Global Economic Model - GEM), which is managed by NKUA, in the framework of its eLearning program. In this period, according to relevant estimates, the total employment rates in Greece are expected to decrease by 3.4%, with a loss of 143,998 jobs in total. This negative development, which is expected to take place in an environment of increased production (estimates of the Oxford model), indicates a paradox that is a period of economic growth that is not followed by the creation of new jobs (jobless growth). In light of this evidence, employment and occupational prospects and Lifelong learning are interlinked and often considered a favored topic for researchers, practitioners, policymakers, and politicians. As occupations, dynamic, stagnant, or declining, include certain tasks and skills, their evolution (and mainly in the dynamic ones) provides the necessary information areas in which the long-term strategy of Lifelong Learning should target. However, there seems to be a distance between policy, strategy, and action. The paper suggests a more careful mapping of the job market, the lifelong learning programs, and the trainees' prospective profiles. It also addresses the need to focus on those who rarely participate in lifelong learning programs and are considered to also be the dropout rates from formal educational processes.

**Keywords:** Employment, Occupations, Lifelong Learning, Prospects

### 1. Introduction

The present paper addresses employment and occupational prospects in Greece, in the period 2011-2022, highlighting the dynamic, stagnant, and declining occupations of this period. It also addresses employment and occupational prospects shortly (2022-2030). The role that Lifelong Learning can play in an environment of abrupt changes at both, the quantitative level (increase and decrease in demand for certain occupations) and the qualitative level (differentiation of tasks, knowledge, and skills in occupations), is also discussed. The restructuring of employment in occupations takes place under the influence of various factors that can be clustered in three major categories: a) the **supply of occupations** (educational

level of the population, immigration<sup>2</sup>), b) the **demand for occupations** (demand for goods and services, technology, globalization, internationalization of trade, sectoral structure of the economy) and c) **institutional factors** that affect both the supply and the demand of occupations (minimum wages, collective bargaining, social benefits). In addition, their relative effects concerning both individual decisions for seeking a specific occupation and the job market itself with the emphasis it places on creating new jobs<sup>3</sup>, are also discussed.

## 2. Occupational Developments in the Years 2011-2022

In the period 2011-2022, the total employment rates in Greece increased by 1.0%, from 4,124,218 million people in 2011 to 4,167,239 million people in 2022, with the creation of 43,002 new jobs. In this period, in addition to the factors that affect occupational development, three significant crises also emerged:

- a) the **financial crisis**, that turned into a fiscal and more general economic crisis (2008-2013),
- b) the crisis of the COVID-19 **pandemic** (2019-2020) and
- c) the **energy crisis**, that started in the year 2022 and continues up to date<sup>4</sup>.

In addition, the limited increase in total employment rates was also accompanied by a significant restructuring in the occupations (Chart 1), with a large number of them increasing their potential for employment, others decreasing it, and a limited number showing marginal changes, that indicate a relative stability for employment.

A large number of jobs was created for general and keyboard clerks (41), health professionals<sup>5</sup>(22), drivers and mobile plant operators (83), information and communication technology professionals (25), business and administration professionals (24), personal service workers (51), teaching professionals (23), and on a lesser degree to other occupations. On the other hand, a large number of jobs were destructed. Amongst them building and related trade workers (71) are included, due to a significant reduction in the construction sector, market oriented skilled agricultural workers (61), due to the general trend in the last decades of a constant decline in this sector as well as due to the ageing of this population of workers (large number of elderly persons). In addition, the need for other clerical support workers (44) declined, mainly due to restructuring in office work, as well as the need for cleaners and helpers (91), hospitality workers (14), retail and other service managers and health associated professionals (32). It is significant to clarify that employment rise in years 2011-2022 was minimal due to the dynamics of economic development. The factors that seem to have affected the restructuring of the occupations were mainly changes in demand for goods and services, technology and the improvement of population's educational level that might partially explain the arousal of scientific professions. In total employment prospects expanded in a very low degree with the factors that seem to affect the restructuring of occupations to be mainly changes in the demand for goods and services (consumer standards), technology and educational improvement of the population.

