Connecting People with Jobs

Impact Evaluation of Training and Wage Subsidies for the Unemployed in Greece

OECD

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BETTER POLICIES FOR BETTER LIVES

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Foreword

Giving people better opportunities to participate in the labour market is a key policy objective in all OECD and EU countries. More and better employment increases disposable income, strengthens economic growth and improves well-being. Well-tailored labour market and social protection policies are a key factor in improving access to high-quality jobs and increasing activity rates. Such policies need to address pressing structural challenges, such as rapid population ageing and evolving skill needs, driven by digitalisation and the green transition. They should also foster social inclusion and mobilise all of society.

A major challenge that policy makers face is to make the most effective and efficient use of limited public funds. Knowing what policy measures work best requires the collection of relevant data, careful planning of impact evaluations and use of their results to guide policy making. Advances in data collection and storage and modern computer power means that countries now have a greater ability than ever before to conduct evaluations of their policies using high-quality administrative and survey data. Expertise is needed to conduct robust and credible policy evaluation but also effective communication of their results to inform policy makers.

The OECD is carrying out a set of reviews of labour market and social protection policies to encourage greater labour market participation and promote better employment opportunities, with a special focus on the most disadvantaged who face the greatest barriers to finding quality jobs. This includes a series of country studies, *Connecting People with Jobs*, which provide an assessment of how well active labour market policies (ALMPs) help all groups to move into productive and rewarding jobs, and policy recommendations for improving their effectiveness.

This report on Greece uses rich administrative data from different registers in Greece to evaluate the impact of selected training measures and wage subsidies for unemployed people. The analysis looks at outcomes beyond the probability of employment and examines how the selected ALMPs affect different population groups. The report finds a positive impact of both types of ALMPs and makes recommendations for further improving the effectiveness of Greece's ALMPs and strengthening the capacity of the authorities to conduct ALMP impact evaluations. This report is the twelfth in a series of country reports on policies to connect people with better jobs. The report has been undertaken within the framework of the OECD's project with the European Commission to help countries raise the quality of the data collected and their use in the evaluation of the outcomes and effectiveness of labour market programmes.

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Co-operation with Sara Flisi and Fabio Berton from the European Commission's Competence Centre on Microeconomic Evaluation of the Joint Research Centre and with Katarina Jaksic and Nora Wukovits-Votzi from the European's Commission Directorate-General for Employment, Social Affairs and Inclusion has been instrumental for the project and the preparation of this report.

The report has also greatly benefited from the information and assessments received from stakeholders in Greece who the OECD team met with during a fact-finding mission in July 2022. These included representatives from the Greek Public Employment Service (DYPA), the Ministry of Employment and Social Affairs, the Ministry of Digital Governance, the General Confederation of Greek Workers (GESS), the Hellenic Confederation of Professionals, Craftsmen, and Merchants (GSEVEE), the Hellenic Federation of Enterprises (SEV), researchers from the University of Crete, the Centre of Planning and Economic Research (KEPE), the Foundation for Economic and Industrial Research (IOBE), staff in the employment office of Piraeus, and Panos Tsakloglou, Deputy Minister for Social Insurance.

The excellent co-operation with Spiros Protopsaltis (Governor of DYPA) and George Karachalios (Deputy Governor of DYPA) was invaluable for the success of the project. The work of Aliki Anitsi (data analyst in DYPA) was instrumental for the collection and linking of the necessary data across the different registers and for making them available to the OECD team. The help provided by Stavros Bakeas and his team (Ergani team, Ministry of Labour and Social Affairs), as well as that of Periklis Ntentopoulos (Computer Technology Institute and Press, Diofantos) were crucial for accessing data on employment outcomes, wage subsidy recipients and training programmes.

The report benefited from the comments received on earlier versions of this report through virtual meetings and in writing. Comments were provided by: various stakeholders in Greece; the European Commission's Directorate-General for Employment, Social Affairs and Inclusion; the European Commission's Joint Research Centre / Centre for Research on Impact Evaluation; as well as Stefano Scarpetta, Mark Pearson, Mark Keese, Patricia Navarro-Palau and Emily Farchy at the OECD. The report was also shared with the OECD Employment, Labour and Social Affairs Committee and incorporates comments received from delegates.

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The views expressed herein can in no way be taken to reflect the official opinion of the European Union.

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Executive summary

The monthly unemployment rate in Greece fell below 10% in the fourth quarter of 2023, well down from 27.7% in 2013 following the global financial crisis. Despite this marked improvement, many labour market challenges remain with its unemployment rate still among the highest in the OECD and the EU. In addition to high overall unemployment and structural challenges like skill mismatches and large seasonal fluctuations in labour demand, labour market disadvantage remains concentrated among certain groups such as youth, older workers, women and people with disabilities.

Despite high levels of unemployment, Greek spending on active labour market policies (ALMPs) has historically been low, amounting to 0.30% of GDP in 2021, around three-quarters of the OECD average of 0.42% of GDP. Furthermore, about half of Greece's ALMP spending is allocated to direct job creation programmes (public works), which tend to be some of the least effective support measures according to evaluations in other countries. As such, few jobseekers receive training and wage subsidies, and counsellors face high caseloads. This makes it hard to meet jobseekers' needs and provide tailored support.

To address many of the long-standing challenges on the Greek labour market, an extensive reform called "Jobs Again" was launched in April 2022 in the design and implementation of ALMPs, benefit schemes, as well as the Greek Public Employment Service (DYPA). DYPA is going through changes in its governance model and a major re-branding, building practices on evidence-based policy design and implementation, and developing a modern, agile and efficient organisation to deliver ALMPs, including via leaner administrative processes and advanced digital solutions. In a parallel development, Greece is implementing a new set of training programmes that are expected to considerably expand the training available to jobseekers. Nevertheless, the full potential of these changes may not be realised if ALMP funding remains low and counsellor caseloads high over the longer-term.

Using rich administrative data from different registers in Greece, the report evaluates the impact of selected training measures and wage subsidies for unemployed people. The analysis assesses outcomes beyond the probability of employment and for different population groups. The report finds a positive impact of both types of ALMPs. Nevertheless, Greece could do more to ensure these programmes reach the people who need them and benefit from them the most.

DYPA's ongoing reform holds much promise to improve the provision of ALMPs overall, but further success will depend on developing a strategic vision, engaging staff and ensuring sustainable human and financial resources. The key policy recommendations emerging from this review include:

- **Draw up a clear and concise strategy for DYPA to set the long-term objectives, mission and vision.** Support the overall strategy with a strategic concept for the digitalisation pathway of DYPA, establishing the objective and principles for digital innovations, helping to prioritise the different IT projects, and setting a clear framework for digitalisation.

- **Continue developing a binding, transparent and streamlined performance management system in DYPA** to support the implementation of DYPA's strategy. Increase staff ownership by engaging staff in developing DYPA's strategy, designing the system of performance management, as well as in DYPA's planning and innovation processes more generally.
- **Increase counselling capacity and decrease caseloads** to provide actual counselling and meaningful support to jobseekers, and to implement job-search requirements. Support the counsellors with appropriate (digital) tools, clear guidelines, thorough training and leaner and more automatic administrative processes.
- **Establish a fully-fledged evidence-based approach to ALMP design and implementation** by allocating additional financial and human resources to be able to conduct evaluations both in-house and contract them out, including trialling and piloting in evaluation strategies, and developing the capacity to systematically link administrative data for evidence generation.
- **Fine-tune the design and implementation of ALMPs** by consolidating ALMPs with wider eligibility criteria but targeted to the individual needs instead of the many existing temporary programmes which can be inefficient to manage and may not reach the people who need them.
- **Target wage subsidies and training programmes to those groups who need them and benefit from them the most** by using the results of profiling and the findings of this evaluation exercise, as well as counsellors' discretion.

1 Assessment and recommendations

To address long-standing labour market challenges, Greece is undergoing an extensive reform of its Public Employment Service (DYPA), its provision of active labour market policies (ALMPs) and its unemployment benefit system. To realise the full potential of the reform, sustainable and sufficient funding needs to be allocated for ALMPs and the job counsellor caseloads need to be lowered. In addition, DYPA needs to develop a concise strategy for its modernisation and engage its staff in the implementation of this change agenda. DYPA has already introduced many changes in ALMP design, including training and wage subsidies, to increase the effectiveness of ALMP support to jobseekers and employers. The evaluations show that wage subsidies and training (for high-demand sectors and ICT) indeed have a positive impact on the participants' labour market outcomes. To increase the overall impact of its ALMPs through better targeting, Greece should introduce modern jobseeker profiling tools, rely more on the expertise of DYPA's job counsellors, and align the targeting with the insights from the current impact evaluation, which highlight the differential effectiveness of ALMPs across jobseeker groups.

1.1. Greece should continue to strengthen its system of active labour market policies

1.1.1. The Greek labour market has improved in recent years, yet unemployment remains high

The Greek labour market has improved markedly in recent years and weathered the COVID-19 crisis well. Indeed, during the pandemic annual unemployment declined slightly. As of 2022, the unemployment rate among the working age population (those aged 15-64 years) stood at 12.6%, much improved after reaching 27.7% in 2013 following the global financial crisis. However, despite this marked improvement many labour market challenges remain, with the unemployment rate still among the highest in OECD and EU countries.

Of these labour market challenges, many are of a structural nature. This includes widespread informality, work disincentives arising from the tax and benefit system, challenges with low skill levels and skill mismatch in the labour market, seasonal work, and an ageing and declining population. In addition to high overall unemployment and structural challenges, some groups lag behind others. Notably, this includes youth (with Greece having the highest unemployment rate in the OECD among those aged 15-29, at 24.3% in 2022), older workers, women (an employment gap of 20 percentage points with men in 2022 among the working age population), and those with disabilities (with working age people with disabilities having a 30 percentage point lower employment rate than people without disabilities during 2016-19).

1.1.2. Greece spends relatively little on active labour market policies, with a large share going to public works

Despite high levels of unemployment, Greek spending on active labour market policies (ALMPs) has been low in recent years. About 0.30% of GDP was allocated to ALMPs in 2021, much lower than many other countries and around three-quarters of the OECD average of 0.42% (although new programmes currently being implemented in Greece will increase this percentage, particularly with new training programmes).[1] Such low levels of spending, coupled with high demand, have translated into little support for jobseekers. In the past, few people have participated in training and wage subsidies programmes. Counsellors face high caseloads, making it hard to meet jobseekers' needs and provide tailored support.

In the past, a disproportionately large share of Greece's ALMP spending has been allocated to direct job creation programmes, i.e. public works. Across the 2017-21 period, Greece spent about 48% of its ALMP budget on direct job creation programmes, far more than the OECD average share of around 11%. Public works schemes are often the only broad category of measures available to the most vulnerable jobless Greeks. Alternative measures such work-related rehabilitation, supported work or mixed support measures are essentially non-existent in Greece, although specific measures for groups like ex-prisoners and people with disabilities are available under other types of ALMPs, such as training and employment incentives. International evidence suggests that public works schemes are less effective at facilitating employment compared to other types of ALMPs, which have demonstrated greater efficacy in supporting job integration, though public works may nevertheless be helpful for very specific groups over long time horizons, facilitating their pathways to employment. Spending on training programmes is especially low in Greece, at only 0.02% of GDP over the 2017-21 period, less than a fifth of the OECD average.

ALMP funding from the European Union (EU) through the European Social Funds plus (ESF+) programme and its predecessors, as well as more recently through the Recovery and Resilience Fund (RRF), is crucial for Greece. While exact figures are hard to come by, consultations with stakeholders suggest EU funding accounted for a large share of Greek spending on ALMPs. Such funding is on a project basis, which by its nature leaves some uncertainty for the future and can leave gaps especially for funding of public

employment service administration. Given the high demand for ALMPs relative to the currently low levels of funding, Greece should consider increasing its own national expenditure on ALMPs.

1.1.3. Monitoring and rewarding performance will help the Greek Public Employment Service DYPA to become a modern, agile and effective organisation

To address many of the long-standing labour market challenges in Greece, an extensive reform called "Jobs Again" was launched in April 2022 in the design and implementation of ALMPs, benefit schemes, as well as the Greek Public Employment Service, (DYPA). DYPA is undertaking a major re-branding to communicate a change of era unequivocally to its staff, customers and the society at large. Furthermore, while DYPA's high-level governance model has not changed, the composition of its tripartite Board of Directors was downsized to further increase the speed and agility of taking operational decisions. Additional changes were made to modernise the organisation, including to the organisational structure. While DYPA currently has some channels for incorporating stakeholder feedback, it will be important for DYPA to establish new ways of needs-based involvement of additional stakeholders and experts in its decision-making process. The involvement of such additional experts should aim to ensure that the decisions will meet the labour market needs, particularly given the change in the composition of its Board of Directors.

DYPA should continue developing its performance management system. DYPA has made good progress in starting to establish the performance management foreseen in the "Jobs Again" act, using data in its Data Warehouse for eight indicators focusing on administrative processes, and developing dashboards with data visualisations that both DYPA management and staff in the local offices (KPA2) can access and subsequently discuss. DYPA needs to further ensure that the performance management system is binding for the staff and increase the feeling of ownership among them by involving and engaging staff in designing the system and disseminating the objective and methodology of the system. It is important for DYPA to find ways to incentivise good performance via monetary (at the team level and office level, if counsellor level is not possible) and non-monetary (recognition) ways to create accountability within the organisation. In addition, the best performance cases should be studied to identify good practices that could be rolled out nationwide.

The overall monitoring framework of ALMPs should cover ALMP provision systematically, and measure different dimensions in ALMP provision to be able to identify challenges operatively. The narrower set of indicators for performance management should focus on the key objectives of DYPA and be targeted to drive performance, taking into account the local labour market situation to be fair across local offices. As DYPA's new business model will be maturing over time, DYPA will need to gradually move towards a performance management system that will focus on ultimate outcome indicators, i.e. jobseekers finding good jobs and employers finding staff meeting their needs for skills.

1.1.4. After the first successful steps towards a modern digital backbone, DYPA needs to define its future digital journey strategically

DYPA was very quick in developing urgently needed digital solutions during the COVID-19 pandemic, and has continued to modernise its digital backbone at a fast pace. DYPA is further planning to update its main operational IT system away from the current legacy platform, develop new digital tools for jobseekers to access and prove their eligibility to benefits and rights, and adopt a cutting-edge AI tool to match jobseekers and vacancies based on competencies. Additional modernisation is likely needed, such as updating the jobseeker profiling tool and developing a feedback mechanism to inform training programmes (a project with the European Commission and the World Bank and a project with the OECD are currently being undertaken to address the different aspects of this modernisation). Further modernisation needs include automating and digitalising processes that are not yet digital, and streamlining the more recently developed tools to fit well within the renewed digital infrastructure.

DYPA's digital solutions have already hugely improved due to the newly developed possibilities to exchange data with other registers via the infrastructure of the Central Interoperability Centre (KED), and now has web services to exchange data on employment records, taxes, social security, property, refugee status etc. While additional web services for operational reasons are being implemented, the capacity to systematically link administrative data for evidence generation and share these securely with researchers still needs to be developed. In addition, it would be important to link data from DYPA with data from the National Social Security Fund (EFKA) which, in addition to being helpful for evaluations, is a necessary precondition for implementing potential reforms to the Greece's unemployment benefits scheme. Finally, data on public sector employment which would be crucial to fully capture the labour market outcomes of ALMP participants after they are no longer participating in ALMPs. A fully-fledged evidence-based approach to ALMP design and implementation would need additional financial and human resources to be able to conduct evaluations both in-house and contract them out, in addition to developing technical capacity to link and share data.

While DYPA needs to stay agile in its progress in digitalisation, an underlying strategy is needed to guide DYPA in this pathway. The strategy should state the objective and principles for digital innovations, helping to prioritise the different IT projects and set a clear framework for digitalisation. A clear strategy would help to ensure that initiatives are well integrated both technologically and in the processes followed.

1.1.5. Improvements in ALMP design have started

DYPA has recently introduced many changes in ALMP design to increase the effectiveness of ALMP support to jobseekers and employers. The "Jobs Again" reform seeks to further improve training measures and decrease skill mismatches in the Greek labour market. For example, the concept of "payment by results" for both the training provider and the participant was implemented in 2023, aiming to decrease drop-out rates, and increase training quality and post-training employment rates. It is crucial to monitor and evaluate this new concept and consult with the providers to ensure a successful implementation.

The "Jobs Again" act also aims to strengthen the regulation of job-search requirements to decrease misuses of the benefit system, nudge jobseekers to increase job search efforts, give counsellors more tools to activate jobseekers and allocate counselling resources to those jobseekers who need these. To implement the job-search requirements successfully, the counsellors need clear guidelines, thorough training and digital solutions supporting the new processes. In addition, the counselling capacity of DYPA needs to be scaled up. While a proper application of job-search requirements would eventually decrease counsellors' caseloads, current caseloads are too high to implement job-search requirements appropriately and equally to all jobseekers.

Additional changes should be considered in the ALMP package in Greece, such as introducing longer or continuous programmes with wider eligibility criteria but narrowly targeted to the individual needs of the jobseekers, to relieve the administrative burden of programme management. Further reforms on entitlements associated with registering with DYPA beyond unemployment benefits might be relevant to target ALMPs. Public works schemes, which are generally found to be ineffective measures in the evaluation literature (at least in the short to medium term and when labour market outcomes are considered), should be revised by the Ministry of Employment and Social Affairs (YEKA) after analysing which groups benefit from such measures and how to increase the positive effects, and which groups need different support altogether. It would be also important to estimate the impact of such measures on social integration outcomes, if data are available.

1.1.6. DYPA needs to increase its capacity to counsel jobseekers

International comparisons of client numbers per job counsellor between OECD countries are problematic as the responsibilities of Public Employment Services (PES) and the organisation of tasks within PES differ

considerably across countries. Nevertheless, the caseloads in Greece are very high even after doubling the number of counsellors in 2022, reaching 1 847 jobseekers per counsellor in the second half of 2022. This is 10 to 20 times that found in modern and well-performing ALMP systems where the caseloads amount to 100-150 jobseekers per counsellor and are even lower concerning jobseekers furthest from the labour market.

In addition to supporting counsellors with appropriate tools so that they can deliver their services as effectively and efficiently as possible and reserve time for other functions, DYPA needs to have more counselling capacity to provide counselling and meaningful support to jobseekers. Research in other countries has found that reducing the number of jobseekers per counsellor not only helps jobseekers find work more effectively, but that the savings from reduced benefit expenditure and increased tax revenues save the government money over the long term. Increasing the number of counsellors may also require co-ordination with other Greek entities, such as the National Organisation for Certification of Qualifications and Vocational Guidance, who also play a role in ensuring that there are sufficient numbers of certified DYPA counsellors in Greece.

1.1.7. DYPA needs a clear and concise strategy for its transformation

DYPA has not yet developed a clear strategy for its transformation, but follows instead an abundance of acts, regulations, circulars and ministerial decisions that state DYPA's long list of tasks and responsibilities.

DYPA should draw up a concise strategic plan and that sets out its clear long-term objectives, even though such a practice is not (yet) common for Greek public sector organisations. This should be aligned with relevant regulations and DYPA's other strategic documents such as a digitalisation strategy, a strategy for generating knowledge and annual plans to implement the long-term strategy.

A clear and concise strategy is vital to get the whole DYPA on board with the change agenda. Every staff member needs to easily understand the strategy to be able to contribute to the common goals. Furthermore, DYPA should engage staff in the strategy development process to create joint ownership of the change agenda. Involving and engaging staff in DYPA's planning and innovation processes would facilitate the implementation of the changes (decrease resistance to change and embrace responsibilities), as well as encourage innovative ideas that might not occur with purely top-down processes.

1.2. Training programmes are found to be effective and have the potential to promote upskilling for a larger target population

1.2.1. Training programmes are effective at connecting people with jobs

The counterfactual impact evaluation (CIE) conducted in this report examines two of Greece's ALMPs, wage subsidies and training for the unemployed. The evaluation of the training programmes focuses on Greece's three main training programmes in the recent past. One of the training programmes is intended to train individuals to enter "high-demand sectors" (although in practice training participants end up working in essentially all sectors of economic activity, with the wholesale and retail trade sector accounting for roughly one-quarter of participants). The other two training programmes evaluated provide tertiary education graduates with information and communication technology (ICT) training, targeting individuals aged 25-29 and 30-45 years, respectively. All three programmes are considered important by DYPA as they have the potential to support the digital transition and address skills shortages in key sectors, including tourism. They are voucher-based training where jobseekers can select from accredited training providers and contain both theoretical and practical components. They last approximately five months in total for the high-demand sectors training and seven months for the ICT training. During the period analysed in this report, participation in the three training programmes amounted to about 22 000 persons, with 90% of them

being in the high-demand sectors training. The high-demand sectors training ran for the period from June 2017 through December 2018 and the ICT trainings from January 2020 through June 2020.

Following a “lock-in” period of about four months (corresponding approximately to the training duration) where participants are typically not actively seeking work, the impact of training on participants’ employment becomes positive and is statistically significant. One year after starting a training programme, the probability of employment is 7 percentage points higher for training participants compared to that for similar non-participants. The effect of training participation on employment reaches 9 percentage points two years after entering training, a quite sizeable effect. When compared to the international literature on the impact of training on employment, training programmes in Greece appear to be particularly effective, situating in the upper quartile of the estimated effects in international studies the short, medium, and long run.

Training programmes are also effective for many different groups of jobseekers, but even more so for younger people and those with higher levels of education. For instance, two years after entering training programmes, men under age 30 are 19 percentage points more likely to be employed than similar jobseekers who do not participate in training (the comparable figure for women is 16 percentage points). The higher effect for jobseekers with higher education levels is, to some extent, driven by ICT training which is available to jobseekers with tertiary education.

Training programmes lead to a lower likelihood of registered unemployment for participants. Twelve months following the start of training, participants are about five percentage points less likely to be registered as unemployed, an effect which mostly persists over the medium term, but falls slightly over the longer term and amounts to two percentage points three years after entering training. Training participation is also associated with a higher probability of unemployment benefit receipt starting 15 months after entering the training programme, with participants up to 10 percentage points more likely to receive benefits in long term. This effect, combined with the positive effect on employment, likely reflects that some training participants transition in and out of employment, and accumulate rights which trigger the payment of unemployment benefits when they become unemployed.

1.2.2. Training programmes boost earnings of participants and ICT training promotes upward occupation mobility

Participation in training leads to more days in employment and higher earnings. Three years after the start of training, participants have experienced 66 more days in employment than similar jobseekers who did not participate in training. The effects of training on cumulative earnings build consistently over time and, in the three-years following the start of training, participants earned a cumulative total of EUR 1 500 (in 2015 prices) more than similar jobseekers who did not participate in training. These effects, as well as the overall effects on employment, registered unemployment and benefit receipt are quite similar for the three programmes.

Beyond the effects of training on employment and earnings, it is important for policy makers to assess if training leads to upward occupational mobility, looking closer at possible differences between the training for high-demand sectors and the ICT programmes. The ICT programmes are indeed found to boost occupational mobility. Participants of the programme for individuals aged 25-29 years receive a fairly strong boost to their earnings – entering occupations that pay on average 6 percentage points more than their control group counterparts – with the programme for individuals aged 30-45 years providing a moderate boost, entering occupations paying 3 percentage points more on average. These results highlight the important role that such training can play in supporting mobility in the context of the digital transition in Greece. In contrast, the training for the high-demand sectors seems to have a small negative effect on occupational mobility, likely reflecting that many participants of such training end up in lower-paid occupations such as sales clerks.

1.2.3. Expand training programmes to reach more people

While training programmes are effective at helping individuals into employment, they reached relatively few people in the period examined. Hence, many unemployed persons who could have benefited from training missed out. Greece has spent much less than other countries on training programmes for unemployed persons. Over the period 2017-20, Greece spent around 0.02% of GDP on training programmes for unemployed people, which is less than one-fifth of the OECD average (0.11% of GDP). The introduction of new training programmes, supported by EU funding and intended to train 700 000 individuals from 2022 to 2025 (including both unemployed and employed persons), is a significant and positive step. Given that this evaluation shows large, positive effects on the programmes studied, the new programmes can be expected to be worthwhile – and have a positive impact – even if they end up being considerably less effective than the ones examined in this evaluation.

The analysis in this report shows that training programmes can be effective for a number of different groups of jobseekers. Nevertheless, it is important to target the training programmes to those that would benefit from these the most, both in the design and implementation of training. These groups include mainly young people (below the age of 30), jobseekers with higher education and those who have been unemployed for less than one year. To provide training based on individual needs, the underlying needs assessment could combine inputs from data (a profiling model and using the results of the current evaluation) and counsellor discretion.

1.3. Wage subsidies are also highly effective but should be targeted more towards the long-term unemployed

1.3.1. Wage subsidies appear effective in placing individuals in employment, with generally positive effects on other labour market outcomes

The results of the impact evaluation show that wage subsidies have large and statistically significant positive effects on the probability of individuals being in employment. Although the effects are largest immediately after individuals enter the programme and decline thereafter, they remain large throughout the time horizon examined in the evaluation. Even three years after entering the programme, wage subsidy participants are almost twice as likely to be employed as similar individuals in the comparison group. Specifically, 59% of wage subsidy participants are employed three years after entering the programme, compared to 32% of the comparison group – a difference of 27 percentage points. These estimated effects are large also when compared with the results of similar programmes in other countries.

Corroborating the positive employment effects are the findings that programme participants also have higher earnings and days in employment. Over the three-year time horizon studied, wage subsidy participants were employed for 524 days more than individuals who did not participate in the programmes. Likewise, three years after entering the wage subsidy programme, participants earned EUR 13 784 more than non-participants over the three-year period. As with employment, these effects are most pronounced during the first 12 months after entering the programme, but they continue to have positive effects throughout the three-year observation window during which individuals are tracked in the analysis. The effects of programme participation thus outlast the duration of the subsidy, as well as any additional period during which firms are required to continue to employ individuals hired via the subsidies.

Assessing how these increased earnings compare to the direct costs of the programmes is difficult due to a lack of data on the exact costs of participation. Such comparisons would ideally include actual costs of programme participation, accounting for different programme parameters and attrition in programme participation. However, a rough comparison using the parameters of the largest programmes suggest sizable gains even after accounting for the estimated costs, highlighting the programme's potential cost-

effectiveness: for one of the larger programmes examined, roughly half of the additional earnings are not attributable to the wage subsidy payments made to employers.

While the wage subsidy programme significantly enhances employment and earnings for jobseekers, it also has a small adverse impact on their occupational mobility in the short run. Participants in subsidised employment tend to enter occupations that, on average, pay slightly less compared to the occupations of those in the comparison group. This effect is small but statistically significant for the first 21 months of participation in the programme. This suggests that while jobseekers benefit from improved employment prospects and overall higher total earnings through the subsidy programme, they may be doing so in occupations which generally pay less, possibly by lowering their reservation wage (i.e. the wage at which they will accept a job offer). This trade-off indicates a concession in occupational status for gains in employment stability and cumulative earnings during the three-year period tracked in the analysis.

1.3.2. The positive estimated effects of the wage subsidies may be overstated due to specific institutional features in Greece

Although Greece's wage subsidies are probably effective, the precise magnitude of the effects should be interpreted with caution due to several specific features. While similar caveats are relevant for most impact evaluations of wage subsidies using administrative data, especially those employing non-experimental methods, there are specific reasons why they could be particularly relevant in the case of Greece.

One factor that could lead to the results being overstated relates to deadweight effects. These occur when subsidies unintentionally support hiring that would have otherwise occurred without them. The potential for these effects to be present is arguably exacerbated by certain features in the Greek wage subsidy programmes before July 2020. These include employers being able to propose their own desired candidates and the high administrative burden associated with receiving the subsidies, which made it more probable for those certain about hiring to opt for the subsidies.

A second factor that could contribute to the large estimated effects relates to the mismeasurement of counterfactual outcomes resulting from undeclared work. Despite recent efforts aimed at addressing it, undeclared employment remains a relevant feature of Greece's labour market, particularly for the sub-population of individuals registered as unemployed with DYPA. Furthermore, individuals engaging in such work have an incentive to register as unemployed to gain access to a range of benefits: even if these are not sizable, they may not be negligible especially given the relatively small cost associated with registering. Many registered as unemployed might be engaged in undeclared work, thereby lowering the measured employment rates of individuals in the comparison group and inflating the estimated impact of the programmes (in this case, of both the wage subsidy and the training programmes).

1.3.3. Target wage subsidies towards long-term unemployed

The targeting of wage subsidies in Greece is a particularly relevant issue given the relatively low level of expenditure on ALMPs in Greece and the relatively limited reach of programmes. Subsidies should be targeted to maximise impact and minimise deadweight effects – employment that would have occurred in the absence of the subsidy.

While wage subsidies in Greece are found to be highly effective in helping different groups of workers into employment, there are some important differences in effectiveness that could be taken into account in terms of targeting. In particular, the long-term unemployed – those who have been unemployed for more than 12 months – experience a slightly larger improvement in their employment probability than those who have been unemployed for less than a year. Although the magnitude of the difference is relatively small, this finding is important, particularly in view of the relatively low take-up of wage subsidies among the long-term unemployed. The long-term unemployed accounted for 50% of the registered unemployed but only

45% of the wage subsidy recipients. This suggests that a shift in the targeting of wage subsidies towards the long-term unemployed could increase the overall positive impact of wage subsidies on employment.

Targeting wage subsidies more toward the long-term unemployed could also result in lower deadweight effects. First, it would provide better support to workers with poorer labour market prospects. In Greece, as in many other countries, the probability of finding a job decreases with the duration of unemployment. Thus, making individuals generally eligible for wage subsidies only after longer spells of unemployment may make it less likely that relatively employable individuals will be hired through subsidies. Second, it may make it more difficult for employers to engage in strategic behaviour whereby an employer first decides to hire someone and then refers them to apply through a wage subsidy programme. While such behaviour has been made more difficult by recent changes to the candidate selection process, further changes to the eligibility criteria for jobseekers would make it even more difficult.

1.3.4. Redesign wage subsidies to further increase their attractiveness to employers while mitigating possible deadweight effects

An effective wage subsidy scheme should strike an appropriate balance between several competing factors. First, it should support jobseekers who have poor labour market prospects, such as due to a lack of demonstrable relevant work experience. The scheme should help place such jobseekers into sustained employment in good jobs. Second, it should be attractive for employers, providing them with an incentive to hire someone they otherwise would not, but without excessively onerous conditions. Finally, the scheme should minimise unintended consequences such as deadweight hires.

Compared to their features prior to July 2020, the various wage subsidies programmes in Greece have undergone important changes in this direction. Employers can no longer propose candidates they would like to hire but are obligated to choose from a list of candidates proposed by the PES. Programmes no longer impose retention requirements at the end of the wage subsidy period, recognising that one of the important functions of subsidised employment is to test the suitability of a job match in practice. The administrative burden of the programmes has been reduced by, for example, only verifying whether an employer meets the subsidy eligibility criteria after a suitable candidate has been identified.

However, a further change could be made to improve uptake amongst employers while still further mitigating possible deadweight effects. The requirement that an employer has not dismissed workers in the three-months prior to applying for the wage subsidy should be reconsidered. While the terms allow for exceptions to this criterion – non-renewed fixed-term contracts constitute one such exception – the requirement nevertheless imposes a significant administrative burden, uncertainty about eligibility, as well as excluding the largest firms in practice. This has contributed to a low take-up rate of wage subsidies amongst larger firms – the very firms that tend to have higher paid jobs. To offset the potential for strategic behaviour, DYPA could consider imposing retrospective conditions on retention rates to establish eligibility: employers that had insufficiently low rates of retention of wage subsidy recipients could be deemed ineligible for subsidies.

1.4. Greece could do more to link data and support regular impact evaluations of ALMPs

1.4.1. Impact evaluations of ALMPs identify what works and for whom

Evidenced-based policy making for ALMPs requires conducting CIEs in addition to regular policy monitoring. Producing basic monitoring statistics, such as on the number of participants, programme completion rates, demographic characteristics of participants, and basic data on employment outcomes for participants, are helpful for providing an immediate view on ALMPs, assessing whether targets (such

as targets related to programme uptake) are being met, and can help to spot issues with implementation. To understand whether a programme is effective in connecting people with jobs, it is not enough to observe the percentage of individuals finding a job after their participation. This is because some people who did not participate in the programme would have found a job anyway even if they had not participated. To measure the effect of a programme a CIE is needed, a method which estimates a "counterfactual", that is what would have happened to participants if they had not participated in the programme. A CIE can also inform whether the programme produces the desired effects for all participants and identify groups for which a programme is most or least effective. It is necessary for deciding whether a programme should be stopped, continued, improved or expanded, allowing for resources to be allocated to where they are most effective at supporting jobseekers. CIEs are also needed to conduct cost-benefit analyses which can tell policy makers if a programme is cost-effective.

The method used in this report – propensity score matching – compares programme participants with similar non-participants, that is "a matched comparison" or "control" group. It is crucial to make this matched comparison group as comparable as possible to programme participants, so that differences in outcomes can be attributed to the programme, rather than to other differences between participants and non-participants.

1.4.2. Greece's linked administrative data offer excellent opportunities for ALMP evaluations

The impact evaluations carried out in this report were only possible because of the linking of rich administrative data across three registers. Firstly, data on participation in wage subsidies, detailed background characteristics on participants and non-participants and benefit receipt were obtained from the DYPA register. Secondly, data on participation in training programmes were obtained from the Diofantos register, and thirdly, data on employment histories and employment outcomes, as well as more detailed data on subsidised jobs were obtained from the Ergani register. All these data were linked using a unique identifier and were subsequently pseudo-anonymised before sharing for analysis. This is the first time such rich and comprehensive data have been put together for ALMP research purposes in Greece. Similar data with somewhat less detailed information across certain dimensions were also put together for two recent studies conducted by IOBE and the World Bank.

