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# GREECE

## SELECTED ISSUES

April 2025

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**International Monetary Fund**
**Washington, D.C.**

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# GREECE

## SELECTED ISSUES

March 11, 2025

Approved By
**European Department**

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**APPENDIX**

# UNLOCKING THE WORK FORCE POTENTIAL: EMPOWERING WOMEN TO BOOST ECONOMIC GROWTH AND GREEK PROSPERITY[1]

*The recent economic recovery has notably improved the near-term outlook in Greece. However, given the unfavorable demographic trend, it is crucial to raise the labor force participation, particularly for women, to boost medium-term growth prospects for higher prosperity. This paper analyzes key barriers to women's participation in Greece and proposes targeted policy solutions. Using household survey data and cross-country comparisons, we identify three main constraints: (i) care responsibilities; (ii) skill mismatches; and (iii) weaknesses in the tax-benefit system that reduce work incentives for second earners. Estimates suggest that addressing care responsibilities alone could boost employment by 3 percent. Policy recommendations include expanding access to childcare facilities, improving parental leave policies, strengthening targeted tax-benefit incentives, and reforms to address skill mismatches through enhanced private sector participation in education and training. These measures, combined with complementary reforms to boost business dynamism and workplace flexibility, could significantly empower women to boost economic growth and prosperity in Greece.*

## A. Introduction

**1. Greece's post-pandemic economic recovery has been remarkable, but more is needed to regain the lost ground and reach higher growth and thus prosperity.** Supported by sound economic policies and strong reforms, Greece's real GDP growth averaged at about 4.8 percent per year in 2021-24, well above those of the euro area in the same period. Measured in constant 2020 euros, per capita real GDP has also exceeded its pre-pandemic level but is still below the level reached in 2007-08 before the Greek sovereign debt crisis and the Global Financial Crisis (Figure 1). As such, further gains are needed to reach income convergence to higher levels, underscoring the importance of achieving strong and sustainable growth supported by continued reforms. In particular, the Next Generational EU funds, at about 16 percent of 2023 GDP available in 2022–26, provides a golden opportunity to support the much-needed investments that can be further enhanced by complementary reforms on human capital to boost medium-term growth.

**2. Unfavorable demographic trend constrains Greece's medium-term growth, highlighting the urgency to boost its low labor force participation (LFP), particularly for women.** Similar to other euro area countries, Greece's working-age population is expected to decline steadily over the coming decades, with the working-age labor force shrinking from about

[1] Prepared by Júlia Cots Capell, Larry Qiang Cui, Diego Gomes, Duncan MacDonald, Céline Thévenot, and Katherine Dai. This paper benefited from valuable comments from the Greece authorities including the Bank of Greece, the Ministry of Education, Religious Affairs and Sports, the Ministry of Labour and Social Affairs, the Ministry of Social Cohesion and Family, and the Ministry of Economy and Finance and from Michael Arghyrou, George Hondroyiannis, Joong Shik Kang, Vivian Malta, Mario Mansour, Tomohide Mineyama, Monique Newiak, Evangelia Papapetrou, and other seminar participants.

6.6 million in 2023 to around 4.3 million by 2050—a 35 percent reduction (Figure 2). This decline would reduce working human capital and make it increasingly difficult to sustain the current growth momentum. In addition, Greece's average actual working hours per worker, at 39.8 hours, are already the highest in the EU (European Commission, 2024a). The focus for raising human capital contribution to growth, therefore, should be placed on increasing the labor force in addition to other reforms that increase labor productivity.[2] Meanwhile, Greece's LFP has been low relative to euro area peers even after recent improvements, and this is mainly driven by the large gap in women's participation. In 2023, compared to euro area averages, Greek women's LFP rate is lower by about 8 percentage points while that for Greek men is lower by only 0.4 percentage point (Figure 3). Therefore, achieving higher income levels through sustained growth requires strong efforts to boost LFP, particularly for women. In contrast, the gender wage gap in Greece, while not insignificant, is on par with euro area average, although the lack of data on the unexplained gap constrained further analysis to ascertain its potential role as a participation barrier (Figure 4). Finally, there are also significant LFP gaps for the youth and elderly groups compared to the euro area averages. But given women's larger share in working-age population, their LFP gap has the largest contribution to the total LFP gap (Figure 3).

**Figure 1. Greece: Real GDP per Capita**
(Constant 2020 euro in thousands)

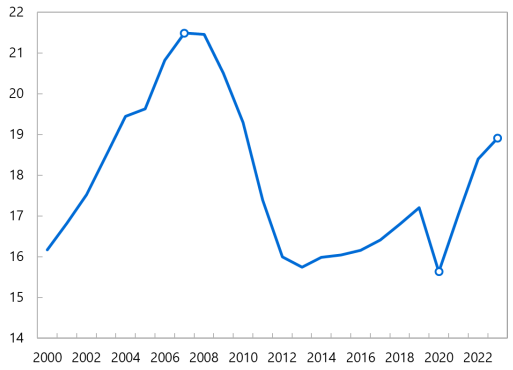
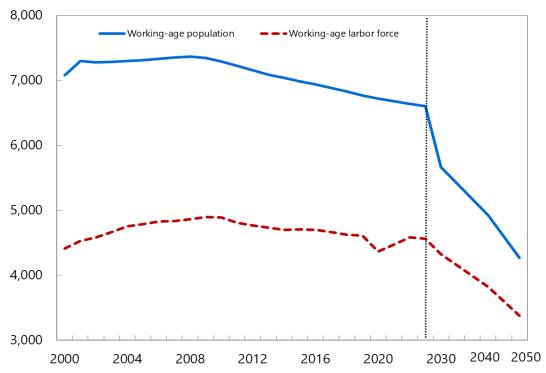



**Figure 2. Greece: Declining Working Population**
(Thousands)




Sources: ELSTAT, Haver Analytics, European Commission, and IMF staff calculations.

**3. In this paper, we analyze key barriers to LFP in Greece using household and cross-country data and draw on the literature and simulations to discuss policy options, particularly for women for whom the LFP gap is the largest.**

**4. Recognizing the key challenges from unfavorable demographic trend and LFP gender gap, the authorities have embarked on ambitious reforms in recent years.**[3] First, Recent

[2] Reforms to increase productivity are discussed more in IMF (2025a) and IMF (2024a).

[3] See Greece Ministry of Economy and Finance (2024) on reforms in the 2025-28 Medium-Term Fiscal Structural Plan. Due to data and implementation lags, effects of many recent reforms may not have been fully captured by the analysis in this paper.

legislations have supported raising women's under-representation. Notably, gender parity in senior civil service positions increased significantly, now well above the EU-27 average (European Commission, 2024b). Significant progress has also been made in the judiciary sector, in which Greek women make up about 60 percent of all serving judges (UN, 2024). Second, recent reforms have introduced various measures aimed at supporting families and women, including child benefits and related tax allowances and deductions. More generous parental leaves have been introduced, including provisions for more symmetric sharing with fathers. Similar leaves are being extended to the self-employed. Third, more facilities are being build and converted for early childhood education units including with RRF support. There are also community-based care programs that aims to formalize care work, which would also support higher women and elderly's LFP. While the earlier analyses may not have reflected all effects of recent reforms, the recommendations are in line with the directions of these reforms.

**Figure 3. Greece and Euro Area: Labor Force Participation Rates**
(Percent)

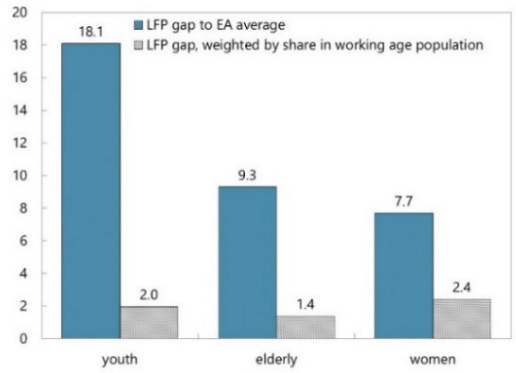
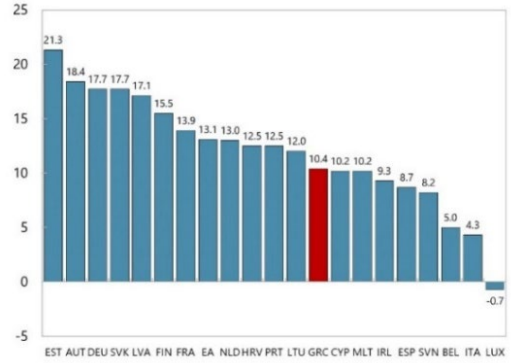



**Figure 4. Greece and Peers 1/: Unadjusted Gender Wage Gaps**
(Percent)




Sources: Greece authorities, Eurostat, Haver Analytics, and IMF staff calculations.
1/ Data refer to differences in average gross hourly earnings of male and female employees in percent of male gross earnings. For Greece, the available unadjusted gender wage gap is for 2018.

## B. Labor Market Analysis on Key Barriers

**5. Labor force survey (LFS) data suggest that LFP gender gaps in Greece occur mainly during the working age.**[4] Women's LFP in Greece trails men over the entire life cycle, with a sizable gender gap surging at the beginning of the working-age period—when couples typically start having children (Figure 5a). During prime working ages (25-54), Greek women's LFP rate is about 10-20 percentage points lower than that of men, a sizable gap that not only constrains Greece's labor supply but also hampers overall growth. Also, compared to other European countries, women's LFP remains lower in Greece, underscoring that there is a realistic pathway to bring more women into the workforce and bolster economic momentum (Figure 5b).

[4] For simplicity, "working age" used in analyzing LFS data refers to the age range of 25-54.

**6. Low education levels and young children are key drivers of Greece's gender gap in LFP, as both substantially lower women's participation.** For college graduates, the gap narrows sharply thanks to higher female participation—reflecting the powerful effect of education on LFP—whereas among non-college individuals, a wider gap emerges, fueled by lower participation of women (Figures 6 and 7). Meanwhile, having young children in the household—especially those under age six—drastically reduces women's LFP, in turn widening the overall gender gap (Figures 8 and 9). These findings underscore the need for policies that both expand educational opportunities and support families with children at the pre-primary level, ensuring women can fully engage in the labor force.

**Figure 5a. Greece: Labor Force Participation by Gender and Age Groups**
(Percent)

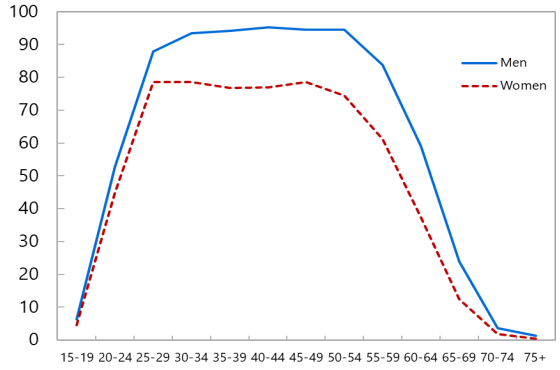
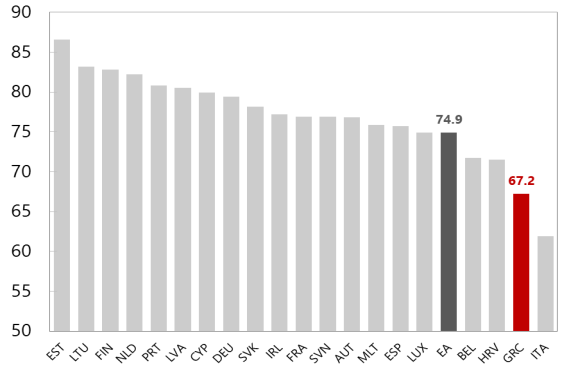



**Figure 5b. Greece and Peer Countries: Female Labor Force Participation Rate**
(Percent)




Sources: Haver Analytics, European Commission, and IMF staff calculations.

**Figure 6. Greece: LFP Rate in Greece, No College Degree**
(Percent, 2024Q1)

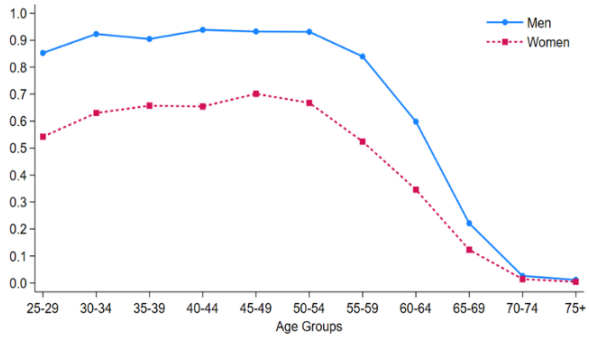
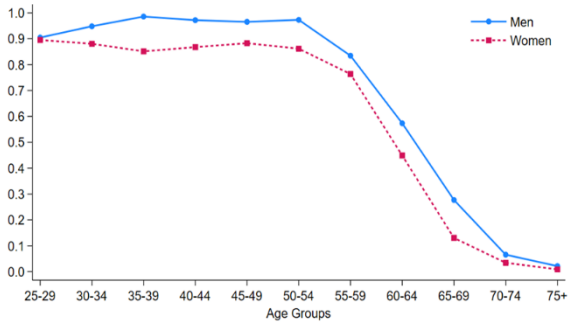



**Figure 7. Greece: LFP Rate in Greece, Has College Degree**
(Percent, 2024Q1)




Sources: Labor Force Survey, and IMF staff calculation.

**7. Survey data also indicate that working-age Greek women find care responsibilities as the top barrier for LFP, compounded by other structural participation barriers.** The LFS explicitly asks individuals why they do not want work, revealing that nearly 28 percent of working-age women cite care responsibilities as their main reason for staying out of the labor force,

well above that for men at merely 1 percent (Figure 10a).[5] Another 25 percent point to "any other reasons," likely stemming from weak work incentives, skill mismatches, or other structural hurdles.[6] This direct feedback provides a clean identification of the multifaceted hurdles faced by Greek women. In particular, the education/training barrier is cited by about 5 percent as a barrier. In contrast, this is cited by over 95 percent of youth as a participation barrier and 21 percent by working-aged men, underscoring the important benefits for improving education and training to boost LFP (Figure 10b).