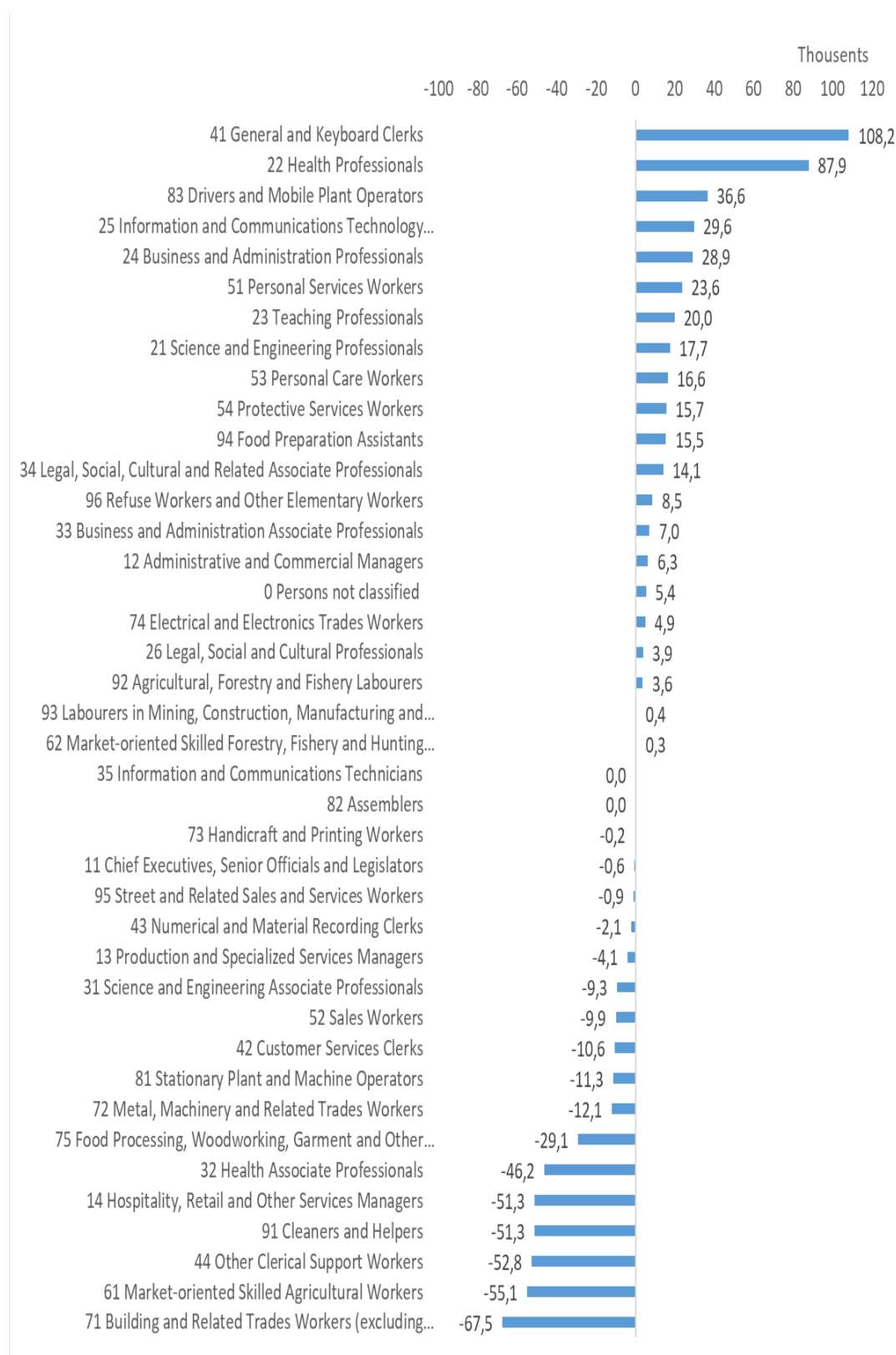
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<sup>2</sup> Among the multitude of papers written on immigration, the interested party can refer to the excellent paper by Goldin, Cameron and Balarajan (2013), that concerns the history of immigration and its effects on modern economies and societies.

<sup>3</sup> For a more extensive discussion of the factors affecting occupations see Efstratoglou and Kritikidis 2023, Efstratoglou, 2018 and Oesch, 2013.

<sup>4</sup> For a more extensive presentation of the crises and their effects on economy, society and the near future until 2035, see Petrakis (2023).