All three evaluations highlight the value that such linked administrative data hold. Yet, such data can be useful beyond impact evaluation with many possible applications in labour and social policy. For instance, such rich data could help to better understand specific client groups, map the delivery of different services, or study wider topics of inequality and the reach and effectiveness of social policies. Therefore, investing in the capacity to link and share data for research purposes could have a significant positive impact on the evaluation of ALMPs, as well as on building evidence-informed policy making in many other employment and social policies.

1.4.3. Greece should invest in capacity to link administrative data for research purposes

Linking, anonymising and sharing the data and metadata for this project required substantial efforts from the Greek authorities. Similar work should be easier and would require less effort in the future if DYPA and YEKA could build on the capacity gained during the evaluation exercise conducted by the OECD. The process could also be optimised to make linking data easier, faster and more accurate.

In a first instance, more could be done to provide comprehensive metadata. The OECD project benefited greatly from the efforts of staff at DYPA, Diofantos, and Ergani through many written, virtual, and in-person exchanges. Some of these learnings have been captured in this report and the associated technical report produced within the project. However, creating additional metadata could speed up researchers'

familiarisation with the data and reduce the need for follow up communication, saving both researchers' and the Greek authorities' time and ensuring a more accurate interpretation of the data shared for research.

More could also be done to standardise the data linking process. Currently the processes for extracting and linking data have not been standardised, with new extractions and updates taking a long time and being prone to inconsistencies. For instance, writing a code for extracting and linking the data could make the process more efficient by minimising the time it takes to prepare data for different projects and reducing errors.

In future evaluations of ALMPs, Greece could consider linking data from more registers with the Ergani and DYPA registers. Linking in more data could improve the accuracy of policy evaluations by expanding the number of variables to be controlled for, allow for the examination of a wider set of outcomes and analyse more policies, including social policies. For example, the effects of ALMPs on health or further education could be investigated if data from the relevant agencies were included. While Ergani data does include measures of individuals' labour earnings, data to cross-check the accuracy of these fields (which are known to have issues in earlier periods) could potentially be obtained from EFKA or from the Independent Authority for Public Revenue (IAPR). Linking these data for research purposes should be tied to a specific policy evaluation and tailored to its needs. Knowledge and capacity acquired through this project by the OECD and the EC could help make the process more efficient.

Building internal capacity in the different organisations involved will be crucial to ensure continuity and leverage on knowledge and experience acquired. Attracting and retaining staff with the right skills profiles will be necessary whether DYPA decides to conduct evaluations of ALMPs internally or contract them to external researchers. In addition, it will be important to ensure regular exchanges between the different institutions sharing data to achieve a common understanding and discuss ways to improve the processes related to extracting, linking and sharing data. In particular, strengthening the existing co-operation between DYPA and the unit of Experts in Employment, Social Insurance, Welfare and Social Affairs (MEKY) of YEKA would be important to ensure co-ordination of activities regarding data exchanges, linking and use for research and strengthen analytical capacity in DYPA.

1.4.4. Greece should embed RCTs in policy making and include elements of evaluation in the design of new policies

Estimating the causal impact of a policy on participants requires knowing what would have happened to ALMP participants had they not participated in the ALMP. One of the most effective ways to do that is through Randomised Controlled Trials (RCTs) that assign individuals to the treatment and the control group in a random manner, so that individuals in the two groups are comparable before treatment starts. Greece should use such RCTs to test the effectiveness of new or re-designed ALMPs, also prior to rolling them out more broadly. If an RCT is well designed and implemented, a simple comparison of average outcomes in the two groups can provide accurate estimates of the impact of a policy on the outcomes of interest. However, RCTs are not without limitations which relate to ethical issues, implementation challenges that can affect the randomisation element, low take-up or high dropout, spill-over effects, unobserved non-compliance and anticipation effects, among many others. In case that RCTs are not possible to implement, Greece could consider alternative approaches, such as implementing policies in a staggered manner across time and space. Another quasi-experimental approach is to compare similar individuals around a threshold, such as unemployment duration, which triggers important changes to eligibility or programme parameters such as the generosity of wage subsidies. In the latter case, sufficient numbers of participants must exist around the threshold to allow for the differences to be meaningfully interpreted.

Key policy recommendations

Continue the transformation of DYPA into a modern, agile, effective and efficient organisation

- Draw up a clear and concise strategy to set the long-term objectives, enabling to prioritise activities and investments.
- Establish ways to involve additional stakeholders and experts in the decision-making processes of the tripartite Board of Directors of DYPA needs-based to ensure that the decisions do meet the labour market needs.
- Continue developing a binding, transparent and streamlined performance management system. Establish fair monetary and non-monetary incentives for good performance. In addition to discussing underperformance, study the best performance cases to identify the best practices that could be rolled out nationwide.
- Adopt the results chain framework (inputs-activities-outputs-outcomes) in the overall monitoring framework of ALMPs to identify challenges in ALMP provision systematically and operatively. Establish a narrower set of indicators with assigned target levels for performance management focusing on jobseekers finding good jobs and employers finding staff meeting their needs for skills.
- Involve staff in the development of DYPA's strategy and performance management system, as well as planning and innovation processes more generally to engage and empower staff, generate the feeling of ownership and encourage innovative ideas that might not occur with purely top-down processes for innovation.

Increase, reallocate and streamline resources to build DYPA's capacity to deliver meaningful support to its clients

- Develop a strategic concept for the digitalisation pathway of DYPA, establishing the objective and principles for digital innovations, and helping to prioritise the different IT projects. The digital strategy should address achieving sustainable resources for IT developments, using modern development concepts, ensuring take-up and avoiding staff resistance, managing the different risks associated with digital tools, and monitoring and evaluating digital tools systematically.
- Support the counsellors with appropriate tools, such as modern jobseeker and skills profiling tools, so that they are able and motivated to deliver their services as effectively and efficiently as possible.
- Continue working on leaner and more automatic administrative processes and modern digital solutions for both counsellors and clients.
- Increase counselling capacity and decrease caseloads to provide more effective counselling and meaningful support to jobseekers.
- Provide clear guidelines, thorough training and appropriate digital infrastructure for counsellors to implement job-search requirements successfully.

Fine-tune the design and implementation of ALMPs to increase their effectiveness and efficiency

- Establish more permanent programmes with wider eligibility criteria but targeted to the individual needs of the jobseekers instead of the many temporary programmes that are split by narrow target groups but can be inefficient to manage and still not reach those jobseekers that need the support the most.

- Monitor and evaluate the new model of payments by results for training programmes and establish a continuous dialogue with the providers to ensure that any challenges in this framework are addressed in time.
- Consider the evaluation and revision of the public works schemes to target these only to groups that benefit from such measures. Likewise, consider designing (additional or alternative) measures for groups that need different support in integrating into society and labour market.

Reconsider targeting of wage subsidies and training programmes

- Target wage subsidies more towards long-term unemployed instead of the newly-unemployed to lower deadweight effects and increase impact.
- Conversely, expand training for individuals who have recently become unemployed to maximise their impact.
- Target training programmes to young people (below the age of 30) for whom training is more effective.
- Combine the results of statistical profiling with the findings of this evaluation exercise as well as counsellors' discretion to inform targeting of wage subsidies and training programmes.
- Abolish the requirement that employers must not have dismissed workers in the three months before applying for wage subsidies. Instead, consider imposing retrospective conditions, temporarily disqualifying employers with low retention rates of wage subsidy recipients from future subsidies.

Expand training programmes and assign a greater role to counsellors in referring unemployed people to ALMPs

- Expand training offerings to support more jobseekers into employment and ensure they are available throughout time and space.
- Assign a greater role to counsellors in supporting referring jobseekers into ALMPs, including by ensuring clients are aware of these programmes and the benefits they offer. To do this effectively, counsellors would need to be better supported.

Establish a fully-fledged evidence-based approach to ALMP design and implementation

- Allocate additional financial and human resources to be able to conduct evaluations both in-house and contract them out, including in co-operation with YEKA and research units in other institutions, meeting both operational and strategic needs for reliable evidence.
- Develop the capacity to systematically link administrative data for evidence generation and make these securely available for researchers.
- Explore the possibility to use RCTs to overcome challenges in interpreting administrative data results for Greece, by addressing selection bias/unobserved heterogeneity. RCTs could also be used to examine questions such as effects of enforcing conditionality requirements or additional support (e.g. increased intensity of counselling).
- Disseminate impact evaluation results widely in a suitable format for different target stakeholders, particularly among DYPA counsellors, to improve buy-in.

Note

[1] These figures exclude categories 1.2, benefit administration, which is missing for Greece, and 4.2, temporary employment maintenance incentives, which were heavily influenced by the COVID-19 crisis.

2 Recent trends in Greece's labour market and the set-up of active labour market policies

This chapter describes recent trends in the Greek labour market including how it has performed over time, the challenges it faces (including during the COVID-19 pandemic), and the key groups in need of employment support. This chapter also describes the set-up of active labour market policies (ALMPs) in Greece, including the role of DYPA (the Greek public employment service), major ongoing reforms at DYPA, a high-level overview of ALMP spending in Greece, and the customer journey of unemployed jobseekers.

2.1. Introduction

This chapter provides an overview of the labour market situation in Greece and outlines how Greek active labour market polices (ALMPs) function. This sets the scene for later chapters which conduct counterfactual impact evaluations (CIE) of training and wage subsidy programmes for unemployed people.

The Greek labour market has improved markedly in recent years following the global financial crisis and coped relatively well with the COVID-19 pandemic. Nevertheless, unemployment remains among the highest in the EU and OECD while certain groups lag behind others.

ALMP spending is low when compared with per capita ALMP spending on the unemployed in other OECD countries. Such tight budgets underscore the importance of providing services that are both efficient and effective. A major reform at the Greek public employment service (DYPA) is underway, much of which is funded by the EU's Recovery and Resilience Facility (RRF). This reform aims at a significant modernisation of DYPA and the support it provides to jobseekers and employers. DYPA has made great first steps towards implementing the change agenda, but further success will depend on developing a concise strategy, engaging staff and ensuring sustainable human and financial resources.

Section 2.2 of the chapter lays out the context of the Greek labour market, its performance over time, the challenges faced, and the key groups in need of support. Section 2.3 then turns to the system of ALMPs in Greece. It provides an overview of ALMP spending in Greece and explains the set-up and the major on-going reform of DYPA.

2.2. The Greek labour market

The Greek labour market has seen massive improvements since the financial crisis, but there is still further to go and some groups in particular suffer poor labour market outcomes. This section charts the latest labour market trends, investigates the impact of the COVID-19 crisis on the labour market, and lays out the challenges that remain in Greece.

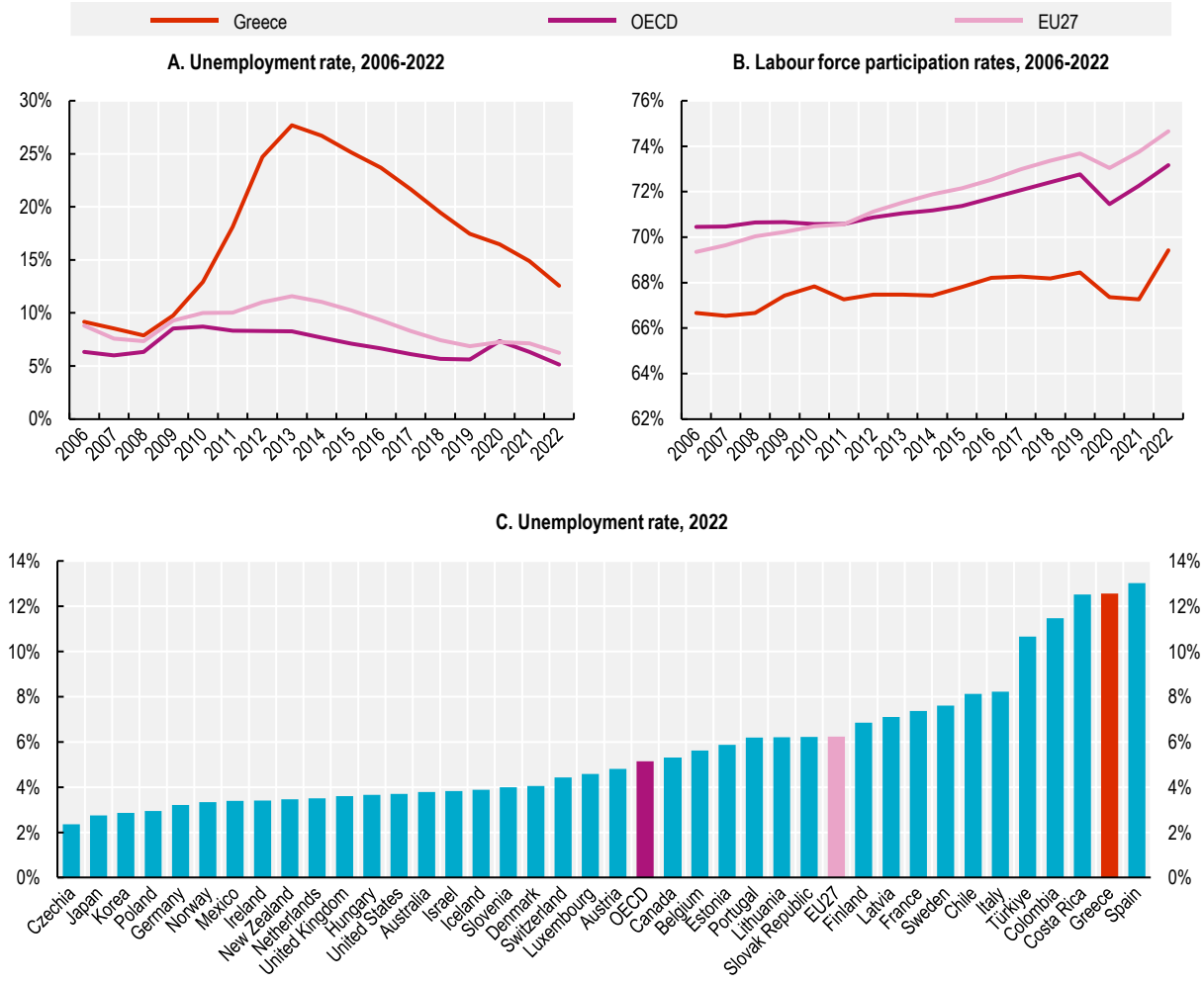
2.2.1. The Greek labour market has improved markedly over the last decade and weathered the COVID-19 crisis well, yet unemployment remains high

Greece was especially hard hit in the period following the financial crisis, suffering a sovereign debt crisis and ensuing major economic depression. Government spending was slashed to address unsustainably high debt and budget deficits, GDP severely contracted, and unemployment soared. The depression played out over many years with unemployment peaking at 27.7% only in 2013, several years after the onset of the crisis (Figure 2.1, Panel A).

Since 2013 the Greek labour market has improved markedly. With steady progress, unemployment has dropped by 15.1 percentage points from its peak to 12.6% in 2022 (Figure 2.1, Panel A). The labour force participation rate – which has long lagged other European and OECD countries – was less affected by the crisis than the unemployment rate and indeed now stands well above its pre-COVID level at 69.4% in 2022. These trends are mirrored by increases in the employment rate, from a nadir of 48.8% in 2013 to a peak of 60.7% in 2022.

Figure 2.1. The Greek labour market has improved markedly over the last decade but unemployment remains among the highest in the OECD

Unemployment and labour force participation rates, persons aged 15-64



Note: OECD and EU27 are weighted averages.
Source: OECD Dataset "LFS by sex and age – indicators", http://stats.oecd.org//Index.aspx?QueryId=118627.

StatLink https://stat.link/hjlkrt

At the outset of the pandemic, Greece enacted strong containment measures which included lockdowns, curfews, travel restrictions, and social distancing requirements. Such measures necessitated an upheaval in the labour market. Some businesses such as restaurants, bars, and retail shops, were prohibited from opening while, in an unprecedented global shift, many office workers were able to continue working from home. Moreover, even when businesses were allowed to operate, customers were not always readily available. The tourism industry was severely affected as international arrivals plummeted by 78% in 2020 and were still down by 55.9% compared to 2019 in 2021 (OECD, 2022[1]).

Overall, the Greek labour market however held up well during the pandemic. Despite massive disruption, unemployment fell in 2020 compared to 2019 and fell again in 2021. While this fall in unemployment was from a high base and the labour force participation rate dropped during this time as some of the people who were out-of-work stopped searching for work and became inactive, the fall in unemployment is still remarkable. Greece saw the largest percentage point drop in unemployment between 2019 and 2020 of

any OECD country and indeed was one of only five OECD countries to see a fall in unemployment between 2019 and 2020 and one of only three to see a fall between both 2019 and 2020 and between 2020 and 2021.

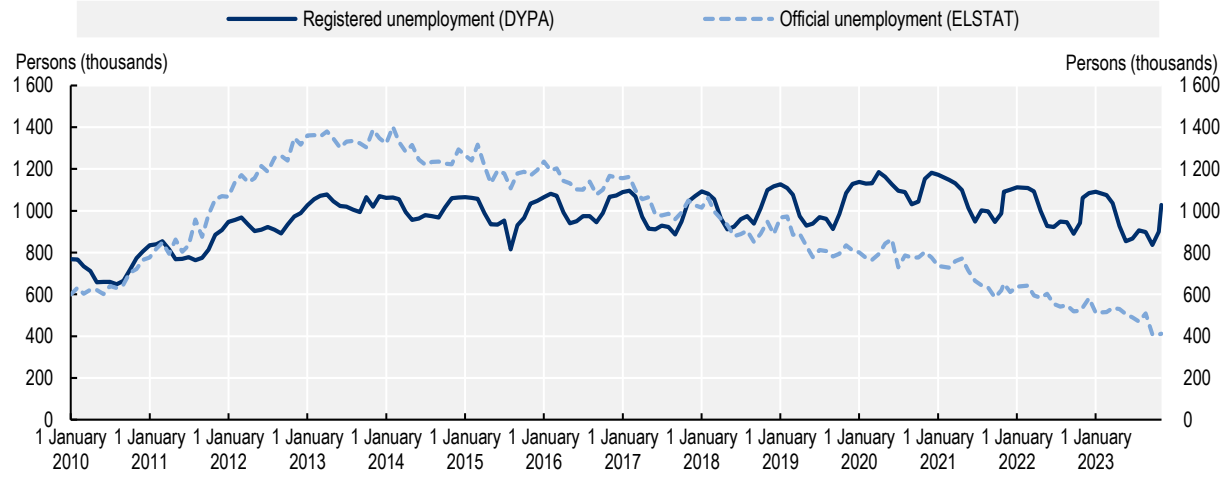
Nevertheless, despite these marked improvements in the last decade and relative resilience during the COVID-19 pandemic, unemployment remains well above its pre-financial crisis levels. Indeed, the unemployment rate ranks the second highest in the OECD (Figure 2.1, Panel C) and labour force participation ranks sixth lowest in the OECD. Much unemployment is long-term unemployment, with 63.1% of the unemployed having been unemployed for 12 months or more as of 2022 – the second highest share in the OECD (OECD, 2023[2]).

These high levels of unemployment translate into very strong demand for employment services, notably the services provided by the Greek public employment service, DYPA. Meanwhile, the high numbers of inactive individuals outside the labour market create strong needs for outreach from DYPA. The number of people registered as unemployed has fluctuated around 1 million in recent times, with strong seasonality exhibited in the data in addition to the COVID-19 shock.

Intriguingly there has been a disconnect between the fall in official unemployment and the flat to slightly increasing numbers of registered unemployed (Figure 2.2). As there are differences in the concepts of registered unemployment (which measures registration with DYPA) and official surveyed unemployment from the labour force survey (which captures those who are out of work but are available and searching for work), it is naturally the case that the measures do not coincide. Still, there is concern that the degree of decoupling could reflect large numbers of people on the unemployment register that are not actively searching for work. DYPA has undertaken recent reforms to the benefit system which aim, in part, to strengthen the enforcement of obligations related to unemployment benefit receipt (see Section 2.3.2). The OECD, in co-operation with the European Commission's Directorate-General for Structural Reform Support is providing technical support to DYPA related these reforms through a separate project (OECD, forthcoming[3]).

Figure 2.2. Registered unemployment has not fallen in Greece despite drops in official surveyed unemployment

Registered and official unemployment, 1 January 2010 to 1 November 2023



Source: OECD calculations based on data from the Greek public employment service (DYPA) and the Hellenic Statistical Authority (ELSTAT) www.statistics.gr/en/home.

StatLink https://stat.link/1drazw

2.2.2. The Greek labour market faces several structural challenges

Greece faces several structural challenges in its labour market. These include informality, disincentives arising from the tax and transfer system, challenges with low skill levels and skill mismatch, seasonal work, and an ageing and declining population. These structural challenges underscore the need for effective ALMPs which can help to promote upskilling and reskilling and improve matching between labour demand and supply. Effective activation strategies can bring the unemployed and those out of the labour force into employment, increasing labour supply within the context of an ageing and declining population.

Informality makes up a large share of the Greek economy, reduces tax revenues and social insurance benefits of workers. While estimating the exact size of the informal economy is notoriously difficult – as by definition such work is undeclared to public authorities – one earlier estimate from Schneider (2013[4]) puts it at about a quarter of GDP in 2005, with this figure picked up as a central estimate by others (ILO, 2016[5]). Much of this work appears to be in under-declared work rather than wholly undeclared work. Of Greeks who report undeclared work in the Eurobarometer survey, 35% report that all of their paid activities are undeclared while 46% report a mix of paid and unpaid activities (Williams and Horodnic, 2021[6]).[1] There are no recent estimates of the informal economy which would reflect the recent efforts made by the authorities to address informality.

Workers in Greece face a higher tax wedge from income tax and social security contributions than the OECD average but recent tax cuts in 2020-22 have lessened this (OECD, 2023[7]). A higher tax wedge reduces the incentive to work and increases the incentives for informality. Moreover, Greece has a complicated system of working-age benefits that should be consolidated (OECD, forthcoming[3]). Such a fragmented system of benefits is more complex for DYPA counsellors to administer and for clients to navigate than a consolidated system (for a more in-depth analysis of the unemployment benefit system see (OECD, forthcoming[3])).

Across 40 countries and economies captured in the OECD skills strategy dashboard, Greece scores in the bottom 20% for most indicators on the development of skills (OECD, 2019[8]). While completion rates of high school and tertiary education are above the OECD average, the quality of education received has room to improve. Average scores on reading, mathematics, and science tests of 15-year-old secondary school students are below the OECD average as captured by the OECD's Programme for International Students Assessments (PISA) (OECD, 2023[9]). The skills among the adult population are also low, with significantly below average performance in literacy and numeracy in the OECD's Programme for the International Assessment of Adult Competencies (PIAAC) (OECD, 2016[10]).

Greece suffers not just from low levels of skills but also from the effective allocation and use of skills, with some of the most severe skill mismatches among OECD and EU countries. Greece has the largest share of overqualified workers across countries and economics participating in the Survey of Adult Skills and features in the bottom 20% in terms of the alignment of skills with the labour market, the intensity of skill use in workplaces, and the use of high-performance workplace practices (OECD, 2019[8]). On another ranking, the European Skills Index (ESI), produced by the European Centre for the Development of Vocational Training (Cedefop), Greece ranks last or second to last for the skill matching component of the index in 2020, 2021 and 2022 (Cedefop, 2022[11]). As a result, even though the job vacancy rate for Greece is still much below EU average and shortages were not a large issue prior to the COVID-19 pandemic, labour shortages exist in certain sectors, including agriculture, construction and tourism (Cedefop, 2023[12]). Job openings are expected to increase across a broad range of occupations, but particularly in occupations where ALMPs can play an important role, such as services or shop workers.

Figure 2.2 above clearly shows the seasonal nature of registered unemployment at DYPA with registrations peaking in winter and decreasing in summer. This makes for an uneven workload across the year at DYPA and poses challenges for those who have specific needs due to the seasonal nature of their

work, many of whom work in tourism. Seasonality also implies a need for DYPA to support some workers during the low season.

In addition, as well as in relation to these large variations across seasons, labour market trends also vary dramatically across regions in Greece. For example, there is a 11.7 percentage point gap between the region with the highest employment rate for the working age population (Attica, 64% in 2022) and the region with the lowest (Western Macedonia, 52.3% in 2022) (OECD, 2023[13]). Meeting the varying needs of regions thus poses a challenge for DYPA, with more clients and fewer job opportunities in some areas than others. Indeed, the remoteness of some areas can make it harder for DYPA to meet needs. For example, it may not be possible to put a PES office on every island, some of which have very small populations.

An ageing and declining population underscores the importance of increasing labour market participation for those who can work. Greece's population is forecast to fall by 13% between 2020 and 2050, one of the largest declines in the OECD (United Nations, 2019[14]). At the same time, Greece's population is ageing rapidly. In 1990, there were around five working age persons for every person aged over 65 in Greece. Today, that figure stands at around 2.8 and is forecast to fall further to just 1.5 working aged persons for every person over 65 (OECD, 2020[15]). Such ageing and population decline will put pressure on public finances and can exacerbate labour shortages. To counterbalance to some extent such trends it is crucial that Greece lifts its low labour force participation rate and reduces its high levels of unemployment.

2.2.3. Some groups have weak labour market outcomes

Youth and older workers, women, and those with disabilities have worse labour market outcomes than other groups in Greece. Young people aged 15-29 in Greece have the highest unemployment rate in the OECD (24.3% in 2022) and many youth (21.4% in 2021) are also not in employment education and training (NEET) (OECD, 2023[16]; OECD, 2023[17]). The unemployment rate for persons aged 55-64 is 9.1%, the second highest in the OECD in 2022 (OECD, 2023[16]) and almost half of this age group is not in the labour force in Greece (OECD, 2023[18]).

Female employment for persons aged 15-64, at 51.2% in 2022, lags well behind male employment of 70.3%. This nearly 20 percentage point gap is substantially higher than the 14.4 percentage point gap for the OECD average (OECD, 2023[19]). Women also earn less than men in Greece, but the gender earnings gap is lower in Greece than the OECD average (6.9% versus 11.9% in 2021) (OECD, 2023[20]).

Finally, Greece has very low levels of employment for people with disabilities. Just 30% of people with a disability work, which is some 29 percentage points less than those without a disability and much lower than that in many other countries with available data (OECD, 2022[21]).

2.3. The system of active labour market policies in Greece

This section describes the setup of DYPA and the system of ALMP delivery in Greece. Sub-section 2.3.1 gives an overview of how ALMP funds are spent and how effectiveness of programmes is measured, while sub-section 2.3.2 discusses DYPA's role and operating model. It also discusses the ongoing reform of DYPA which aims to better meet high demand for services with existing resources.

2.3.1. ALMP spending is low and more could be done to ensure its effectiveness

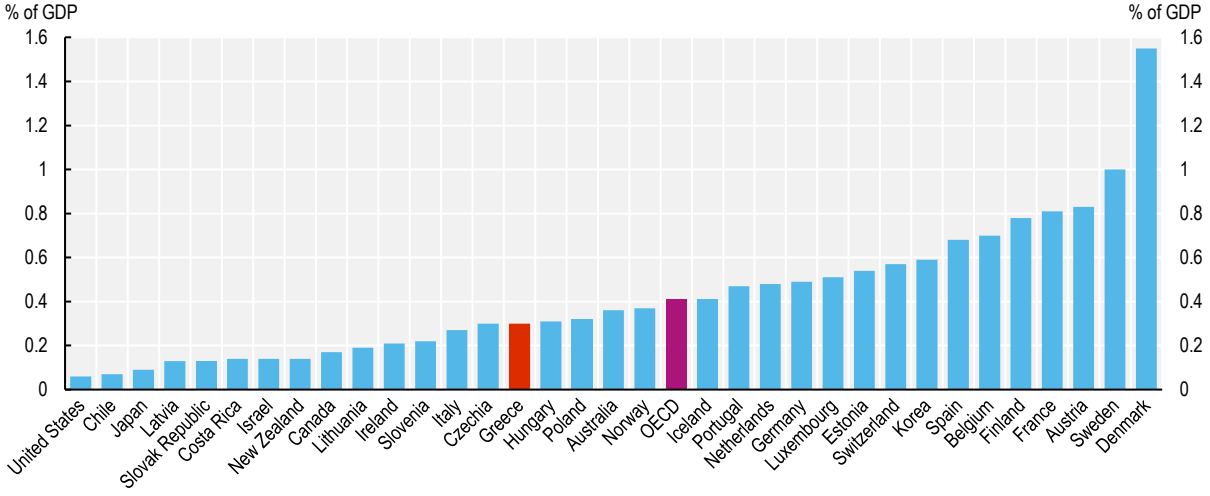
Greece spends much less than the OECD average on ALMPs (Figure 2.3) while facing much higher rates of unemployment and inactivity than many other countries (as discussed in Section 2.2). Spending on Greek ALMPs was just 0.30% of GDP in 2021, which is around three-quarters of the OECD average of 0.42% of GDP. This calculation excludes category 1.2 of ALMPs (benefit administration), which is missing

in the relevant data source for Greece and category 4.2 (temporary employment maintenance incentives), which is heavily influenced by the COVID-19 crisis. Indeed, throughout the last nearly two decades covered in Figure 2.4, ALMP spending as a share of GDP is consistently lower in Greece than the OECD level, even during the Greek spikes in spending in 2014, during the economic crisis, and a second spike in 2019 during a temporary surge in direct job creation. Such modest spending combined with high demand for its services makes it difficult for DYPA to meet the needs of jobseekers, workers and employers. Possibilities to increase resources for the ALMP system need to be sought regardless of the overall limited public spending.

The limited spending translates into low numbers of people participating in training and wage subsidy programmes. For example, the calculations using the OECD's Labour Market Policy database show that, between 2017 and 2020, the average number of participants in ALMPs (categories 2-7) was about 41 000 while there were 1 million registered unemployed during this period.

Figure 2.3. Greece spends little on ALMPs relative to other OECD countries

Active labour market policy (ALMP) spending as a percentage of GDP, 2021



Note: OECD is an unweighted average of the 34 countries shown. Due to missing data for Greece, Category 1.2 (benefit administration), is excluded. Category 4.2 relates to temporary employment maintenance incentives which were dramatically affected by exception measures to address the challenges of COVID-19 and is excluded from this comparison.
Source: OECD Database on Public expenditure and participant stocks on LMP, http://stats.oecd.org//Index.aspx?QueryId=8540.

StatLink https://stat.link/ns5iwv

ALMP spending is too focused on direct job creation

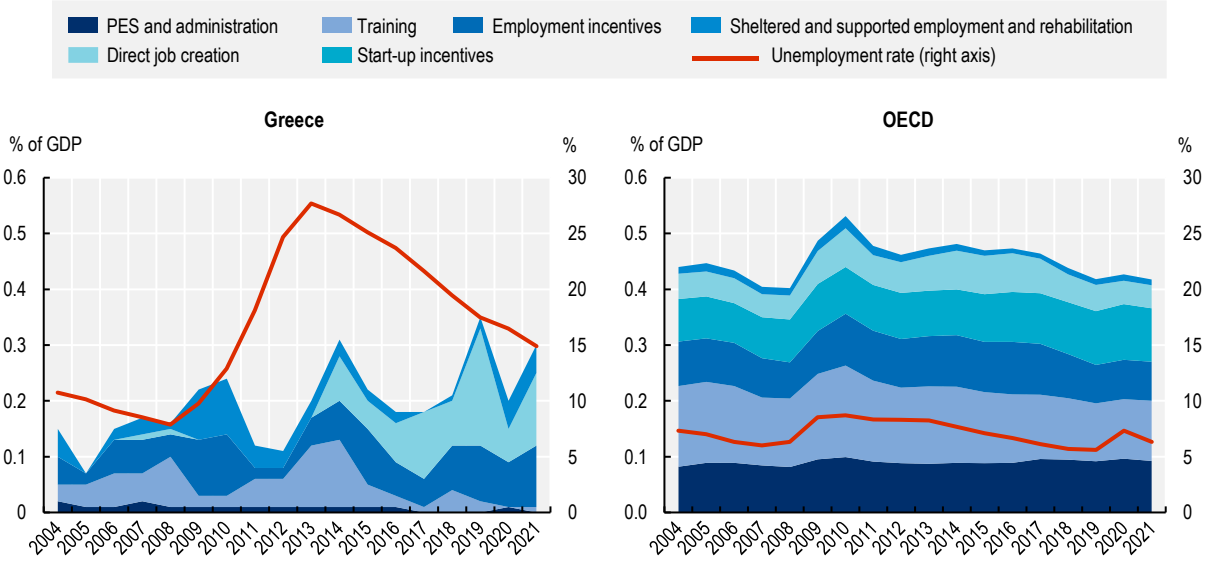
In terms of composition of ALMP spending, Greece focuses too much on direct job creation programmes. Yet, such direct job creation programmes are found to be of questionable effectiveness in supporting people back into the unsupported employment according to an international meta-analysis of the effectiveness of ALMPs (Card, Kluve and Weber, 2017[22]) regardless of less clear evidence in the longer time horizons and if complemented with additional activities. Averaged over 2017-21, Greece spent about 48.4% of its ALMP budget on direct job creation programmes, more than four times the OECD average (11.2%[2] over the same period).

With Greece spending little on ALMPs overall, and a high share of this limited spending going towards direct job creation, spending on training programmes is particularly low at around 0.02% of GDP (over 2017-21), less than one-fifth of the OECD average (0.11% of GDP). Spending on training

programmes is also uneven and volatile, for example quadrupling from 2017 to 2018 and then halving in 2019. Greece spends a slightly higher share of GDP on employment incentives than the OECD average since 2019. However, Greece does not offer rehabilitation and support programmes (as part of its ALMP package), which represents a challenge for DYPA and it makes it difficult to provide the necessary employment support to people with disabilities who struggle more in Greece than in other countries to find work. Nevertheless, specific measures to groups like ex-prisoners and people with disabilities are available under other types of ALMPs, such as training and employment incentives.