**Figure 8. Greece: Gender Gaps in LFP Rate in Greece: Effect of Having Children**
(Percentage points, 2024Q1)

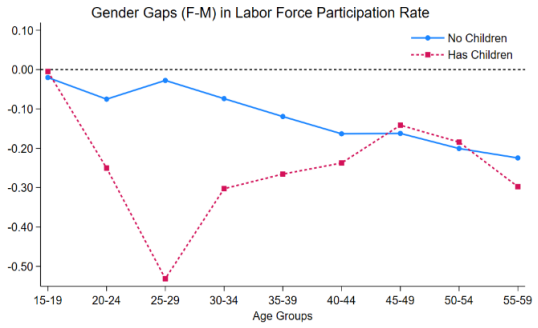
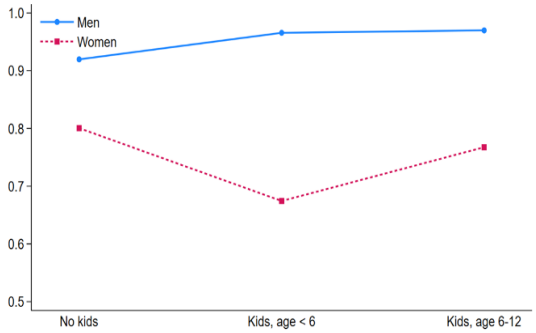



**Figure 9. Greece: LFP Rate in Greece by Children Status**
(Percent, ages 25-54, 2024Q1)




Sources: Labor Force Survey, Eurostat, and IMF staff calculations.

**Figure 10a. Greece: Main Participation Barriers for Working-Age Population**
(Percent ages 25-54, 2024Q1)

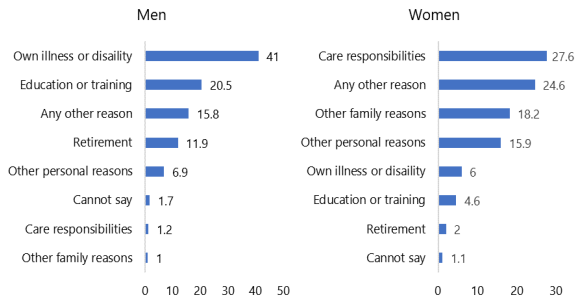
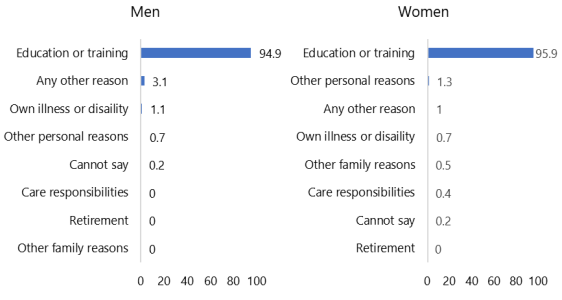



**Figure 10b. Greece: Main Participation Barriers for Youth**
(Percent ages 14-24, 2024Q1)




Sources: Labor Force Survey, and IMF staff calculations.

[5] According to Gu and others (2024), Greek women report spending, on average, 164 more minutes per day on unpaid work compared to men. This gap places Greece among the 30 percent of OECD countries with the highest disparities. This imbalance not only limits women's availability for paid employment but also reinforces existing labor market inequalities, as reflected in Figure 10a.

[6] After examining response alternatives, it can be concluded that the referred "any other reasons" are not related to (i) care responsibilities, (ii) family reasons, (iii) personal reasons, (iv) illness or disability, (v) education or training, or (vi) retirement.

**Figure 11. Greece: Child Penalty: Change in Employment Relative to Two Years Before the Birth of First Child**
(Percent)

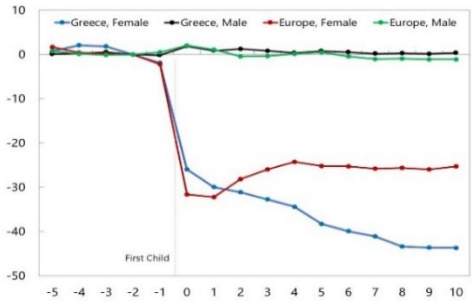
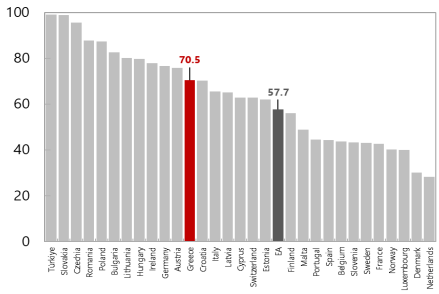



**Figure 12. Greece: Children Less than Three Years Old Out of Childcare**
(Percent over the age group population, formal childcare, 2023)




Source: Child Penalty Atlas (Kleven and others, 2024), Eurostat, and IMF staff calculations.

**8. Childbirth inflicts a steep and persistent employment penalty on Greek women, reinforcing the labor market challenges identified earlier.** Estimates from the Child Penalty Atlas (Kleven and others, 2024) reveals a sharp decline in Greek women's employment immediately after the first child's birth, while men's employment remains largely unaffected (Figure 11). Over time, these women continue to lag behind in employment, illustrating a persistent penalty that is more severe than in many other European countries and has long-lasting scars on their work prospects. These results corroborate earlier labor market findings, emphasizing the need for targeted policies to support mothers in sustaining their workforce attachment or re-enter the labor market.

## C. Access to Childcare Facilities

**9. Over 70 percent of Greek children under three are outside of formal programs, well above the euro area average, pointing to challenges in accessing childcare facilities.** The share of young children not enrolled in formal childcare is around 70 percent in Greece, compared with about 58 percent across the euro area (Figure 12). Recent data also confirm that demand outstrips supply for early childhood education and care (ECEC) services, highlighting the country's struggle to meet families' needs (Eurydice, 2025). This gap can be even larger in some Greek regions. For example, places in day care centers in Northern Greece cover less than 7 percent of the total number of infants in the region (Megalonidou, 2019). Such shortfalls exacerbate the employment penalty faced by parents—particularly women—and underscores the importance of expanding childcare facilities, including by building new ones, incentivizing conversions and private sector provision, and supporting the use of childcare. Furthermore, conditional cash transfer design could also help incentivize using childcare facilities, which will be discussed later.

## D. Work Incentives in the Tax-Benefit System

**10. Working couples with children in Greece face a relatively high average tax wedge, and low-income households with two earners face an additional tax burden, further weakening work incentives for women.** Greece's average tax wedge for a two-earner married couple with two

children at average earnings is relatively high in Europe (Figure 13a). Meanwhile, the micro data-based TaxFit tool find that for some low-income households (with wages below or at the average wage), shifting from one-earner to two-earners increases the marginal effective tax rate (METR) on this household by about 1 percentage point (Figure 13b).[7] For example, in a one-earner household with 100 percent of the average wage, if a second earner decides to work at 60 percent of the average wage, they are estimated to face higher METR than before: each 100 euro earned now will be taxed by 1 euro more. This would likely reduce labor supply—especially for women, who typically serve as the second earners with lower income and may decide not to work to avoid the higher marginal tax rate. In contrast, for a higher-income household with two-earners with average earning above the average wage, this marginal rate is estimated to decrease by about 1 percentage point. This suggests that support measures can be more targeted to low-income households to be effective with lower fiscal cost.

**11. There is also scope to sharpen the work incentives in Greece's unemployment benefit system.** The benefit could be re-profiled to be higher at the beginning but have a steeper decline over time to better incentivize job search without compromising the same level of financial support. In addition, more incentives could be considered to require using employment services, skill training, and some appropriate rules on accepting job offers (European Commission, 2023; OECD, 2024b). Such reforms can also be coordinated with strengthening the labor market integration function of the means-test Guaranteed Minimum Income program, which is discussed later.

## E. Parental Leave Including for Fathers and the Self-Employed

**12. Global experiences indicate that paid employment-protected parental leaves play a critical role in supporting women's LFP, including leaves for fathers.** Such leaves enhance women's financial independence (World Bank, 2024). In addition, paternity leaves not only complement maternity leaves but also underscores the value of both parents' involvement in child-rearing and a commitment to gender equality, which also helps tackle the cultural barriers (Kaufman, 2018). Moreover, recent evidence suggests that increased parental leaves in Germany did not harm their long-term earnings and increased use of parental leave by fathers could have contributed to the result (Frodermann and others, 2023).

[7] TaxFit is a microsimulation model developed at the IMF. It uses household microdata and data on the tax benefit system of specific countries and can conduct quantitative analysis of the effects from tax and benefit policy changes on different types of households. See Appendix I and Cots-Capell and others (2024) for details.

**Figure 13a. Greece: Average Tax Wedge: Two-Earner Married Couple at Average Earnings, Two Children 1/**
(Percent, married couple with two children aged 4 and 6)

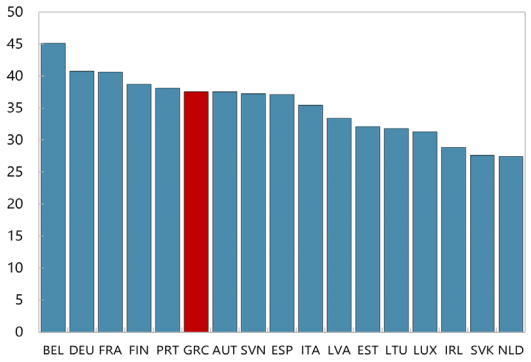
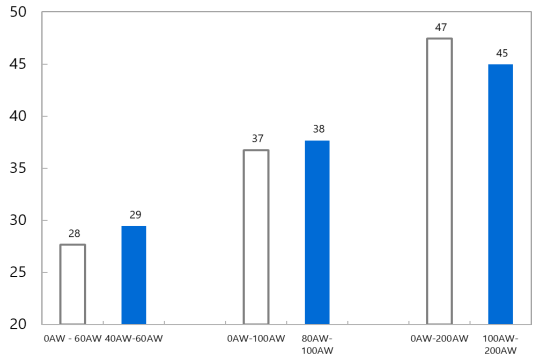



**Figure 13b. Greece: Simulated Tax Wedge Changes from One-Earner to Two-Earners 2/**
(Percent, married couple with two children aged 4 and 6)




Sources: Greece authorities, OECD (2023), and IMF staff calculation.
1/ EA Average refers to 17 EA countries, excluding Croatia, Malta and Cyprus. Two-earner married couple, one earning 100 percent and the other earning 67 percent of the average income.
2/ (i) Simulations used IMF's TaxFit tool and 2024 data on the tax-benefit system of Greece. (ii) On the horizontal axis, the labels refer to an earners' wage in percent of the average wage (AW): e.g., 0AW-60AW refers to one-earner with no wage and another with 60 percent of the average wage; 40AW-60AW refers to two-earners at 40 percent of the average wage and 60 percent of the average wage.

**13. There is scope to improve Greece's parental leave policies, including for fathers and the self-employed.** With 56 weeks of paid maternity leave, Greece provides one of the longest leaves in the EU and OECD countries (17 weeks of basic leave and an additional special leave of 9 months). While generous, this duration exceeds the threshold of around 30 weeks identified by Del Rey and others (2021), beyond which female LFP tends to decline. Fathers are granted 14 working days of paid leave, during which they receive 100 percent of their earnings, paid by the employer. In addition, each parent is granted four months of leave per child, of which the first two months are paid at minimum wage (Hatzivarnava-Kazassi and Karamessini, 2023). Nevertheless, there is scope to further improve the design of paternity leave, including by making paternity leave non-transferrable or imposing a take-or-lose requirement to increase its use, in line with practices in Scandinavian countries that lead in the take-up of paternity leaves (e.g., Iceland, Norway, and Sweden).

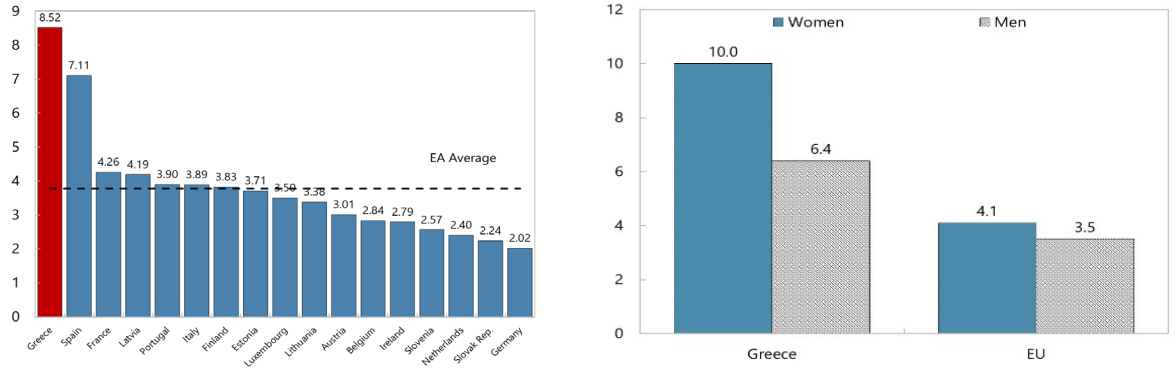
**14. In addition, self-employed workers that account for a high share of Greek employment face weaker coverage in parental leaves.** Self-employed women are entitled to four monthly maternity payments of between €150 and €200 (less than 25 percent of the national minimum wage). No other parental leave rights are available for self-employed parents. This is a particular concern because Greece has the highest share of self-employed in total employment among OECD countries, with nearly one out of three women self-employed (OECD, 2022). Furthermore, Greece has a relatively high share of self-employed individuals at risk of poverty (Eurostat, 2024b), also

suggesting merits for targeted support. However, recent reforms have extended more leaves to the self-employed.

## F. Skill Mismatch and Education Quality Issues

**15. High unemployment among Greek college graduates underscores a skill mismatch that constrains their job prospects, fosters weak work incentives, and affects women the hardest.** Greece's tertiary-educated unemployment rate stands at 8.5 percent—more than double the euro area average of 3.8 percent (Figure 14, left panel). Meanwhile, college-educated women in Greece face a 10 percent unemployment rate, compared to 6.4 percent for men, whereas the euro area averages 4.1 percent for women and 3.5 percent for men (Figure 14, right panel). This contrast highlights the country's pronounced gender disparities in work incentives for high-skilled individuals, driven by skill mismatches. This also highlights that targeted measures for women can achieve more efficient results.

**Figure 14. Greece: Unemployment Rate Among College Graduates: Comparisons by Country and Gender**
(Percent, 2022)

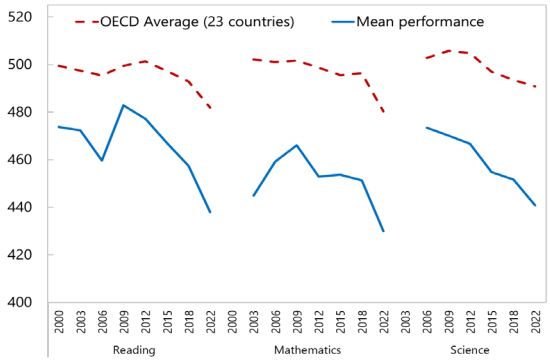



Sources: Greece authorities, Eurostat, OECD, and IMF staff calculation.
Note: EA Average refers to 17 EA countries with no data for Croatia, Malta, and Cyprus.