<sup>5</sup> The large increase of (22) health sector professionals and in particular that of (222) nurses and midwives, does not fully correspond with reality but it is due to data recording issues by ELSTAT as a number of them until 2021 were recorded as (32) technicians and in particular as (322) technicians in the health sector and for this reason show a significant reduction in their employment.



**Graph 1. Job creation and destruction of occupations in years 2011-2022**  
Source: ELSTAT, Labor Force Surveys, edited by us

### 3. Occupations, Tasks and Skills

A detailed description of the tasks required in various occupations is provided in the ISCO – 08 classification, while their degree of use (in two-digit occupation code) in Eurofound 2016. In the Eurofound report (2016) the degree of use of tasks in their general categories (physical, intellectual, social, methods, tools, and machines used in the work process) and their analytical categories are presented. These categories correspond with the categories of skills to determine both the tasks and the skills required for each occupation. Occupations that in the above period demonstrated a relative dynamic<sup>6</sup> (in the first positions of Chart 1) in Greece require mainly intellectual tasks (information processing, solving problems), social tasks (providing services, selling, teaching, management), and to a lesser extent some physical tasks (strength, dexterity). At the same time, the majority of these occupations show a high degree of autonomy in the exercise of their tasks and a relatively high level of teamwork, except drivers and mobile plant operators (83). In addition, except drivers and mobile plant operators (83) as well as personal service workers (51), the rest of the occupations that demonstrated a high dynamic, use of information and communication technologies to a high degree (use of computers and related programs) which in turn requires high digital skills.

### 4. Employment and Occupational Prospects in the Period 2022-2030

The employment and occupational prospects in Greece shortly<sup>7</sup> require further attention. The estimates presented in this paper concern the period 2022-2030, in a two-digit occupation code and they are derived from the application of the Oxford model (Oxford Global Economic Model - GEM)<sup>8</sup>, which is managed by NKUA, in the framework of its eLearning program. In this period, according to relevant estimates, the total employment rates in Greece are expected to decrease by 3.4%, from 4,167,239 million people in 2022 to 4,023,241 million in 2030, with a loss of 143,998 jobs in total. This negative development, which is expected to take place in an environment of increased production (estimates of the Oxford model), indicates a paradox that is a period of economic growth that is not followed by the creation of new jobs (jobless growth). The result of these developments should probably be the restructuring of occupations. The great majority of the occupations are expected to show reductions in employment possibilities with only a limited number of them expected to demonstrate an increase (Chart 2). However, even in the case of an increase, this is probably going to happen on a limited scale. Most new jobs will probably be created in health and associated professionals (32), in business and associated professionals (33), in metal, machinery, and trade workers (72), in building and related trade workers(71), the employment of which appears to be recovering after a long period of decline, in production and specialized service managers (13) and to a much lesser extent in a small number of other occupations<sup>9</sup>. On the contrary, cleaners and helpers (91), general and keyboard clerks (41), personal service workers (51), teaching professionals (23), agricultural (62), forestry and fishery workers and to a lesser extent other occupations are more likely to be lost.

In addition to the creation and destruction of certain jobs in occupations in the near future, the employment opportunities that are expected to be created in certain occupations are of particular importance. Employment opportunities are the sum of new jobs created in an occupation, in a period of time (expansion demand), with the relevant positions expected to