Figure 2.4. Greek ALMP spending is heavily focused on direct job creation

Active labour market policies (ALMPs) expenditure by category, share of GDP, 2004-21



Note: PES: public employment service. GDP: gross domestic product. OECD is an unweighted of 33 member countries for which data are available over the time period shown. Due to missing data for Greece, Category 1.2 (administrative expenditure for managing benefits) is excluded from *PES and administration*. *Employment incentives* exclude category 4.2 (Employment maintenance incentives), to remove as much as possible measures that are specific to COVID-19.
Source: EC-OECD Labour Market Policies Database, https://stats.oecd.org/Index.aspx?DataSetCode=LMPEXP and OECD LFS by Sex and Age – Indicators Database for unemployment https://stats.oecd.org/Index.aspx?DataSetCode=lfs_sexage_i_r.

StatLink https://stat.link/cr5xu8

Few rigorous counterfactual impact evaluations of ALMPs are conducted though recent progress is encouraging

CIEs aim to estimate the true impact of a programme on participants. They seek to answer the question of the effect of the programme on participant outcomes such as probability of employment and wages relative to a counterfactual of not participating in the programme. CIE studies differ from basic monitoring results (e.g. what percentage of participants are employed at the end of the programme?) as monitoring results do not estimate what would have happened to participants if they had not participated. For example, a recent analysis by DYPA showed that about 64% of participants in employment subsidy programmes were employed 12 months after the end of the programmes. However, without a counterfactual, it is not known how many participants would have found a job anyway, even if they had not participated in the programme. Whereas monitoring helps policy makers follow policy implementation over time and support quality and performance measures potentially in real-time, CIEs are necessary to rigorously assess programme effectiveness and perform the cost benefit analysis necessary to identify which programmes are cost

effective and which programmes need to be stopped, expanded, or improved (OECD, 2022[23]). That is, CIEs and monitoring are complementary and are an essential tool for evidenced-informed policy making.

Historically Greece has conducted few CIE studies. This is changing though with two examples of recent studies by the Institute of Economic and Industrial Research (IOBE) and the World Bank. In an unpublished impact evaluation completed in 2022, the Institute of Economic and Industrial Research (IOBE) found training programmes in Greece to have a positive effect on employment, a negative effect on unemployment, and no effect on earnings (IOBE, 2021[24]). This report by IOBE leveraged similar linked administrative data as those used in this report and presented in the next chapter.

A study by the World Bank, looked at the effects of a small pilot in three municipalities covered by the Elefsina local office (the intervention was a mixed intervention, with employment counselling given to participants that could be supplemented with training or employment subsidies). The World Bank study found the pilot programme to be effective at raising employment rates and decreasing the likelihood of unemployment registration – though it only looked at the results in the short term (maximum one year after enrolment) and the authors cautioned against a causal interpretation of the results (World Bank, 2021[25]).

Each of these earlier studies highlighted the potential of administrative data for CIE, and both projects recommended that more evaluations be conducted leveraging these data. This report thus helps to fulfil this earlier recommendation by conducting additional CIE of Greece's training programmes, as well as evaluations of wage subsidy programmes which have not been examined in the earlier work. In addition, this report looks at a broader set of outcomes than previous work, controls for a richer set of participant characteristics, and looks at longer term outcomes several years after participation in ALMPs. The differences between the three studies are discussed further in Chapter 4.

Building on these recent efforts, as well as the OECD analysis presented in the next chapters, Greece should seek to build its capacity to regularly conduct CIEs of its programmes as new ALMPs are introduced, and labour market conditions and client profiles continue to change.

2.3.2. The Greek Public Employment Service DYPA is undergoing major reforms

The Greek Public Employment Service, DYPA, provides the key employment services, such as registering jobseekers, supporting their job search and referring them to other ALMPs, as well as engaging with employers and mediating vacancies. Contrary to the PES in most other OECD countries, DYPA is also providing some of the training measures for jobseekers in-house, via its own vocational training centres, institutions and schools. Furthermore, DYPA has many additional tasks and functions in addition to organising ALMPs, as it is managing 13 unemployment insurance schemes, different social services (social tourism, social camps for children, day nurseries), social housing and even vouchers for books and theatre for jobseekers.

The Ministry of Employment and Social Affairs (YEKA) sets the broader strategy for ALMP provision (Ministry of Labour and Social Affairs, 2022[26]). In co-operation with YEKA, DYPA is responsible for developing a more detailed design for ALMPs that are financed from the social contributions of employees, as well as its operational model and organisation of ALMP delivery. However, YEKA designs the public works schemes, as well as implements these schemes and collects the vacancies for public works from the municipalities. DYPA mediates the vacancies for public works to jobseekers, so that those interested could apply. DYPA and its tripartite Board of Directors have also lesser role in designing and deciding on those ALMPs that are financed via ESF funding, as these are driven by the discussions involving the European counterparts and YEKA and set in a national programme.

To address many of the long-standing and severe challenges on the Greek labour market described in the previous sections of this chapter, an extensive reform is taking place in the design and implementation of ALMPs, benefit schemes, as well as DYPA as an organisation itself. While several initiatives for modernisation have been implemented already since 2020, including to address challenges caused by the

COVID-19 pandemic, a big push for change was launched in April 2022 in the framework of a dedicated law for modernisation, so-called "Jobs Again" (Gazette of the Government of the Hellenic Republic, 2022[27]).[3] Many of the reformed aspects have not seen changes for the past 50 years and a substantial funding is allocated from the Recovery and Resilience Facility (RRF) of the European Commission to introduce modernisation in the system (see Box 2.1). Thus, the reform is expected to significantly modernise the support that jobseekers and employers receive and better align service provision with labour market needs. The success of the reform will hinge on a clear change agenda, the engagement of all relevant stakeholders and the availability of appropriate resources for implementation.

Box 2.1. The Recovery and Resilience Facility

The Recovery and Resilience Facility (RRF) is the European Commission's key instrument designed to support EU countries to come out of the COVID-19 crisis stronger, more resilient, and better positioned for the green and digital transitions (European Commission, 2022[28]).

Countries submit a Recovery and Resilience Plan (RRP) which describes how the funding will be spent. The RRP is assessed by the European Commission and approved by the Council of the European Union. The total budget is EUR 723.8 billion (EUR 385.8 billion in loans and EUR 338 billion in grants).

Greece's RRP is substantial and involves EUR 30.5 billion in RRF funding – EUR 17.77 billion in grants and EUR 12.73 billion in loans. Through this large grant, the European Commission predicts that the plan will have a larger effect on GDP in Greece than in any other country (European Commission, 2022[28]). Within the field of labour markets in Greece, the plan includes EUR 776 million to "increase job creation and participation in the labour market" and EUR 2 311 million for "education, vocational education, training and skills" (Government of Greece, 2021[29])

Source: European Commission (2022[28]), *Recovery and Resilience Facility*, http://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en (accessed on 14 October 2022).

DYPA aims to be an agile organisation

The Greek PES has gone through a re-branding to communicate a change of era unequivocally to its staff, customers and the society at large, in par with the major reform. The change from the previous name, Manpower Employment Organisation (OAED), to the Public Employment Service (DYPA) aims to mark a shift towards a modern PES, which prioritises active support to jobseekers and employers, while supporting them also with necessary benefits. Such a re-branding can indeed facilitate DYPA to better communicate the change in its services, while the actual implementation of changes needs to follow fast to avoid any negative connotations associated with the new brand name.

DYPA continues to be directed by its tripartite Board of Directors and supervised by YEKA. Such a governance model proved to be more agile than others among the PES in the OECD countries during the crisis induced by the COVID-19 pandemic, as such PES were able to quicker redesign their operating models and business processes, as well as apply the changes across country (Lauringson and Lüske, 2021[30]; OECD, 2021[31]; OECD, 2021[32]; OECD, 2020[33]). The Board of Directors has a strong role in driving ALMP provision in Greece, as it is in charge of implementing relevant laws and regulations, feed into ALMP design, define the operational model and business processes of DYPA, as well as take many of the more operational decisions concerning ALMP provision in addition to the strategic ones.

The reform "Jobs Again" aims to further increase the agility of DYPA by downsizing the composition of the Board of Directors from 17 members to 11 (three representatives of DYPA's operational management and staff, four representatives of the social partners and four representatives from different relevant ministries).

A smaller governing body in a PES can indeed lead to more agile and efficient decision-making and enable to respond to changes in labour market needs fast (OECD, 2021[34]). Nevertheless, it is necessary to establish ways to involve additional stakeholders and experts in the decision-making needs-based to ensure that the decisions do meet the labour market needs. The latter can be a concern as the reduction of members in the Board of Directors took place above all on the side of the social partners.

Counselling capacity remains a constraint

Along with the changes in the management of DYPA, additional changes were made throughout the organisation, updating the organigram for the first time in five decades (Gazette of the Government of the Hellenic Republic, 2022[27]). DYPA is now established as consisting of a Head Office (Administrative Services) and eight Regional Directorates, which manage in total 120 local delivery points of employment services called Employment Promotion Centres (KPA2).

The changes in DYPA's organigram in 2022 marginally increased the local presence, and the number of job counsellors was doubled. Nevertheless, as the number of job counsellors was at an extremely low level before these changes and as the number of registered unemployed has stayed on a similar level over the past decade (see Section 2.2), the average caseload of jobseekers per counsellor has remained very high in international comparison, at around 2000 jobseekers per counsellor (1 847 jobseekers per counsellors on average over the second half of 2022).[4] As some KPA2 are particularly susceptible to seasonality, their caseloads can reach even substantially higher levels during some months. Although exact comparisons of counsellor caseloads between OECD countries are problematic because the responsibilities of PES and the organisation of tasks within PES differ considerably between countries, the crude estimates indicate that the caseloads in Greece are considerably higher than in many other OECD countries, particularly in those with more modern and well-performing ALMP systems (see e.g. Lauringson and Lüske (2021[30])). For example, the caseloads of counsellors supporting people further from the labour market was around 100 jobseekers per counsellor in Denmark, Germany and Flanders (Belgium), and at 150 in France in 2022 (Bourguignon et al., 2023[35]). The caseloads of counsellors supporting jobseekers close to the labour market were at the same time at 100 in Denmark and 150 in Germany. The evaluations in Germany have shown that low caseloads (as low as 70 to 80 jobseekers per counsellor, and in a pilot in 2007-10 even 40 jobseekers per counsellor), particularly concerning supporting the vulnerable groups, are an effective approach to help these groups to integrate into the labour market (Hainmueller et al., 2016[36]; Staible, 2017[37]). An experiment (randomised controlled trial) decreasing caseloads from 250 to 100 in Austria in 2015 showed that jobseekers are returning to paid work more successfully the lower the caseloads are (Böheim, Eppel and Mahringer, 2017[38]).

As resources for counselling in DYPA are very limited, it is extremely important to support the counsellors with appropriate tools, so that they can deliver their services as effectively and efficiently as possible. For example, jobseeker profiling tools can help counsellors to focus their resources on those clients that would benefit from counselling the most. Statistical profiling tools using sufficient background information on jobseekers have demonstrated high performance in predicting support needs (Desiere, Langenbucher and Struyven, 2019[39]; OECD, 2018[40]). The profiling tool that DYPA uses since November 2018 has the advantage of being transparent and easy to implement for the counsellors, but lacks value added as most of the five segments that the profiling tool proposes, are perceived to be very similar and thus not sufficiently facilitating counsellors' job. In addition to adopting a more advanced jobseeker profiling tool for a better resource allocation, DYPA needs to continue working on leaner administrative processes and modern digital solutions for both counsellors and clients (see more details later in this chapter). For example, tools supporting counsellors in recommending job search paths can increase counselling impact on jobseekers' job finding rates and occupational mobility (OECD, 2022[41]). Greece is currently supported by a project with the Directorate General for Structural Reform Support (DG REFORM) of the European Commission and the World Bank,[5] as well as a project with the OECD to move towards a more modern jobseeker profiling tool, skills profiling and supporting the most vulnerable groups.[6]

Regardless of the additional steps towards modernisation that will be taken in DYPA, DYPA needs to have more counselling capacity and decrease caseloads to provide actual counselling and meaningful support to jobseekers.[7] Leaner and more streamlined processes and modern digital support to counsellors and jobseekers will lead to more efficient support to jobseekers and employers, but will not be able to substitute counsellors entirely. With the current caseloads, the time that a counsellor can devote to a jobseeker is too short to identify their challenges and needs for support and provide appropriate and profound assistance in their pathway to work or can provide such approach to only very few.

DYPA has made first steps in creating a performance management system

The "Jobs Again" act foresees creating a performance management system in DYPA to maximise the counselling capacity and effectiveness of the existing counselling resources. The law gives DYPA the opportunity to design a performance management system, by setting a framework to define good performance and encourage good performance with (financial) rewards to counsellors. DYPA has exchanged with other PES in the EU that have advanced performance management systems in place (such as the Estonian and German PES (OECD, 2021[34]; OECD, 2019[42])) and received assistance via the Technical Support Instrument of the European Commission to develop such a system (World Bank, 2019[43]). DYPA has also made good progress in starting to implement the performance management system digitally using data in its Data Warehouse and developing dashboards with data visualisations that both DYPA management and staff in KPA2 can access. The performance management system consists currently of eight indicators, mostly focusing on improving administrative processes (e.g. targeting the duration of processing subsidies for employers, i.e. output indicators). DYPA management holds meetings with regional managers twice a month to discuss performance, as well as solutions for improvements in case the performance is lower than expected.

While DYPA has made key first steps in introducing a performance management system, further development of the system has been largely put on hold. DYPA needs to further ensure that the performance management system would be binding for the staff and increase the feeling of ownership among them by involving and engaging staff in designing the system and disseminating the objective and methodology of the system (i.e. the process cannot be a purely top-down approach). DYPA needs to find ways to incentivise good performance via monetary (on team and office level, in case counsellor level is not possible) and non-monetary (recognition) ways to create accountability within the organisation. In addition to discussing underperformance, the best performance cases should be studied to identify the best practices that could be rolled out nationwide. The implementation of the performance management system should be streamlined and appear transparent and efficient for the staff. The current practice of printing out performance results (that are already available on the centrally accessible dashboard) on paper in the local level and sending these to the higher levels can appear inefficient and confusing for the staff. In addition, providing sufficient resources and appropriate tools for the staff are key to ensure the means for good performance, as well as motivate staff to perform well.

Furthermore, the overall monitoring framework of ALMPs needs to cover ALMP provision systematically, such as using the results chain framework (inputs-activities-outputs-outcomes), measuring both quantity and quality in ALMP provision, as well as study all relevant break-downs by sub-groups and sub-policies to be able to identify challenges in ALMP provision operatively (see examples on setting monitoring frameworks for ALMP provision in OECD (2023[44]; 2022[23])). The much narrower set of indicators for performance management needs to focus on the key objectives of DYPA and be targeted to drive performance (such as using "SMART" targets: specific, measurable, achievable, relevant and time-bound), taking into account the local labour market situation to be fair across local offices, and involving the local offices in the process of setting targets to create accountability and ownership. As DYPA is re-establishing its processes and approaches, the performance indicators can initially include indicators to ensure the foreseen application of the new processes and approaches. As the concepts will be continuously more established, DYPA will need to gradually move towards a performance management system that indeed

would focus on performance, i.e. ultimate outcome indicators (jobseekers finding good jobs and employers finding staff meeting their needs for skills).

DYPA has levelled up its digital infrastructure

When the COVID-19 pandemic hit in 2020, DYPA had essentially no digital services for citizens and employers or advanced digital solutions to support back-office activities efficiently in the circumstances of remote working and needs for high capacity. Nevertheless, DYPA was very quick in developing the urgently needed digital solutions, starting from a digital channel to apply for benefits launched already on the third week of the pandemic. Other digital initiatives continued to follow, such as MyDYPALive to book and manage remote counselling, DYPA application for smartphones, increasing user-friendliness and accessibility of DYPA's website, co-operation with Google, Coursera and Microsoft to provide digital training courses, and, more recently, launching a digital assistant called Daphne on DYPA's website that uses natural language processing to help citizens with information on DYPA's services (an AI-based chatbot launched in 2022).

DYPA's efforts to streamline its processes and level up its digital backbone have been greatly facilitated by similar endeavours in the public sector nationwide. Greece has a national level initiative to simplify all processes in the public sector, and also DYPA is mapping its processes to streamline them and develop lean digital solutions to support these processes. DYPA's digital solutions have already hugely improved due to the newly developed possibilities to exchange data with other registers via the infrastructure of the Central Interoperability Centre (KED), which is launched and hosted by the Ministry of Digital Governance to facilitate digital public services across Greece. The DYPA's operational IT system has now web services to exchange data on employment records, taxes, social security, property, refugee status etc., and additional web services are being developed.

In addition to exchanging data for administrative purposes, DYPA needs to further develop its capacity to systematically link administrative data for evidence generation and make these securely available for researchers. DYPA has taken the first steps towards evidence-based policy design by starting to monitor ALMP provision (within the performance management system, see previous sub-section) including by using employment data in addition to its own register data for this purpose, as well as sharing linked administrative data first time ever for the purposes of evaluating training measures and wage subsidies within the current project (see the next chapters). A fully-fledged evidence-based approach to ALMP design and implementation would need additional financial and human resources to be able to conduct evaluations both in-house and contract them out, in addition to developing technical capacity to link and share data.

Further modernisation of DYPA's digital infrastructure to improve the effectiveness and efficiency in ALMP provision is a key pillar in the "Jobs Again" act funded by the RRF. The RRF funding is being used to modernise the crucial parts of DYPA, such as updating its main operational IT system that is already over a decade old and uses an outdated software, and developing new digital tools for jobseekers to access and prove their eligibility to benefits and rights (DYPA Digital Card, Digital Register, Digital Individual Action Plan). Within 2023-24, DYPA hopes to develop a cutting-edge tool to match jobseekers and vacancies, applying competency-based matching methods and enhancing the technology with AI algorithms. Although matching jobseekers and vacancies should be the very core of PES activities, DYPA has not had the resources, capacity or internal consent to develop such a tool so far. The development of a matching tool met resistance from staff in the past due to the concern that digital solutions would make counsellors redundant, despite the fact that counselling capacity has been at a stretch throughout the past decade. Currently, vacancies are listed on DYPA's website with few filtering options, and full details for application are available for jobseekers only by visiting a KPA2. Thus, the current matching tool is far from effective and efficient in supporting the labour market and it is crucial to be upgraded to a modern solution.

Despite the substantial progress that DYPA has made in modernising its digital backbone, a range of digital developments still lies ahead as modernising an IT infrastructure needs considerable time and resources. In addition to the IT developments foreseen in the RRF that need to be still fully implemented, additional modernisation is likely needed, such as continuing the work on updating the jobseeker profiling tool or automating and digitalising processes that are not yet digital. Even some solutions that were quickly put in production during the COVID-19 crisis might need soon updating or streamlining to fit well within the renewed digital infrastructure. For example, while MyDYPALive is a good example of developing a modern solution in times of crisis (Alexiou and Koitsanou, 2021[45]), its capacity is not covering full needs for digital counselling (limited access to the tool for counsellors and limited counselling slots), and counsellors need to opt currently for face-to-face counselling even when digital counselling would be sufficient for the specific client.

While DYPA needs to stay agile in its progress in digitalisation, an underlying strategic concept is needed to guide DYPA in this pathway. The strategy should state the objective and principles for digital innovations, helping to prioritise the different IT projects and set a clear framework for digitalisation. A clear strategy would help to avoid a patchwork of initiatives that are not well integrated technologically or process wise. Furthermore, the digital strategy should address such issues as achieving sustainable financial and human resources for IT developments, using modern development concepts (including systematic ways to involve end-users in the development processes to increase value-added of the new digital solutions (OECD, 2022[41])), ensuring take-up and avoiding staff resistance, and monitoring and evaluating digital tools systematically. The digital strategy should also consider the ways to manage the different risks associated with digital tools, such as issues concerning ethics, trustworthiness, transparency, fairness, data security and system security. As DYPA is aiming to enhance its digital infrastructure increasingly with AI algorithms, many of these concerns become even more prominent.

DYPA is improving the effectiveness of active labour market policies

DYPA initiated significant changes in ALMP design in 2020 within its scope of responsibilities under the overall ALMP strategy of YEKA, aiming to increase the effectiveness of ALMP support to jobseekers and employers. Although evidence on ALMP effectiveness was at that time scarce, DYPA based the new policy design on analyses of gross employment outcomes of ALMPs and learning from evidence and good practices available from other countries. For example, the design of wage subsidies was substantially revised to decrease misuse of this measure, increase take-up and create new jobs (see details in Chapter 3). By the example of other countries, DYPA designed new measures for graduates, increased communication and engagement with employers, started organising job fairs where employers and jobseekers meet (so-called career days), and improved interactions between jobseekers' counsellors and employers' counsellors.

The "Jobs Again" act foresees further improvements in ALMP design, particularly regarding training measures. A major change in training provision is applying the concept of "payment by results" for both the training provider and the participant, aiming to decrease drop-out rates, increase training quality and boost employment rates after participation in training. Such an application of an accountability framework on training providers is a promising initiative and potentially a good example for other PES to learn from. Nevertheless, it is crucial to monitor and evaluate the model of payments by results and be in a dialogue with the providers to ensure that any challenges in this framework are addressed in time – see a thorough discussion on designing and implementing payment by results model in OECD (2022[46]; 2022[47]; 2023[48]; 2023[49]).

In addition, the "Jobs Again" act foresees many other key measures to increase upskilling and reskilling and decrease skill mismatches on the Greek labour market. Although the new national skills strategy has been already published (Ministry of Labour and Social Affairs, 2022[50]), many of the other initiatives are still under development, such as individual learning accounts (a digital tool recording all received training

and certifications) and a Single Digital Portal for Skills (skills.gov.gr) to access all vocational training measures easily. Another key initiative, the Labour Market Diagnosis Mechanism, is able to already assess labour market needs, but not yet anticipate them.

The “Jobs Again” act also aims to strengthen the regulation of job-search requirements to decrease misuses of the benefit system, but also to nudge jobseekers to increase job search efforts, give counsellors more tools to activate jobseekers and allocate counselling resources to those jobseekers who need these. Although the new regulation has been passed, its implementation is largely on hold, including due to the resistance from DYPA’s staff. To be able to implement the job-search requirements successfully, the counsellors need clear guidelines and thorough training for implementation, as well as support from the digital infrastructure to record actions made regarding the jobseekers efficiently and precisely, and thus avoid potential appeals from the jobseekers. Furthermore, although a proper application of job-search requirements would eventually decrease counsellors’ caseloads, the current caseloads are too high to implement job-search requirements appropriately and equally to all jobseekers.

In addition to changes foreseen in the “Jobs Again” reform, additional changes are relevant in the ALMP package in Greece to make the support to jobseekers and employers effective and efficient. For example, the many temporary programmes that are split by narrow target groups can be inefficient to manage and still not reach those jobseekers who need these the most. Continuous programmes with wider eligibility criteria but more narrowly targeted to the individual needs of the jobseekers (e.g. using also profiling tools mentioned previously in this chapter) could address the efficiency and effectiveness issues. Further reforms on entitlements associated with registering with DYPA beyond unemployment benefits might be relevant to target ALMPs. Public works schemes that are internationally evaluated to be generally ineffective measures (Card, Kluve and Weber, 2017[22]) in terms of supporting jobseekers to return to employment in the open marker, need to be revised by YEKA (e.g. analyse which groups do benefit from such measures and how to increase the positive effects, and which groups need different support altogether). All in all, DYPA and YEKA need to continue building the evidence base on ALMP take-up, effectiveness and efficiency, and make changes in ALMP design and implementation accordingly.

A clear strategy is necessary to avoid a patchwork of changes

In the context of the reform, DYPA is expected to implement an abundance of extensive acts, regulations, circulars and ministerial decisions. One of the acts also aims to declare DYPA’s mission (Gazette of the Government of the Hellenic Republic, 2022[27]) but, in reality, it rather states DYPA’s long list of tasks and responsibilities. Furthermore, DYPA’s tasks are listed in several different regulations (e.g. Gazette of the government of the Hellenic Republic (2022[27]) and Ministry of Labour and Social Affairs (2022[26]), similarly to the changes it needs to undertake (e.g. Ministry of Finance (2021[51]) and Gazette of the government of the Hellenic Republic (2022[27])). As a result, there is no clear and concise strategy for DYPA, which severely compromises its pathway to a new and modern PES, as it can be difficult to communicate its aspirations to external stakeholders, as well as its staff, and potentially even cause resistance to change within the organisation.

DYPA needs to draw up its strategic plan to be able to continue its successful transformation pathway. While DYPA has been able to make significant first steps towards an effective and efficient PES, also first challenges have been met, and many difficult steps still lie ahead. A concise strategic plan would enable DYPA to set the clear long-term objectives and prioritise addressing any upcoming issues and ideas along the way, avoiding getting DYPA side-tracked. While agile take-up of innovations and good practices is important, new investments need to be thought through in terms of DYPA’s strategic goals. An exemplary strategic plan should clearly and very concisely state the mission (DYPA’s purpose), vision (an inspirational statement what DYPA desires to achieve or become), core values, clients to whom the services are targeted, key partners in achieving the strategic objectives, key activities to reach the objectives and key performance indicators to assess the progress. Some examples of clear and concise PES strategies

concerning Estonia, France, Denmark and Spain can be accessed in OECD (2019[42]). DYPA's strategy needs to be of course aligned with the regulations it needs to follow, as well as other strategic documents that DYPA might need (e.g. a digitalisation strategy, a strategy for generating knowledge, shorter term action plans or annual plans to implement the long-term strategy).

Crucially, a clear and concise strategy is vital to get the whole DYPA on board with the change agenda. Every staff member needs to easily understand the strategy to be able to contribute to the common goals. For this, a strategy that is easily comprehensible, focused and discussing the critical elements is needed. Furthermore, the feeling of ownership is critical to implement the change agenda. Thus, it is relevant that the strategy is not merely drafted at the highest level of DYPA and communicated to the staff afterwards, but that DYPA would aim to engage staff already in the strategy development process (e.g. at least some staff from the eight Regional Directorates and potentially some staff from different KPA2; these staff members could later on also serve as the "agents" for the change agenda, disseminating the strategy and importance to their colleagues).

Involving and engaging staff in DYPA's planning and innovation processes is relevant beyond developing the strategy document. Staff involvement would help to increasing the feeling of ownership of the change agenda among DYPA's employees and facilitate implementing the changes (decrease resistance to change and embrace responsibilities), as well as encourage innovation ideas that might not come up with purely top-down processes for innovation.

2.4. Conclusion

This chapter has illustrated the strong demand for employment services in Greece due to Greece's long struggle with high levels of unemployment. Despite such high levels of demand for employment services, Greece allocates much less funding to ALMPs than do many other countries. This makes DYPA's job challenging. More resources for ALMPs would help, but in the absence of increased expenditure on ALMPs, efficient use of existing resources becomes ever more important. Within this context, DYPA's ongoing reform holds much promise to improve service delivery, but its success will depend on developing a concise strategy, engaging staff, and ensuring adequate human and financial resources are available.

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Notes

[1] The figures do not sum to 100% due to refusals and people responding “other”. While the authors note that the figures should be treated with caution due to small sample sizes, the figures from the earlier 2013 Eurobarometer survey on informality paint a similar qualitative picture with 54% of all undeclared work estimated to be *under*-declared waged employment (ILO, 2016[5]).

[2] Unweighted average for 33 OECD member countries for which data are available over the time period shown in Figure 2.4 and excluding categories 1.2 and 4.2.

[3] The full name: Jobs Again: Reorganization of the Public Employment Service and digitalisation of its services, upgrading of workforce skills and diagnosis of labour needs and other provisions.

[4] Statistics for counsellor caseloads refer to averages of monthly statistics, where the monthly statistics are calculated by taking the stock of registered unemployed (recorded on the final day of the month) and dividing by the number of DYPA counsellors (figures calculated on the 15th of each month). For small local offices where DYPA staff may have multiple roles, any staff whose responsibilities included counselling were included in the calculations as full-time counsellors.

[5] The project “Supporting the implementation of a National Skills Framework for Learning Pathways in Greece” is conducted in the context of DG REFORM’s Technical Support Instrument (TSI).

[6] OECD-DYPA project to strengthen support to vulnerable clients via modern digital tools and supplementary services.

[7] Increasing the number of counsellors may also require co-ordination with other Greek entities, such as the National Organisation for Certification of Qualifications and Vocational Guidance, who also play a role in ensuring that there are sufficient numbers of certified DYPA counsellors in Greece.

3 Programmes evaluated, data used and approach adopted for counterfactual impact evaluation in Greece

This chapter explores the main aspects of two active labour market policies (ALMPs) evaluated in this report: training and wages subsidies offered to unemployed individuals by DYPA, the public employment service of Greece. It provides an overview of the key features of these programmes and the programme participants. It also describes the rich, individual level administrative data that provide the foundation for the empirical analysis and the econometric approach used in the counterfactual impact evaluation of these two measures in the following chapters of this report. In addition to outcomes commonly examined in impact evaluations of ALMPs, such as employment probabilities, this chapter describes additional outcomes examined, most notably career progression. For the latter, the chapter outlines the construction of an occupational index calculated based on the observed wages of individuals by detailed occupational codes.

3.1. Introduction

The preceding chapter noted that Greece's spending on active labour market policies (ALMPs) is relatively modest: its ALMP spending is less than half of the OECD average and its labour force participation in ALMPs is less than one-third of the OECD average. At the same time, Greece's registered unemployment rate has remained relatively high in recent years (although the survey-based unemployment rate – which measures active job seekers – has fallen in recent years). Taken together, these factors mean that spending per jobseeker is low and that only a small fraction of jobseekers in Greece is engaged in ALMPs. These factors point to the need to carefully consider the design and targeting of Greece's ALMPs to maximise their impact.

To what extent are Greece's ALMPs successfully placing jobseekers into high-quality, sustained employment – and which ones work best for whom? Which aspects of ALMPs are working well and which could be improved? To answer such questions, policy makers often rely on (key) performance indicators – job placement rates, participant satisfaction – or on feedback from staff in public employment services (PES) or jobseekers. Both sources of information can play an important role in assessing the merits of a policy. For example, performance indicators can be useful to understand which ALMPs have the highest probability of employment after participation, to examine the extent to which these have improved over time, or to monitor the performance of particular training providers in real time. Similarly, feedback from PES staff and clients can help to provide a nuanced view of the benefits and drawbacks of a particular programme, as well as concrete suggestions for improvement. At the same time, however, such approaches cannot provide a rigorous answer to the crucial question of the precise impact of a policy – this requires accounting for what would have happened to individuals in the absence of the policy. This is the motivation for conducting counterfactual impact evaluations (CIEs), such as the one outlined in this chapter.

The impact evaluation presented in this chapter focuses on two of Greece's main ALMPs: training and wage subsidies for the unemployed. The two policies provide, respectively, training lasting several months intended to fill gaps in jobseekers' skills, and subsidies of generally up to one year to offset part of the employers' wage costs associated with hiring workers from specific groups. Outcomes are tracked continuously for up to three years from the start of the programme. The empirical analysis is based on rich and comprehensive data, allowing for a wide range of outcomes to be analysed and for a number of different jobseeker characteristics to be taken into account. Several types of data are used in this evaluation: unemployment register data, ALMP participation data, and employment and earnings data.

The chapter begins with a description of the two programmes analysed and the characteristics of the individuals and employers participating in the programmes. It then describes the rich, individual-level administrative data that form the basis of the empirical analysis, as well as the econometric approach used in the CIE of these two measures in subsequent chapters of this review. The final sections describe the labour market outcomes examined in the impact evaluation. In addition to the outcomes commonly examined in impact evaluations of ALMPs, such as employment probabilities, this chapter describes additional outcomes of interest, in particular career progression. For the latter, the chapter describes the construction of an occupational index calculated on the basis of the observed wages of individuals by detailed occupational codes.

3.2. Training and wage subsidy programmes are two of Greece's main ALMPs

Training for the unemployed and wage subsidies together account for 40% of Greece's ALMP expenditures on ALMPs during the 2017-21 period, excluding the wage subsidy measures introduced during the COVID-19 crisis. Training and wage subsidies were implemented as many distinct programmes, each with their specific features in terms of their content, target groups, duration, and objectives. Nevertheless, they share enough key similarities to allow them to sensibly be grouped as two sets of programmes for the purposes of the evaluation (although some of the different implementations of specific programmes are analysed separately as well).

From the perspective of the impact evaluation, it is worth emphasising that broad sets of the unemployed are eligible for participating in training and wage subsidies. Some programmes do have strict participant eligibility: for example, the information and communication technology (ICT) training programmes require individuals to have tertiary education, and most of the wage subsidies are targeted to specific age groups. However, taken as a whole, the programmes are not limited to specific groups – for the purposes of identifying effects, the eligibility criteria are rather broad. For example, three of the largest wage subsidy programmes in the period analysed are targeted, respectively, to individuals aged 18-29, 30-49 and at least 50 years. From the perspective of choosing an approach for identifying the programme effects, another important consideration is that the Greek public employment service (DYPA) counsellors have considerable discretion in deciding whether to refer an individual to a specific measure in the case of the wage subsidies. This fact informs the choice of the econometric procedure used, with comparisons of similar individuals made based on detailed information on their observed characteristics (for details on the methodology, see Section 3.5.