**16. More reforms are also needed to coordinate current education systems to provide quality education on demanded skills, particularly on technology and healthcare.** At the secondary level, recent data on test scores show significant recent declines in Greece (Figure 15). Meanwhile, cross-country data suggest a high mismatch in fields of study from current job demand, although this indicator only partially reflects skill mismatch because prior qualifications do not necessarily fully represent a person's skill set (Figure 16). These weaknesses suggest that additional reforms are needed to rationalize public education allocations and policy incentives to better align education services with the evolving needs of new demographics, such as strengthening high-return pre-primary and vocational education on highly-demand skills (e.g., AI, engineering, and nursing). These efforts can build on the recent introduction of private universities to further leverage private sector participation, particularly by industries, to respond to the economy's skill demand more quickly and increase trainings on technology and healthcare. Employment service and active labor

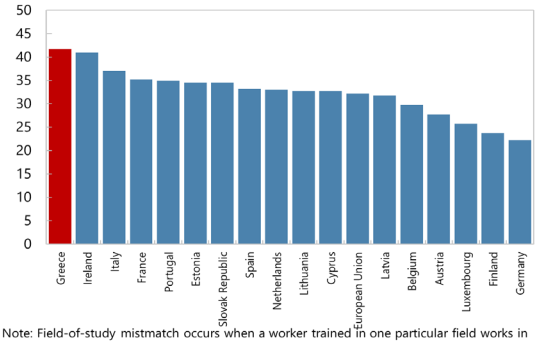
market policy measures can also be coordinated with training provision to better anticipate skill demand from employers. Finally, robust monitoring and evaluation of the ongoing reforms efforts would further boost the efficiency of support measures over time.

**Figure 15. Greece: Trends in Mathematics, Reading and Science Performance**
(2022 score points, 15-year-olds)




Sources: OECD PISA 2022 Database and IMF staff calculation.

**Figure 16. Greece: Field-of-Study Mismatch, 2019**
(Percent, higher values indicate higher reported mismatch)



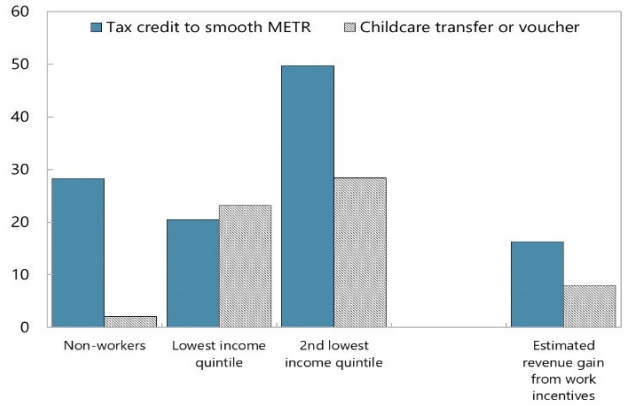

Note: Field-of-study mistmatch occurs when a worker trained in one particular field works in another field, even when the worker might be matched in terms of skills or qualifications.Data refer to 2019 with the database last updated in 2022.

Sources: OECD Skills for Jobs Database and IMF staff calculation.

## G. Additional Options to Increase Targeted Support

**17. Micro-based policy simulations we conducted using TaxFit suggest targeted transfers and tax credits could be considered to strengthen work incentives for LFP, particularly for women, at moderate fiscal cost.** The simulations were aimed to quantify the effects from two measures that can address the LFP barriers identified earlier: (i) reduce childcare burden by providing targeted transfer; and (ii) mitigate weak incentives for the second earner by a targeted and nonrefundable tax credit. The simulation design also drew on successful cases from other countries. For example, lower taxes on the second earner in Norway and the United Kingdom, and increased spending on childcare in the Czech Republic, Poland, and Norway have helped support women's employment (Christiansen and others, 2016). Using Greece's household and tax-benefit system data, these simulations indicated that with good targeting to the lowest two income quintiles, the estimated total fiscal cost for both measures—(i) childcare-linked cash transfer and (ii) tax credits to smooth the METR—is less than 0.1 percent of GDP (Figure 17). Notably, the fiscal cost is offset by some positive revenue gains from the increased work incentives, particularly related to the tax credits for the second earners in low-income households.

**Figure 17. Greece: Estimated Fiscal Cost from Simulation on Two Targeted Support Measures**
(Euro million)




Sources: Greece authorities and IMF calculation.
(i) Childcare transfer or voucher is provided at €100/month per child;
(ii) a nonrefundable tax credit/allowance is provided at €100/taxpayer per year aimed to mitigate the estimated increase in METR for low-income households discussed earlier;
(iii) model-estimated revenue gain is due to incentives to work more, particularly for those not working before the incentives. Households are divided into quintiles (equally sized groups of 20 percent of the households). The lowest and second lowest quintiles refer to the bottom two groups with low income.

**18. In addition, Greece's Guaranteed Minimum Income (GMI, Ελάχιστο Εγγυημένο Εισόδημα) is a strong platform that can be leveraged to provide targeted support for raising LFP.** It is a means-tested program for social protection. Leveraging recent digitalization efforts with RRF support, the authorities have integrated information management into a common platform that has been connected also to employment registration. The integrated platform facilitates quick and efficient information sharing and eligibility screening for the support to reach intended recipients. GMI has three key components: minimum income support, essential social service provision, and labor market integration. The GMI is characterized as a targeted scheme but with low coverage, potentially limiting its impact on poverty alleviation (Coady and others, 2021). Its cost is estimated at about 1 percent of GDP in 2024. The social service and labor component can be integrated with skill training and childcare support to increase labor participation with good targeting and efficiency.

**19. Moreover, conditional cash transfers (CCT) could be considered more to sharpen targeted support and strengthen the recipients' incentives to jointly achieve the LFP objectives.** CCTs are programs in which cash benefits are provided to qualified individuals or households on the condition that they take actions to meet agreed requirements, such as sending child to childcare facilities or school, completing education and job training programs, and taking regular health check-ups. Global experiences as well as Greek's own experiences in supporting Roma minorities suggest well-designed CCTs can help achieve social objectives by efficient targeting and increasing joint accountability to results. For example, CCTs and quasi-CCTs have been used in social and employment programs in Denmark, France, Germany, Italy, Portugal, and Spain. Positive results

were reported in improving childcare use, women's employment, and vocational training results (European Commission, 2014; Grisolia, 2024).

## H. Other Complementary Reforms

**20. Complementary reforms are also needed to increase women's LFP and raise Greece's labor productivity more broadly**. Greece's low business dynamism has likely constrained women's LPF from the labor demand side.[8] The lack of new job creation through dynamic businesses makes it harder to integrate those outside the labor force into employment—a significant challenge for women particularly after breaks for having children. The vacancies-to-unemployment ratio in Greece stands at just 0.2—equal to five jobseekers per vacancy—indicating severe labor market slack near the bottom of the euro area (Figure 18). In addition, Greece has the highest service-sector barriers-to-entry in the Eurozone, constraining job creation and limiting women's job prospects as their employment is concentrated in services (Figure 19). Furthermore, recent studies show that more flexible work arrangements can allow women to better adapt to family needs and facilitate their participation and contribute to reduce informality (Kinoshita and Guo, 2015; Christiansen and others, 2016; Samaniego de la Parra and others, 2024). Finally, other complementary reforms that can raise labor productivity more broadly include enhancing competition, fostering innovation and technology diffusion, reducing red tapes, increasing judicial system efficiency, as well as regional efforts to strengthen a more integrated European single market (IMF 2024a,b and 2025a,b).

**Figure 18. Greece: Labor Market Tightness**
(Vacancy to unemployment ratio, 2024Q3)

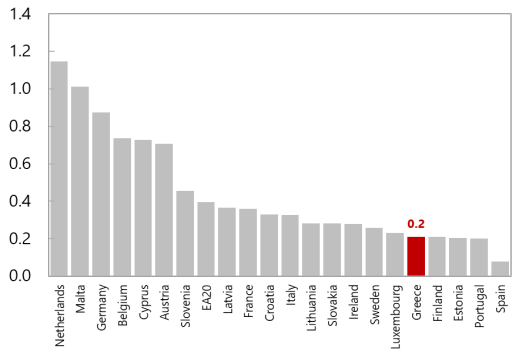
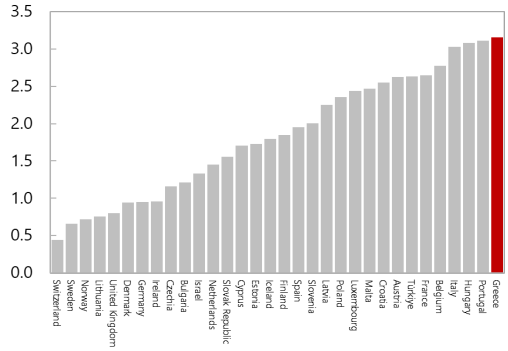



**Figure 19. Greece: Barriers to Entry in Service Sectors**
(Index, higher values for higher barriers, 2023)




Sources: Haver Analytics, Eurostat, OECD PMR, and IMF staff calculations.

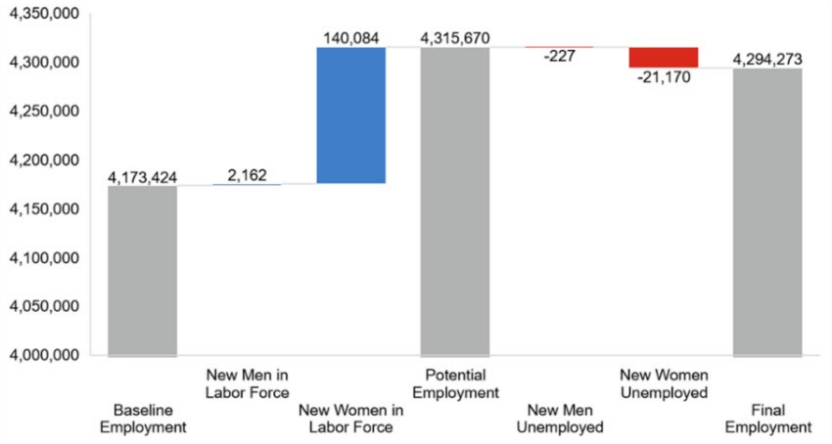
**21. Cultural and social norms have likely contributed to Greek women's low LFP.** Survey data suggest that a relatively high share of the Greek population believe that men should have more right to a job than women (World Values Survey, 2022). This could undermine women's economic independence and their access to employment opportunities. For example, when asked whether men should have more right to a job than women (when jobs are scarce), over 37 percent of the

[8] For details on Greece's business dynamism, see IMF (2025a).

Greek respondents agreed or strongly agreed. This is much higher than in peer EU countries, such as Italy (25.4 percent), Portugal (17.8 percent), France (11.5 percent), or Spain (10.8 percent). In addition, the representation of women in democratic institutions, particularly in parliament, also suggests further gender inequality in Greece. Only 23 percent of seats in the national parliament were held by women in 2023, well below the EU-average of 33 percent. The underrepresentation in political decision-making processes could affect the formulation and implementation of policies and, in turn, women's labor force participation. Similar challenges exist in the private sector. Greek women represented 24 percent of senior management positions in 2022, also below the EU average (European Commission, 2023). Notwithstanding the existing cultural limitations, cross-country experiences suggest that policy reforms can help change incentives and increase women's labor force participation over time in diverse countries.

## I. Substantial Reform Benefits

**Figure 20. Greece: Estimated Employment Impact from Addressing Care Impediments**
(Number of individuals)




Sources: Greece Labor Force Survey and IMF staff calculations.

**22. Addressing care impediments alone could boost Greek employment by an estimated 3 percent, with higher benefits possible with more reforms.** Figure 20 presents a straightforward arithmetic to estimate the potential employment growth from fixing care responsibilities issues. The first gray bar reflects baseline employment levels estimated from the LFS. The two blue bars depict how many men and women—specifically those who cite care responsibilities as their primary reason for not working—would enter the labor force if these burdens were fully alleviated. The second gray bar measures the potential employment from fixing care issues—calculated by adding the baseline employment (first gray bar) and the additional labor force (two blue bars)—thereby raising total potential employment to that level. Next, the red bars discount new labor force entrants who are likely to become unemployed, calculated by applying age- and gender-specific unemployment rates estimated from the LFS. The final gray bar thus represents the net increase in employment once

these adjustments are made, resulting in about a 3 percent overall gain. Drawing on other countries' experience, higher benefits could be achieved with more comprehensive reforms to support women's LFP. For example, Steinberg and Nakane (2016) estimated that for Japan, raising women's LFP rate by 7 percentage points could raise per capita income by about 4 percent.

## J. Conclusion

**23. A balanced mix of policies targeting both labor supply and demand issues is vital to increasing LFP, including women, and help boost medium growth.** By tackling both dimensions in tandem, Greece can maximize results from the labor-supporting and productivity-enhancing reforms. The analyses suggest that targeted measures to reduce care burdens, improving parental leaves, and raising the work incentives in the tax-benefit system are top priorities for raising LFP, particularly for women.

**24. In addition, addressing skill mismatches remains crucial to support a productive and competitive Greece labor force fit for achieving higher prosperity.** More needs to be done to modernize the current secondary and tertiary education system with labor market needs, further expand life-long learning, and scaling up vocational and technical training on technology and healthcare to meeting the emerging demand of the economy. Going forward, ensuring the sustained implementation of these policies, establishing monitoring mechanisms to evaluate their effectiveness, and effectively coordinating education and labor programs across overlapping ministries will be essential to deliver efficient results.

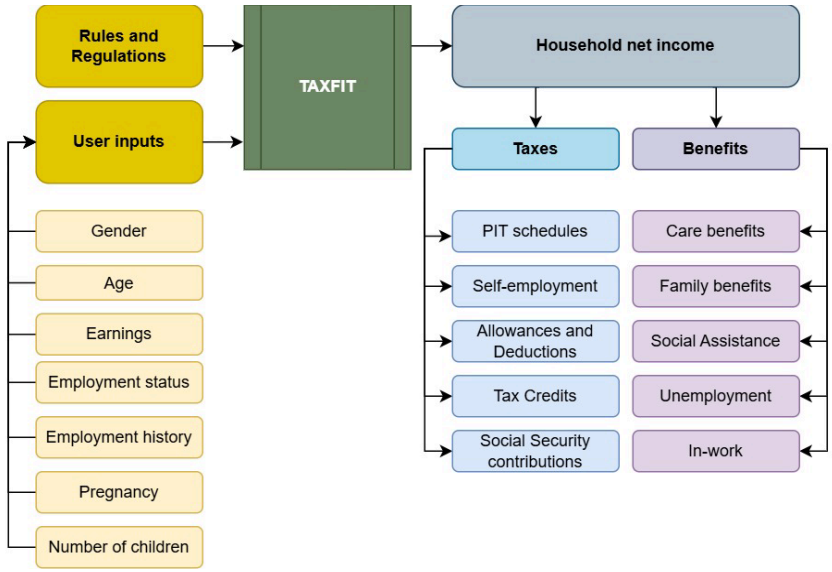
**Other complementary reforms including those on enhancing business dynamism and maintaining labor market flexibility that can better accommodate women.** Addressing demand-side constraints requires streamlining regulations to remove barriers for new and growing firms, broadening regulatory impact assessments to enhance efficiency, innovation, and competition, and prioritizing reforms in sectors with the largest distortions, such as non-tradable services with a high share of women workers. Additionally, supporting small and young firms to grow and further improving the judiciary system to facilitate efficient resource allocation can further stimulate business and job creation that also supports a productive labor force.[9]

[9] For detailed discussions, see IMF (2025a,b).