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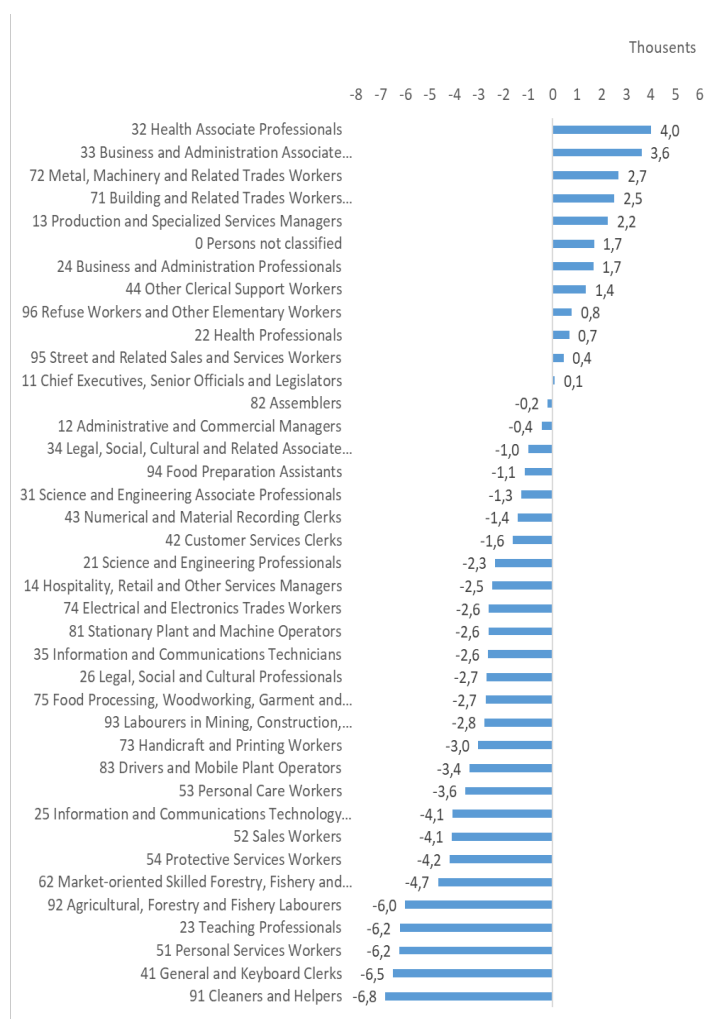
<sup>6</sup> A more complete dimension of occupational dynamics would include beyond the number of new jobs and the rate of occupational growth (how fast an occupation is growing), which is beyond the scope of this paper.

<sup>7</sup> CEDEFOP (2020) also presents estimates of employment prospects in the general categories of professions (single-digit code) until 2030.

<sup>8</sup> The Oxford model (Oxford Global Economic Model - GEM) is the most widely used international macroeconomic model. It is structured in a rigorous way to provide consistent predictions and proceed with effective scenario analysis. Its forecasts cover the years up to 2050 and are updated every month. The calculations made in GEM are very transparent and fully justified, and it also makes it particularly easy to change the assumptions for key economic variables resulting in new forecasts of economic scenarios and adding new variables and equations to the model.

<sup>9</sup> Revised data published in Petrakis (2022).

emerge mainly due to retirement or a more general departure from the workforce (replacement demand)<sup>10</sup>. Thus, employment opportunities are expected in a greater number of occupations, compared to that of the creation of new jobs (Chart 3). Opportunities are expected to arise in sales workers (52), teaching professionals (23), drivers and mobile plant operators (83), market oriented skilled agricultural workers (61), health professionals (22)<sup>11</sup>, personal service workers (51), general and keyboard clerks (41) and to a lesser extent in other occupations. On the contrary, a limited number of occupations are expected to show, even on a limited scale, negative employment opportunities. A significant decline is expected in persons not classified (0) and in agricultural, forestry and fishery workers (92). Among occupations with a very small decline in their employment opportunities are information and communication technology professionals (25) and technicians (35), occupations that are closely related to the digitization processes of the country's economic activities, in which Greece lags behind but it is expected to intensify.