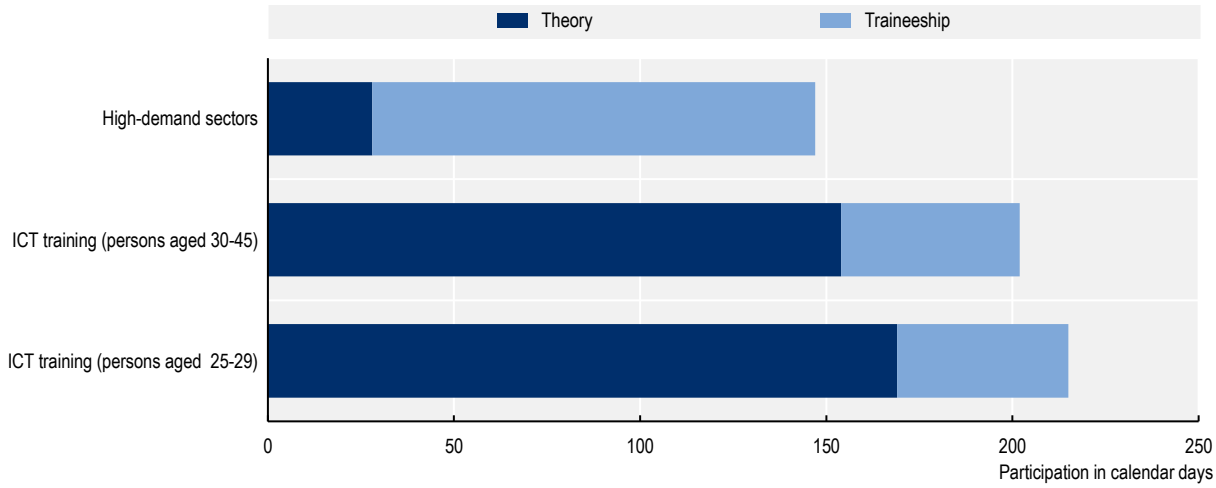
3.2.1. Three training programmes are analysed in the impact evaluation

The system of training offered to jobseekers in Greece includes a multitude of different channels and has undergone considerable changes in recent years. In addition to having a network of vocational training schools, the Greek PES refers its clients to vocational training courses offered by external training providers. With the onset of the COVID-19 pandemic, the Greek PES partnered with international online training platforms to offer remote training options, a co-operation that continues in a more limited scope (DYPA, 2023[1]). Furthermore, as training constitutes an important component of Greece's Recovery and Resilience Fund, Greece has recently considerably expanded the scale of training offered, with 150 000 jobseekers to be trained in green and digital skills (DYPA, 2023[2]). These have been implemented with a stronger accountability framework in place for providers, including a performance-based payment scheme.

In contrast to more recent programmes, the training programmes examined in this evaluation were not administered by the Greek PES. Prior to the reforms of the PES enacted in April 2022, the Greek Ministry of Labour and Social Affairs was responsible for the management of the main training programmes for the unemployed. The programmes were organised by providing vouchers with open enrolment, and PES counsellors would provide information on these programmes for interested jobseekers. Three training programmes were selected for the current impact evaluation, one relating to training in high-demand sectors and two programmes providing tertiary education graduates with ICT training. The programmes were selected taking into account several considerations. First, these programmes were identified as being of interest to DYPA: the two ICT training programmes are particularly relevant given broader changes in the labour market, including the increased importance of digital skills, and the other programme is intended to address skills shortages in high-demand sectors, such as tourism. Second, the selected programmes have sufficient sample sizes in terms of participation and time horizons for observing outcomes (the selected programmes have at least one thousand participants during the period January 2017 to July 2021).[1] All three training programmes contain both theoretical and practical components. They last approximately five months in total for the high-demand sectors training and seven months for the ICT training (Figure 3.1).

Figure 3.1. Training programmes analysed have both classroom- and workplace-based components

Median training duration by training programme



Note: Includes information on individuals entering training from June 2017 to June 2020.
Source: OECD calculations based on data provided by the Greek public employment service (DYPA).

StatLink https://stat.link/w9xfr0

The training programmes analysed have the following key features:

- **Training for high-demand sectors**. This programme provides training in occupations that are in high demand, such as retail salespeople, waiters, and warehouse workers. The first, theoretical component generally lasts one month and contains 120 hours of theoretical training. The second component consists of an internship of 500 hours, which generally last five months. The programme contains an exam, which virtually all programme participants (97%) complete successfully.
- **ICT training programmes**. Two programmes are examined, one aimed at individuals aged 25-29 and another aimed at those aged 30-45. Compared to the training for high-demand sectors, they contain a greater emphasis on theoretical training, with 400 hours of training spread over roughly five months. The practical component consists of an internship of 200 hours which generally lasts seven weeks. In each programme, three training tracks are offered, web and application design, database development, and software application. They are targeted exclusively at individuals with tertiary degrees. The programmes also contain an exam with very high proportions of successful completions (93%).

All three training programmes contain payments to the training providers (training vouchers), as well as training allowances paid to the participants. The total payments made for each individual's participation amount up to EUR 3 955 and EUR 5 990 for the training for high-demand sectors and ICT training respectively. The precise breakdown of the costs is as follows:

- **Training for high-demand sectors**. The training voucher amounts to EUR 1 155 (EUR 1 355 if the jobseeker is employed by the employer for at least six months), with specific amounts for training (EUR 2 360), counselling (EUR 30) and certification (EUR 150). In addition to the training provided via the voucher, participants receive an allowance of EUR 2 600 for the period of theoretical and on-the-job training. This includes an education subsidy of EUR 600 (EUR 5 per hour for 120 hours) and a traineeship subsidy of EUR 2000 (EUR 4 per hour for 500 hours).

- **ICT training**. The training voucher amounts to EUR 2 990 (EUR 3 190 if the jobseeker is employed by the employer for at least six months), with specific amounts for training (EUR 2 360), counselling (EUR 60), certification (EUR 150) and an internship (EUR 420). In addition to the training provided via the voucher, participants receive an allowance of EUR 2 800 for the period of theoretical and on-the-job training. This includes an education subsidy of EUR 2 000 (EUR 5 per hour for 400 hours) and a traineeship subsidy of EUR 800 (EUR 4 per hour for 200 hours).

During the period analysed, the training for high-demand sectors has considerably higher number of participants than the programmes for ICT training: 19 599 compared to 1 108 and 1 396 for the ICT training programmes targeted at 25-29 and 30-45 year-olds, respectively. For the programmes analysed, participants entered the training for high-demand sectors in the period from June 2017 through December 2018 and the ICT training from January 2020 through June 2020. While these specific training programmes were only in place during this period, other similar types of programmes were implemented during other times.

3.2.2. Several different wage subsidy programmes are analysed

A total of 17 different wage subsidy programmes containing entrants from March 2017 through July 2021 are examined in the impact evaluation. The programmes vary slightly in terms of the specific parameters, such as target groups and payment levels, but they share several key features relating to their generosity (see Table 3.1 for an overview of the largest programmes).[2] First, they reimburse employers for a fixed percentage of participant's wages (mostly ranging from 50-75%), with higher rates generally associated with vulnerable jobseekers based on factors, such as age and unemployment duration but also varying based on macroeconomic conditions. Second, they generally last around 12 months, with the possibility of extensions in some programmes for specific categories of jobseekers (although these are not commonly applied in practice).

Table 3.1. The wage subsidy programmes analysed share many key features

Key characteristics of largest wage subsidy programmes analysed

Programme name	Programme first implemented after July 2020?	Minimum unemployment duration	Subsidy duration and extensions	Percent of wage reimbursed	Retention obligation
Programme for 10 000 socially and/or long-term unemployed people aged 30-49 years	No	3 months	9 months + 9 months; 12 months + 9 months (LTU)	50%	6 months (3 months if hired LTU)
Programme of subsidies to enterprises for the recruitment of 8 300 unemployed persons aged 30 years and over	Yes	1 month	12 months + 9 months; 12 months +12 months (LTU)	75%	
Programme of grants to enterprises for the employment of 8 000 unemployed young people aged between 18 and 29	Yes	1 month	12 months; 15 months	75%	
Grant scheme for enterprises with up to 20 full-time jobs for the recruitment of 10 000 unemployed persons aged over 50	No	3 months	9 months+9 months; 12 months+9 months (LTU)	50%	3 months for LTU (if extended) and other unemployed; 6 months for others if subsidy duration is extended

Note: All programmes in table impose requirement that employer has not dismissed workers in the preceding three months. LTU refers to long-term unemployed (individuals registered as unemployed for at least 12 months).
Source: Greek public employment service (DYPA).

Wage subsidy programmes also impose a number of additional conditions designed to minimise strategic behaviour by employers and to minimise deadweight costs, i.e. the hiring of workers through the subsidy programme who would have been hired in the absence of the subsidy. They often restrict eligibility to employers who have not reduced employment (or workers' hours) in the previous three months, with specific exceptions allowed in cases such as retirements (although separate documentation must be provided to support this). They generally exclude the hiring of workers who have worked for the employer in the previous 12 months or who have other personal ties to the employer (more recent programmes have extended this period to 24 months and also exclude workers with recent experience in the same industry). In addition, four of the 17 examined programmes impose retention requirements on employers, requiring workers to remain in (unsubsidised) employment with the employer for three months after the end of the subsidy. Compliance with the subsidy programmes is strictly monitored, with at least two on-site visits to each wage subsidy participant required to verify compliance.

3.2.3. Important changes were made to the wage subsidy programmes beginning in July 2020

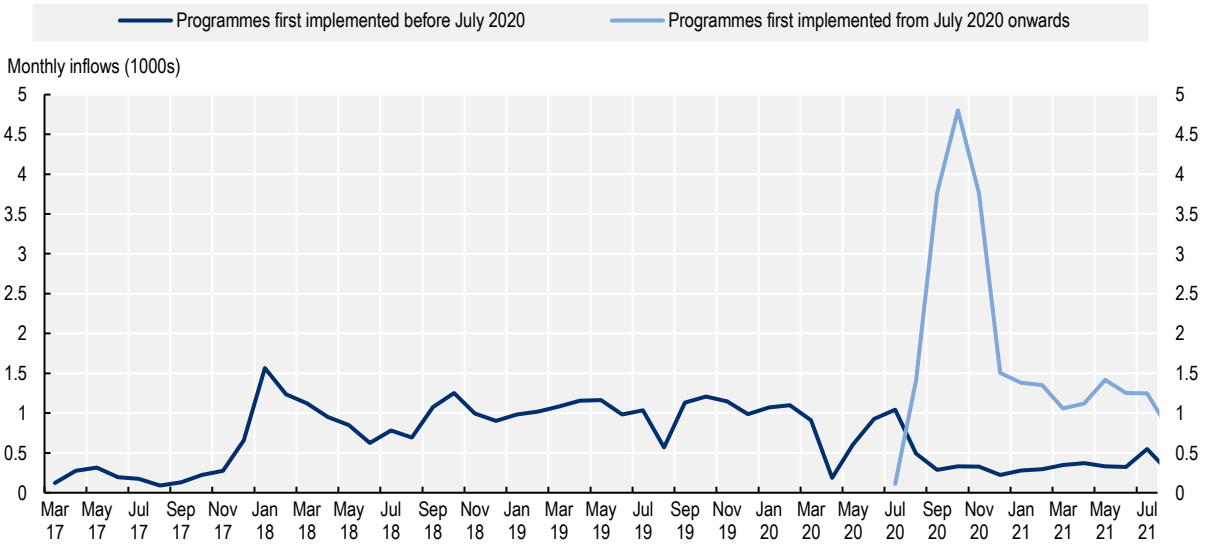
Important innovations were introduced into the wage subsidy programmes beginning in July 2020. Before July 2020, employers could search for suitable candidates themselves through the employer portal and suggest their own candidates to hire using the wage subsidy. PES staff would check the eligibility of candidates and could also suggest candidates. However, as long as a registered jobseeker met the eligibility criteria, the employer was free to choose whom to hire, increasing the likelihood that employers would hire people they would otherwise have hired without the subsidy.[3] Programmes implemented after July 2020 modified this aspect of the selection process. After posting a vacancy and indicating that they wanted to hire someone through a specific wage subsidy programme, an employer would receive a short list of potential candidates compiled by a PES counsellor, taking into account the skills and experience required for a particular vacancy (with candidates possibly ranked to assist the employer in the selection process). The employer could then hire someone from this list of candidates through the subsidy.

In addition to changes to the procedure of selecting job candidates for the subsidised positions, changes have been implemented since July 2020 that are intended to expedite and simplify the administrative procedure. The time needed to hire someone via the subsidy has been considerably shortened in practice, as employers can apply to the programme at the same time as they post a vacancy with DYPA. DYPA then conducts an expedited, basic eligibility verification of the employer, who can then hire a jobseeker from the list of candidates suggested by DYPA counsellors. The employer must then submit the necessary paperwork to prove its eligibility for the programme within two months of hiring the jobseeker. Payments, which are made on a quarterly basis, are only made once DYPA has verified that the full list of eligibility criteria has been met. Changes have also been made to reduce the administrative burden on jobseekers and DYPA counsellors. For example, DYPA counsellors used to require all shortlisted candidates to provide documentation to prove their eligibility (e.g. that they had not worked for that employer in the last two years). DYPA now only requires this information from those eventually selected for the subsidy.

The programmes analysed in the impact evaluation in this report had a total of roughly 60 000 participants during the period analysed (Figure 3.2). Of these, roughly 60% of participants entered the older programmes, before the changes to the programmes were implemented in July 2020. The changes made to the new round of programmes implemented from July 2020 were successful in their goal of increasing take-up rates by employers. The increases in participation were quite large: monthly participant inflows increased from less than 1 000 in preceding three-year period to a peak of roughly 5 000 in October 2020.

Figure 3.2. Participation in wage subsidy programmes increased after July 2020

Monthly inflows into selected wage subsidy programmes, Greece



Source: OECD calculations based on data provided by the Greek public employment service (DYPA). Wage subsidy programmes are those selected for evaluation in this report.

StatLink https://stat.link/gtzjne

3.2.4. Training for jobseekers is primarily self-initiated, but DYPA counsellors play an active role in wage subsidy referrals

Much of the initiative in deciding whether to participate in an ALMP rests with the individual jobseeker, as the high caseload of DYPA counsellors precludes intensive, proactive interaction with their clients. While recent digitalisation efforts have streamlined and automated certain procedures, consultations with DYPA counsellors indicate that much of their time is still dedicated to administrative tasks (such as processing claims), limiting the amount of time they can dedicate to directly working with clients. This means that in practice, with the exception of mandated meetings to compile individual action plans at the beginning of unemployment spells, many meetings with jobseekers are conducted based on jobseekers' requests.

Eligibility and need for different ALMPs, including training and wage subsidies, is established when the jobseeker and their DYPA counsellor first discuss and assess the jobseeker's employment opportunities and needs for support. Since November 2018, counsellors are supported by a digital jobseeker profiling tool that uses rules-based profiling based on a questionnaire to classify jobseekers into five client groups. Those who are classified into the most job-ready category receive an automated individual action plan and are not offered counselling sessions with counsellors; by contrast, those classified as least employable (category five) are not referred to ALMPs in principle.

From the introduction of a voucher system in 2014 until a recent reform in 2022, jobseekers enrolled into training based mostly on their own initiative. PES counsellors referred interested jobseekers to a website with information on available training and eligibility criteria, and the jobseekers could then apply to enrol in the training. The implementation of the training programmes was led by the Ministry of Labour and Social Affairs, which contracted with a number of private training providers to conduct the training.

While PES counsellors have played a more advisory role in helping jobseekers enter training during the period analysed in the impact evaluation, they have played a central role in placing individuals into wage subsidies throughout the 2017-21 period – but with the important changes from the summer of 2020 onwards. As discussed above, since 2020, PES counsellors have played a more proactive role by compiling the candidate shortlists from which employers can select wage subsidy candidates.

3.3. People closer to the labour market are more likely to enter wage subsidies while those farther from the labour market enter training

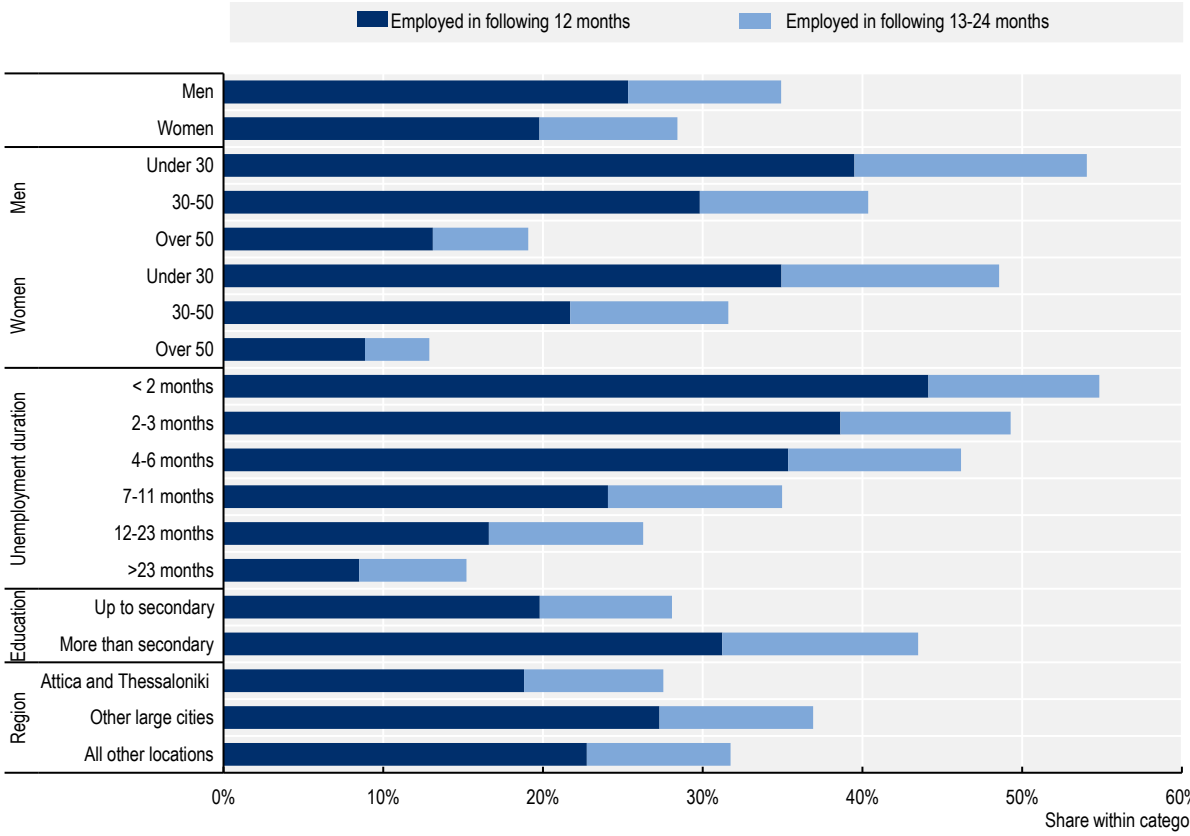
This section examines the characteristics of individuals participating in the training and wage subsidy programmes, as well as the attributes of firms who hire the participants (either directly during the wage subsidy period or after the end of their training). The analysis across individuals focusses on differences across gender, age, duration of unemployment, education level and location. Before discussing the take-up rates of different demographic groups, the section begins by presenting some stylised facts on the employability of these different groups. This is used to help establish the degree to which the ALMPs studied are targeted toward groups that are closer or farther from the labour market.

3.3.1. Average job-finding rates confirm that groups such as older jobseekers have a greater distance to the labour market

The patterns of exit from unemployment show that certain types of jobseekers, such as older jobseekers or those with lower levels of education, are less likely to exit unemployment. Figure 3.3 examines the subsequent employment outcomes of individuals who were registered as unemployed during the first part of the period (i.e. March 2017 to July 2020) examined in the impact evaluation (based on monthly unemployment data). For groups such as men under 30 or those registered as unemployed for less than one month, a majority will become employed within two years.[4] The probability of exiting unemployment decreases with unemployment duration: 54.8% of the individuals who are newly unemployed will be employed within two years, compared to 15.2% of those registered as unemployed for at least two years. This pattern is broadly consistent with stylised statistics from other countries, although the discrepancy in the exit rates into employment between short- and long-term unemployed in Greece is considerably larger than in most other EU countries (Eurostat, 2023[3]).

Figure 3.3. Younger jobseekers and those with shorter unemployment spells are statistically more likely to become employed

Shares of registered unemployed becoming employed within 12 and 24 months, Greece



Note: Statistics are calculated based monthly statistics of individuals unemployed from March 2017-July 2020 for employment outcomes experienced through July 2022.
Source: OECD estimates based on data from the Greek public employment service (DYPA) and Ergani.

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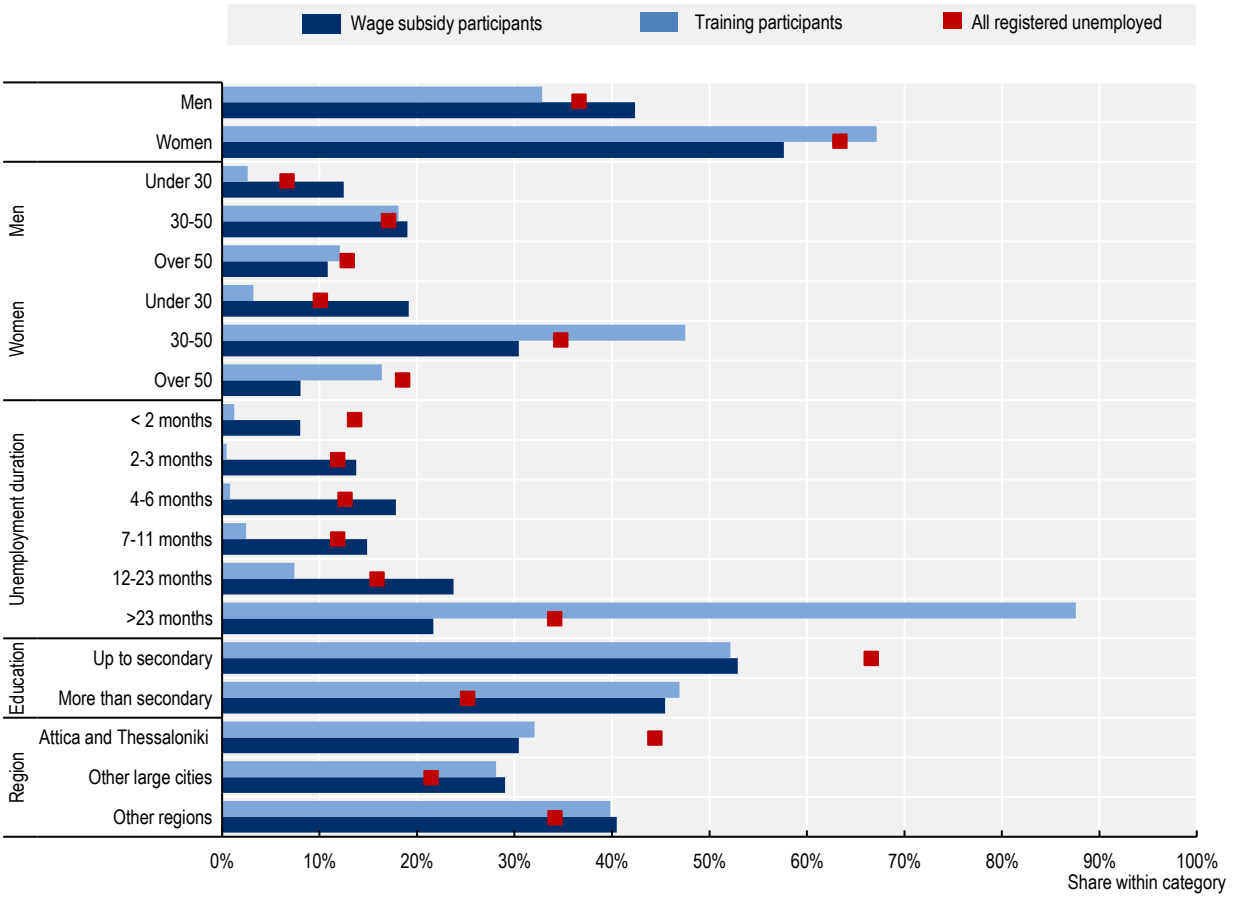
3.3.2. Participation in the ALMPs examined is generally higher amongst certain demographic groups

To provide a sense of the extent to which specific categories of individuals are likely to enter ALMPs, this section contrasts the characteristics of the participants in the selected training and wage subsidy programmes with the characteristics of all individuals who are registered as unemployed with the PES. These comparisons are presented in Figure 3.4, taking the averages of monthly unemployment stocks during the period for which the ALMP entrants are examined (2017 to 2021).

Figure 3.4 Some groups of jobseekers are disproportionally included in training or wage subsidies

Structure of ALMP participants and registered unemployed within each broad category, Greece



Note: ALMPs stand for the training and wage subsidy programmes evaluated in this report. Shares are calculated within each of the five broad categories in the figure: if a demographic category of ALMP participants were represented in proportion to their share amongst all registered unemployed, the length of the bars would coincide with the red squares. Statistics for stocks of all unemployed are calculated based on averages of monthly statistics during the 2017-21 period. Participant numbers refer to totals during the 2017-21 period for individuals entering either training or wage subsidies.
Source: OECD calculations based on data from the Greek public employment service (DYPA), ERGANI and Diofantos.

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Relative to their share of the unemployed, women are slightly more likely to enter training than men, while men are slightly more likely to enter wage subsidies. Women account for 67% of training participants, even though they accounted for 63% of registered unemployed during the 2017-21 period. Encouragingly, gender stereotypes do not appear to be an important factor in the choice of training programmes – for example, in the programme targeted towards individuals aged 30-45, women accounted for a disproportionately large share (74%) of participants in the training for ICT, a field where women are traditionally underrepresented (OECD, 2018[4]).

The age profile of the selected training and wage subsidy participants indicate that older workers are disproportionally less likely to enrol in the programmes studied and that prime-age women are particularly likely to enrol in training. Jobseekers over 50 represent a considerably smaller share of participants in both programmes, with the share of older women entering wage subsidies is particularly small relative to their stock of the unemployed: only 7.6% of wage subsidy participants were women over 50, even though such

women comprised 18.1% of jobseekers. On the other hand, prime-age women (those aged 30-50) were disproportionally *more* likely to enter a training programme, with such women comprising 47.3% of participants and 34.9% of the stock of unemployed. Younger groups of workers are systematically more likely to enrol in wage subsidies, as their share of participants is much higher than their share in the stock of unemployed. These statistics by age and gender suggest that the same profiles of individuals who are statistically more likely to become employed are the ones receiving additional support (for this direct comparison, see Annex Figure 3.A.1, Panel A).

The pattern of higher participation among more employable groups is also present in relation to education, although this reflects the design of the ALMPs studied. Jobseekers with a lower level of education are disproportionately *less* likely to participate in either of the two ALMPs analysed. This partly reflects the fact that certain programmes were targeted at people with higher educational attainment. For example, two of the ICT training programmes were targeted at jobseekers with tertiary education. Furthermore, several of the wage subsidy programmes in the period analysed are targeted at jobseekers with tertiary education, while only one is targeted at those with lower educational attainment. Nevertheless, it is worth noting that many of the wage subsidy programmes target disadvantaged or particularly vulnerable groups – groups that are likely to have higher proportions of jobseekers with lower educational attainment.

In terms of the location of jobseekers entering the ALMPs examined, individuals from outside the two largest urban areas are slightly *more* likely to participate. Some of the wage subsidy programmes specifically target individuals living in some of these regions, which could partly explain the higher uptake rates for the wage subsidy programmes. The largest of the training programmes, targeted towards high-demand sectors, was also used to help train individuals in the tourism sector, which experienced large growth also outside the major cities.

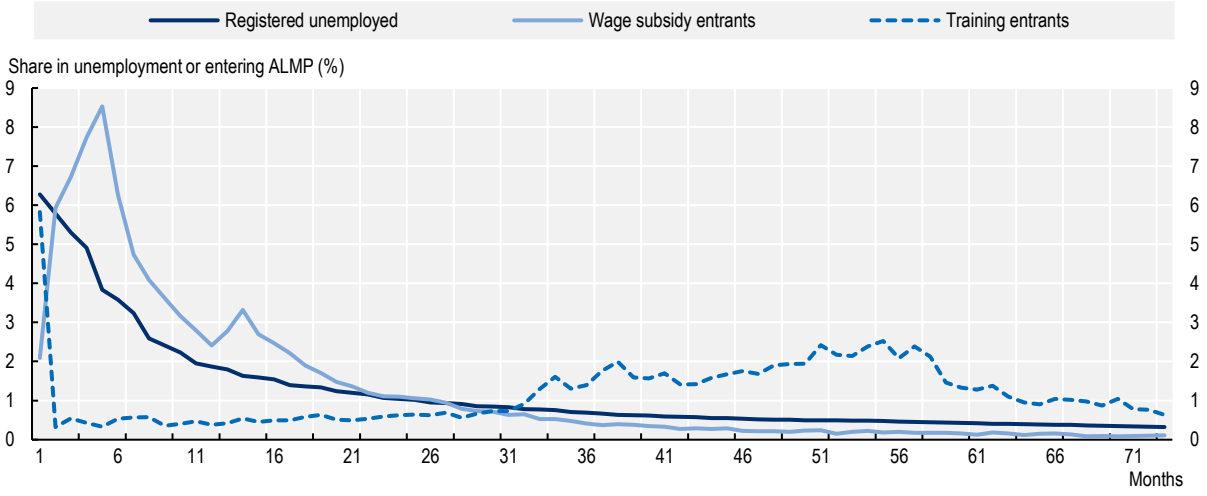
Wage subsidy programmes also have higher uptake among the short-term unemployed, while entering training is more common after very long unemployment spells. Specifically, up to unemployment spells of around 30 months, jobseekers are disproportionally more likely to enter wage subsidy programmes and disproportionally less likely to enter training (Figure 3.5). One feature of the ALMPs worth bearing in mind is that for roughly half of the wage subsidy programmes analysed, eligibility is not directly tied to unemployment duration. But the precise programme parameters typically are related to unemployment duration – for example, in many of the programmes implemented prior to July 2020, the obligation to retain workers for several months after the end of the subsidy period is imposed only for those who have been unemployed for less than one year. This may explain the small spike in wage subsidy entrants after 12 months of unemployment.

The pattern of participation in ALMPs by duration of unemployment may also be partly explained by the patterns of interactions between DYPA counsellors. These are systematically conducted early on in the unemployment spells for most jobseekers when they meet to develop individual action plans (the exception being the most readily employable, who do not necessarily meet with counsellors for the individual action plans). This approach leads to more jobseekers entering wage subsidies earlier on in their unemployment spells. By contrast, entry into training – which is initiated by the jobseeker – is more common later on in the unemployment spell. This may be partly attributable to the payments to training participants, which represent a more compelling financial incentive to individuals once they have exhausted their unemployment benefits.

In terms of their unemployment duration, the groups of wage subsidy participants entering into the programmes are also the ones who, on average, are more likely to become employed (Annex Figure 3.A.1, Panel B). The exception to this pattern relates to jobseekers registered for less than three months, who form a relatively small share of all participants.

Figure 3.5. Jobseekers enter wage subsidies after shorter unemployment spells compared to training

Stock of registered unemployed and ALMP entrants by unemployment duration



Note: ALMPs stand for the training and wage subsidy programmes evaluated in this report. Statistics for stocks of all unemployed are calculated based on averages of monthly statistics during the 2017-21 period. Participant numbers refer to totals during the 2017-21 period for individuals entering either training or wage subsidies.
Source: OECD calculations based on data from the Greek public employment service (DYPA) and Diofantos.

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3.3.3. Larger firms tend to hire vocational training participants while smaller ones use wage subsidies

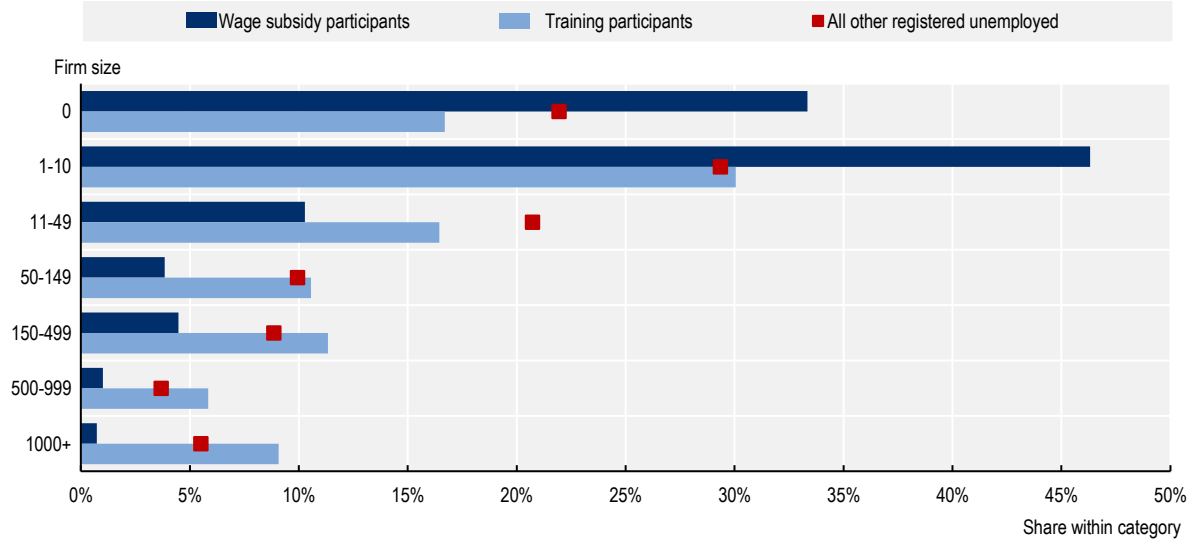
While the discussion so far has focused on the characteristics of jobseekers engaging in ALMPs, another interesting aspect concerns the characteristics of the firms who participate in the wage subsidy programmes or hire individuals after they complete their training programmes. Figure 3.6 shows the distribution of firms hiring participants – either during the programmes themselves (in the case of wage subsidies) or after they have completed the training programmes – across size categories and compares them with the distribution of firms hiring unemployed individuals in general. Small firms make disproportionately large use of wage subsidies, both relative to the number of total wage subsidy participants and relative to the number of jobseekers (registered with the PES) that they hire. Firms with ten or less workers accounted for three-quarters of all the wage subsidy participants, even though they accounted for only half of jobseeker hires. By contracts, firms with at least 50 workers accounted for 30% of total jobseeker hires but only 14% of wage subsidy participants. The low take-up rates of larger firms may be partially tied to the relatively onerous conditions tied to the receipt of the wage subsidies (although experiences from other OECD countries indicates that large firms tend to use wage subsidies less). For example, in most programmes examined, employers are required to demonstrate that they have not reduced their employment in the past three months. Such conditions are clearly more binding for larger firms. In addition, EU limits on the absolute amount of government financial supports that can be paid to firms – and that have become more binding with the COVID-19 support measures – are also more binding for larger firms.