# Appendix I. The IMF's TaxFit Model

**1.** The IMF's TaxFit model is a cross-country tax and benefit simulator that combines country-specific household survey microdata, and country-specific information on tax codes and benefit regulations to determine household net income once these rules are applied (Cots-Capel, Davis, MacDonald, 2024). The model computes taxes and benefits for hypothetical households—defined by user-provided inputs on gross income levels and family structures.

**2.** Cross-country comparisons are possible across a wide range of indicators that comprehensively capture the structure of the personal income tax regime—the tax rate schedule, allowances, deductions, credits, etc.—as well as features of the social protection systems that are likely to influence labor supply decisions—including contributions, unemployment insurance, family benefits, social assistance, and care benefits. For example, TaxFit generates indicators of the effective tax rate (ETR)—the average tax rate paid by an individual or household—and the marginal effective tax rate (METR), which represents changes in ETRs due to changes in income and/or labor supply decisions.




**3.** Where microdata is available, it can be uploaded to the model to produce additional diagnostic indicators that better reflect the population, such as the Kakwani index of the progressivity of the tax and transfer system (Kakwani, 1977). It can also model reform scenarios that estimate the welfare and fiscal impacts of past or proposed reforms. Additionally, the data used to build the model can also be used to perform gender and fiscal policy analyses.

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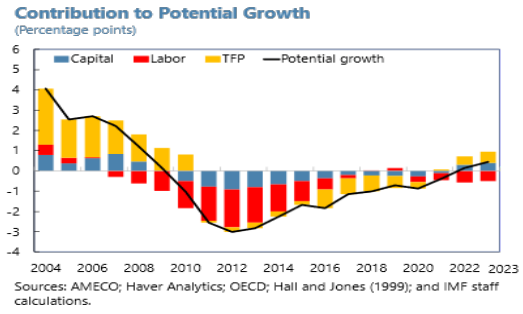
# IMPROVE RESOURCE ALLOCATION TO BOOST GROWTH IN GREECE[1]

*The productivity growth of the Greek economy has been stagnant since the European Debt Crisis in 2010, partly due to low investment amid large deleveraging. During this period, despite significant reforms in product market regulation aimed at improving the legislation with EU practices, the real impact of these reforms on productivity has been mixed. This paper examines firm-level data and finds resource misallocation within the market economy sector deteriorated from 2009 to 2020, particularly in the non-tradable service sectors and among smaller firms. While a substantial number of firms have become more productive and many young firms with high potential have entered the market, they have not expanded fast enough to lift the productivity of the whole economy. Accelerating regularity reforms to foster competition would help improve business dynamism and thereby enhance productivity.*

## A. Background

**1. Since the European Deb Crisis, amid large deleveraging and low investment, total factor productivity (TFP) in Greece has continued to decline until recently.** In comparison, TFP in the euro area has grown by 9.7 percent during this period. Broadly speaking, productivity measures the efficiency of producing outputs from a given set of resources such as capital, labor, and materials. At the firm level, productivity growth reflects the advancement of the technology employed by a firm. In aggregate, reallocating resources to more productive firms can increase total output, even when firm-level productivity remains the same. The allocative efficiency factor is particularly relevant to Greece's experience. Given that productive technology should have remained constant, if not advancing over time, resource misallocation is likely the main culprit behind the lackluster productivity growth in Greece.

**Figure 1. Greece: Potential GDP Decomposition**




Sources: AMECO; Haver Analytics, OCED, Halland Jones (1999), and IMF staff calculations.

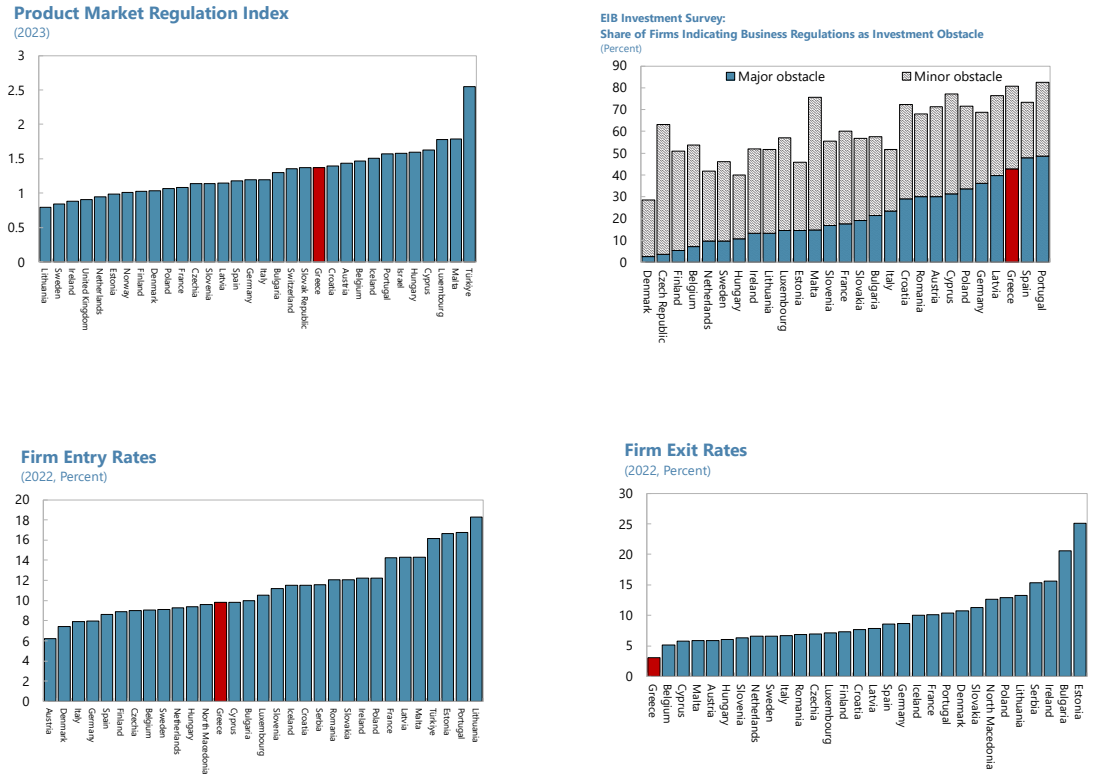
**2. A series of reforms have been implemented over the last decade to improve the efficiency of the Greek economy.** Early reforms (2009–10) focused on addressing the bloated public sector wage bill and implementing modest policies to increase flexibility by allowing symmetric access to arbitration and sectoral agreement opt-outs. Reforms in product markets since 2011 included legislative changes in macro-critical sectors to enhance competition, reducing red tape, opening "closed professions" and amending investment licensing laws to remove approval requirements. Since 2019, a series of reforms have been launched to reduce administrative burdens,

[1] Prepared by Ritong Qu.

including codifying all major business regulation frameworks, implementing an online one-stop shop for company registration, introducing a risk-proportionality requirement for all new licenses and permits. Some of these reforms seem to have borne fruit: for example, new firm entry in 2023 has increased by 33 percent compared to pre-pandemic levels[2], though the firm entry rate remains below the median of the euro area.

**3. While the overall legislation of the product market has aligned with EU practices, the real impact of such reforms on overall productivity has been mixed.** Survey results indicate that Greece ranks among the highest in the share of firms citing business regulation as a major investment obstacle (EIB 2023). Empirical evidence (IMF 2019) shows that product price declines were not commensurate with wage declines, indicating incomplete reforms in the goods market. More importantly, the overall TFP has remained stagnant in Greece, with its level being estimated to be still about 10 percent lower than in 2009, prior to the Greek sovereign debt crisis.

**Figure 2. Greece: Regulation Index and Firm Entry and Exit Rates**




Sources: OECD PMR, EIB investment survey 2023, and Eurostat.

**4. This paper aims to estimate the degree of resource misallocation using firm-level data.** By directly observing firms' resource allocation, the analysis serves as a reality check on the costs of economic rigidities and complements the studies on regulatory legislation and survey data, which

[2] OECD DynEmp dataset

can overlook how regulation is implemented on the ground. The granular data enable us to quantify the economic costs of resource misallocation, examine its progress over time, and identify sectors where the issue is more acute. We find the degree of resource misallocation worsened after the Greek sovereign debt crisis in 2009 and has remained elevated prior to the pandemic. The results reinforce the view that product market rigidities are costly to the Greek economy and highlight the potential benefit of more comprehensive reforms.

## B. Examine Resource Misallocation with Firm-level Data

**5. The firm-level data cover a stable sample of Greek firms from 2009 to 2020, but the sample is tilted towards larger firms.** The data are sourced from Orbis. We focus on the resource allocation of market economy sectors under NACE Rev. 2 economic classification and exclude the financial sector. The sectors under analysis account for 56 percent of GDP. After data cleaning, as instructed in Kalemli-Özcan et al. (2024), the sample includes 58,000 unique firms. When compared with national aggregate statistics, the sample covers about one-third of total employment and around 80 percent of total firm revenue. The coverage is consistent over time. The literature indicates that the Orbis dataset tends to omit smaller firms. The issue is magnified in the case of Greece, where more than half of employment is provided by micro firms with less than ten employees. Comparing with national aggregates by firm sizes, at the vintage of 2020, the sample covers most medium and large firms (those with more than 49 employees) in terms of both employment and revenue. The sample coverage of small firms (those with between 10 and 49 employees) is substantial but has significant omissions, covering about one-third of small-firm employment and three-fourths of small-firm revenue. In contrast, the coverage of micro firms is minimal. Therefore, a caveat is that our analysis omits micro firms almost entirely. However, the omission is likely to underestimate the degree of resource misallocation, which, as discussed below, is more concentrated in smaller firms.

**Figure 3. Greece: Summary of Firm-level Data Coverage**

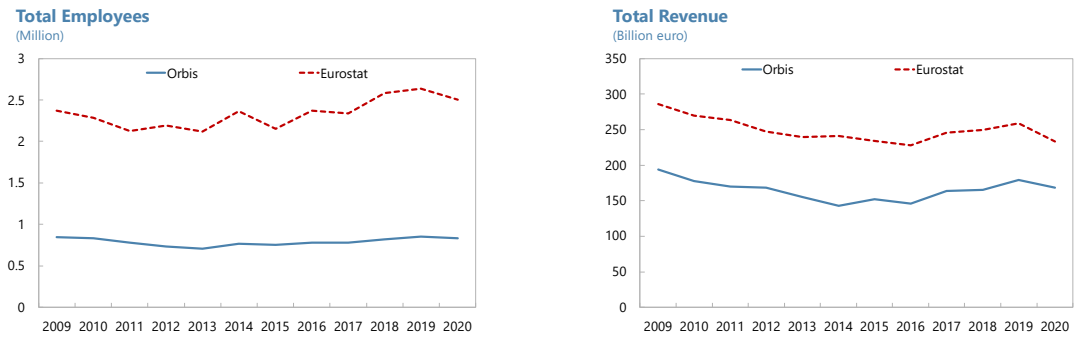
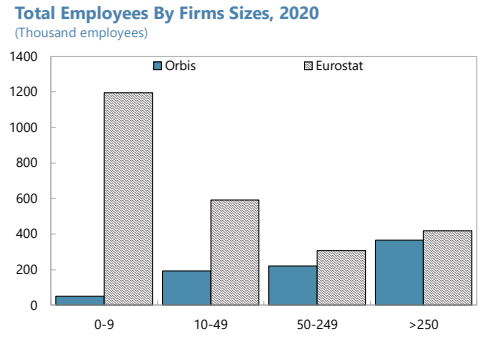
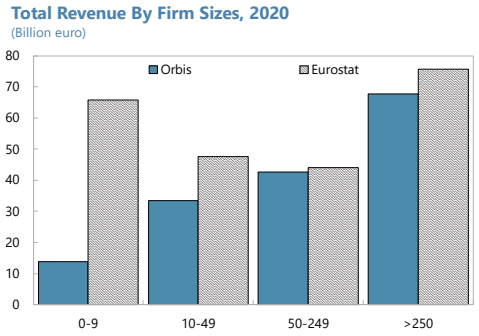


**Figure 3. Greece: Summary of Firm-level Data Coverage**
(concluded)



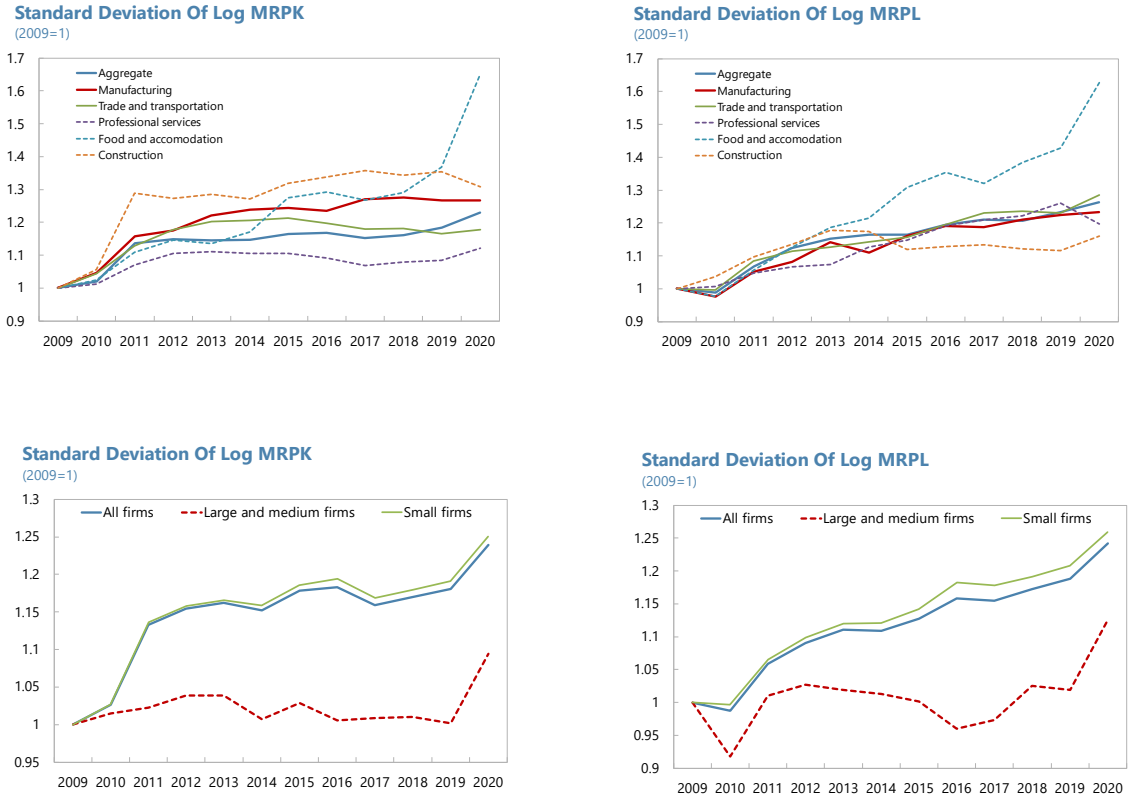




Sources: Orbis, Eurostat, and IMF staff calcualtions.