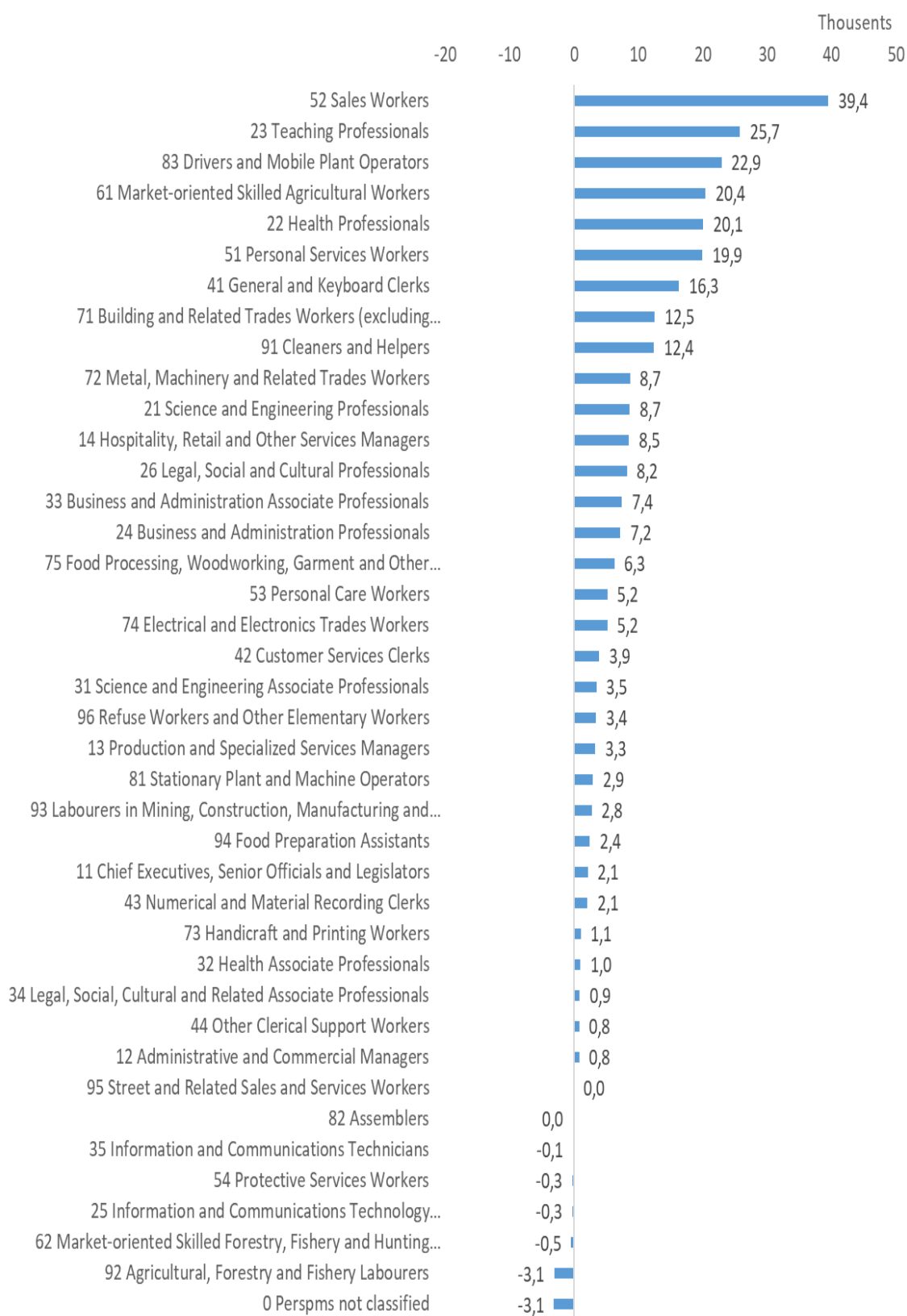


**Chart 2.** Job creation and destruction of occupations<sup>12</sup> in the period 2022-2030 Source: Petrakis 2022, edited by us

<sup>10</sup> The demand for replacement is estimated through the number of employees in each occupation over the age of 60, who under certain conditions are expected to retire within the next five years.

<sup>11</sup> It must be mentioned that replacement demand in health professionals (22) might be lower than the one mentioned here, as many doctors remain in occupation after the age of 65.

<sup>12</sup> For presentation reasons in the chart are not included (61) Market-oriented Skilled Agricultural Workers, who showed a large decline of 76.145 persons in this period.



**Graph 3.** Employment opportunities in occupation in the period 2022-2030  
Source: Petrakis 2022, ELSTAT, Labor Force Surveys, edited by us

Finally, occupations that show more employment opportunities include service occupations as well as technical occupations that include a wide range of tasks and skills, requiring various interventions to cover modern needs. This in itself poses significant challenges to institutions and mechanisms of Lifelong learning.

### **5. The Role of Lifelong Learning**

The role of Lifelong learning in this turbulent environment is very significant. The new call for re-skilling and upskilling, especially in the case of Greece, needs to be taken into consideration to ensure that another opportunity for growth and development will not be missed. To the extent that some occupations will cease to exist, and others will thrive, a consistent, stable, and long-term policy and strategy are required. Within this perspective training Adult Trainers from various fields to be able to deliver direct training to occupations and other workers that will assist them to achieve re-skilling and/or up-skilling, is a necessity. In addition, given the fact that this prospective study seems to confirm that a significant number of the population, especially those from socially vulnerable groups, will continue to remain out of the job market, lifelong learning and adult education programs remain a necessity. However, the prospects for lifelong learning and adult education in Greece are not very promising so far. According to Eurydice (2023), Greece does not have a long-standing tradition of non-formal training. It mainly focuses on general education for adults, aiming at self-growth, active citizenship, and the development of soft skills and abilities. Second Chance Schools, 66 in total in Greece plus 12 Second Chance Schools in correctional institutions, that play a significant role in recruiting as students, members from socially vulnerable groups, have seen a decline in their enrolled learners in year 2022, almost by 1.000 students (5.352 in 2021 to 4.634 in 2022) (Eurydice, 2023).