In contrast to wage subsidy programmes, larger firms are considerably *more* likely to hire individuals after they have completed training programmes. This suggests that larger firms are disproportionately affected by shortages of suitably qualified workers. Expanding the scale of training, combined with greater

involvement of employers in the design and delivery of training initiatives, could effectively address these challenges, while increasing the employment opportunities of jobseekers in higher-paid and more productive firms. As in other OECD countries, larger firms in Greece have higher output per worker, reflecting their increasing returns to scale through capital-intensive production (OECD, 2021[5]). However, the disparity between small and large firms in Greece is among the largest in the OECD: for example, output per worker in micro firms in business services averaged only 22% of the output of large firms in 2018 (the comparable OECD average is 71%).

Figure 3.6. Wage subsidy participants are disproportionally hired by small firms, training participants are hired by larger firms

Share of ALMP participants and registered unemployed across firm size category, Greece



Note: ALMPs stand for the training and wage subsidy programmes evaluated in this report. Shares are calculated within each of the five broad categories in the figure: if a demographic category of ALMP participants were represented in proportion to their share amongst all registered unemployed, the length of the bars would coincide with the red squares. Size categories are based on the total number of workers at a given employer registered in ERGANI on 1 January of the calendar year in which an individual became employed at that employer. Firms with zero employment can occur in at least two cases: i) small firms with seasonal employment (e.g. in the tourism sector) who hire during the year but do not have employees on 1 January, and ii) firms which began operations after 1 January of a given calendar year. newly created firms which did not yet have. Statistics for wage subsidy participants refer to the employers receiving the subsidies; statistics for the training participants refer to the first (unsubsidised) employer after completion of the theoretical and practical training. Statistics for stocks of all unemployed are calculated based on averages of monthly statistics during the 2017-21 period. Participant numbers refer to totals during the 2017-21 period for individuals entering either training or wage subsidies.
Source: OECD calculations based on data from the Greek public employment service (DYPA), Diofantos and ERGANI.

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In terms of the sectors of economic activity of firms making use of the ALMPs examined, several sectors stand out in terms of their use compared to their hiring of other jobseekers registered with the PES. A disproportionately large share of hires in wholesale and retail trade involves hiring unemployed individuals via wage subsidies – on average accounting for 30.8% of all wage subsidy participants during the 2017-21 period (and twice the share of all jobseekers hired during the same period). The wholesale and retail trade sector also hires a disproportionately high share of training participants. Another sector with particularly large shares of ALMP participants compared to their hiring of other jobseekers is the professional services sector. In absolute terms, manufacturing firms employ large shares of ALMP participants, but these are commensurate with their higher of jobseekers in general. Sectors making extensive use of training may be

disproportionately facing labour shortages, likely due to a combination of shortages of workers with adequate skills and possibly more challenging working conditions.

In contrast to other sectors, the tourism sector – hotels and restaurants – stands out in terms of its *low* shares of ALMP participants, accounting for the hiring of roughly 10% of wage and training participants but 34% of other jobseekers. This may be partly explained by the fact that the seasonal nature of employment in this sector means that a large share of workers cycle into and out of unemployment, leading to high hiring rates to which ALMP participants are compared – in this case, jobseeker hiring rates are not the best basis for gauging the demand for workers. Survey evidence indicates that undeclared work has in the past been most common in the restaurant industry in Greece (ILO, 2016[6]), so the low-take-up could also be attributable to businesses trying to avoid the additional scrutiny from DYPA inspectors that constitute a mandatory monitoring component of wage subsidies. Finally, the current staffing shortages experienced in the tourism sector were arguably less of an issue during the period examined, from 2017-21.

3.4. Rich administrative data provide detailed information on the unemployed and their labour market outcomes

Comprehensively assessing the impact of ALMPs on subsequent labour market outcomes requires rich data with detailed information on jobseekers' characteristics, their participation in ALMPs and their employment outcomes. The data used to conduct the evaluation in this report were obtained from several sources, as outlined in Table 3.2, and span various time periods from January 2013 to August 2022. Unique individual identifiers – pseudonymised to protect individuals' privacy – allow the data to be combined from several sources. This enables a rich understanding of individuals' participation in ALMPs, their background characteristics, including past labour market history, as well as their labour market outcomes and wages.

Table 3.2. Several data sources are used in the evaluation

Data source	Information available	Periodicity	Sample	Coverage
DYPA (Greek public employment service)	Detailed background characteristics of registered unemployed, participation in wage subsidy programmes and unemployment benefits	Start and end dates of unemployment spells, start date of participation in wage subsidy programmes and dates of unemployment benefit receipt	Registered unemployed	January 2017- August 2022
Diofantos	Detailed information on training	Start and end dates of training	Individuals who were unemployed at some point during 2017 21	January 2017 – May 2022 (available) March 2017 – June 2020 (used in analysis)
ERGANI	Employment outcomes and earnings	Start and end dates of employment spells	Individuals who were unemployed at some point during 2017-21	March 2013 - August 2022

The resulting database contains detailed information on the 2 578 038 unique individuals who were registered as unemployed at any point during the 2017-21 period. These individuals experienced 5.8 million distinct unemployment spells in total. The final analytical database contains detailed information on the 22 115 entries into training and 61 141 entries in wage subsidies for the programmes analysed and for people who registered as unemployed from March 2017 through July 2021. Individuals are observed to enter into training and/or wage subsidies in 2.8% of unemployment spells during this period. The data span various periods from January 2013 to August 2022. More information on the data used and how they were processed are available in the technical report accompanying this publication (OECD, 2024[7]).

One potential problem often encountered in impact evaluations of ALMPs concerns the question of how to deal with multiple, sequential entries into ALMPs. In the presence of multiple interventions and possible overlap between different ALMPs, identifying the precise effects of one specific ALMP presents an important challenge. In the case of Greece, this is not a major concern: for those who were observed to enter an ALMP, the vast majority (98.2%) entered into only one ALMP during their entire unemployment spell. For the purposes of the evaluation, in the small number of cases of multiple ALMPs in a given unemployment spell, we focus on the first ALMP entered during the spell.

Despite the richness of the data on which this evaluation is based, there are some limitations in terms of data quality. In particular, the Ergani data on earnings and employment contain a significant number of implausible and inconsistent values, especially in earlier periods. For example, individual employment spells were constructed based on information that needs to be submitted separately to mark the beginning and end of employment spells, but this information was apparently not subject to rigorous cross-checks in earlier periods. This required a number of assumptions in the construction of the final analytical database, which are described in detail in the accompanying technical report (OECD, 2024[7]). From the point of view of the analysis, the presence of measurement error means that the estimates may be less precise than they otherwise would have been (the confidence intervals will be wider) and that the point estimates may be biased towards zero – i.e. that any positive or negative effects may be underestimated (Levi, 1973[8]). This also means that the analysis does not take into account information that has been found to be particularly inconsistent in individual-level data, such as hours worked or type of contract. This needs to be borne in mind when interpreting the results, particularly those relating to days worked. For example, if participation in an ALMP increases the likelihood of an individual being employed on a part-time rather than full-time basis, this would bias the estimated results: actual hours worked would be lower than the observed days worked, while hourly earnings would be higher than the observed daily earnings. In practice, this may not be a problem given the relatively low prevalence of part-time work in Greece: at 8.8%, the part-time employment rate in Greece in 2022 was well below the OECD average of 16.1% (OECD, 2023[9]). Nevertheless, for future evaluations, establishing an analytical database which incorporates additional data sources, such as income tax data, could be used to improve the accuracy of the information on employment and earnings.

Another limitation of the employment data is the lack of data on public sector employment. While this limitation should be borne in mind when interpreting the results, two factors suggest that its impact on the net effects is not large. *First*, none of the ALMPs examined are targeted at promoting self-employment, and wage subsidies are specifically designed to promote dependent employment in the private sector. This suggests that any resulting bias in the estimated effects, if any, would be in the direction of underestimating the effectiveness of the ALMPs studied. *Second*, stakeholder consultations suggest that public sector hiring was negligible during the period under review due to austerity measures. By contrast, the private sector employment has witnessed considerable growth during the period studied. This suggests that the analysis can capture most of the relevant effects.

Additional questions related to data are discussed in an accompanying technical report (OECD, 2024[7]). This report discusses the data in more detail, identifying how the analysis could be enriched with additional data and discussing ways to make better use of data in the future.

3.5. The impact evaluation methodology accounts for counterfactual outcomes

Assessing the impact of an ALMP requires comparing the labour market outcomes of ALMP participants, such as employment or earnings, with the outcomes that would have occurred if they had not participated in the ALMP. As the latter 'counterfactual' outcomes cannot be observed, it is necessary to find a way to construct them from the data. A simple way of doing this would be to compare the outcomes of those who participated in training (or other ALMP) with those who did not. However, as discussed in more detail below, in the absence of random assignment in the programme, such groups are unlikely to be comparable, and making such simple comparisons may introduce selection bias that would not provide accurate estimates of the true effect of the programme.

As in other evaluations adopting a similar estimation technique, several sources of selection bias may be relevant in this impact evaluation. Certain types of individuals (e.g. more motivated individuals) may be more likely to participate in training and have better employment outcomes for reasons other than their participation in training. Conversely, certain individuals who face additional barriers to employment – and therefore have worse employment outcomes – may be more likely to be referred to ALMPs by caseworkers. Many of those who do not participate in an ALMP may not be included simply because they quickly find a job (and leave unemployment) without the support of DYPA. This latter group of individuals may actually have better future employment outcomes than ALMP participants: if they leave unemployment quickly, they would have a good chance of keeping that job and are much more likely to be employed in a few years or months than if they had remained unemployed. In addition, DYPA counsellors are less likely to see such individuals as needing the support of an ALMP such as training, as this could mechanically extend their unemployment spell by the duration of a course.

To address such sources of bias, the approach used in this report controls for differences in demographic characteristics (e.g. gender, education, age, etc.), observed skills and barriers to employment between ALMP participants and non-participants. Such an approach is then used to estimate the 'treatment effect' by comparing individuals who appear similar in terms of their observable characteristics. The outcomes of participants (the "treatment" or "intervention" group) are compared with the outcomes of a similar group of non-participants (the "control" or "comparison" group).

The econometric approach has several features designed to ensure the comparability of the treatment and control groups and to provide unbiased results:

- **Only individuals with similar (formal) employment histories are compared with each other**. This compares the labour market outcomes of those who enter an ALMP in a given month with those who have not (yet) entered an ALMP and who had similar patterns of formal employment in the preceding three years. The application of this methodology – similar in some respects to the "dynamic selection-on-observables" initially adopted by Sianesi (2004[10]) – is explained in the accompanying technical report (OECD, 2024[7]).
- **Individuals are also only compared with each other if they have identical values of several additional characteristics.** In addition to comparing individuals with similar employment histories, comparison individuals are constructed to have exactly the same characteristics along a number of additional dimensions: calendar month and year of entry into the programme, gender, earnings and, for those who have not been employed in the last three years, age group and broad level of education.
- **A rich set of additional personal characteristics is used to identify individuals with similar probabilities of entering the ALMP under consideration.** Within the precise groups mentioned above, individuals are further matched to similar individuals on the basis of an estimate of their probability of entering the ALMP under consideration. Such an approach – based on a so-called propensity score – is commonly used in the literature to address the difficulty of otherwise accounting for a wide range of additional personal characteristics (Card, Kluve and Weber,

2018[11]). The propensity score is a measure of the probability of participating in the programme under analysis. The following factors are taken into account when calculating the propensity score: (i) each individual's employment history (duration of employment, earnings, occupation), (ii) unemployment duration, (iii) employability assessment (based on a rule-based profiling score that can be modified by DYPA counsellors), (iv) demographic characteristics (education, gender, nationality), (vi) foreign language skills, and (vi) whether an individual lives in a large urban region. Details on these characteristics are presented in the accompanying technical report (OECD, 2024[7]).

The choice of research design is dictated by the relatively broad eligibility criteria of ALMPs in Greece and the availability of rich administrative data. In the case of Greece, it is not possible to use a research design that would exploit strict eligibility criteria, such as an age threshold. In such a research design, groups of individuals who are ineligible for a programme – for example, in the case of a programme targeted at young people, because they have just crossed an age threshold – could serve as a natural basis for establishing what would have happened to participants if they had not participated (the so-called counterfactual outcomes). Instead, in the case of this evaluation, in the absence of strict eligibility criteria based on a threshold, the research design makes use of the rich administrative data available to match individuals along a number of dimensions, including their previous employment history and the exact calendar month in which an individual enters an ALMP. The approach is explained in detail in the accompanying technical report (OECD, 2024[7]).

Propensity score matching approach is often used in impact evaluations. Of the 95 impact evaluations of ALMPs examined in a recent meta-analysis (European Commission and Ismeri Europa, 2023[12]), 85% used propensity score matching. Canada, for example, regularly and systematically evaluates its ALMPs based on this approach (OECD, 2022[13]). It has also been used in several recent OECD evaluations of ALMPs in Finland, Lithuania and Latvia (OECD, 2023[14]; OECD, 2022[15]; OECD, 2019[16]).

3.6. A rich set of labour market outcomes are evaluated

Counterfactual impact evaluations of ALMPs typically examine outcomes related to labour force participation, such as the change in employment probability for ALMP participants compared to similar non-participants. The effect of ALMPs on the probability of employment has been most widely studied, with a meta-analysis by Card, Kluve and Weber (2018[11]) including employment probability estimates from 111 impact evaluations of ALMPs and newer one focusing on ESF-funded programmes identifying 94 impact evaluations (European Commission, 2022[17]). While this outcome is certainly important, as an ultimate goal of ALMPs is to help individuals find employment, the focus on this outcome may also be partly driven by data availability: data on other outcomes are often more difficult to obtain. But focusing on other outcomes – particularly ones relating to job quality – can help provide a more nuanced view of the potential benefits and trade-offs involved in ALMP participation.

In the case of Greece, the rich and comprehensive data available allow the analysis to track a wide range of outcomes in the evaluation of the programmes studied and over a relatively long period. Outcomes are tracked continuously for up to three years from the start of the programme. Outcome values are calculated on a monthly basis and tracked over time relative to a reference month, which is defined as either the month in which an individual enters an ALMP (for the treatment group) or the same calendar month for a control group individual matched to someone in the treatment group. Details on the calculation of these outcomes are provided in the technical report (OECD, 2024[7]).

The following outcomes are examined:

- Probability of entering employment. This probability is measured using a binary outcome variable which is equal to 1 if individual is employed at a certain time, and equal to 0 otherwise.

- Probability of remained registered as unemployed. This is measured using a binary outcome variable which is equal to 1 if individual is unemployed at a certain time, and equal to 0 otherwise.
- Cumulative employment duration. This measures the cumulative duration of all jobs held during the observation time, in calendar days, after the reference month.
- Occupational mobility. The analysis maps the occupation of individuals entering employment onto an occupational index, which can be interpreted as a "job ladder". The construction of the index is detailed in Section 3.7.
- Cumulative earnings. This measures total earnings, gross of taxes and contributions, in constant prices, in all jobs held during the observation time.

One important limitation in the use of administrative data sources is that it cannot account for undeclared employment. The Greek authorities have enacted a number of measures in recent years in an attempt to limit informal employment. In 2013, an electronic registry of employment was implemented for reporting of hiring and dismissals (ILO, 2016[6]) and since 2014, employers have been required to declare, in advance of workers beginning their first shifts, their employees into the ERGANI system (European Commission, 2017[18]). Labour inspectors from the authorities tasked with monitoring compliance – the Hellenic Labour Inspectorate (SEPE) as well as inspectors from DYPA and the Financial Police – have access to digital tools and the ERGANI system to verify compliance, and fines for non-compliance are very high. This has led to dramatic declines in the incidence of undeclared and under-declared work: according to the European Labour Authority (2020[19]), by more than 10 percentage points between 2014 and 2018 (from 19.2% to 8.9%). Nevertheless, informal employment arguably still constitutes an important share of employment in Greece. Such types of employment are likely disproportionally common with individuals who lack a history of stable employment and are exiting from unemployment. Accounting for informal employment (including partially undeclared work) is thus important in interpreting the results, particularly those relating to employment outcomes and earnings.

In addition to aggregate effects, results are presented across sub-groups of individuals and as well as by selected programme attributes. The results in Chapters 4 and 5 examine sub-groups of workers based on their gender, age, education level, location and unemployment duration.

3.7. Looking beyond employment prospects to analyse occupational mobility

The OECD's work on impact evaluations of ALMPs aims to go beyond the outcomes commonly examined in such evaluations, such as effects on employment or wages. As in other participating countries, the work with Greece aims to address another important issue: the impact of participation in ALMPs on occupational mobility. A large body of empirical evidence has documented the "scarring" effect of job loss, with measurable effects on wages that can persist long after an individual is re-employed (for example, Lachowska, Mas and Woodbury (2020[20])). Empirical evidence also shows that jobseekers exiting unemployment tend to disproportionally enter (or return to) low-skills occupations compared to the employed population (Bisello, Maccarrone and Fernández-Macías, 2020[21]). ALMPs can help to counteract these effects by mitigating or possibly even reversing the typically observed negative effects of job loss on individuals' career trajectories. Training programmes can provide opportunities to acquire skills or qualifications needed for employment in higher-skilled occupations. Wage subsidies may make employers more willing to hire a particular jobseeker and possibly invest in on-the-job training.

To provide a tractable measure of occupational mobility, the analysis uses an occupational index calculated from observed wages. Following the approach adopted by Laporšek et al. (2021[22]) and used in past ALMP impact evaluations in Lithuania (OECD, 2022[15]), Finland (OECD, 2023[14]) and Spain (OECD, 2021[23]), a wage index is calculated for each detailed occupational code using data on the wages and employment of individuals in Greece during the 2013-22 period.[5] This index maps each of the 4 355 distinct occupational codes observed in the data into an index that has an intuitive and practical

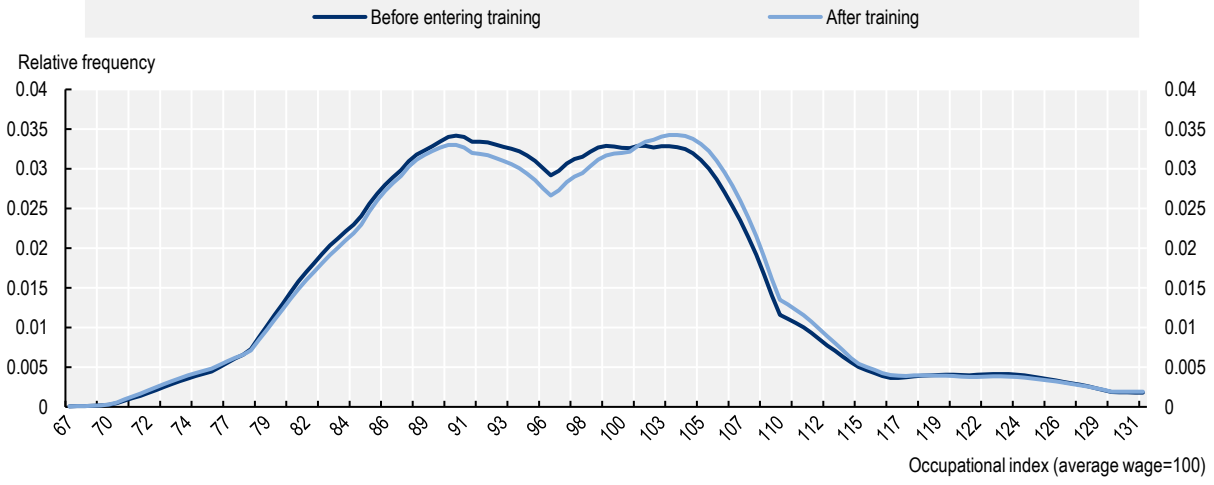
interpretation: an occupation whose index value is one unit greater than another occupation's index value has an average real monthly wage that is 1 percentage point higher relative to the average wage. Furthermore, increases and decreases in the index can be interpreted, respectively, as positive and negative changes in an individual's occupation: climbing up or down the occupational ladder.

The occupational index distribution for Greece shows remarkably small changes in the distribution following unemployment: individuals who become re-employed in aggregate become employed in similar occupations. This finding is broadly true also for individuals entering training programmes (Figure 3.7). Following an unemployment spell, the aggregate distributions of individuals are remarkably similar, with only very slight differences: after training, a slightly larger share of individuals work in occupations with wages of index values ranging from 103 to 117. On average, individuals becoming re-employed after training have an occupational index that is only 0.4 percentage points higher than before they were unemployed.

The lack of aggregate effects of unemployment on the occupational index contrasts considerably with the findings of similar analyses in Lithuania and Finland. In Lithuania, unemployment was found to have a considerable scarring effect, with individuals who become re-employed disproportionally entering lower-paid occupations – although the effect of training was less clear-cut (OECD, 2022[15]). In Finland, ALMPs served to decrease the dispersion in the occupational distribution, serving to decrease earnings inequality (OECD, 2023[14]). The lack of strong observed aggregate effects in Greece may be due to the strong seasonal nature of unemployment fluctuations in Greece: large shares of individuals in the tourism sector cycling in and out of unemployment, often in similar occupations.

Figure 3.7. Training does not significantly alter the aggregate distribution of occupations of individuals who become re-employed after unemployment

Occupational index distribution before and after training in Greece



Note: The heights of the lines indicate the relative share of individuals in occupations whose average wages are on the horizontal axis, relative to the average real wage observed in the Ergani employment data. The distributions are calculated for all individuals who participated in the training programmes analysed during the 2017-21 period who were observed to be employed before or after entering a training programme. Observations with index values above 131 are excluded from the kernel density chart.
Source: OECD calculations based on data from the Greek public employment service (DYPA), Ergani and Diofantos.

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Although a descriptive analysis of the occupational index distributions as shown in Figure 3.7 is instructive for understanding the underlying data, it does not take into account a variety of possible underlying factors that could explain the differences in the distributions. For example, differences in the occupational index distributions before and after unemployment may be subject to composition effects, with a subset of individuals more likely to be re-employed. To take account of such factors, the impact evaluation results in the following chapters consider counterfactual outcomes for participants if they had not participated in the programmes, as described in Sections 3.4 and 3.5.

3.8. Conclusion

The chapter has outlined selected key ALMPs in Greece, training and wage subsidy programmes. It has also described the rich administrative data available for the evaluation of these programmes: detailed data from the unemployment register, data on participation in training and wage subsidies, and data on employment outcomes. These data sources form the basis for the impact evaluation results presented in the following chapters. The impact evaluation uses a wide range of observable characteristics of jobseekers, including their previous labour market history, to form similar treatment and control groups. The causal effects of the programmes are then estimated by comparing the observed outcomes of programme participants with the counterfactual outcomes that would have occurred in the absence of the programmes. The richness of the administrative data allows several outcomes to be examined: in addition to the most commonly analysed outcome in such evaluations, the probability of employment, the analysis examines the impact of the programmes on employment duration, earnings and occupational mobility.

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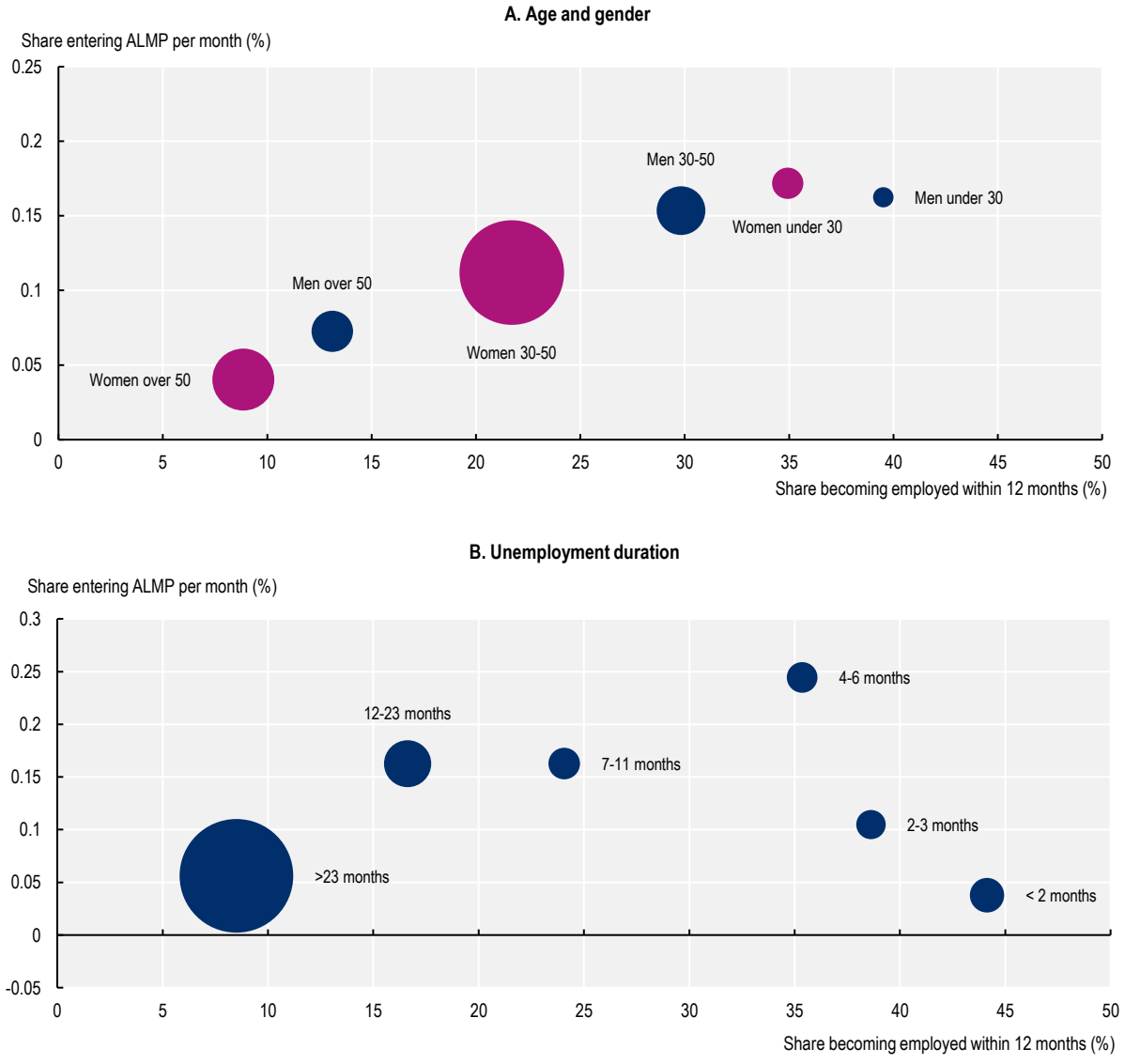
Annex 3.A. Additional figure on wage subsidy participant characteristics

Annex Figure 3.A.1. Groups with better employment prospects are generally more likely to enter wage subsidies

Wage subsidy participation rates and rates of exit into employment, Greece



Note: Statistics are calculated based on monthly statistics of all individuals unemployed from March 2017-July 2021 for employment outcomes experienced through July 2022. The sizes of the circles are proportional to the number of wage subsidy entrants in each category.
Source: OECD calculations based on data from the Greek public employment service (DYPA) and ERGANI.

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Notes

[1] In addition, the analysis excludes some programmes also based on some other criteria, excluding for example a specific wage subsidy scheme where individuals cannot remain at the same employer after the end of the subsidy or programmes which had previously been subject to evaluation, such as the pilot study contained in World Bank (2021[24]).

[2] A detailed table containing an overview of all the programmes analysed is available in the accompanying technical report (OECD, 2024[7]).

[3] An additional restriction – that employers retain wage subsidy participants after the subsidy period – was commonly applied in the programmes as well.

[4] The rates of transitions into employment are lower in Greece than in most other EU countries. Using internationally comparable (survey-based) definitions of employment and unemployment, the quarterly transition probability of moving from unemployment into employment for workers aged 25-54 was 11% in Greece in 2022, the third lowest in the EU (Eurostat, 2023[3]). In one of the countries with the highest rates, Denmark, it amounted to 46%.

[5] The analysis uses 6-digit codes and is calculated from real monthly wages at constant 2015 prices. Further restrictions are made in calculating the index, such as excluding individuals who are not employed full-time, individuals with earnings below the statutory minimum wage, and outliers with extremely high reported wages.

4 Evaluation of training programmes for unemployed workers in Greece

Training programmes are important to reskill and upskill jobseekers and help to access good jobs. To understand the impact of Greece's training programmes for unemployed people on their labour market outcomes, this chapter presents the results of a counterfactual impact evaluation of the main training programmes available for unemployed people. In doing so it considers a broad range of outcomes including the likelihood of finding employment and earnings, but also total days worked, occupational mobility, unemployment benefit receipt, registration with the Greek public employment service, and inactivity.

4.1. Introduction

Training programmes are an important component of active labour market policies (ALMPs). They support unemployed persons to reskill and upskill, which can make them more attractive as employees thereby supporting stronger labour market outcomes. However, training programmes require resources to fund and not all programmes are equally successful. Indeed, even when outcomes of participants are tracked and people in training programmes are known to find employment, it is not immediately clear to what extent these results are causal, after all some participants would have found work without the training. To understand the causal impact of training programmes in Greece this chapter provides counterfactual impact evaluations of the main training programmes available for unemployed people. The methodology used and the programmes covered are presented in Chapter 3.

This chapter finds that Greece's training programmes are effective. The findings indicate that the training programmes increase the probability of employment, wages, cumulative days in employment and cumulative earnings, while they decrease the probability of registering as unemployed, and inactivity. The programmes support employment outcomes in the short, medium, and long term, except during the initial months when participants are involved in training activities. The estimated effects are higher than those of most training programmes that have been studied internationally. They also support a wide range of different jobseekers into employment, across age, gender, and unemployment duration. These results are consistent with the results of another recent study of Greek training programmes and suggest a strong *prima facie* business case for increasing the reach of training programmes in Greece.

The rest of this chapter is laid out as follows. Section 4.2 examines the effect of Greek training programmes on the probability of employment, registration as unemployed, inactivity, the probability of being on a benefit, as well as the effect of training programmes on wages, days in employment, and occupational mobility. Section 4.3 looks at whether these programmes are effective for men, women, people of different ages, those who live in different places, and people who have different durations of unemployment. Section 4.3 also breaks down the results by the three different training programmes included in this study. Finally, Section 4.4 compares the findings of this report with international studies and related evidence on the effectiveness of Greek training programmes.

4.2. Training programmes are effective at supporting workers' employment outcomes

To answer the question of whether or not a programme is effective, it is important to understand what would have happened to training participants had they not taken part in training – the counterfactual. As explained in detail in Chapter 3, the methodology used to estimate this counterfactual matches participants in training programmes to similar non-participants using a technique called propensity score matching. This section discusses the results of this analysis which makes use of linked administrative data from the register of Diofantos on training participants, the Greek public employment service (DYPA) register and the ERGANI register, as described in Chapter 3.

4.2.1. Training programmes support people into employment

Figure 4.1 shows the results of the propensity score matching methodology for the likelihood of being employed. Panel A shows the percentage of people who find employment in both the treatment and the matched control group over time (in months since the start of training). Panel B shows the overall effect of the training programmes, which is calculated as the difference between employment rates of the treatment and control group shown in Panel A.