**6. Dispersion in the marginal productivity across firms is increasing due to rigidities of product and factor markets.** In a world without transaction costs, market forces would equalize marginal revenue product across firms. Product market rigidities lead to different output prices among firms producing the same products. Similarly, labor market and capital market rigidities result in varying costs of capital and wages across firms. Firms' resource allocation responds to these cost distortions, leading to deviations from optimal resource allocation.

**7. The dispersion of Greek firms' marginal product of revenue has increased since the start of Greek sovereign debt crisis and remains elevated.** We examine the dispersion of marginal revenue product of capital (MRPK) and marginal revenue product of labor (MRPL) within each sector. Both measures expanded quickly between 2009 and 2012 and have not recovered since. In contrast, IMF (2024) shows that firm productivity dispersion in most economies declined during the same period. Among different sectors, the construction sector experienced the largest MPRK dispersion before the pandemic, while the food and accommodation sector experienced the largest MPRL dispersion. For both MPRK and MPRL, the expansion in dispersion is much more pronounced among smaller firms, which has deteriorated persistently during the sample period. In contrast, the dispersion of larger firms' MPRK and MPRL has peaked in 2013. The result is likely due to size-dependent borrowing frictions and regulations. More productive smaller firms are unable to expand due to borrowing constraints and may choose to remain small, as growing larger invites more scrutiny from regulators, who find it cheaper to enforce regulations on larger firms.

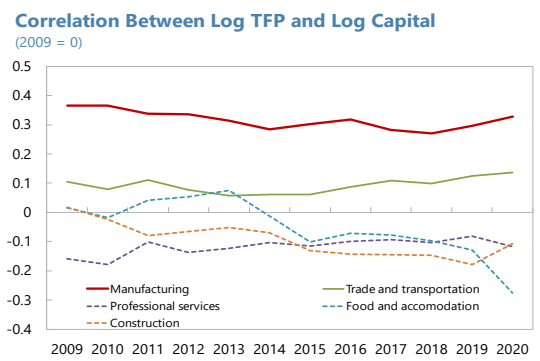
**Figure 4. Greece: Dispersion of Firm's Marginal Revenue Productivity**

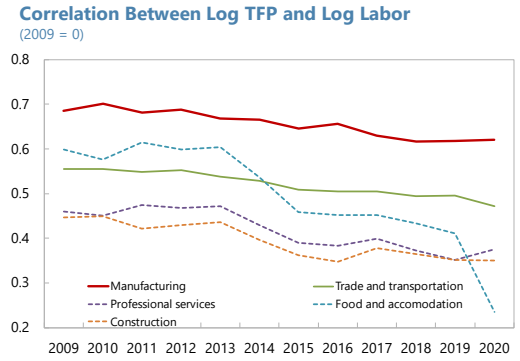


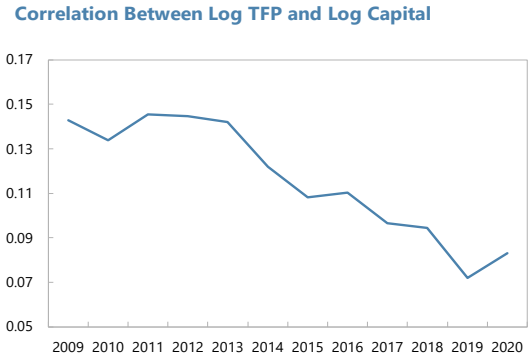

Sources: Orbis and IMF staff estimates.

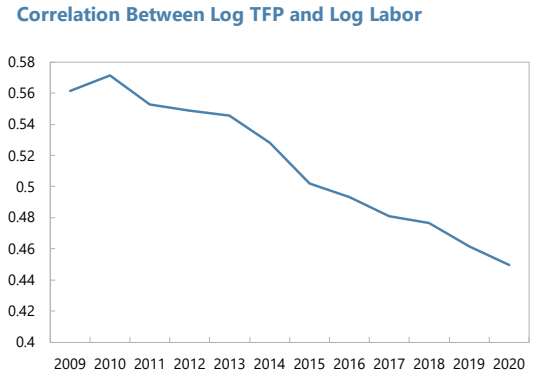
**8. The declining efficiency of resource allocation within sectors has contributed to the expansion in the dispersion of marginal revenue product.** Gopinath et al. (2017) show that MRP dispersion can be decomposed into dispersion in TFP, dispersion in productive factors, and the correlation between TFP and productive factors. In the case of Greece, the latter has shown secular declines since 2009, indicating that resources are not flowing to more productive firms. The issue is more prominent among non-tradable service sectors, namely, construction, professional services, and food and accommodation services. The correlation between TFP and capital is around zero among non-tradable sectors. For the professional services sector, the correlation is negative, while for the construction and food and accommodation sectors, the correlation started in positive territory at the beginning of the sample and then declined to negative values. In contrast, the correlation is generally positive among tradable sectors. Similar patterns are observed for the correlation between firm-level TFP and labor. The correlation declines across all sectors, although tradable sectors generally exhibit more efficient resource allocations than non-tradable sectors, as evidenced by higher correlations between TFP and labor.

**Figure 5. Greece: Correlation Between Log TFP and Productive Factors**



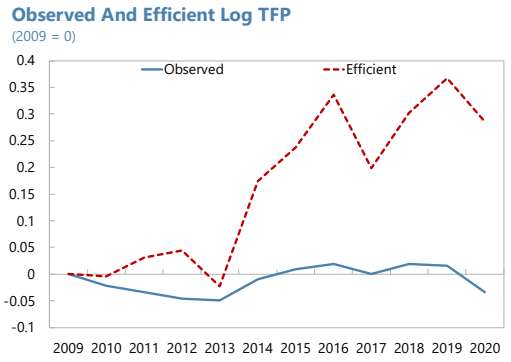



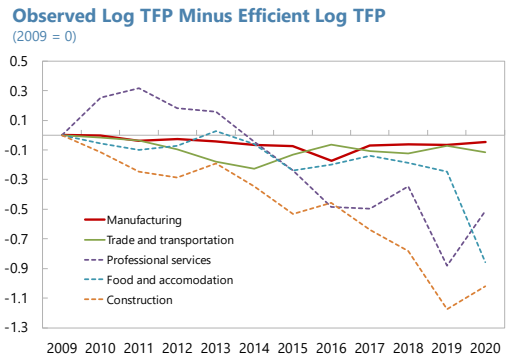




Sources: Orbis and IMF staff estimates

**9. Resource misallocation has been costly for the Greek economy, amounting to about 3 percent market-economy-sector GDP per year between 2009 and 2020.** These costs represent missed opportunities in a scenario where the degree of resource misallocation remained constant during the sample period. To construct such a scenario, we adopt the framework originated by Klenow and Hsieh (2009). The technical details are elaborated in Appendix I. The framework has been applied by Gopinath et al. (2017) to analyze resource misallocation in Spain and by IMF (2024) to examine 20 economies. We start from a counterfactual scenario with optimal resource allocation, where marginal revenue products are equal across firms within each sector. The analysis shows that the TFP gap between the efficient scenario and the actual outcome has expanded significantly for Greece. While actual TFP growth has been close to zero from 2009 to 2020, the log of efficient TFP would have grown by 30 percent during the period. The main source of the divergence is non-tradable service sectors, namely, construction, professional services, and food and accommodation services.

**Figure 6. Greece: Observed TFP, Efficient TFP and their Gaps**

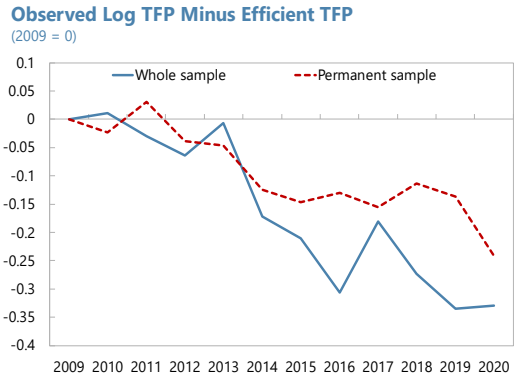


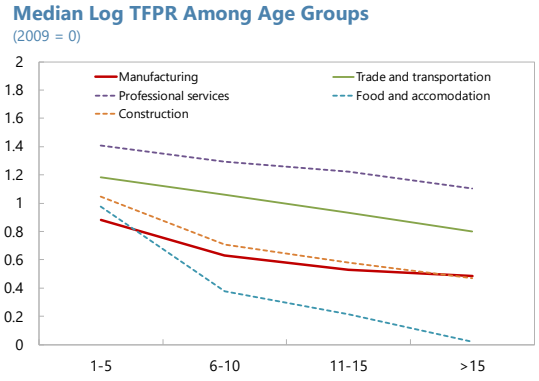




Sources: Orbis and IMF staff estimates.

**10. Young firms have not expanded fast enough to lift the productivity of the whole economy.** The increasing efficient TFP since 2009 indicates that a significant share of Greek firms has experienced productivity growth, with many more productive younger firms entering the market during this period. We compare the efficiency gap observed among permanent firm sample with the efficiency gap across the entire sample of firms and find that the entry of young firms accounts for about two-thirds of cumulative resource misallocation before the pandemic. Young firms are generally more productive than older firms. In most sectors, the median TFP of firms under five years of age is 10 to 20 percent higher than that of firms older than 15 years. The slow growth of young firms is partly due to the scarcity of bank credit. But a reversal of banks' deleveraging trend does not necessarily imply more efficient resource allocation. For example, Spain experienced a significant increase in productivity losses from capital misallocation during periods of credit expansion beginning in the 1990s (Gopinath et al., 2017).

**Figure 7. Greece: Level of Misallocation Among Whole Sample vs Permanent Sample, and Revenue-based Total Factor Productivity (TFPR) Among Firm Age Groups**



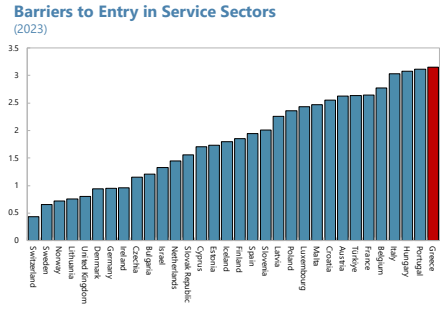

Sources: Orbis and IMF staff estimates.

## C. Policy Advice

**11. Business dynamism and productivity remain low in Greece, posing a drag on growth.** Despite the bold reforms implemented since the Greek sovereign debt crisis, regulatory burdens continue to weigh heavily on firms' decisions to invest, and productivity growth has stagnated over the past 15 years. Between 1980 and 2010, Greece generated more than five thousand new regulations each year (OECD, 2011). The number of new laws in Greece ranked the highest among OECD countries during the period from 1997 to 2009 (Pissarides et al., 2023). This overregulation undermines competitiveness and inhibits efficient resource allocation, leading to the largest small business employment among EU countries and a sizable informal economy (Cui and Yao, 2024). On a positive note, a fair number of Greek firms have increased their productivity, and many young firms with high potential have entered the market. Significant productivity gains can be achieved by reducing obstacles and disincentives for firms' entry and growth.

**12. Accelerating regulatory reforms is key to improving resource allocation, particularly in the non-tradable service sector.** Given the large number of legacy regulations, a systemic ex-post evaluation is needed. Resources should prioritize sectors with the most significant regulatory distortions, such as the non-tradable service sector. To expedite the process, opt-out provisions can be included for certain laws to provide clarity. Firm size-based tax and regulatory incentives should be avoided, while tax incentives should be narrowly targeted at firms' research and development (R&D) investments to support young, innovative firms. Additionally, remaining barriers to entry in service sectors should be further reduced.

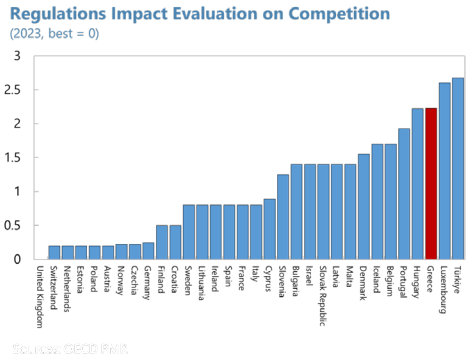
**Figure 8. Greece: Barriers of Entry in Service Sectors**




Source: OECD PMR.

**13. The scope of regulatory impact assessment should be broadened to emphasize the impact on efficiency.** A regulation can give rise to unnecessary costs or other unintended impacts on innovation and competition, which may sometimes overweigh its intended purpose. The Quality Evaluation Committee for the Drafting of Legislation (EAPND) was established in 2012 to examine laws proposed for voting in parliament. The current process focuses more on effectiveness but pays less attention on efficiency (Petrakis, 2024). Assessments should be required to consider alternatives to regulations, such as a 'do-nothing' option.

**Figure 9. Greece: OECD PMR Index on Regulations Impact Evaluation**




Source: OECD PMR.

Additionally, the assessment should cover potential competition effects from subordinate regulations as well as primary laws (OECD 2024).

**14. Labor market and capital market reforms can facilitate the growth of small and young firms.** Labor force participation remains low, particularly among youth, women and the elderly. Targeted support for childcare and elderly care can enable woman to work outside the home. Reducing the high tax wedge and phasing out the unemployment benefits within the eligibility period can incentivizing job search.[3] On the capital market side, sustained efforts to reduce non-performing loans will lower the costs of bank lending to small firms. With unresolved bad assets locking in valuable resources, further judicial system reforms will facilitate resource allocation by channeling funding from distressed firms to more productive ones[4].

**15. On the European level, removing barriers within the single market and investing in infrastructure will further strengthen economic integration and efficiency.**

[3] See special issue paper Capell et al. (2025) "Unlocking the Work Force Potential: Empowering Women to Boost Economic Growth and Greek Prosperity"

[4] See special issue paper Dai et al. (2025) "Enhancing Judicial System Efficiency in Greece. Drivers and Economic Impact"

# Appendix I. Technical Appendix

**1.** The current framework is adapted from Klenow and Hsieh (2009), by assuming a monopolistic competition market in each sector. The output of sector $s$ is the aggregated of each differentiated product with a CES function:

$$Y_{st} = \left( \sum_{i=1}^{I_{st}} Y_{sit}^{\frac{\sigma-1}{\sigma}} \right)^{\frac{\sigma}{\sigma-1}}, \tag{1}$$

Where $Y_{st}$ is output of sector $s$; $Y_{st}$ is output of good $i$ in sector $s$; and $\sigma > 0$. In this exercise, we assume $\sigma = 3$, consistent with Klenow and Hsieh (2009), Gopinath et al. (2017) and IMF (2024). Each differentiated product is produced from capital and other variable costs using a Cobb-Douglas function:

$$Y_{sit} = A_{sit} K_{sit}^{\alpha_s} COG_{sit}^{1-\alpha_s}, \tag{2}$$

Where $K_{sit}$ is capital used; $COG_{sit}$ is variable costs of goods including material costs and labor costs; $A_{sit}$ captures the productivity of the firm producing product $i$; and $\alpha_s \in (0,1)$ which is calibrated using one minus sectoral medians of cost of goods sold divided by total revenue. Note here, due to data limitations, we use a production function based on capital and other variable costs, rather than capital and labor.