However, other opportunities are also present in a) the 50 Vocational Apprenticeship Schools/EPAS of DYPA where currently 7.645 trainees are enrolled, including the six experimental EPAS/DYPA on tourism, b) the Day Vocational Upper Secondary Schools (EPAL) where amongst the students 11.603 adults were attending c) the Evening Vocational Upper Secondary Schools were 23.853 adults attended and the d) the Special Needs-Vocational Lower-Upper Secondary education schools where amongst other students, 1.795 adults attended.

In post-secondary vocational training, the post-secondary apprenticeship programme financed by national and European resources reached approximately 2.800 trainees. To assist transition in the labor market, a vocational training voucher was introduced that allows trainees to receive both theoretical training and a six-month internship in the private sector but not enough data about the success of the program are still available. In addition, the success of the program that regards the provision of learning in Public Lifelong Learning Centers established in 2020, is still not available given that the implementation period is not yet long enough to extract safe results. Accordingly, 186 municipalities offered 614 programs for socially vulnerable groups in a time frame of four years, on quality of life, new technologies, language and communication, social skills, and culture and arts. The programs continue but there is yet no clear evidence regarding their success and trainees' satisfaction.

Regarding higher education, the Hellenic Open University, from the beginning of its operation was called as "second chance university" to address the needs of the older population. In the academic year 2021-2022 out of the 44.208 students, 6.535 are over the age of 50, that is 14.7% of the total students' population.

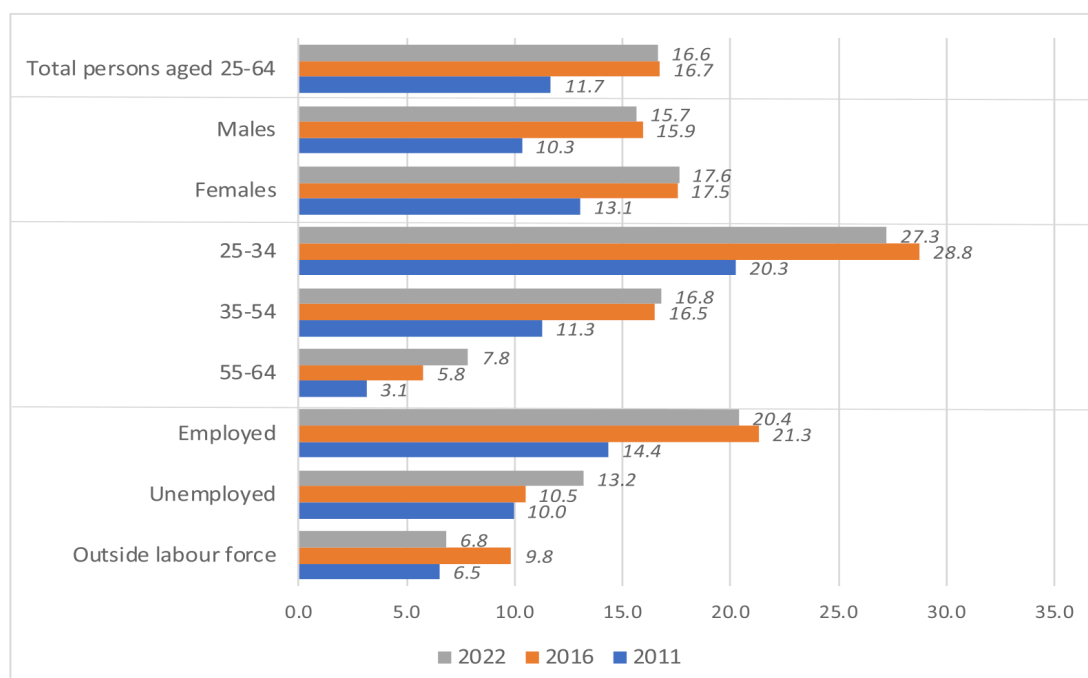
Therefore, in Lifelong learning and adult education programs, according to Eurydice (2023), the population that receives non-formal training (excluding the Hellenic Open University training voucher and the Public Lifelong Learning Centers in Municipalities), is less than 55.000 (Table 1):