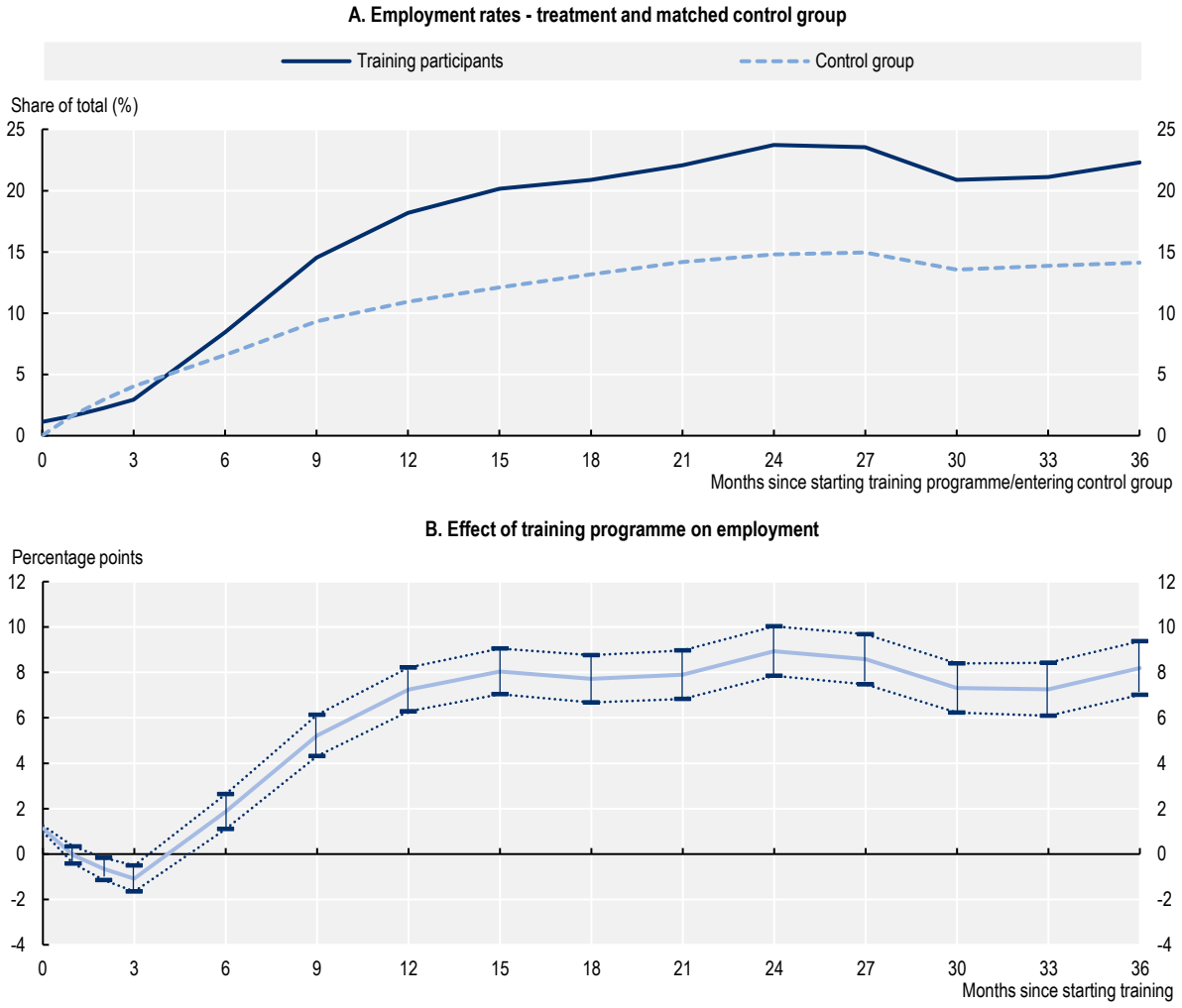
The analysis shows that training programmes are effective at supporting people into employment. Twelve months following the start of the programme, participants' probability of employment is about 8 percentage points higher than the matched control group (Figure 4.1, Panel B). This effect is persistent and stable over the medium to long term, 12 to 36 months after the training commenced.

The analysis also shows the importance of comparing the results to a similar group of people when calculating the effect of the programme. Sometimes analysis of the effects of training or other ALMPs considers only the "gross effect" of the programme, or how many people are employed following training. Indeed, at the 12-month mark, about 18% of participants are employed (Figure 4.1, Panel A). However, without a comparison group this figure would be hard to interpret as some of these persons would have found employment even without training. The use of a matched comparison (or control) group however provides this counterfactual. Panel A shows that about 11% of the control group are employed 12 months after they enter the control group (that is when similar people enter the training programmes). So the difference between the two, 7 percentage points, shows the impact of training on the probability of being in employment 12 months after entering training. This is the counterfactual effect at 12 months. The effect of training on the likelihood of employment remains positive and sizeable at longer time horizons and stands at 8 percentage points three years after starting the training.

Training takes time to have a positive impact on the likelihood of employment. This kind of training for unemployed people in Greece typically lasts five to seven months (see Chapter 3). During this time, participants have much less time to work, or search for work, so employment rates are low and the effects of training during these initial early months are even slightly negative at times. These short- to medium-term effects of trainings are known as "lock in" effects in the literature (Card, Kluve and Weber, 2017[1]).

Figure 4.1. Training participants are more likely to be employed than comparable non-participants

Share of individuals in employment and percentage point effect in employment probability



Note: Panel A shows the percentage of employed persons among the treatment and matched control group. Panel B plots the treatment effect (i.e. the difference between the treatment and control group shown in Panel A). The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match. The confidence intervals in Panel B are shown at the 5% level of significance and are represented by the dotted lines on the charts.
Source: OECD calculations based on data from the Greek public employment service (DYPA), Diofantos and ERGANI.

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4.2.2. Training programmes improve a broad range of outcomes

While finding employment is one of the most studied outcomes of training programmes, it is far from the only important one. The rich administrative data provided by the Greek authorities allow for a detailed look at not only whether training participants find a job following training participation, but also the effects of training on unemployment, unemployment benefit receipt, inactivity (defined as not employed, registered as unemployed, or receiving a benefit), earnings, the number of days they worked, and occupational mobility.

The results presented above showed the outcomes for the treated and control groups separately. While this is helpful to have a full account of how the treatment effects are arrived at (and to illustrate the methodology) for brevity the results in this section focus only on treatment effects, while the separate outcomes for the treatment and control group are presented in the technical report (OECD, 2024[2]).

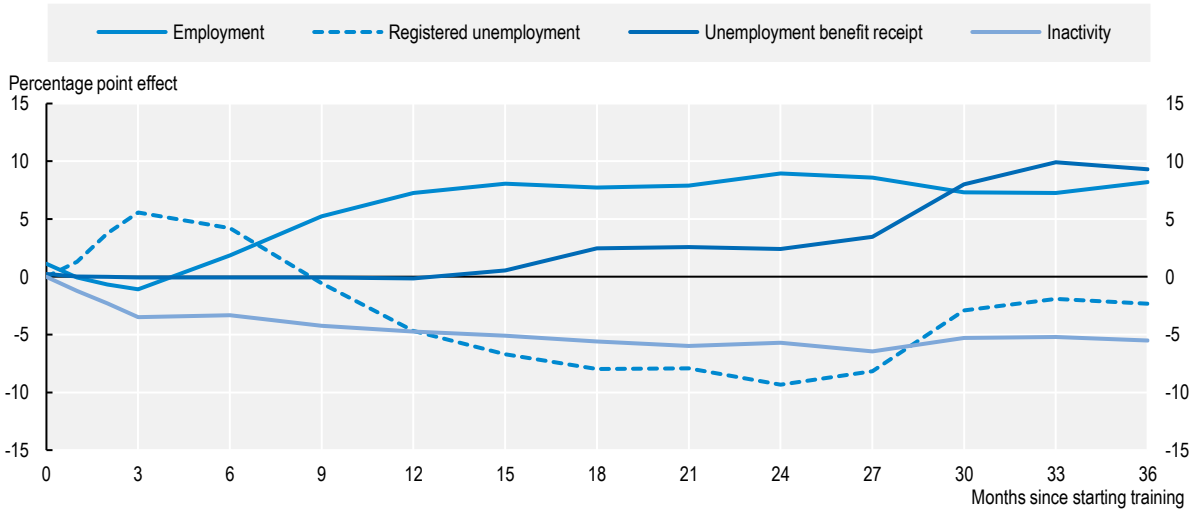
Figure 4.2 presents the estimated effect of training programmes on labour force status (unemployment, benefit receipt and inactivity). These are defined on the basis of administrative data[1] rather than the survey-based measure. These results thus merit caution given the large discrepancy between registered and survey-based unemployment in Greece, with survey-based unemployment steadily decreasing over the past 10 years even as registered unemployment has remain relatively constant and leading to a large discrepancy between the two (see discussion in Chapter 2).The impact on employment is copied over from Figure 4.1 (Panel B) for completeness. Overall, training programmes are found to:

- **Decrease registered unemployment**: Registered unemployment is briefly higher during the initial "lock-in" phase when participants are still in the training but falls thereafter. Twelve months following the start of training, participants are about 5 percentage points less likely to be registered as unemployed, an effect which mostly persists over the medium term, but falls slightly over the longer term and amounts to 2 percentage points three years after entering training.
- **Increase unemployment benefit receipt**: Starting from 15 months after training begins, the effect of training on unemployment benefit receipt is positive and rises to nearly 10 percentage points by month 36. This positive effect on unemployment benefit receipt over the medium and longer term is not because participants are working less – in fact, in general they are working more because of the positive effects of programme participation on employment. However, a larger share of them also cycle in and out of employment, often with periods long enough to trigger the payment of unemployment benefits when they become unemployed. This also explains why there is no effect of training on benefit receipt during the first year.
- **Reduce inactivity**: Programme participants are less likely to be inactive than non-participants. During the early months, this reflects a higher likelihood of being registered as unemployed, but over the longer term it is driven by higher rates of employment.
- **Increase employment** (as discussed in Section 4.2.1 above).

These effects are statistically significant, as shown in the technical report (OECD, 2024[2]) where the confidence intervals of these point estimates are reported.

Figure 4.2. Training programmes support better outcomes

Percentage point effect on being in different labour market states



Note: The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The matched comparison group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match.

Source: OECD calculations based on data from the Greek public employment service (DYPA), Diofantos and ERGANI.

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Moving beyond the effects of training programmes on labour force status, it is important to analyse the characteristics of jobs that training participants find following training. Figure 4.3 looks at the sustainability of employment by observing the effect on cumulative days in employment since programme start, whether participants are able to earn more (also expressed cumulatively since the start of the training programme) and whether occupational mobility is improved. Specifically, the results show that participation in training programmes leads to:

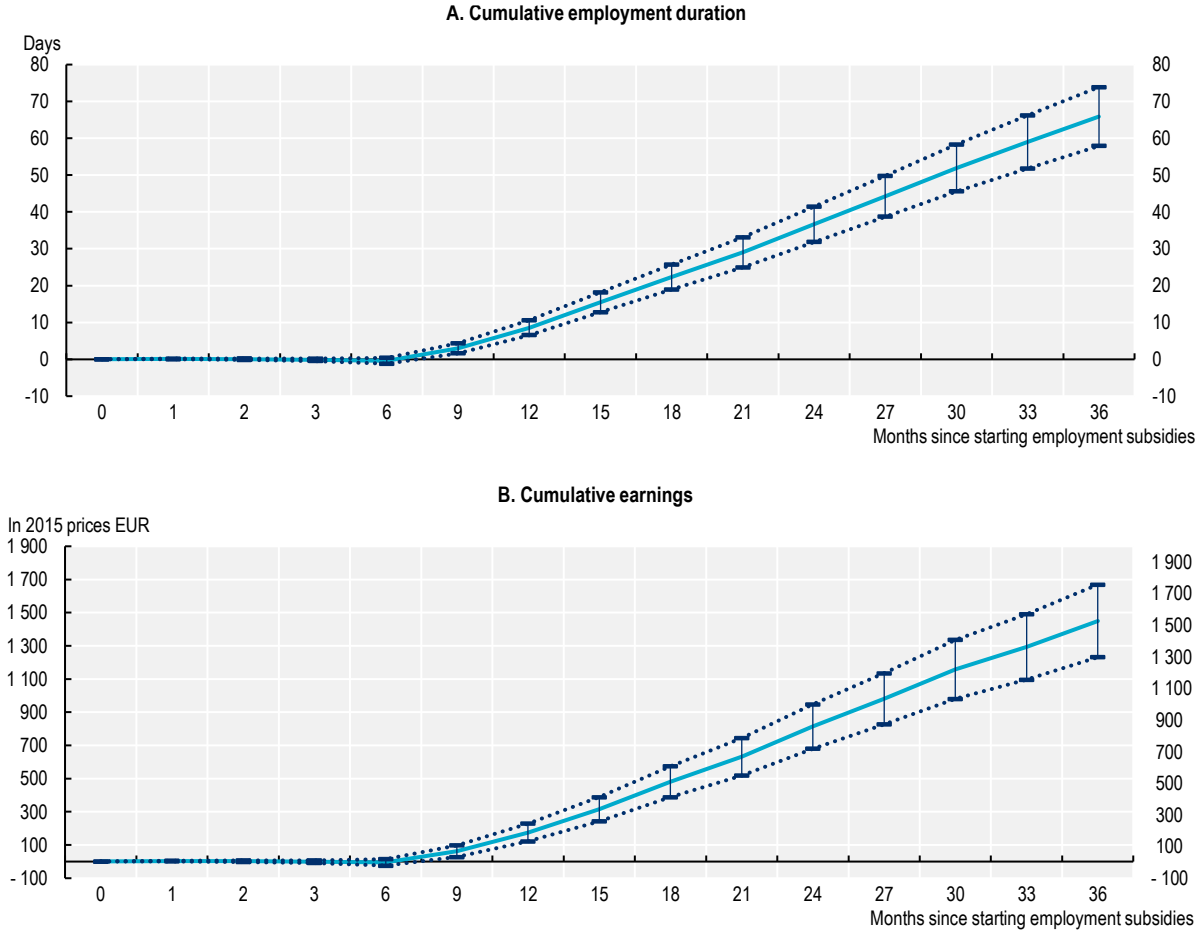
- **Increased cumulative days in employment:** Cumulative days in employment for training participants begin to rise compared to the control group from about nine months following the start of the programme and continue to rise until the end of the study period, three years later. At this three-year mark, training participants have experienced 66 more days in employment than similar jobseekers who did not participate in training.
- **Increased cumulative earnings:** Cumulative earnings are also positively affected, following the lock-in period during training participation.[2] Cumulative earnings effects build consistently over time and, three-years following the start of training, participants have earned EUR 1 500 more than the matched comparison group (in 2015 prices).

The effects on days in employment and cumulative earnings are each linear, showing a consistent trend that shows no signs of abating. This is consistent with the finding of a stable increase in employment each month as shown above.

One outcome that is not discussed in this section is occupational mobility. Although this is an important question, as training could help people to move into different, and potentially higher paying occupations, it turns out that the results vary crucially based on the type of training provided. This aspect is thus discussed in Section 4.3.1.

Figure 4.3. Training programmes improve cumulative earnings and days in employment

Cumulative days worked and cumulative earnings for those who found a job



Note: The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The matched comparison group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match. The confidence intervals are shown at the 5% level of significance and are represented by the dotted lines on the charts.
Source: OECD calculations based on data from the Greek public employment service (DYPA), Diofantos and ERGANI.

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4.2.3. Certain caveats should be taken into account when interpreting the results

Some caution should be used when interpreting these results. In particular, there are some concerns with omitted variable bias (especially motivation, which would cause the results above to be overstated), unobserved employment in the informal economy (which has an ambiguous effect on the results), and displacement effects (which could cause overall employment effects to be overstated).

One of the most important caveats is that participants largely self-select into training programmes (see Chapter 3). As a result, participants are different to non-participants in a number of ways. This is the motivation for using the propensity score matching methodology which controls for the way the treatment and control group differ on observed characteristics. However for propensity score matching to effectively identify causal effects it is necessary that after matching on these *observable* characteristics participants are also similar on *unobserved* characteristics (Rosenbaum and Rubin, 1983[3]). Unfortunately, it is not possible to be sure if all unobserved characteristics are controlled for. A notable unobserved characteristic is motivation: It is plausible that those jobseekers who seek out and enrol in training are more motivated to find work than those who do not participate. If this is the case, training participants could be expected to have been more likely to find work anyway, even without participating in training. This may lead to an overestimation of the effectiveness of training.

There are reasons to believe that omitted variables bias (including from differing levels of motivation, informality) is mitigated. In particular the technical report (OECD, 2024[2]) shows that the matched participants are not only comparable to the comparison group in the characteristics that were matched upon, but also on other variables that were not explicitly accounted for, showing that at least some "unobserved" characteristics are accounted for. The methodology accounts for a plethora of characteristics, and as Chapter 3 shows, the participants appear similar to the control group on these matched characteristics.

A second important caveat is that this study looks at the effect of training on formal employment and cannot account for informal employment. Ideally this study would include informal employment both as an outcome variable and as a control variable. As an outcome it would be beneficial to understand if training has an effect on informal employment. As a control it would be beneficial to account for informal employment which may or may not affect whether participants are more or less likely to enter training and may or may not affect whether participants are more likely to find formal employment in the future. Of course, neither controlling for informality or studying the effects of training on informality is possible with the administrative data used in this study. Likewise, it is unclear how controlling for informal employment would change the results of this study.[3] However, the magnitude of the bias could potentially be material given that informal employment is fairly present in Greece (European Labour Authority, 2020[4]), with the informal economy making up perhaps a quarter of GDP (IMF, 2019[5]).

Another possible caveat concerns displacement effects. In the context of training, these occur when those who have completed the training fill a job vacancy at the expense of non-participants (whose job is "displaced") thereby leading to no overall change in the number of jobs. It is not possible to examine these using this study's methodology. And indeed, given the technical difficulties of studying this phenomenon, few studies have looked at displacement effects for ALMPs, and those that have find differing results. However, being cognisant of these potential sources of bias means treating the estimates with some uncertainty and viewing them as less precise than they might otherwise appear.

To address concerns over not accounting for all relevant factors in constructing treatment and control group (omitted variable bias due to unobserved heterogeneity), in the future Greece could consider conducting randomised control trials. In such a setting some eligible participants would be randomly offered training. Randomisation ensures that treated and control group individuals are, on average, the same, including for characteristics that are unobserved such as motivation and previous experience in the informal economy. Such randomised trials require actively managing the randomisation process during the roll out of the programmes and so necessitate that researchers are involved during the design and implementation phase.

4.3. Greece's training programmes are effective across different groups of jobseekers

The previous section showed that training programmes in Greece are effective. This section breaks down these aggregate results by training programme and by group to see if all three programmes studied are effective and if training is effective for different groups of jobseekers.

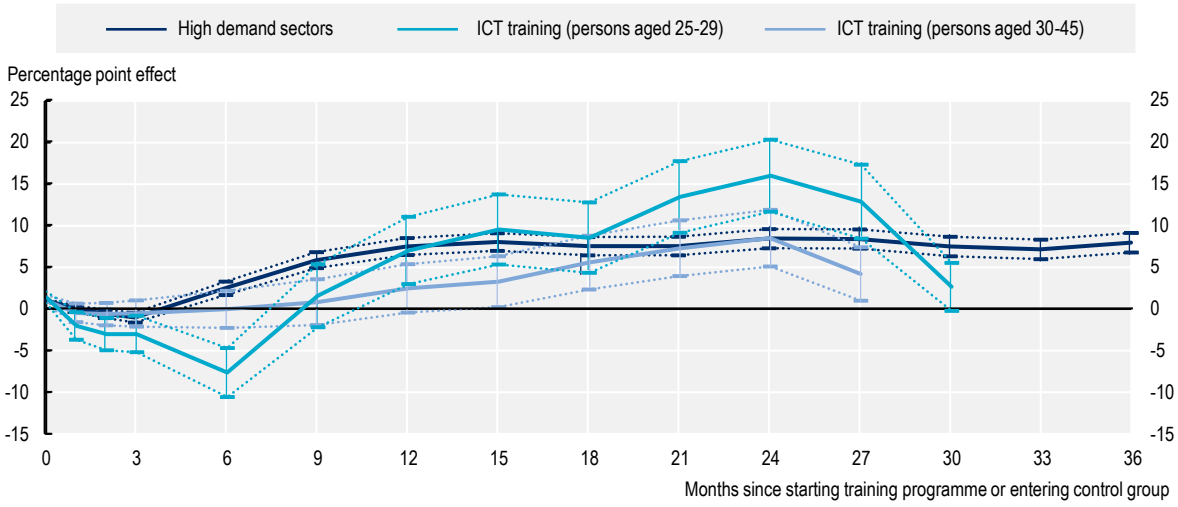
4.3.1. All three training programmes analysed have positive employment effects, but only ICT training helps occupational mobility

There are several reasons for the results for the three programmes studied to differ by programme. First, the programmes offered different content, with trainings focused on different subjects. The high-demand sectors training covered a wide range of different occupations, while the two other training programmes studied focused on the ICT sector. Second, the programmes started at different times. The training for high-demand sectors occurred in the second half of 2017, while the training for ICT participants occurred during the first part of 2020. This means that participants in the later programmes graduated during the turbulent labour market of the COVID-19 era in 2020, while the other pre-COVID participants graduated during a period with high unemployment (even higher than that during the COVID-19 pandemic in 2020, see Chapter 2). It would not be unusual for training effects to differ over the economic cycle with Card et al. (2017[1]) finding that ALMPs tend to be more effective during recessions. Furthermore, the short-time work scheme which was fairly widely adopted in Greece and provided necessary support during the crisis (OECD, 2022[6]), may further affect the results. Third, the trainings targeted different groups, and different groups may have different needs and respond differently to training. One ICT programme targets persons aged 25-29 while the other targets those aged 30-45. The high-demand industries training covers a wide range of age groups. Moreover, only 9% of those participating in the high-demand industries training and the ICT training for persons aged 30-45 have been registered as unemployed for less than one year, compared to 45% of ICT training participants for those aged 25-30.

Despite these differences, all three training programmes studied increase employability in Greece (Figure 4.4). Indeed, all programmes achieve similar levels of effectiveness at supporting people into employment, at least one to two years following programme enrolment, where estimates are similar and not statistically different across programmes. As the ICT programmes studied start in the first part of 2020, it is not possible to study the effectiveness of these programmes beyond 27 to 30 months post-programme start due to a lack of follow up data (data are only available until August 2022).

Figure 4.4. All three training programmes studied improve jobseekers' employment outcomes

Effect of training on employment probability across three training programmes



Note: The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match. The confidence intervals are shown at the 5% level of significance and are represented by the dotted lines on the charts.
Source: OECD calculations based on data from the Greek public employment service (DYPA), Diofantos and ERGANI.

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Quite importantly, both ICT trainings have a positive effect on occupational mobility, whereas the high-demand industries training does not (Annex Figure 4.A.1). Beginning from six months after entry into the programme, a clear pattern emerges: ICT training leads to considerable boosts in occupational mobility for younger individuals and moderate boosts for older ones, with the groups entering occupations that pay on average six and 3 percentage points more, respectively. Participants in the training for high-demand sectors, on the other hand, experience a small negative effect on their occupational mobility (although the effect is statistically significant only during a small majority of the intervals examined). These comparisons are made difficult by the relatively small sample sizes, particularly for the ICT training, leading to effects that are imprecisely estimated (with large confidence intervals). These results nevertheless underscore the potential for the ICT training to facilitate individuals making a career switch in line with the digital transition, enabling the Greek economy to restructure to more high value-added jobs.

Interestingly, the result that ALMPs provide a greater boost to the occupational mobility of younger jobseekers fits in with a broader set of similar findings on the effects of ALMPs on occupational mobility of different age groups. Specifically, a similar set of findings is found in the evaluation of Greece's wage subsidy programme (see Section 5.3.2 in the next chapter). Furthermore, qualitatively similar results were also reported in a recent evaluation of Lithuania's ALMPs (OECD, 2022[7]). This nascent but growing body of empirical evidence suggests that for individuals who experience unemployment, "climbing the career ladder" is a salient feature particularly for individuals earlier on in their working life. ALMPs may help boost career trajectories, but they may also impose a small negative effect on occupational mobility – albeit one that is counteracted by considerable increases in employment rates (as in the case of Greece's training for high-demand sectors).

How do the different training programmes compare in terms of their effects on participants' earnings and days worked? As discussed in the technical report (OECD, 2024[2]), all three programmes are equally effective at increasing cumulative days in employment and cumulative earnings over the medium term. It is true that there are short-term "lock-in effects" during the initial 12 months for the ICT training for young workers, reflected in a negative effect on days worked and cumulative earnings. Nevertheless, the estimated effects on both days worked and earnings are relatively similar at the longest time horizon for which reliable estimates are available, approximately 27 months. At this point, the estimated effects on cumulative net earnings amount to roughly EUR 1 000, but with a clear upward trajectory.

Ideally, estimates of the effects of training programmes could be compared with the costs to gauge their cost-effectiveness. As described in Chapter 3, the per-participant costs of ICT training are roughly 50% higher than the training for high-demand sectors (EUR 5 990 versus EUR 3 995 respectively) in principle. However, the present estimates and data available do not permit for cost-effectiveness comparisons without untenable assumptions. Most prominently, this is due to the relatively short time horizon for which outcomes of the ICT training can be examined. Training programmes represent investments in individuals' human capital that continue to yield payoffs over long time horizons – indeed, the point estimates for the earnings effects of the ICT training for youth are negative for all periods during the first year after entry into the programme but exhibit a sharply positive trajectory. The estimates of the effects of training suggest the direct effects could be durable, requiring a longer observation window.[4] A second important caveat relating to comparisons of the cost effectiveness is that the ICT programmes were implemented directly during the onset of the COVID-19 pandemic. This means that the estimates of the effects over time may be considerably impacted by the effects of the COVID-related shocks, limiting the extent to which the programmes' effects can be directly compared to one implemented in an entirely different set of economic circumstances. Finally, even if the previous aspects were completely ignored, any comparison of the programmes' relative effectiveness would need to account for the differing composition of the training participants. This is relevant because the programmes' observed outcomes reflect not only the effectiveness of the programmes themselves, but also on how the specific groups of participants may benefit from them. As the next section makes clear, these effects vary considerably across different types of participants.

4.3.2. Groups of jobseekers such as the short-term unemployed disproportionally benefit from training

Even if the training programmes are equally effective overall, they may not be effective for all jobseekers. This section examines the effects for groups of jobseekers defined by gender, age, education, region, and unemployment duration. These groups may have different needs and thus might experience different effects from training. Although the estimated results differ slightly for some of these characteristics, it should be noted that positive effects on outcomes such as employment probability are present for all groups.

Younger workers experience a disproportionately large boost to employment (Figure 4.5). Two years after entering training programmes, men under age 30 are 19 percentage points more likely to be employed than their matched control group peers. For women in this age group, the effect is almost as large, 16 percentage points. Older groups of jobseekers experience systematically lower effects, with the employment boost to men over 50 amounting to 6 percentage points (1 percentage point lower than for similar age women). The effects over longer time horizons yield qualitatively similar results and are reported in the accompanying technical report (OECD, 2024[2]), although they refer only to results for the training for high-demand sectors (the time horizon for ICT training permits only results up to 27 months to be reported). In contrast to the results by age, the effects across men and women do not vary systematically.

Individuals with higher levels of education appear to benefit slightly more from training. This is partly driven by the larger effect of individuals in the ICT training, where participants are required to have more than secondary education in order to participate. However, a qualitatively similar – albeit statistically insignificant – result is observed when examining only participants of the training for high-demand sectors.

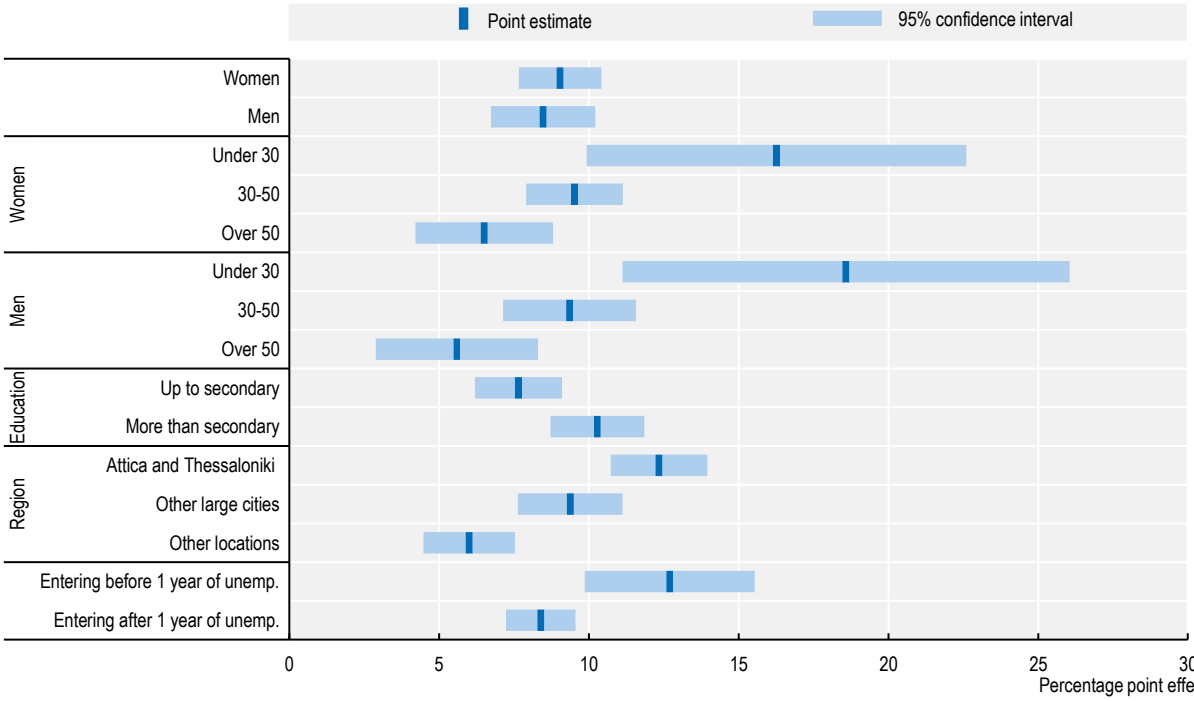
One possible explanation for the higher effectiveness of training amongst those with higher levels of education may be that they are better poised to seize the opportunities offered by reskilling due to a high degree of qualification mismatch among workers. In Greece, high shares of workers are employed in jobs with a qualification or field of study that does not match the job's requirements. OECD estimates indicate that 42% of workers have a field of study that does not match their job's requirements, the highest in the OECD, where it averages 32% (OECD, 2023[8]).[5] Furthermore, 25% of workers had a level of qualification that exceeded the requirements for their job – a rate that is also among the highest in the OECD, where the average is 16%. In such an environment, vocational training may play an important role in reskilling workers for jobs in occupations and sectors that make better use of their talents and skills – an opportunity that individuals with higher levels of education may be better placed to exploit (as argued by, for example, Schultz (1975[9])).

Individuals with shorter unemployment spells benefit considerably more from training compared to individuals with longer unemployment spells. The difference between the two groups is sizable, amounting to 5 percentage points. The estimated effect may partly reflect differences in motivation: given that entry into training is largely done at an individual's own initiative, this difference may reflect the fact that such individuals are more motivated to acquire the skills necessary to get a new job as quickly as possible. They may also thus benefit more from the training offered.[6]

Finally, examining the effects by location shows that individuals in cities experience a greater boost in employment probability than individuals in other locations. This effect may partly be explained by the broader density of training providers in larger cities, giving individuals the possibility to choose a specific training that better matches their personal career aspirations. It may also be tied to local labour market effects – as discussed in Chapter 3 (Section 3.3.1), Attica and Thessaloniki had lower rates of jobseekers exiting unemployment compared to jobseekers in the other two geographic breakdowns shown. One possible interpretation of these factors together is that the training may have stronger effects in weaker labour markets, which is precisely the finding of a meta-analysis comparing the results of many impact evaluations – a topic discussed in the next section.

Figure 4.5. Training programmes are effective for many groups of jobseekers

Percentage point effect in employment probability at 24 months after starting training



Note: The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match.

Source: OECD calculations based on data from the Greek public employment service (DYPA), Diofantos and ERGANI.

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4.4. Training programmes in Greece appear effective in comparison with trainings in other countries

Many training programmes have been evaluated in the international literature. To examine how the results for Greece compare with these studies, this section compares the results on Greece with those from two meta-analyses. The first, conducted by Card, Kluve and Weber (2017[1]), covers 49 countries in total, and summarises estimates from over 200 impact evaluations of ALMPs. Of these, 51 impact evaluations include point estimates of the employment effects of training programmes comparable to the ones in Greece. The second meta-analysis covers programmes funded by the EU's European Social Fund (ESF) and includes estimates from 20 studies examining vocational training as well as 19 classified as mixed interventions, combining e.g. vocational training with other types of support (European Commission and Ismeri Europa, 2023[10]).

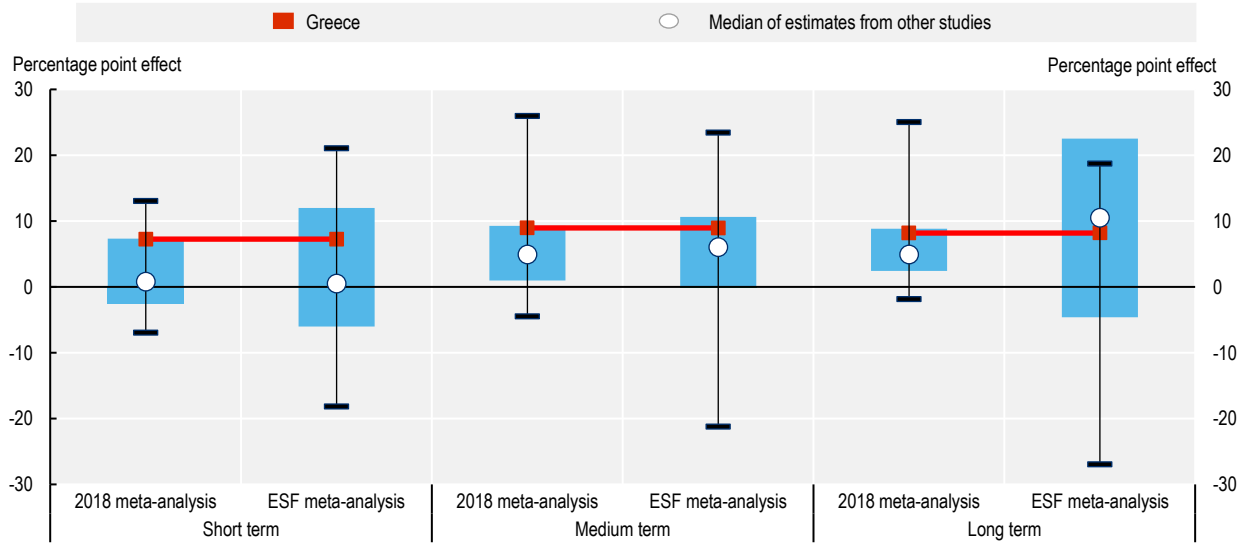
The distributions of the estimates from these two meta-analyses are shown in Figure 4.6 alongside the results from this study. The meta-analysis by Card, Kluve and Weber (2017[1]) does not provide estimates

of the effects of other outcomes analysed for Greece, such as earnings or days worked or occupational mobility. The meta-analysis of the ESF programmes contains some studies that reported the effects on earnings, but there are not enough studies of vocational training with these estimates to make meaningful comparisons.