**2.** There is an output distortion ($\tau_{Ysit}$), a capital distortion ($\tau_{Ksit}$), and a cost-of-goods distortion ($\tau_{COGsit}$), and firms maximize their profits under monopolistic competition, leading to the following optimality conditions:

$$MRPK_{sit} \equiv \alpha_s \frac{\sigma_c - 1}{\sigma_c} \frac{P_{sit} Y_{sit}}{K_{sit}} = r_{cst} \frac{1 + \tau_{Ksit}}{1 - \tau_{Ysit}}, \tag{3}$$

$$MRPCOG_{sit} \equiv (1 - \alpha_s) \frac{\sigma_c - 1}{\sigma_c} \frac{P_{sit} Y_{sit}}{COG_{sit}} = \frac{1 + \tau_{COGsit}}{1 - \tau_{Ysit}}. \tag{4}$$

Note that everything that does not vary at the firm level cancels out in this expression, so the only information we require is:

$$MRPCOG_{sit} \propto \frac{P_{sit} Y_{sit}}{COG_{sit}}, \qquad MRPK_{sit} \propto \frac{P_{sit} Y_{sit}}{K_{sit}}, \qquad MRPL_{sit} \propto \frac{P_{csit} Y_{csit}}{L_{csit}}. \tag{5}$$

The last term is a simple extension, if we assume $COG_{sit}$ is a Dogg-Coublas function of personnel expenditure and other variable costs. With the absence of wage data, we use number of employees as $L_{csit}$. Following the terminology of Hiesh and Klenow (2009), we define the revenue-based total factor productivity (TFPR) at the firm level as:

$$TFPR_{sit} \equiv \frac{P_{sit} Y_{sit}}{K_{sit}^{\alpha_s} COG_{sit}^{1-\alpha_s}}, \tag{6}$$

And industry level TFPR as:

$$\overline{TFPR}_{st} \equiv \frac{P_{st}Y_{st}}{K_{st}^{\alpha_s} COG_{st}^{1-\alpha_s}}, \tag{7}$$

Where $K_{st}$ and $COG_{st}$ is sectoral total fixed assets and total costs of goods, and $P_{st}$ is sectoral level price index. The firm level productivity $A_{sit}$ can be measured as:

$$A_{sit} = \frac{Y_{sit}}{K_{sit}^{\alpha_s} L_{sit}^{1-\alpha_s}} = d_{st} \frac{(P_{sit}Y_{sit})^{\frac{\sigma}{\sigma-1}}}{K_{sit}^{\alpha_s} L_{sit}^{1-\alpha_s}}, \tag{8}$$

Where $d_{cst} \equiv P_{st}^{-\frac{\sigma}{\sigma-1}} Y_{st}^{-\frac{1}{\sigma-1}}$. We can write sectoral TFP as:

$$TFP_{st} = \frac{TFPR_{st}}{P_{st}} = \left[\sum_{i=1}^{I_{st}} A_{sit}^{\sigma-1} \left(\frac{TFPR_{sit}}{\overline{TFPR}_{st}}\right)^{1-\sigma}\right]^{\frac{1}{\sigma-1}}. \tag{9}$$

**3.** Absence of distortion leads to $TFPR_{sit} = \overline{TFPR}_{st}$, and we see that the efficient level of TFP is given by:

$$TFP_{st}^{e} = \left[\sum_{i=1}^{I_{st}} A_{sit}^{\sigma-1}\right]^{\frac{1}{\sigma-1}}. \tag{10}$$

As in Hsieh and Klenow (2009), assume aggregate output is Cobb-Douglas:

$$Y_t = \prod_{s=1}^{S} Y_{st}^{\theta_{st}}, \tag{11}$$

where $\theta_{st} > 0$, $\sum_s \theta_{st} = 1$. Let $Y_t^e$ denotes the efficient level of output if marginal products were equalized within each sector, we can express the aggregate ratio of actual output over efficient output:

$$\frac{Y_t}{Y_t^e} = \prod_{s=1}^{S} \left(\frac{TFP_{st}}{TFP_{st}^{e}}\right)^{\theta_{cst}}. \tag{12}$$

The ratio and its log serve as a measure of allocation efficiency overtime.

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# ENHANCING JUDICIAL SYSTEM EFFICIENCY IN GREECE DRIVERS AND ECONOMIC IMPACT[1]

*Greece's judicial system efficiency has been one of the lowest in the EU, affecting adversely the country's economic performance. The massive increase in demand for judiciary services during the crisis period resulted from significant business and personal insolvencies, along with limited availability of alternative dispute resolutions and relatively low court fees. The response of judiciary services supply did not match the demand owing to inadequate deployment of human and financial resources and a low level of digitalization. Reducing the imbalances in the judicial system is important not only to address the legacy issues, but even more importantly, to create conditions for higher growth and greater economic resilience going forward. Building on international experience, policy simulations suggest sizeable gains from judicial reforms for investment and productivity. The ongoing reform of the judicial system has correctly identified the key imbalances, appropriately prioritizing policy actions to address them, but requires a swift execution.*

## A. Introduction

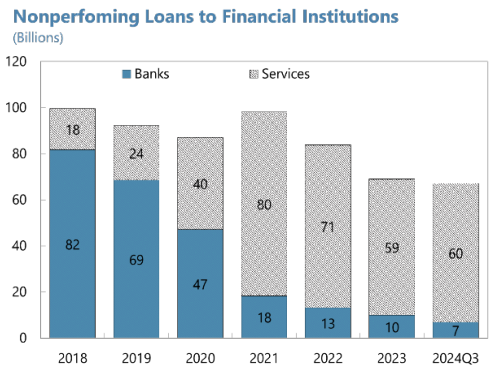
**1. The new insolvency framework has helped reducing distressed debt, but its implementation is hindered by an inefficient judicial system, hampering economic performance.** Leveraging on the Hercules program, the NPL ratio was reduced from 40 percent in 2019 to 3 percent in 2024 (EBA, 2024). But the reduction implied a transfer of NPLs from the banking system balance sheet to the credit servicers in charge of recovering former NPLs (IMF, 2022). The resulting distressed debt in the hands of credit servicers amounted to around 70bn at end–2024, accounting for 30 around percent of GDP (BoG, 2024). The new insolvency framework, operationalized since late 2021, rearranged all existing proceedings under a single text and includes, in addition to an improved out-of-court workout, a pre-insolvency procedure for rehabilitation of business, liquidation, and a bankruptcy procedure for traders and non-traders (IMF, 2023). However, progress in the implementation of the framework has been hindered by lengthy court proceedings (EC, 2024a). This has in turn impacted adversely not only the reduction of the distressed debt (EC, 2024a), but likely also private investment and productivity (Lorenzani and Lucidi, 2014).

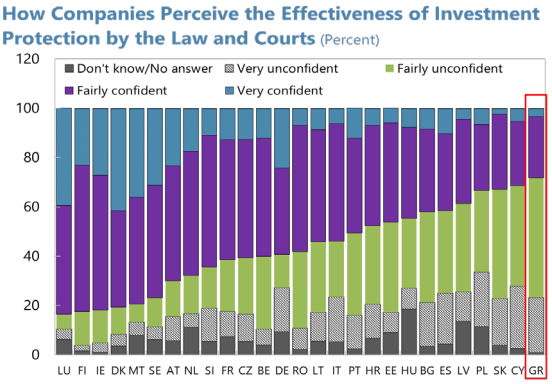
**2. The recently launched reform of the judicial system aims at addressing its deficiencies**. Drawing on World Bank (2023), the reform of the judicial system leveraging the EU funding initiated in 2024 prioritizes court reorganization, digitalization, training, and shifting away some tasks from judges, creating a very good opportunity to modernize the judiciary. Specifically, the implementation of new judicial map in civil and criminal justice is underway and constitutes a major reform, which aims at a balanced distribution of cases among first instance judges and a speedier

[1] Prepared by Katherine Dai, Mariusz Jarmuzek, Ritong Qu, and Amira Rasekh. The authors would like to thank, without implicating, Theoni Alampasi, Leonor Coutinho, Jose Garrido, Ioannis Germanos, Christina Katopodi, Pelops Laskos, as well as participants of the workshop held at the Bank of Greece for useful discussions, comments, and suggestions.

administration of justice (EC, 2024c). In addition, several types of non-contentious cases, including mortgage pre-notations, the provision of sworn statements and acts relating to inheritance, can now be performed by lawyers, which is expected to contribute to decongesting civil courts from a significant number of time-consuming cases and improve efficiency (EC, 2024c). Finally, further upgrades in the information systems and video conferencing services are progressing, as is recruitment of additional judges and judicial clerks (EC, 2024c). The main target variable of the reform is to bring the length of court proceedings defined in terms of disposition time to the average EU level by 2027.

**Figure 1. Greece: Distressed Debt and Private Sector Investment Protection**




Sources: Bank of Greece and EU Justice Scoreboard.

**3. This paper presents key drivers for and economic impact of judicial system reforms in Greece.** Key questions include (1) How does the Greek judicial system perform in the international perspective? (2) What are the main drivers for the judicial system performance? and (3) What could be an impact of judicial reforms on economic performance? To address these questions, the study first describes the court system in Greece and then documents judicial system efficiency, identifying its key drivers. The study subsequently sheds some light on the impact of judicial reforms on debt enforcement and insolvency proceedings, as well as economic performance, drawing on international experiences. Finally, the study presents some policy options.

## B. Court System in Greece[2]

**4. Insolvency and enforcement matters in Greece are handled by the civil courts.** Civil courts in Greece deal with a wide range of civil, commercial and criminal issues ranging from family matters to commercial disputes. Starting from 2024, these civil courts comprise of three tiers: (i) 57 courts of first instance; (ii) 19 courts of appeal; and (iii) the Court of Cassation (Supreme Court of Areios Pagos).

[2] The analysis of the institutional framework for insolvency and creditor rights in Greece is conducted based on the World Bank's Principles for Effective Insolvency and Creditor and Debtor Regimes ("WB Principles").

**5. There is a limited level of specialization in civil courts in Greece.** The major courts have split the handling of civil and criminal cases between different groups of judges. With respect to civil law, three first instance courts (Athens, Piraeus and Thessaloniki) have established specialized benches in areas like debt enforcement, insolvency law, tort, family law, succession law and intellectual property. Similarly, there is a low level of specialization at the major courts of appeal (split between civil and criminal law, specialized benches in some civil areas).

**6. The Greek court system does not allow a judge to specialize in insolvency—or commercial matters more broadly—on a permanent basis.** Even in major districts with specialized benches in civil matters, judges still need to rotate every four years. This does not allow judges to build specialization and subject matter expertise over time; after four years, an outgoing insolvency judge could end up working in very different areas such as family law. The same applies for an incoming judge who might have been previously working in a completely different subject. Insolvency trainings for judges are held once or twice a year. Currently, 29 judges have a specialized role related to insolvency.

**7. There is no central management of the court system.** At the individual court level, there is often no centralized or adequate management. Courts are operated as individual entities rather than as part of a broader network. This has led to fragmentation and little flexibility in assigning and reallocating resources as needed. Data systems, if in place, tend to be court specific and do not cover the entire court system. This makes it difficult to oversee the system as a whole and have effective case management.[3] Recent efforts to improve management at the level of first instance courts are welcome.

**8. As of 2025, a new regime for the regulation of insolvency professionals was introduced.** Prior to that, there was no professionally organized cohort of insolvency professionals, which negatively impacted the application of the insolvency framework.[4] As of January 2025, there are 192 registered insolvency professionals. Insolvency professionals are licensed after undertaking exams organized by the Insolvency Management Committee, which was established in 2021 and operated under the supervision of the Ministry of Economy and Finance. Disciplinary sanctions against insolvency professionals range from a written reprimand, financial fine, temporary ban on assuming duties to a temporary withdrawal of license and removal from the registry.

## C. Judicial System Efficiency

**9. The length of dispute resolutions is pivotal for the correct functioning of the economy and good performance in other dimensions.** A timely resolution of disputes is critical to reduce the risk of opportunistic lawsuits and prevent firms from suffering undue costs that may hurt their competitiveness and, for small firms, may even determine exit from business (Palumbo and others, 2013). In addition, trial length is key to guarantee the certainty of rules, which in turn assures that firms can make better investment choices because they know what rules will apply ex post. By

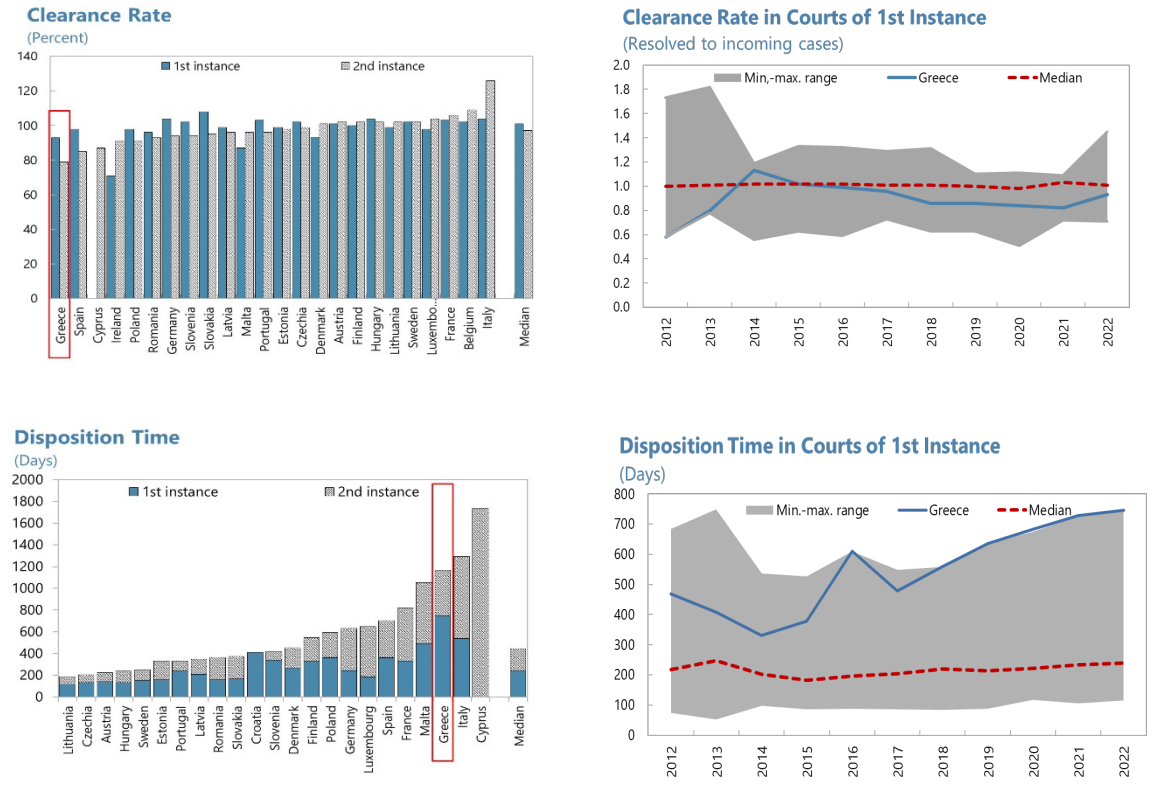
[3] Bergthaler and Garrido (2017).