**Table 1.** Attendees in Lifelong Long Learning and Adult Education Programs

Institution	Adult Trainees
Second Chance Schools	4.634
EPAS/DYPA	7.645
EPAL/DYPA	11.603
Evening VUSS	23.853
Special Needs VLUSS	1.795
Post-Secondary VTAppr.	2.800
<b>Total</b>	<b>52.330</b>

According to the Adult Education Survey in Greece (ELSTAT, 2023) the participation rate in non-formal education reached 14.73% in year 2022. However, a closer look at the statistics reveals that participation in non-formal education mainly concerns women, employed up to 34 years old whom have already completed tertiary education.

The lowest rate (2.3%) is again amongst the unemployed over 55 years old. Participation seems to be larger in non-formal educational systems from 9.6% to 14.7% (ELSTAT, 2023) when comparing year 2011 with 2022 but when focusing to those outside the labor force, there is in fact a stagnation or decrease in participation. This finding may indicate the hardships in reaching socially vulnerable populations through training in Greece.

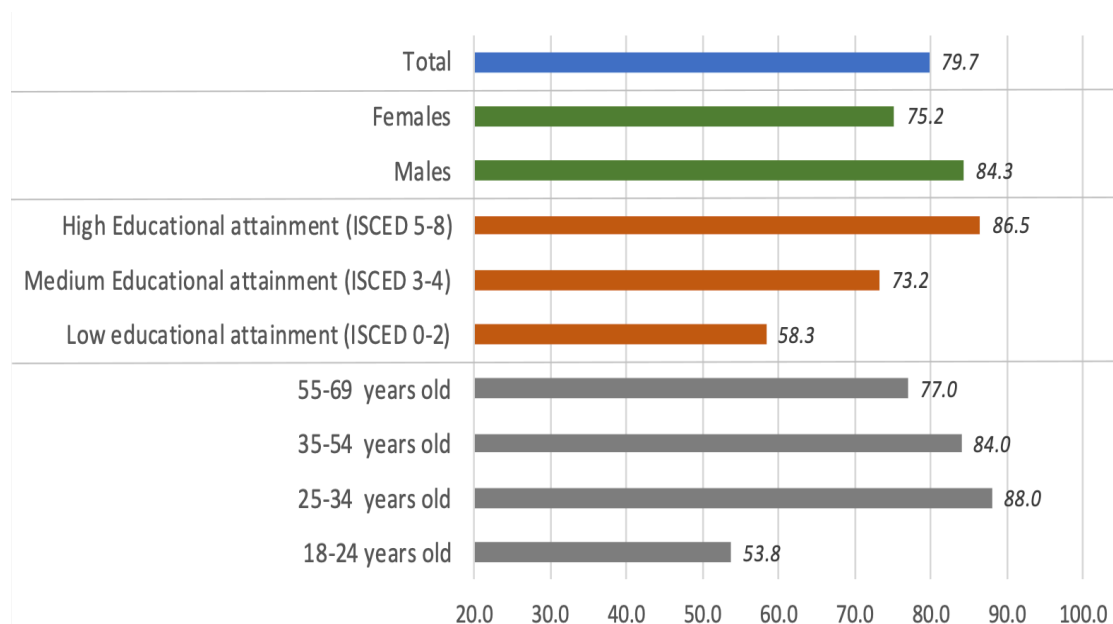


**Graph 4:** Participation rates in educational activities 2011, 2016, 2022

Source: ELSTAT, 2023.



Furthermore, those who attend non-formal training programs for job-related purposes, are mainly those with higher educational attainment and younger in age (up to 34 years old). It is worth noting however that those with lower educational levels seem to choose programs related to arts (19.6%) whilst those with higher educational levels, tend to choose programs more related to computer use (23.3%), finance and management (22.8%) (ELSTAT, 2023).