The comparison shows that the effects of the training programmes in Greece are quite large. In most of the comparisons, Greece's training programmes are more effective at supporting people into employment than 75% of training programmes studied in each of the short, medium, and long run (in years one, two and three after the start of training). The relatively low estimates for the short-term effects in the comparison studies may be partly attributable to differences in estimated lock-in effects across programmes, which lead to negative short-term effects for the duration of the programme participation.[7]

Figure 4.6. Greek programmes are estimated to mostly be in the top quarter of training programmes evaluated internationally

Percentage point effect in employment probability



ESF: European Social Fund.

Note: Short, medium and long-term effects respectively refer to effects up to one year, 1-2 years, and more than two years after programme completion. For Greece, results refer to 12, 24 and 36 months after beginning the programme. As such, the observation periods are similar, but potentially not fully aligned. The box and whisker plots for the other studies refer to the 5th, 25th, 75th and 95th percentiles of the estimates (i.e. the black line at the bottom refers to the 5th percentile and the bottom of the blue box refers to the 25th percentile). Point estimates are included in the chart even if they are statistically insignificant. The studies presented adopt various research designs and econometric techniques – the results for Greece use nearest-neighbour propensity score matching (for details, see Chapter 3).

Source: Card, Kluve and Weber (2017[1]), "What Works? A Meta Analysis of Recent Active Labor Market Program Evaluations", Journal of the European Economic Association, Vol. 16/3, pp. 894-931, https://doi.org/10.1093/jeea/jvx028; European Commission (2023[11]), Meta-analysis of the ESF counterfactual impact evaluations, https://data.europa.eu/doi/10.2767/580759; and OECD calculations based on administrative data from Greece.

StatLink https://stat.link/kerpuf

In addition to these international studies, there are two recent studies that estimate the effect of trainings on labour market outcomes in Greece. The first is a report by IOBE (2021[12]) which estimates the impact of a different set of training programmes that have a larger target group than that of the trainings analysed in this report, namely not only unemployed persons but also students who have recently finished high school and adults who are working at the time the training commences. IOBE (2021[12]) uses similar data to this report, namely data from the registers of DYPA, Diofantos and Ergani. However, it includes only a

random sample of unemployed non-participants and not all persons registered as unemployed over the study period, which is the sample in the analysis conducted in this report. In terms of the methodology, both IOBE (2021[12]) and this report adjust for systematic differences between participants and non-participants, even if the exact method differs – regression analysis in IOBE, compared to propensity score matching in this report. The two reports reach similar conclusions except that the IOBE report finds that not all programmes decreased the likelihood of unemployment.

Another study, by the World Bank, also found positive impacts of a Greek ALMP, in this case a pilot programme launched in 2018 at the Elefsina local office (World Bank, 2021[13]). This programme was comprehensive and the estimated impact captures the effects of all its different interventions, including training. Training was a significant component of the programme: of the 948 persons participating in the programme (who all received at least counselling services alongside profiling) about 80% received training. In addition, 8% of programme participants participated in a wage subsidy programme. The World Bank study found participants in the Elefsina pilot had improved labour market outcomes, with about a 3 percentage point increase in employment and a 5 to 6 percentage point decrease in registered unemployment, though the authors note the results should be interpreted with caution due to the potential for unobserved differences between participants and non-participants.

4.5. Conclusion

This chapter has shown that training programmes for unemployed persons are effective in Greece. The large magnitude of the effects suggests they are even more effective than most training programmes that have been studied internationally and these findings are buttressed by evidence of effectiveness found in other studies of training programmes in Greece. These findings have several possible interpretations. The findings suggest that the training programmes they have been successful at targeting skills needed in growing sectors, as witnessed by the fact that the largest uptake has been in the same sectors and occupations which have also experienced the highest employment growth (CEDEFOP, 2023[14]). It also suggests that the training imparts useful skills that employers find relevant. At the same time, given the extremely low expenditures on training in Greece during the period studied, part of the explanation could also be that the highly positive effects of training reflect a large unmet need for reskilling. However, as the scale of training for workers and the unemployed is set to increase substantially during the 2022-25 period, the impact of these investments might become more moderate due to diminishing returns to such human-capital investments. Nevertheless, any potential reduction in the impact of training due to increased provision may be offset by enhancements in the quality of training programmes. Specifically, DYPA's new strategy, which involves integrating outcome-based payments for training providers, could effectively address this issue by strengthening the incentives for better-quality training programmes.

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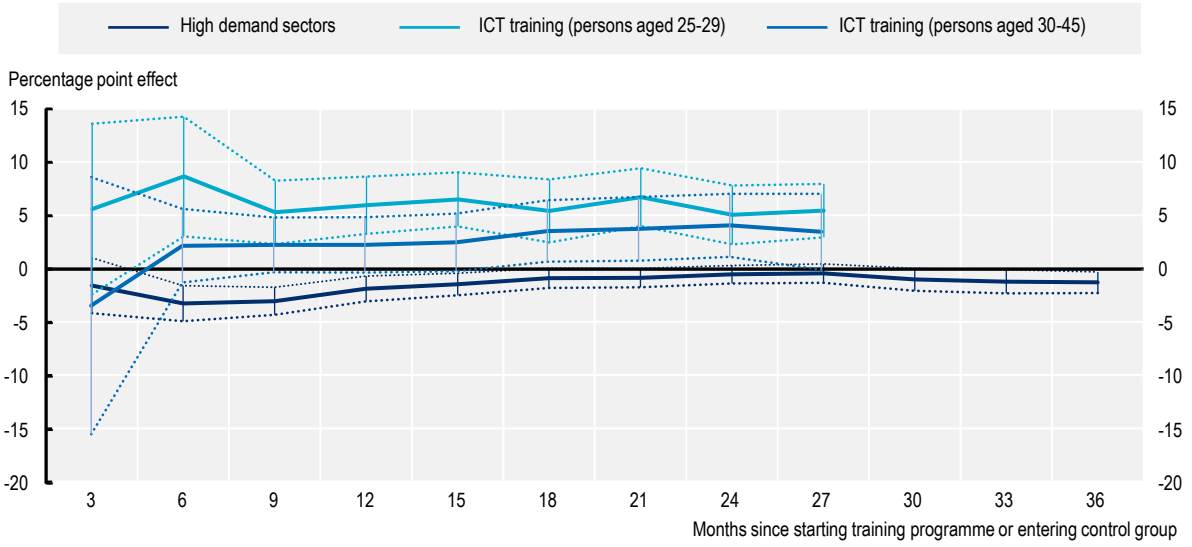
Annex 4.A. Additional results relating to occupational mobility

Annex Figure 4.A.1. ICT training often leads to positive occupational mobility, training for high demand sectors generally leads to slightly negative job mobility

Change in occupational index for those who found a job



Note: The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group comprises individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match. The confidence intervals are shown at the 5% level of significance and are represented by the dotted lines on the charts.
Source: OECD calculations based on data from the Greek public employment service (DYPA), Diofantos and ERGANI.

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Notes

[1] Given the way these are defined in this report, inactivity is treated as a residual category (not registered as unemployed with DYPA or registered as employed in Ergani data) each person is in at least one category. However, it is possible to be in more than one category – for example, registered as unemployed and receiving benefits. People are classified as unemployed, employed or receiving benefits in a given month if they have respectively on registered day of unemployment, employment, or any benefit earnings in that month. The measures here are based on administrative data and so are not the same as those measured in survey data from the Labour Force Survey. In particular for Greece, it is known that there are high levels of informality (which may be measured in the Labour Force Survey as employment if respondents report it but by definition does not occur in Ergani) and the downward trend in the unemployment rate has not been marked by a decreased in registered unemployment of the same magnitude (see Chapter 2 for discussion).

[2] This income does not include unemployment benefits but only direct earnings from the employment registered in ERGANI.

[3] For example, if (after matching on other variables) past informal employment is associated with people being *more* likely to participate in training but less likely to be employed, then this study would understate the effects on training given that this study does not control for past informal employment. However, the sign of the bias would be reversed if informal employment makes people *less* likely to be in training. Indeed, the sign of the bias would be reversed again if informal employment is associated with an increased likelihood of formal employment in the future.

[4] In addition, the ICT training programme in particular could have positive indirect, general equilibrium effects on the Greek economy, for example by increasing its productive capacity.

[5] Statistics are calculated based on survey data sources and relate to the last year available (mostly 2019, including for Greece).

[6] The process of matching individual participants to similar control group individuals explicitly takes into account past employment history in the matching process, matching only individuals who have similar patterns of employment.

[7] This is especially true given that the time horizons for estimating the short-term effects vary considerably, with some studies measuring effects as early as in the first month after entry.

5 Evaluation of wage subsidy programmes for the unemployed in Greece

This chapter examines the impact of Greece's wage subsidy programmes on a range of labour market outcomes. In addition to the outcomes typically examined in impact evaluations, such as the probability and duration of employment, this chapter examines the effects on occupational mobility and earnings. It also compares the results of the counterfactual impact evaluation with those of similar studies in other countries. The estimated effects are examined for subgroups of workers based on age, gender, skill level and location. The chapter concludes by examining whether specific features of wage subsidy programmes, such as their generosity, are related to their estimated effectiveness.

5.1. Introduction

Along with training, the wage subsidy programme is one of the main active labour market policies (ALMPs) used to connect unemployed people with jobs in Greece. By providing employers with a financial incentive to hire certain categories of jobseekers, wage subsidies can facilitate their integration into the labour market. This chapter examines how effective Greece's subsidised employment programmes have been in moving individuals into sustainable employment, how this has affected their career prospects, and how the effects vary across groups of individuals and their characteristics.

The results of the counterfactual impact evaluation (CIE) suggest that wage subsidies have large and statistically significant effects on the probability of individuals being in employment. Compared with the results of other studies of similar programmes in other countries, the estimated effects for Greece are generally much larger over all the time horizons examined (up to 36 months after initial entry into the programme). These large employment effects are observed without negatively effecting occupational mobility over the longer term, although some slightly negative effects on occupational mobility are found for time horizons around 15 months.

The chapter is structured as follows. The next section presents the overall results of wage subsidies in terms of the main outcomes studied: employment probability and duration, occupational mobility and earnings. It also compares the results of the CIE with those of similar studies, both for Greece and for other countries. The next section compares the outcomes observed for wage subsidies across subgroups of workers based on age, gender, skill level and location, comparing these effects with those found in similar studies in other countries. The chapter concludes by examining which features of Greece's wage subsidy programmes are associated with better employment outcomes.

5.2. Wage subsidies have positive effects on most outcomes examined

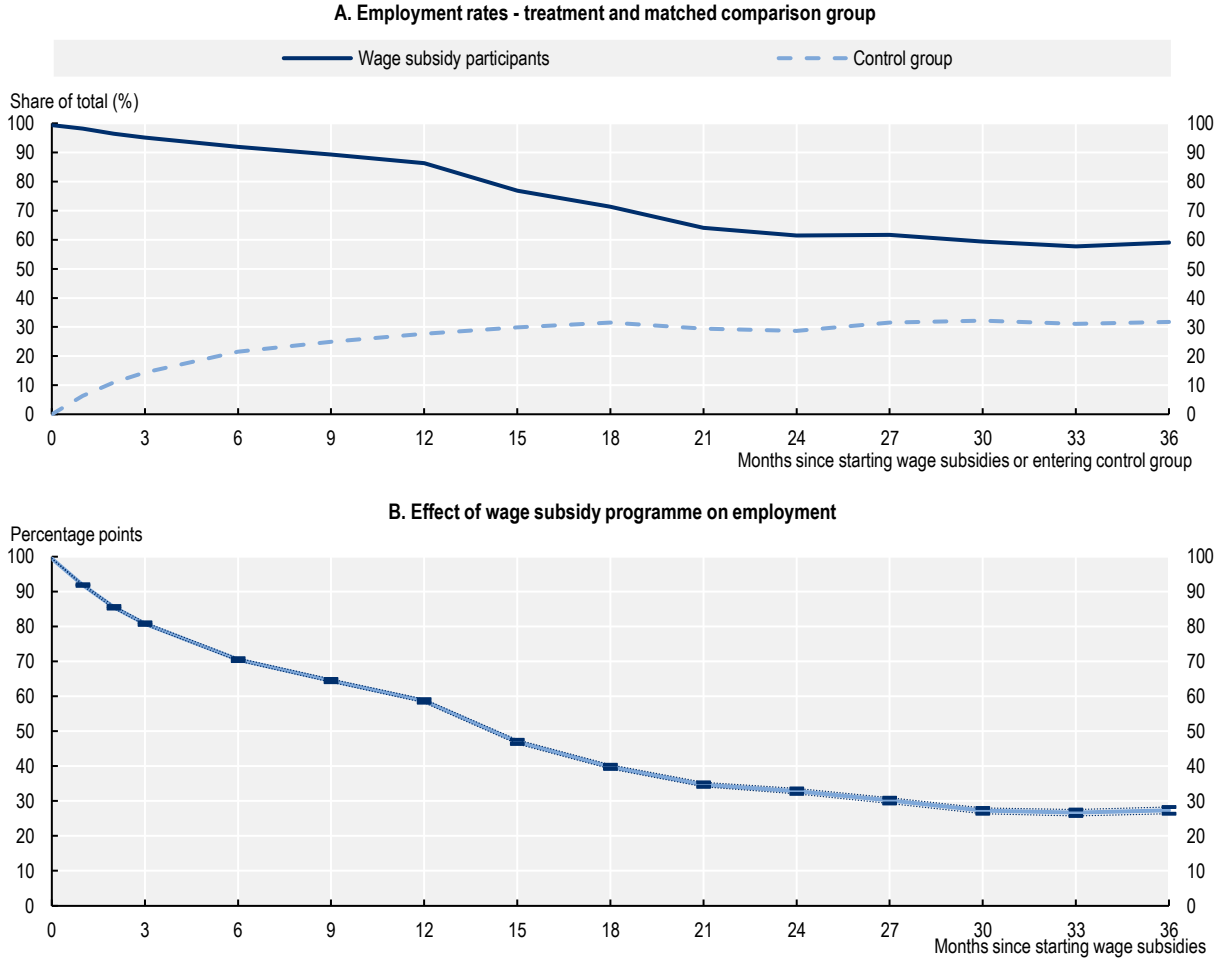
The next sections describe the aggregate results for wage subsidies on selected labour market outcomes and compare them to the results from other studies. The effects of wage subsidies on labour market outcomes are estimated using the selection-on-observables approach described in Chapter 3 of this report. Details on the wage subsidy programmes and their features are also discussed in Chapter 3, with some specific programme parameters also discussed in Section 5.4.

5.2.1. Positive effects of employment effects of wage subsidies decline over time but remain present after three years even after accounting for counterfactual effects

Before examining the counterfactual effects of wage subsidy participants (that is, the estimated difference between the outcomes they achieved through the programme and those they would have experienced without participating), it is instructive to examine the employment outcomes of participants and comparable control group individuals (individuals with similar characteristics). This can help establish reference values of outcomes that are roughly comparable to those contained in analytical reports used for monitoring purposes, with the notable difference that the control group here only includes a subset of the unemployed. Figure 5.1, Panel A compares the employment rates of individuals entering wage subsidies with comparable individuals who did not enter the programme (at least not within that calendar month). It thus excludes the large majority of registered jobseekers who were not comparable to the wage subsidy entrants as well as a small number of wage subsidy participants for whom similar non-participants could not be identified (the comparison group). The note in Figure 5.1 states how treatment and control groups individuals have been matched while more details and the econometric approach are described in Section 3.5 of Chapter 3 and in the accompanying technical report (OECD, 2024[1]).

Figure 5.1. Wage subsidy participants have higher employment rates than comparable non-participants

Share of individuals in employment and percentage point effect in employment probability



Note: Panel A shows the percentage of employed persons among the treatment and matched control group. Panel B plots the treatment effect (i.e. the difference between the treatment and control group shown in Panel A). The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match. The confidence intervals in Panel B are shown at the 5% level of significance and represented by the whiskers delimiting the dotted lines on the charts.
Source: OECD calculations based on data from the Greek public employment service (DYPA) and ERGANI.

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Initially, virtually all wage subsidy participants are observed to have employment records in the ERGANI database. By contrast, in the control group, individuals are not employed in the month when they are matched to a wage subsidy participant by construction. The initial decline in the share of employed wage subsidy participants mostly reflects individuals (prematurely) leaving the wage subsidy programme, as all programmes analysed are anticipated to last at least nine months.[1] At 12 months, 86% of wage subsidy participants remain in employment and at 36 months the proportion stands at 59%. The share of employed individuals in the control group increases from 0% at the beginning of the observation period to 28% by month 12 and stands at 32% at month 36.

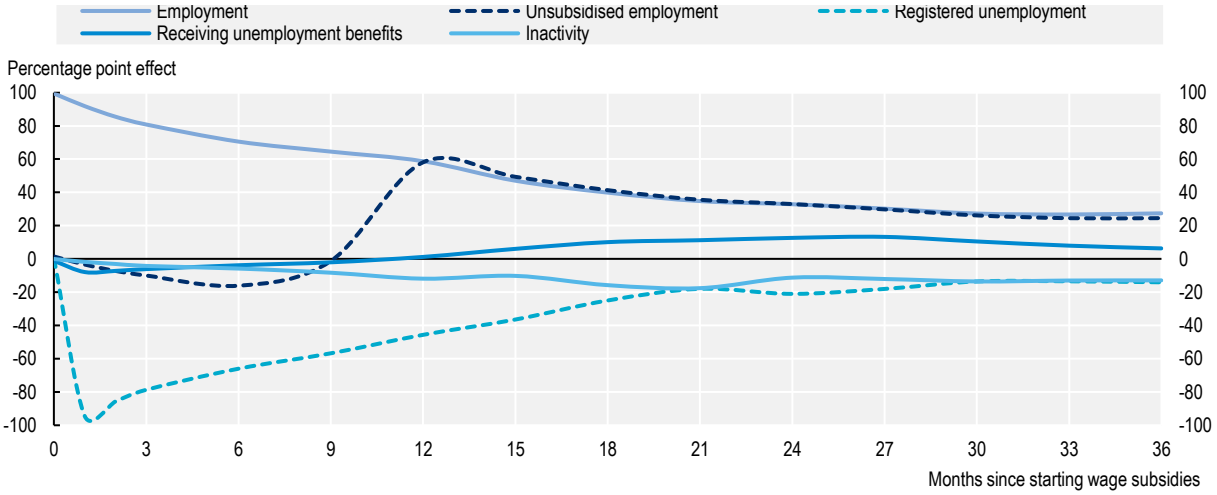
Showing the differences between the outcomes of the wage subsidy participants and those of the control group (that is the difference between the two lines in Figure 5.1, Panel A yields the estimates of the counterfactual impact and shows strongly positive results (Figure 5.1, Panel B). The results show that wage subsidies generate large and statistically significant effects on individuals' probability of being in employment. After 36 months, wage subsidy participants were 27.3 percentage points more likely to be in employment than their matched controls. Given that the subsidy period lasts for a maximum of 24 months – but that for the large majority participants, the actual duration is considerably shorter – these effects capture unsubsidised employment (although, depending on the programme's specifications, employers may still have an obligation to retain workers for up to six months).

5.2.2. The wage subsidies also improve labour market outcomes other than employment probability

Paralleling the positive effects on employment probability, the impact evaluation results also show a decrease in registered unemployment and inactivity over the entire 36-month time horizon examined (Figure 5.2). Given that wage subsidies affect registered unemployment and inactivity in the first months of participation by construction, it is worth focusing on the effects at the end of the 36-month time horizon. Wage subsidy programme participants have considerably lower rates of registered unemployment and inactivity compared to similar individuals who were not employed via wage subsidies. The results also show that roughly half of the net increase in employment among wage subsidy participants can be accounted for by individuals who would have otherwise been registered as unemployed. Another way to interpret the effects is to separately compare the outcomes between the wage subsidy participants and their matched controls (Annex Figure 5.A.1) as was done also in Figure 5.1, Panel A for the probability of employment. After 36 months, 59% of individuals participating in wage subsidy programmes are employed, 26% are registered as unemployed and 15% are neither. By contrast, among comparable individuals who did not participate in wage subsidies, 32% of individuals are employed, 40% are registered as unemployed and 28% are neither.

Figure 5.2. Wage subsidy's positive employment effects come from decreased registered unemployment and inactivity in equal measure

Percentage point effect on being in different labour market states



Note: The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match. Unsubsidised employment is inferred based on anticipated wage subsidy duration and takes into account observed wage subsidy extensions.
Source: OECD calculations based on data from the Greek public employment service (DYPA) and ERGANI.

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Although wage subsidies contribute to a reduction in the share of individuals in registered unemployment, they also lead to an increase in unemployment benefit recipients. In absolute numbers – i.e. examining simple outcomes of wage subsidy participants – the share of individuals in the treatment group receiving unemployment benefits begins to increase beginning at six months (Annex Figure 5.A.1). This coincides with the point at which some individuals have reached the end of the period for which wage subsidies are paid. While the majority of individuals who were participating in a wage subsidy programme remain employed even after they have exhausted the wage subsidies, the minority who become unemployed are potentially eligible for unemployment benefits.

Consistent with the positive effects of wage subsidies on employment probability, wage subsidy participants were employed for a considerably longer period than jobseekers who did not enter subsidised employment (Figure 5.3, Panel A). Over the three-year time horizon studied, they were employed for 524 days more than individuals who did not participate in the wage subsidies programmes. Note that this period includes days worked which were directly subsidised (at least the first nine months), as well as employment during the subsequent period for which wage subsidies were not paid. Half of the additional days worked in this three-year period are attributable to additional days worked during the period after the initial 12 months, when most individuals have exhausted their subsidies. During the first nine months – a period during which employers were paid wage subsidies for individuals on subsidised employment – they were employed for 208 days more than individuals in the control group.

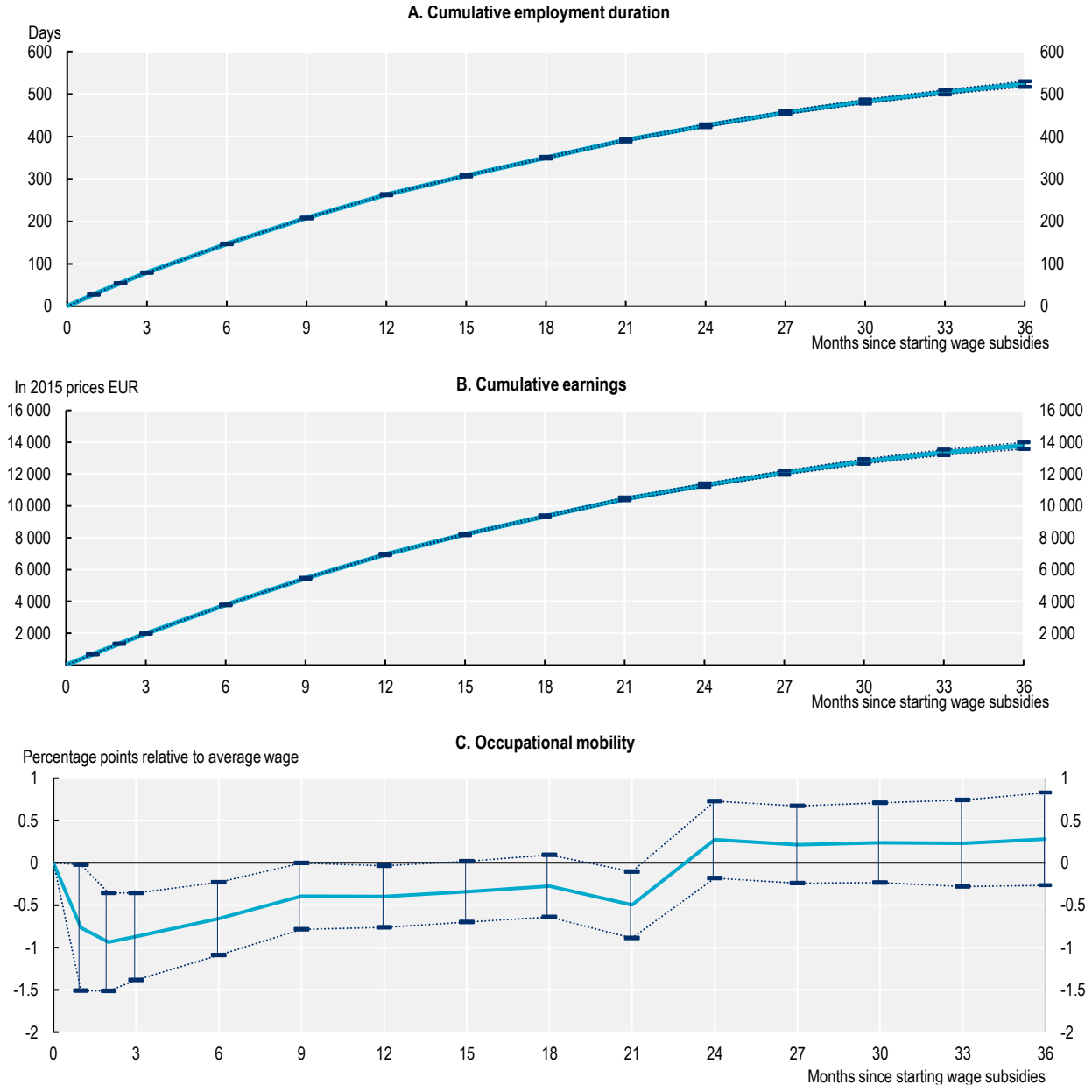
The additional earnings associated with the additional days worked were sizable (Figure 5.3, Panel B). Three years after entering the wage subsidy programme, wage subsidy participants earned at total of EUR 20 389, which amounts to EUR 13 784 more than their control group peers over that three-year period. The trajectory of the increase over time, with subsequent increases remaining positive but diminishing in magnitude, parallel the trajectory of the employment effects, which also become progressively smaller in magnitude. These effects are quite sizable also when taken in the context of counterfactual earnings: cumulatively, after 36 months, individuals in the control group earned an average of EUR 6 605 over the entire period. Roughly half of the additional earnings attributable to the wage subsidy programme (EUR 6 947) is attributable to additional earnings in the first 12 months of programme participation.

To what extent are the wage subsidy programmes potentially cost effective? Direct comparisons of these additional earnings with the programmes' costs are not feasible due to insufficient information on programme costs. However, examining the parameters of the largest programme can provide a rough sense of the relative magnitude. In this programme, employers who hired participants through the wage subsidy scheme could receive up to EUR 8 250 per participant for nine months of participation in the programme (the minimum amount received, for a minimum wage recipient, would be EUR 5 861).[2] These amount to between 43% and 60% of the additional cumulative earnings associated with participating in all the wage subsidy programmes.

In contrast to the robust boost the wage subsidy programme provides to jobseekers' employment and earnings, programme participation comes with a slightly negative temporary effect on the occupational mobility of participants. Jobseekers entering subsidised employment experienced a small but statistically significant negative effect to their occupational index for most of the first 21 months after starting the wage subsidies (Figure 5.3, Panel C). While the average effect over this period is negative, it is rather small, amounting to an effect size of up to 0.6 percentage points relative to the average observed wage: wage subsidy participants entered occupations which, on average, paid 0.6 percentage points less than the occupations entered by individuals in the comparison group. This provides some evidence that jobseekers may be taking up slightly lower-paying occupations in exchange for their improved employment prospects, which ultimately include higher total earnings.

Figure 5.3. Wage subsidies have positive effects on cumulative employment duration and earnings without affecting occupational mobility

Cumulative days worked, cumulative earnings and change in occupational index for those who found a job



Note: The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group comprises individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match. The confidence intervals are shown at the 5% level of significance and are represented by the dotted lines on the charts.
Source: OECD calculations based on data from the Greek public employment service (DYPA) and ERGANI.

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5.2.3. The estimated boost to employment probability by Greece's wage subsidy programmes compare favourably with estimates from other studies

In order to examine how the results obtained by the CIE of the programmes in Greece compare with those of similar studies in other countries, this section places them in the context of the results of two meta-analyses. The first, conducted by Card, Kluve and Weber (2017[2]), covers 49 countries in total, and summarises estimates from over 200 impact evaluations of ALMPs. Of these, 15 impact evaluations include point estimates of the employment effects of private employment support programmes comparable to the ones in Greece. The second meta-analysis covers projects funded by the EU's European Social Fund (ESF) and includes estimates from 17 studies examining employment subsidies as well as 14 classified as mixed interventions, combining e.g. subsidies with training components (European Commission and Ismeri Europa, 2023[3]).

The discussion in this section focuses only on the results for employment. As noted in the discussion of training outcomes in Chapter 4, the meta-analysis by Card, Kluve and Weber (2017[2]) does not provide estimates of the effects of other outcomes analysed for Greece, such as earnings or days worked or occupational mobility. While the meta-analysis of the ESF programmes does contain some estimates on measures such as earnings, the number of estimates is insufficient to make meaningful comparisons by programme type.

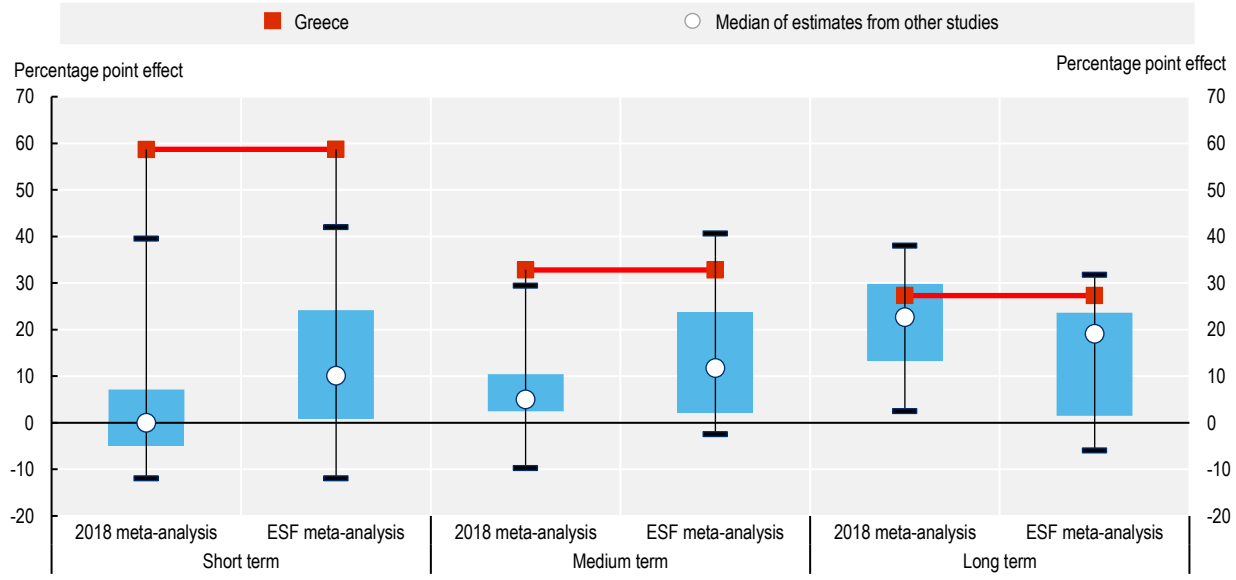
Compared with the results of the meta-analysis, the estimated effects for Greece are much larger, particularly over shorter time horizons (Figure 5.4). The estimated short-term effect for Greece, 59 percentage points, is considerably higher than the median of 0 and 10 percentage points found in the 2018 and ESF meta-analyses, respectively. The long-term effect, of 27 percentage points, is also considerably higher than the 23 and 19 percentage point median of the 2018 and ESF meta-analyses, respectively.

In interpreting the results, it is worth noting that, while the point estimates in the comparison studies are generally positive, they are not necessarily statistically significant. Figure 5.4 plots all the point estimates in the studies found in the meta-analysis by regardless of statistical significance. In fact, a small majority (58%) of the studies in the Card, Kluve and Weber (2017[2]) meta-analysis do not find positive and statistically significant results over the long term.

Other evaluations of Greece's wage subsidy schemes do not offer a clear basis for comparison, although they do suggest the interventions are effective. A recent evaluation by the PES (DYPA, 2023[4]) found high employment rates of participants after the end of their subsidy period but did not account for counterfactual outcomes and is thus not directly comparable. An evaluation by the World Bank (2021[5]) of a pilot programme trialling several interventions, including modified wage subsidy programmes, found the programme decreased the probability that participants remained registered as unemployed. However, although the study accounted for counterfactual outcomes, the number of wage subsidy participants in that study was too small to be evaluated separately from the other interventions.

Figure 5.4. Compared to other studies, the estimated effects of wage subsidies on employment probability are particularly positive in Greece

Percentage point effect of wage subsidies on employment probability



ESF: European Social Fund.

Note: Short, medium and long-term effects respectively refer to effects up to one year, 1-2 years, and more than two years after programme completion. For Greece, results refer to 12, 24 and 36 months after beginning the programme. As such, the observation periods are similar, but potentially not fully aligned. The box and whisker plots for the other studies refer to the 5th, 25th, 75th and 95th percentiles of the estimates (i.e. the black line at the bottom refers to the 5th percentile and the bottom of the blue box refers to the 25th percentile). Point estimates are included in the chart even if they are statistically insignificant. The studies presented adopt various research designs and econometric techniques – the results for Greece use nearest-neighbour propensity score matching (for details, see Chapter 3).

Source: Card, Kluve and Weber (2017[2]), "What Works? A Meta Analysis of Recent Active Labor Market Program Evaluations", Journal of the European Economic Association, Vol. 16/3, pp. 894-931, https://doi.org/10.1093/jeea/jvx028, European Commission (2023[6]), Meta-analysis of the ESF counterfactual impact evaluations,. https://data.europa.eu/doi/10.2767/580759 and OECD calculations based on administrative data from Greece.