[4] Bergthaler and Garrido (2017) provide a summary of earlier judicial reforms.

forcing litigants to endure long delays before a judgment is rendered, lengthy trials may compromise legal certainty and confidence in the justice system (Palumbo and others, 2013). The most commonly used measures of judicial efficiency are clearance rate and the estimated length of court proceedings (disposition time) (EC, 2024b).

**10. Greece is one of the countries with the lowest judicial system efficiency in the EU, with only modest recent improvement.** The clearance rate measures whether a court is keeping up with its incoming caseload. The indicator for civil and commercial cases in Greece has been well below 100 percent for both 1st and 2nd instance courts for almost the whole reporting period, implying that the courts were resolving fewer cases than the number of incoming cases, which was much lower than the EU average. The performance was particularly poor at the time of the Global Financial Crisis (GFC) and the European Debt Crisis (EDC) when the clearance rate dropped below 60 percent, creating a massive backlog in the system and leading to a jump in the disposition time indicator.[5] The disposition time indicator estimates minimum time that a court would need to resolve a case while maintaining the current working conditions. Combining the data for 1st and 2nd instance courts, it takes almost 1,200 days in Greece to reach a decision for civil and commercial cases, which is considerably higher that the EU average of 446 days, with Greece recording the longest proceedings for 1st instance courts in the EU.

**Figure 2. Greece: Judicial Efficiency Measures**




Source: CEPEJ and EU Justice Scoreboard.

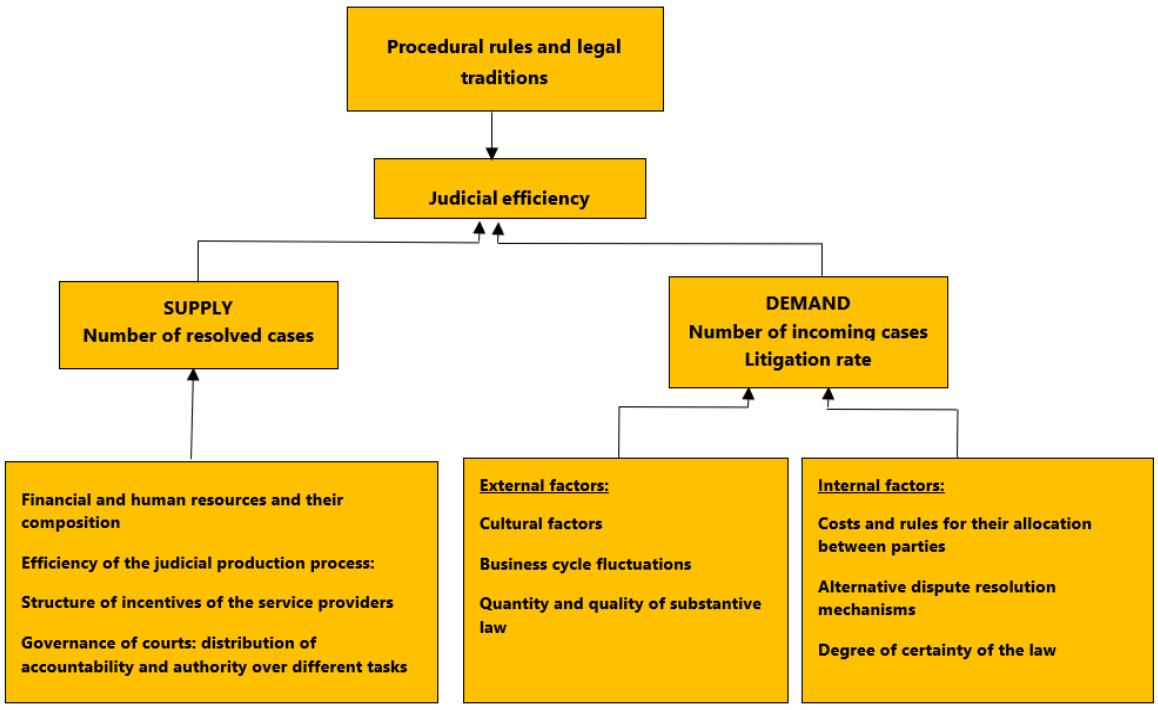
[5] Mitsopoulos and Pelagidis (2007) report on low judicial system efficiency prior to the GFC.

## D. Drivers of Judicial Efficiency

### Conceptual Framework

**11. The conceptual framework for analyzing judicial system efficiency hinges on the demand-supply approach.** Building on earlier studies zooming separately in on demand and supply factors shaping civil justice efficiency, Palumbo and others (2013) and Lorenzani and Lucidi (2014) integrate these factors into one framework viewing the judicial system as a market where demand for and supply of justice meet. The demand for justice is measured by the number of incoming cases, driven by business cycle fluctuations, quantity and quality of law, costs and rules governing court proceedings, alternative dispute resolution mechanisms, with some influence from national social norms. The supply of justice is measured by the number of cases resolved, driven by financial and human resources, efficiency of judicial production process, structure of incentives of the service providers, and the governance of courts. According to this approach, the market for justice clears through adjustments in the length of court proceedings, with the inability of the system to satisfy the demand for justice generating congestion and delays.

**Figure 3. Greece: Conceptual Framework for Judicial Efficiency Drivers**

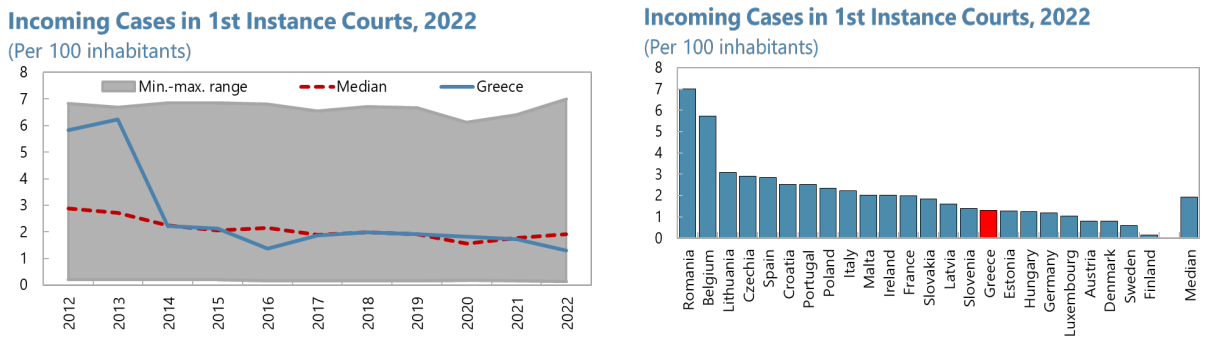



Sources: Palumbo and others (2013), and IMF staff.

## Demand-side Factors

**12. There was a massive increase in demand for judiciary services during the GFC and the EDC, generating congestion in the system.** While the incoming cases have recently slowed down and are below the EU average, the shocks associated with the GFC and the EDC were of exceptional magnitude in Greece compared to the other countries. The increase in litigation implied that courts were faced with a larger number of cases to be solved. The resulting workload generated congestion and hence lengthened the duration of trials, given that the supply of justice did not adjust accordingly.

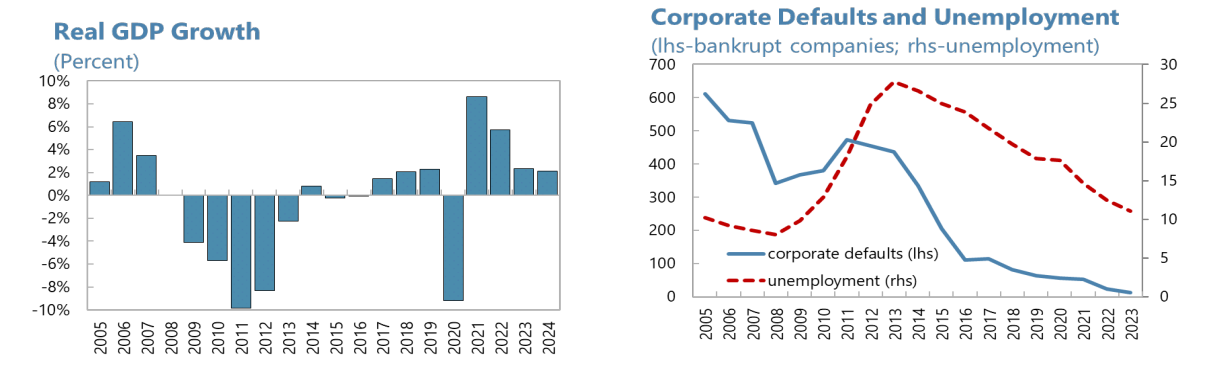
**Figure 4. Greece: Incoming Cases**




Soure: CEPEJ.

**13. The distress period has resulted in significant business and personal insolvencies.** The crisis period shocks resulted in a substantial recession in Greece suffering from a cumulative loss of around 30 percent of GDP over the 5-year period. This in turn triggered business and personal insolvencies on a massive scale, with corporates defaults spiking in 2011 and starting to decline only in 2014, while unemployment rate remaining elevated until 2020. Greece's experience associating economic downturns with higher litigation rates is consistent with the findings of Palumbo and others (2013) for OECD countries and of Ginsburg and Hoetker (2006) for Japan.

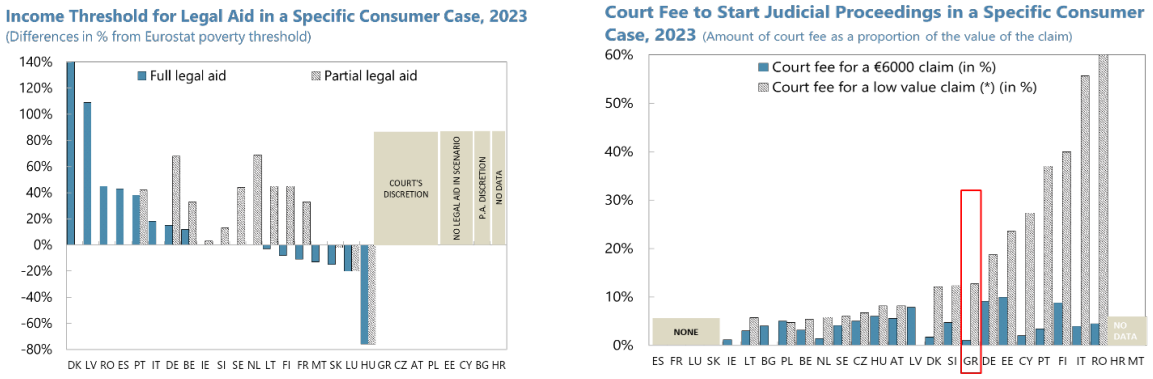
**Figure 5. Greece: Business Cycle and Insolvencies**




Source: ECB and ELSTAT.

**14. While court fees tend to be on the low side, legal aid is left for courts' discretion.** Court fees to start judicial proceedings in Greece are generally on the low side compared to other EU countries. Beneficiary of legal aid in Greece can be a person whose capital annual income does not exceed the two-thirds of the lowest annual salaries, with discretion left to courts to determine the amount of legal aid (EC, 2024b). While access to legal aid is a fundamental right of the EU citizens, lower private costs of trial can be a contributing factor to higher litigation, with Palumbo and others (2013) showing some evidence for a negative correlation between litigation rate and cost of trial for OECD countries.

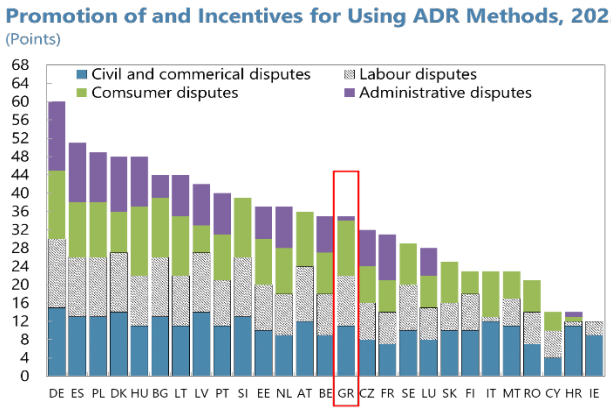
**Figure 6. Greece: Court Fees and Legal Aid**




Source: European Commission.

**15. Alternative dispute resolutions have only recently become an important supporting factor.** With the relatively low availability of alternative dispute resolutions in Greece during the crisis period, this mechanism could not help much in channeling disputes through out-of-court arbitration and mediation. But Greece has adopted a modern system since 2019, contributing to some extent to a declining trend in the litigation rate. This would be consistent with the evidence presented from the French civil courts by Belarouci (2021) and from the US courts by Heise (2010).

**Figure 7. Greece: Alternative Dispute Resolutions**

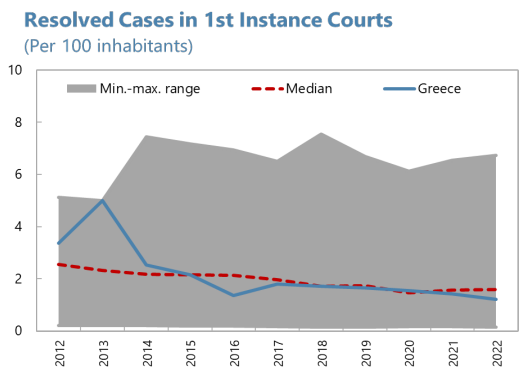


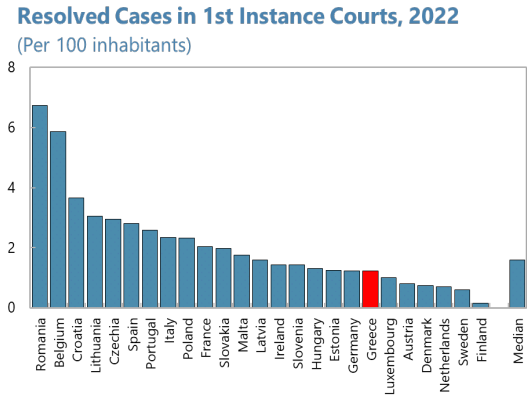

Sources: EU Justice Scoreboard.