**Graph 5:** Job-related non-formal educational activities

Source: ELSTAT, 2023

## 6. Discussion

Employment and occupational prospects and Lifelong learning are interlinked and often considered a favored topic for researchers, practitioners, policymakers, and politicians. As occupations, dynamic, stagnant, or declining, include certain tasks and skills, their evolution (and mainly in the dynamic ones) provides the necessary information areas in which the long-term strategy of Lifelong Learning should target. However, there seems to be a distance between policy, strategy, and action. Even though the number of people who participate in Lifelong learning in Greece seems to increase, a more careful data observation reveals that those who take advantage of the available opportunities continue to be those with higher skills and educational attainment levels. In addition, even though re-skilling and up-skilling seem to be required as the job market in Greece changes its structure without necessarily producing new jobs, much work needs to be done in bringing together educational institutions, universities, employers, and policymakers to achieve positive results. Even though employers (SEV, GSEVEE), Labour unions (GSEE), public universities, and municipalities through their Lifelong Learning Centers continue to invest in upskilling and reskilling, there is still work to be done especially for the unemployed. The Greek Public Employment Services (DYPA) in this direction implements an upskilling program for large numbers of unemployed people mainly in green and digital skills but as the programme is still in progress the results are not yet available.

Thus, structural inequalities still exist and hinder access to learning for those with lower educational attainment, older age, and higher unemployment, creating a further need for social justice. More surveys and in-depth research are needed in Greece to form a concise map of the adults attending non-formal educational systems and of those who do not attend,

considering that these are the main dropouts of formal education. Relevant studies in this area are few and concern mainly Second Chance Schools (Kiprianos & Mpourgos, 2022). The reasons for non-attendance are significant and have already been pointed out by relevant research (Karalis, 2017). The non-attendance reasons need to be taken into considerable consideration in future planning educational activities, strategies, and policies for a more inclusive Lifelong Learning and Adult Education that will assist job and social integration.

## References

- Goldin, I., Cameron, T., Balarajan, M. (2013). *They are not like us. The past and future of immigration*. University Publications of Crete.
- Cedefop. (2020). *2020 skills forecast*. Greece. <https://www.cedefop.europa.eu/en/country-reports/greece-2020-skills-forecast>
- Efstratoglou, A. (2018). *Professions and employment in the new century in Greece*. INE /GSEE.
- Efstratoglou, A, & Kritikidis, G. (2023). *Technological developments, human resources and occupations*. INE / GSEE. [https://www.inegsee.gr/wp-content/uploads/2023/06/Efstratoglou\\_ebook\\_web.pdf](https://www.inegsee.gr/wp-content/uploads/2023/06/Efstratoglou_ebook_web.pdf)
- ELSTAT. (2023). *Adult Education Survey: Year 2022* (26.10.2023). <https://www.statistics.gr/documents/20181/7d32e579-3726-ff33-477d-7ee11562499e>
- Eurydice. (2023). *Adult Education and Training in Greece*. <https://eurydice.eacea.ec.europa.eu/national-education-systems/greece/adult-education-and-training>
- Eurofound. (2016). *What do Europeans do at work? A task-based analysis: European Jobs Monitor 2016*. EU Agencies Network. <https://www.eurofound.europa.eu/en/publications/2016/what-do-europeans-do-work-task-based-analysis-european-jobs-monitor-2016>
- ISCO – 08 ( timeless ). *International Standard Classification of Occupations. Structure, group definitions and correspondence tables*. Volume I, ILO.
- Oesch, D. (2013). *Occupational Change in Europe. How Technology & Education Transform the Job Structure*. Oxford.
- Karalis, T. (2017). *Adult participation in lifelong learning: Obstacles and incentives for participation (2011–2016)*. INE/GSEE.
- Kiprianos, P. & Mpourgos, I. (2022). Back to school: From dropout to Second Chance Schools. *Journal of Adult and Continuing Education*, 28(1), 27 - 48. <https://doi.org/10.1177/1477971420979725>
- Petrakis, P. (2023). *Long-term strategic analysis ( foresight ) for the Greek economy and society until 2035*. NKUA, Publications of the National and Kapodistrian University of Athens.
- Petrakis, P.E. (2022). *Vocational Education and Training for them major sectors of the Greek Economy as Required Intervention in the Greek Labor Market: Theory, Methodology and Application*. Quaestor.