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While the empirical results do suggest that Greece's wage subsidies are effective, the large magnitude of the results should be interpreted with caution given two factors which could conceivably be play an important role in the evaluation of the wage subsidy:

- **Deadweight effects.** These effects related to an unintended effect of the subsides and occur when subsidies unintentionally support hiring that would have otherwise occurred without them. Concerns about such effects are present in all wage subsidy programmes, and empirical research has documented that they are indeed present and often sizable (see Brown and Koettl (2015[7]) for an overview of the empirical evidence). Appropriately targeting such wage subsidies – for example, by limiting eligibility to long-term employed – can help limit such effects: a recent evaluation of Lithuania's wage subsidies, for example, suggested any such deadweight effects were minimal (OECD, 2022[8]). However, in the case of the Greek wage subsidies, the features included in the wage subsidy schemes particularly prior to July 2020– some of which were intended to prevent fraud or strategic behaviour – arguably served to increase deadweight effects (see Section 3.2.2 of Chapter 3 for details). *First*, the client selection procedure was amenable to strategic behaviour. Consultations with stakeholders indicate that employers could propose their own candidates they wanted to hire, with PES counsellors verifying the eligibility of candidates and

employers. This practice, which was phased out with the wage subsidy schemes beginning in July 2020, facilitated the use of wage subsidies to hire individuals who otherwise would have been hired anyway. *Second*, the wage subsides prior to July 2020 arguably imposed a considerable administrative burden on participating employers. This increased the likelihood that employers willing to bear these costs by participating in the programme were confident they would like to hire – and retain – a given worker. *Third*, requirements that employers do not reduce staff while they are receiving wage subsidies increase the opportunity costs, in the form of reduced staffing flexibility, of receiving the subsidies. This again makes it more likely that take-up is higher among employers who were certain they would like to hire a candidate anyway.

- **Mismeasurement of counterfactual outcomes due to undeclared work.** The large, estimated effect could be partly attributable to measurement of outcomes for control group individuals, comprised of individuals with otherwise similar observed characteristics but who could conceivably be engaging in undeclared work while registered as unemployed. Such undeclared work has the effect of decreasing the observed employment rate of the control group, artificially inflating the difference in the rates of actual employment – declared or undeclared – between the two groups. While significant progress has been made in addressing the prevalence of undeclared employment in Greece – the European Labour Authority (2020[9]) estimates it decreased by ten percentage points between 2014 and 2018 (from 19.2% to 8.9%) – it arguably remained a relevant feature of the labour market for much of the period when the programmes were analysed. Consultations with stakeholders indicate that a sizable share of individuals register with the Greek public employment service (DYPA) in order to be eligible for a range of associated benefits[3] and that a sizable proportion of jobseekers are not actively seeking (formal) employment but there are no data to confirm this.

An additional, complementary interpretation of the results is that the wage subsidies are encouraging people in Greece to transition from undeclared work into formal employment. Wage subsidies provide a financial incentive for entering the formal labour market and serve to counteract the financial disincentives to formal employment imposed by the tax system. This interpretation of the results highlights the potential positive impact of wage subsidies on formalising the labour market in Greece.

5.3. The effects of wage subsidies across sub-groups of unemployed people

This section discusses how the results of the wage subsidies vary across sub-groups of the population. It begins by discussing the detailed results for Greece and concludes by contrasting these results with those of other comparable studies.

5.3.1. Wage subsidies are effective for all groups, but particularly for sub-groups such as the long-term unemployed

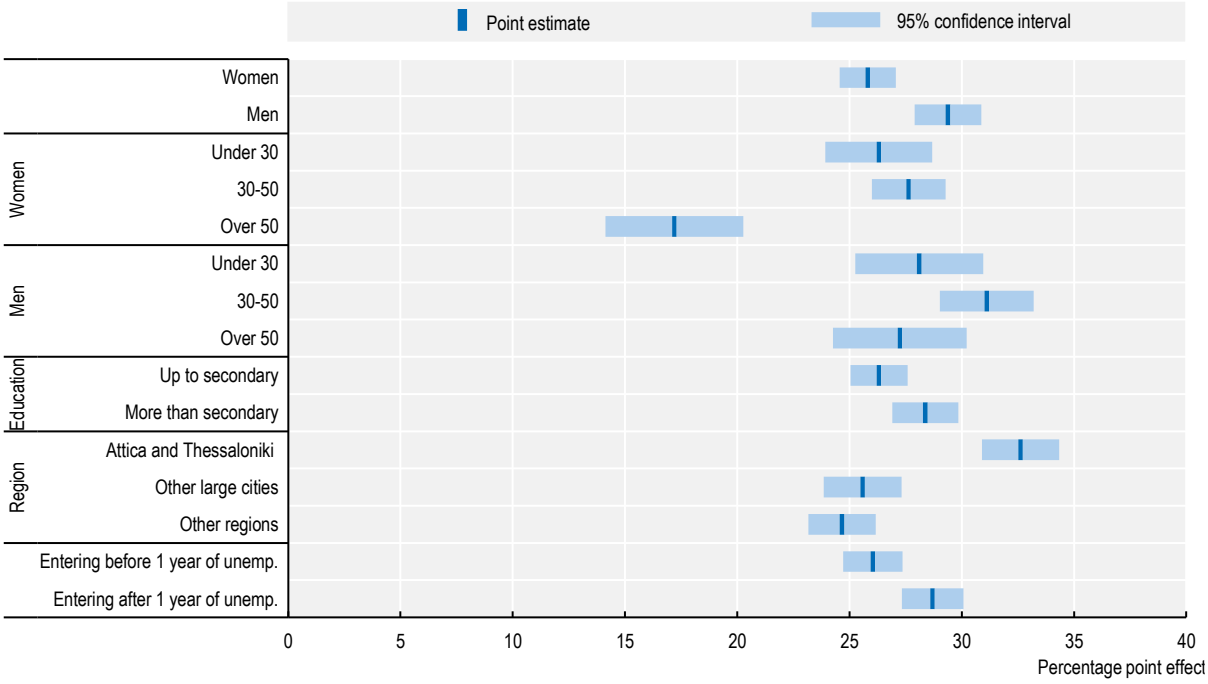
Given that the results above have documented the generally positive effects of employment subsidies in aggregate, an interesting additional set of questions concerns their effects across different characteristics of subgroups of unemployed. Paralleling the analysis of training in Section 4.3 of Chapter 4, the subsequent analysis provides separate estimates for the results along several dimensions: (i) gender, (ii) age, (iii) level of education, (iv) region of residence, and (v) long-term unemployment status. While the estimated results do differ slightly across some of these characteristics, it is worth bearing in mind that the positive effects on outcomes such as employment probability are present for all groups examined.

Men tend to experience slightly higher boosts to employment probability than women over the longer term (Figure 5.5). Three years after beginning subsidies, the effect size for men is 2.5 percentage points higher than for women, due partly to the lower effects for women over 50 years of age. The effect for women over 50 is considerably lower and reflects a large decrease towards the latter end of the observation period

– while the employment effects for women over 50 are higher than for other age groups up until 24 months after receiving the subsidies, the magnitude of the effects decreases considerably thereafter. This pattern may be attributable to the fact that women over 50 are considerably more likely to have a longer subsidy duration, after which they are less likely to retain their employment: during the period studied, 7.9% of women over 50 had their wage subsidy entitlement period extended, significantly higher than any other demographic group (at the other extreme, only 3.7% of men under 30 had their wage subsidy entitlement extended).

Figure 5.5. The positive employment effects of wage subsidies are particularly strong for certain sub-groups such as long-term unemployed people

Percentage point effect in employment probability at 36 months after starting wage subsidies



Note: The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match.
Source: OECD calculations based on data from the Greek public employment service (DYPA) and ERGANI.

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In terms of other participant characteristics, there is a markedly positive effect of participation for participants in the two largest cities, Athens and Thessaloniki. Three years after entering wage subsides, the magnitude of the effects for participants living in these cities is ten percentage points higher than for individuals in other locations. As discussed in Chapter 3 (Section 3.3.1), these two cities also had lower rates of jobseekers exiting unemployment compared to jobseekers in the other two geographic breakdowns shown. One possible interpretation of these factors together is that wage subsidies may have

stronger effects in weaker labour markets: wage subsidies help boost the demand for workers more if the demand is not as strong.

Individuals who have been unemployed more than 12 months experience a larger boost to their employment probability compared to those who have been unemployed for less than 12 months. The magnitude of the difference – 2 percentage points – is relatively small given that both groups experience boosts to their employment probability that exceed 30 percentage points. Nevertheless, this finding is important particularly in light of the low uptake of wage subsidies for the long-term unemployed. As noted in Chapter 3, during the period studied, the long-term unemployed accounted for 50% of registered unemployed but only 45% of wage subsidy participants. This finding suggests that shifting the targeting of wage subsidies towards the long-term unemployed could increase the aggregate positive impact of the wage subsidies on employment. It would also arguably result in lower deadweight effects given that the probability of jobseekers becoming employed decreases with unemployment duration.

The effects of wage subsidies on the cumulative earnings of different sub-groups of workers (Annex Figure 5.A.2) largely reflect their employment effects. Groups experiencing relatively larger boosts to their employment probabilities – such as the long-term unemployed – also generally experience a larger effect in terms of increased earnings. The one exception to this trend relates to women over age 50 – the relatively lower employment effect for this group is not reflected in lower cumulative earnings. This can be partly explained by a difference in the trajectory of the employment effect for this group: compared to other groups of workers, wage subsidies are observed to have an especially positive employment effect in the first two years after individuals enter the programme. While the underlying reasons for this finding are unclear, it could possibly be explained by a lower willingness by employers to retain such workers after they are no longer contractually required to do so: women over 50 are more likely to have longer subsidy durations (due to extensions) compared to other groups.

5.3.2. Wage subsidies have a positive effect on the occupational mobility for young men who become employed

In addition to employment outcomes, another interesting dimension for examining the effects of wage subsidy participation relates to occupational mobility. Empirical evidence for other countries has documented the “scarring” effects of job loss (for example, Lachowska, Mas and Woodbury (2020[10])). Interestingly, in the case of Greece, the occupational indices of individuals becoming re-employed are almost unaffected by job loss. Looking in the individual-level data used in the analysis amongst all individuals who are observed to have been employed both before and after a spell of registered unemployment, roughly half (47%) did not experience any occupational mobility. Of the remaining 53%, roughly equal proportions of individuals experienced positive and negative mobility (although a slightly larger proportion, by a margin of 0.4 percentage points, experienced negative mobility).

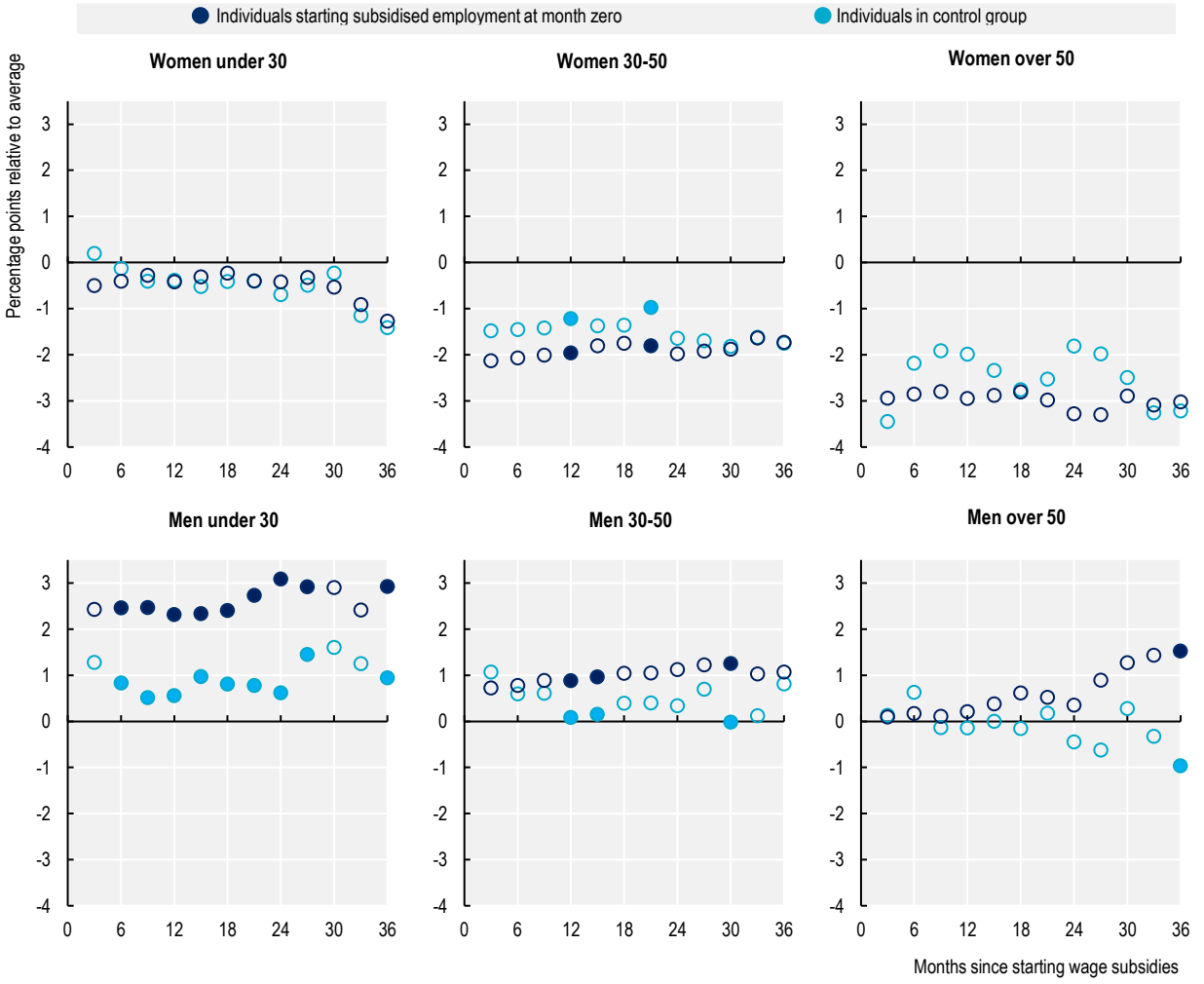
The counterfactual impact evaluation results on the effects of wage subsidy participation on occupational mobility show strong differences in the profiles by age group and gender. Figure 5.6 shows the changes in the occupational index over time, taking as the reference point the month in which individuals entered the wage subsidy programme. Unlike the results presented in much of this chapter, the results here show outcomes separately for the treatment and control groups. The vertical axis shows the occupational index, measured in percentage points relative to the average wage, for individuals who became employed. Several interesting findings emerge from these figures:

- Men under 30 who participate in the wage subsidy programme experience statistically significant increases to their occupational index, with the effect amounting to roughly two percentage points. This means that they enter occupations which, on average, pay 2% more, relative to the average wage, than those who do not. Although the point estimates for other age groups of men suggest there may also be a positive effect, the differences are not as large and the estimated differences are generally not statistically significant.

- The point estimates for women over 30 suggest a slight negative effect on occupational mobility, although the results are mostly not statistically significant. Regardless of whether they participate in the programme, older groups of women who become employed do so at lower-paid occupations compared to the other demographic groups analysed.

Figure 5.6. Wage subsidies help boost occupational mobility for younger men

Change in occupational index for those who found a job (shaded circles denote statistically significant differences)



Note: The figure plots outcomes separately for individuals in the treatment and control groups. The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. The analysis is restricted to the region of common support. Shaded circles denote point estimates for which differences between individuals in the treatment and control groups are statistically significant at the 5% level of significance.
Source: OECD calculations based on data from the Greek public employment service (DYPA) and ERGANI.

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The results for Greece share some interesting similarities as well as contrasts with a related type of analysis conducted of Lithuania's wage subsidies (OECD, 2022[8]). Employing a similar type of approach as in Greece, the results for Lithuania showed that both men and women under 30 who became employed generally experienced increases in their occupational index, regardless of whether they received wage subsidies. Men and women over 50, on the other hand, were found to experience downward occupational mobility – a trend which, in the case of men, wage subsidies helped mitigate. The latter finding of positive effects on occupational mobility is mirrored in the positive results for men under 30 in Greece. It illustrates the potential for wage subsidies to exert a positive effect on the career trajectories of their participants.

5.4. The effects of wage subsidies by programme characteristics

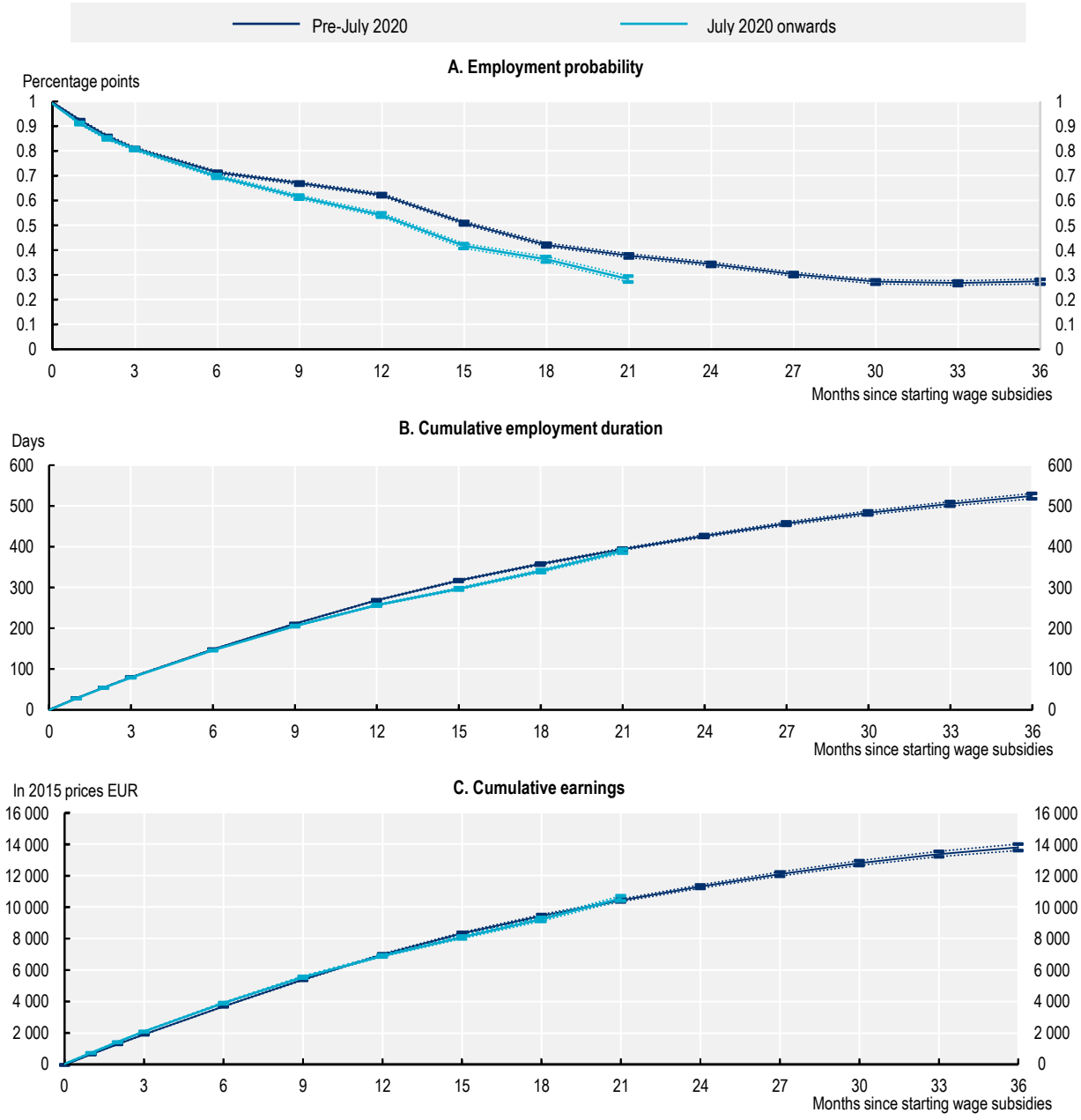
Although the 17 individual wage subsidy programmes collectively analysed in the preceding sections have many similarities, they also have some important differences which could conceivably explain some of the observed results. To shed light on these features, this section examines several of the key features of the programmes analysed. Specifically, it first looks at programmes based on whether they were first implemented before and after July 2020, when some important changes to the programmes' parameters were implemented. As discussed in detail in Chapter 3, these changes were intended to decrease the administrative burden associated with programme participation and lower deadweight costs. The second set of features examined relate to the generosity of individual programmes – the share of earnings subsidised by the programmes and the duration of the subsidies themselves.

Examining the outcomes of the wage subsidy programmes before and after changes the major changes in July 2020 shows that both sets of programmes have broadly similar outcomes (Figure 5.7). The effects on the employment rates of participants in both sets of programmes are virtually identical in the first six months but diverge slightly thereafter (Panel A). This means that participants in the older programmes have a slightly higher probability of being employed (defined as working at least one day in a given calendar month) from the ninth month after entering the programme. However, these differences in the employment rates are not reflected in more days worked or higher earnings: both of these outcomes are almost identical for both programmes examined (Panels B and C). In aggregate, the more positive employment effects of the earlier programmes are thus counteracted by the greater intensity of work and greater earnings of individuals under the later programmes.

An important question in the design of wage subsidy programmes relates to whether the specific parameters of the programmes, such as their duration or generosity, affect their effectiveness. Unfortunately, the results of the analysis do not provide a clear answer to this question: there are no persistent differences in programme characteristics between specific implementations of wage subsidy programmes (details are provided in the accompanying technical report (OECD, 2024[1])). The programmes in the period analysed had a minimum subsidy duration of mostly either 9 or 12 months (although in a small number of cases the minimum duration was 15 months, with extensions of subsidy receipt possible but only observed in a small proportion of cases). The subsidy payment was also generally either 50% or 75% of participants' wages, with the higher payments more common in programmes first implemented after June 2020 (when other important changes were also made to programme implementation, such as how candidates were selected). Finally, programmes also had different requirements for employers to retain workers after the subsidy period ended, with some programmes having no requirements and others requiring individuals to be retained for up to three months.

Figure 5.7. Wage subsidy programmes have broadly similar outcomes both before and after changes implemented in July 2020

Effects on employment probability, cumulative days worked and cumulative earnings



Note: The analysis presents nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match. The confidence intervals are shown at the 5% level of significance and are represented by the dotted lines on the charts.
Source: OECD calculations based on data from the Greek public employment service (DYPA) and ERGANI.

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The role of programme characteristics in explaining the wide variation in the estimated effects of wage subsidy programmes is unclear. For example, the two programmes with the largest estimated treatment effect sizes 18 months after individuals entered the programme differ in each of their key attributes. Although both provide similarly large increases in employment rates – 51 and 49 percentage points respectively – they are otherwise as different as any of the programmes implemented during the period analysed. Similar differences can also be seen in the other programmes included in the analysis with sufficiently large numbers of participants. An additional complication in attempting to isolate the effect of programme attributes relates to the fact that certain parametric changes were made to all programmes at the same time: several changes were made to all the programmes in July 2020, making it difficult to distinguish time-specific factors (relating to e.g. the COVID-19 pandemic) and those relating to the programmes themselves.

To examine the effect of programme parameters in the future, such evaluations would ideally be factored into the design of programmes. A sensible option for examining the effects would be through a regression discontinuity design (RDD), where changes in eligibility relate to a continuous variable, such as unemployment duration. Such evaluations are possible in the existing data in principle, but the sample sizes are too small to make meaningful conclusions. For example, two of the larger wage subsidies programmes imposed a condition that employers retain workers for 3 months after the subsidy has been exhausted, but only for jobseekers who had been unemployed for less than 12 months before entering the programme. An RDD would examine the effects for individuals immediately below and above the 12-month threshold. If suitable numbers of individuals were observed in such groups – and the data contained information on precisely which group each individual belonged to – this could be used to examine the differences in the programme's parameters.

5.5. Conclusion

As shown in the impact evaluation results discussed in this chapter, Greece's wage subsidy programmes for the unemployed are effective in helping jobseekers move into employment, leading to long-lasting and meaningful improvements in other labour market outcomes as well. The increased employment rates of wage subsidy participants are also reflected in increased earnings as well as days worked. Wage subsidies also provide a small boost to the occupational mobility of men under 30, but do not affect the occupational mobility of other groups over the longer-term. While wage subsidy programmes are effective for all groups of jobseekers examined, their effectiveness is particularly high for certain groups of jobseekers, such as the long-term unemployed. These results could be used to better inform the targeting of the programmes.

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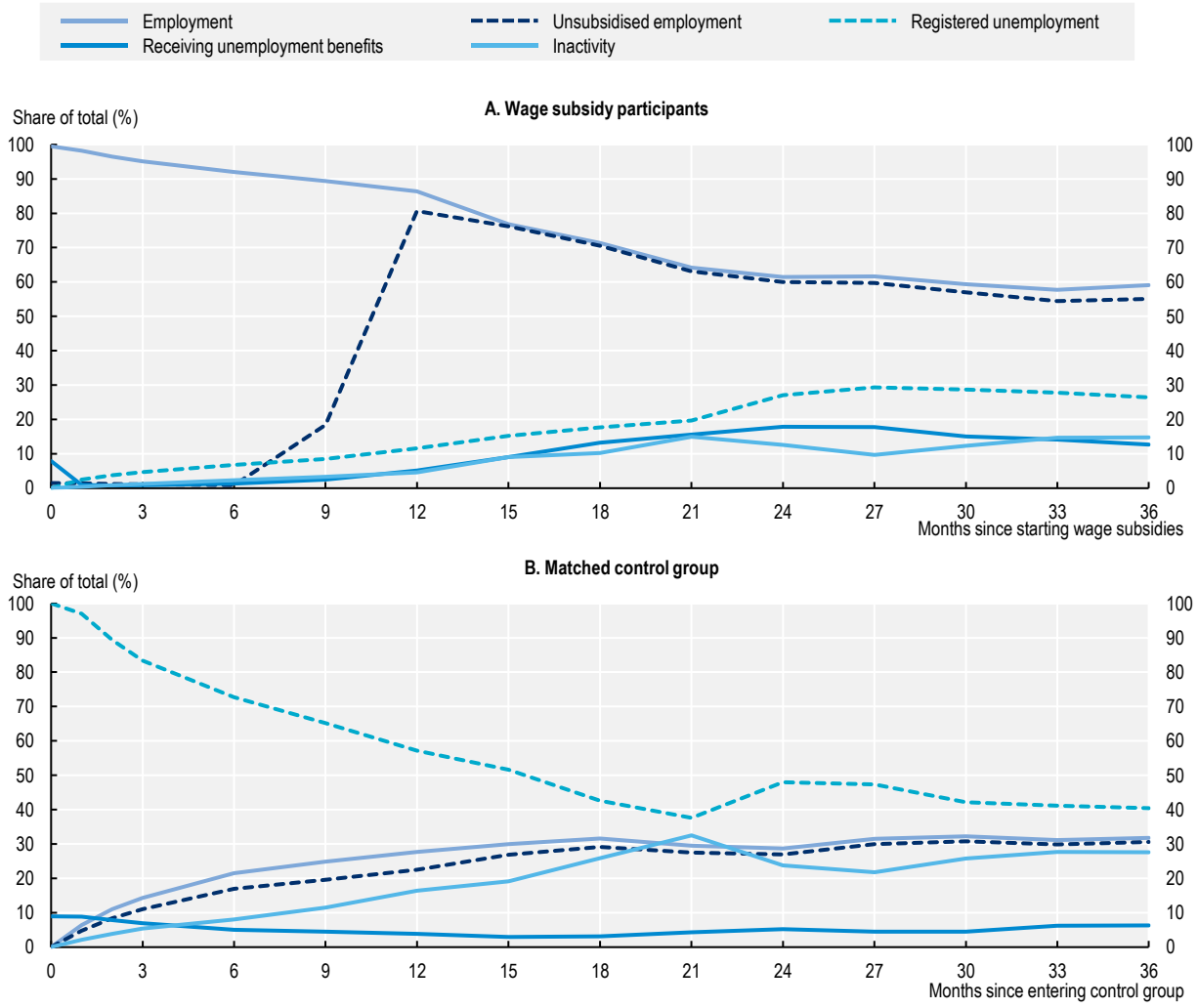
Annex 5.A. Additional results on effects of wage subsidies

Annex Figure 5.A.1. Gross outcomes for wage subsidy participants and comparable individuals not participating in wage subsidies

Share of individuals in different labour market states



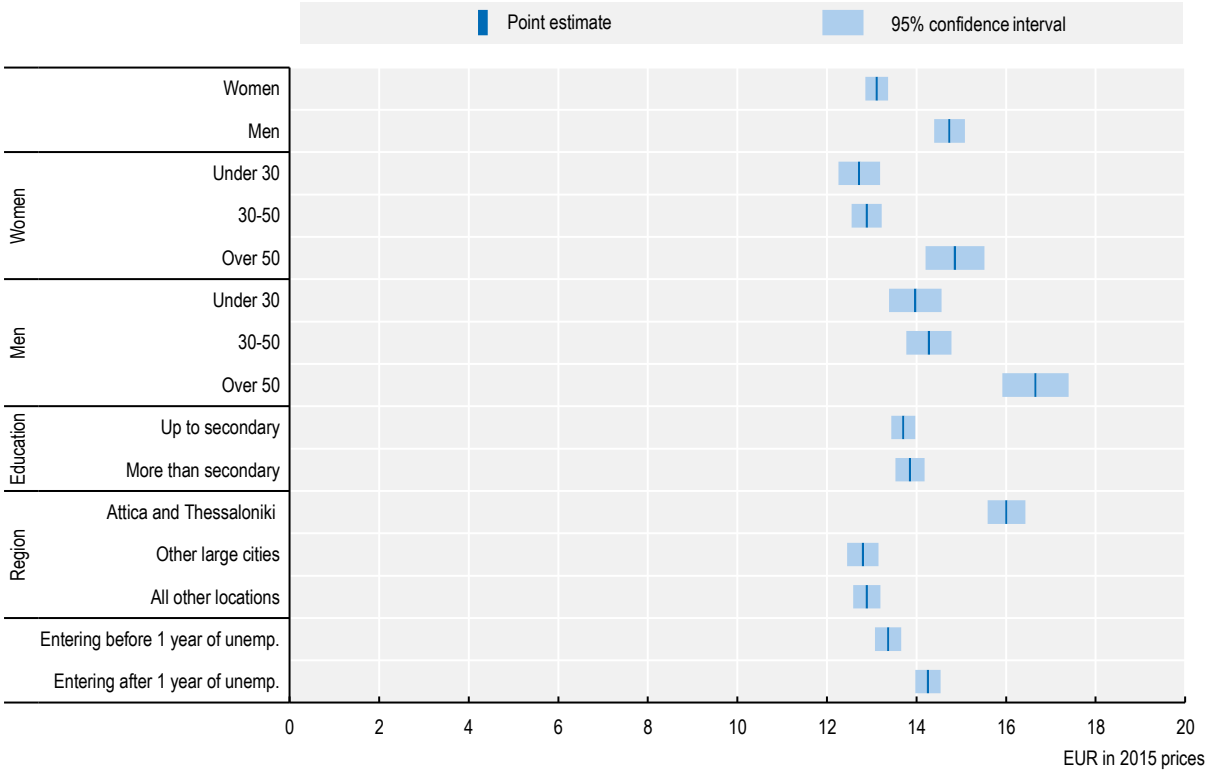
Note: The analysis presents gross outcomes from nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. Some individuals in the treatment group are dropped as they do not have a corresponding match.

Source: OECD calculations based on data from the Greek public employment service (DYPA) and ERGANI.

StatLink https://stat.link/eola56

Annex Figure 5.A.2. Estimated effects of wage subsidies on earnings by jobseeker characteristics

Change in cumulative earnings at 36 months after starting wage subsidies



Note: The analysis presents gross outcomes from nearest-neighbour propensity score matching results which matches individuals based on several characteristics: each individual's employment history (earnings, occupation, duration of employment), unemployment duration, employability rating (rule-based profiling score augmented by DYPA counsellor judgement), demographic characteristics (education, gender, nationality), foreign language skills, and location. For every individual in the treatment group, the matching is conducted based on the values of these characteristics in the calendar month when the individual enters the programme. The control group is comprised of individuals with similar characteristics not entering active labour market programmes in that same calendar month. For paired individuals in the treatment and control groups, this calendar month is then the reference point after which outcomes are measured. The analysis is restricted to the region of common support.

Source: OECD calculations based on data from the Greek public employment service (DYPA) and ERGANI.

StatLink https://stat.link/nax2ti

Notes

[1] The wage subsidy conditions stipulate that individuals leaving the wage subsidy for acceptable reasons can be replaced with another wage subsidy participant. In this case, the duration of the wage subsidy for the second wage subsidy beneficiary is shortened accordingly.

[2] This refers to the programme “Programme for 10 000 socially and/or long-term unemployed people aged 30-49 years” (Public call 15/2017), where employers could receive up to received up to EUR 750 per month for nine months. Employers could also be compensated for the mandated additional bonuses (Easter, vacation, Christmas) comprising of two additional monthly salaries. The lower amount is calculated based on minimum wages in effect through January 2019 (Eurofound, 2023[12]) assuming 10 monthly wages are paid.

[3] These include one-off cash transfers for long-term unemployed and a wide array of vouchers, such as those for theatres, books, prescription glasses, and DYPA campsites (Ministry of Digital Governance, 2023[11]).

Connecting People with Jobs

Impact Evaluation of Training and Wage Subsidies for the Unemployed in Greece

This report uses rich administrative data from different registers in Greece to evaluate the impact of two types of active labour market policies (ALMPs): wage subsidies and training for unemployed people. The report finds a positive impact of both types of ALMPs and makes recommendations for further improving the effectiveness of Greece's ALMPs and strengthening the capacity of the authorities to conduct ALMP impact evaluations. This report is the twelfth in a series of country reports on policies to connect people with better jobs. It was produced as part of the OECD's project with the European Commission which aims to raise the quality of the data collected and their use in the evaluation of the effectiveness of ALMPs.

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