## Supply-Side Factors

**16. Supply of judiciary services has been on the downward trend since the crisis period.** While there was some pick-up in judiciary supply measured by the resolved cases in Greece during the crisis period, there has generally been a declining trend, with Greece below the EU average and not responding adequately to elevated demand.

**Figure 8. Greece: Resolved Cases**

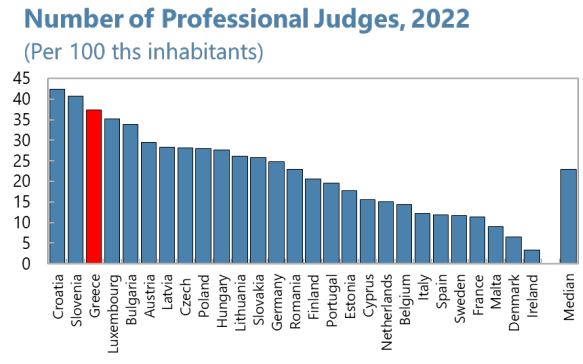



Source: CEPEJ.

**17. Inadequate deployment of human and financial resources has led to low court resolution rate in Greece.** Greece is a country characterized by a very high number of judges per capita compared to the EU average, along with one of the highest increases in the EU between 2012 and 2022, exceeding 60 percent. While a higher number of judges is generally expected to enhance the number of resolved cases, cross-country evidence from the EU countries presented by Lorenzani and Lucidi (2014) suggests no statistically significant relationship. This is in line with the findings of Beenstock (2001) who attributes it to the decreasing productivity of existing judges in a response to the appointment of additional judges. But support from non-judge staff has been very limited in Greece, leading to overburdening judges with administrative and other non-core tasks and resulting in lower efficiency compared to its EU peers, in line with the findings of Buscaglia and Dakolias (1999) for advanced and emerging economies that underwent judicial reforms. The relevance of judges' salaries for efficiency may be limited because higher pay could provide an incentive for judges to perform better but poorly designed reward schemes could demotivate top performers (Gouveia and others, 2017). In general, Voigt and El Bialy (2013) show that there is no strong evidence that more resources result in higher court resolution rate.

**Figure 9. Greece: Human and Financial Resources**



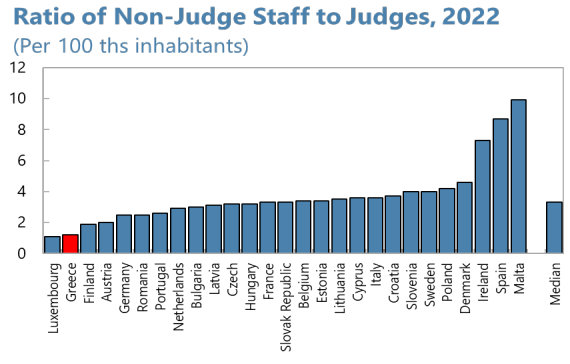
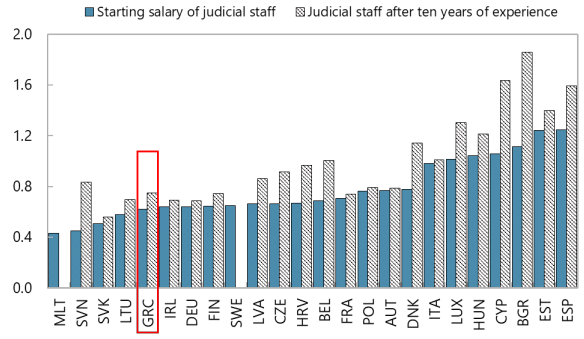
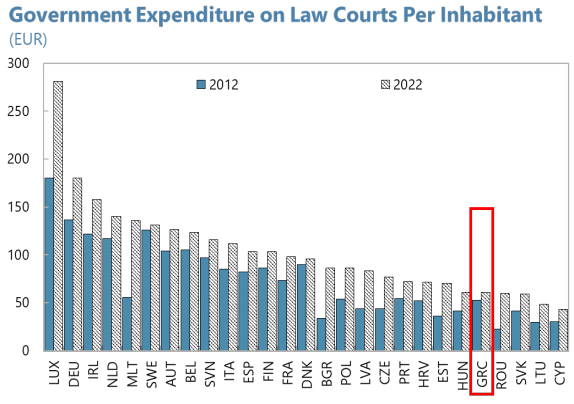



**Figure 9. Greece: Human and Financial Resources** (concluded)

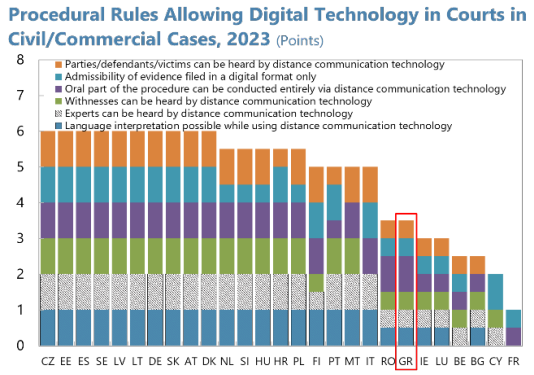



Source: CEPEJ.

**18. A low level of digitalization has also contributed to a less efficient judiciary system**. In order to benefit from digitalization, appropriate regulation allowing the use of distance communication technology for court and court-related procedures needs to be incorporated in national procedural rules, with Greece lagging behind its EU peers in this respect. Beyond digital-ready procedural rules, courts need to have appropriate tools and infrastructure in place for distance communication and secure remote access to the workplace, which are also needed for secure electronic communication between courts/prosecution services and legal professionals and institutions, with Greece lagging behind its EU peers also in this respect. The availability of various digital tools at the disposal of judges and judicial staff can streamline work processes, ensure fair workload allocation and lead to a significant time reduction. The possibility for courts to communicate electronically between themselves, as well as with legal professionals and other institutions, can streamline processes and reduce the need for paper-based communication and physical presence, which would lead to a reduction in the length of pre-trial activities and court proceedings. Greece deviates significantly from the EU average in this respect too. There is strong evidence from Lorenzani and Lucidi (2014) for the EU countries and from Palumbo and others (2013) for the OECD countries confirming the importance of digitalization for efficiency.

**Figure 10. Greece: Digitalization**



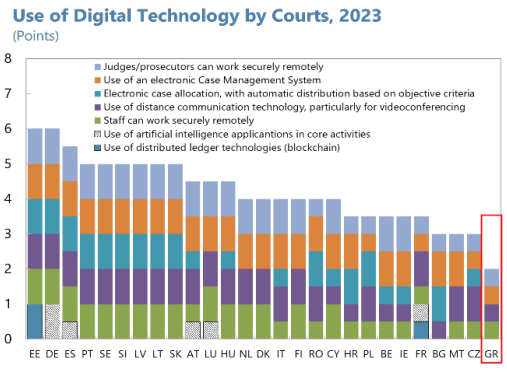
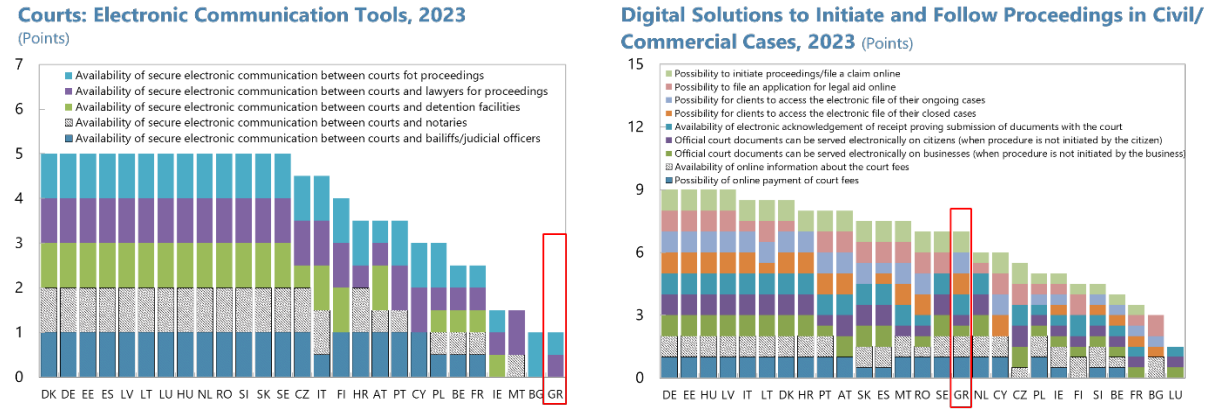



**Figure 10. Greece: Digitalization** (concluded)



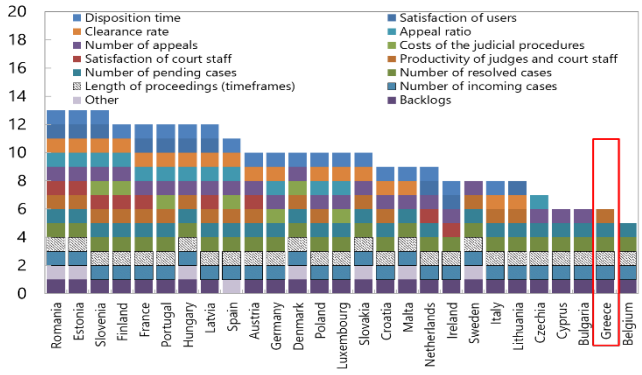

Source: EU Justice Scoreboard.

**19. Further room for improvements in the incentive structure of service providers.** While the monitoring system of court activities in Greece embeds key elements such as backlogs, number of incoming, resolved, and pending cases, other relevant elements are not subject to an active monitoring. These other elements include disposition time, clearance rate, and appeal rate, which are essential components of the monitoring framework of court activities in the vast majority of the EU countries. De Figueiredo and others (2020) present evidence from the US federal civil cases documenting that judges close markedly more cases and decide more motions in the week immediately before they report their outputs as part of semi-annual evaluation cycles. Botero (2003) and Bosio (2023) point to the importance of adequate incentives that would create conducive environment for higher efficiency through increased accountability and competition.

**Figure 11. Greece: Incentive Structure of Service Providers**

**Modalities for Monitoring Court Activities**

(Total number of monitoring elements (out of 14)




Each square refers to answer 'Yes'.
Source: CEPEJ.

## E. Impact of Judicial Efficiency on Debt Enforcement and Insolvency Proceedings

**20. Debt enforcement is significantly impacted by the shortcomings in the court system coupled with the rigidities in the Code of Civil Procedure.** It could take several years for a creditor to obtain a court order with the debtor having multiple avenues to challenge and delay it. Delays frequently occur in respect of hearings of legal challenges against enforcement proceedings/auctions, and hearings are generally set for dates in the distant future. Measures are

underway to address these issues and help accelerate the proceedings, including by restricting the possibilities for adjourning trials under the newly revised Code of Civil Procedure. The newly revised code (to be adopted in June 2025) aims to create a simpler and more effective set of rules that is easier for judges to apply and limits the room for constant postponement of hearings. Further, the staffing of additional judges (30 previously magistrate judges) on debt enforcement proceedings to clear the backlog of cases is currently underway.

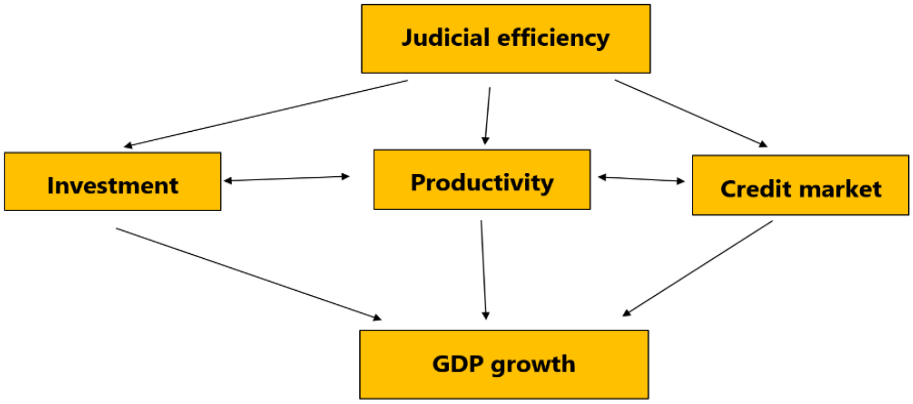
**21. Progress in the implementation of a new insolvency framework remains insufficient, partly due to shortcomings in the court system.** For corporate insolvency proceedings, the lack of procedural efficiency and strong judicial infrastructure are a huge challenge. One primary complication is the distant dates given to the hearing of the insolvency petition. Delays between the submission of an insolvency petition and the actual opening of a case are particularly detrimental for a corporate insolvency where timing is of the essence for saving a business. These delays clearly dissuade businesses from tapping the insolvency framework as the very slow pace coupled with the heavy bureaucracy would often mean a death sentence for a corporation. An added factor in corporate insolvencies is also the level of expertise required for the effective and successful handling of these cases. Unlike personal bankruptcy, where the issues at hand tend to be simpler, corporate insolvencies often involve more complex issues that require financial as well as legal expertise across an array of commercial law matters. The bankruptcy procedure has been impacted to a lesser extent, although delays may nevertheless occur at the hearing of legal challenges against the auction for the sale of the bankruptcy estate or against the creditor classification list with many petitions being filed by the debtor.

## F. Impact of Judicial Efficiency on Economic Performance

### Conceptual Framework

**22. There are various transmission channels through which judicial system efficiency affects economic performance.** Palumbo and others (2013) and Bosio (2023) identify investment, productivity, and credit markets as key channels. Given that contract enforcement is a critical element of judicial system performance, investment is linked to contract enforcement through a reduction in business and policy uncertainty, as well as an increase in expected returns (Dixit and Pindyck, 1994; Aboel and others, 2014). Productivity can benefit from judicial system efficiency through its impact on the business dynamism, firm size, and innovation (Cooley and others, 2004; Chemin, 2020). Credit markets are linked to judicial system efficiency through its impact on access to finance by corporates and households (Jappelli and others, 2005). Ponticelli and Alencar (2016) combine these channels into one theoretical framework allowing interactions between them, pointing to the importance of judicial efficiency for access to bank loans, investment, and productivity. These channels are pertinent to Greek economy which features smaller firm sizes, low private sector investments, low firm exit rates, and deteriorating allocation efficiencies since the EDC (Qu, 2025).

**Figure 12. Greece: Conceptual Framework for Impact of Judicial Efficiency on Economic Performance**




Sources: Ponticelli and Alencar (2016), Bosio (2023), Palumbo and others (2013), and IMF staff.

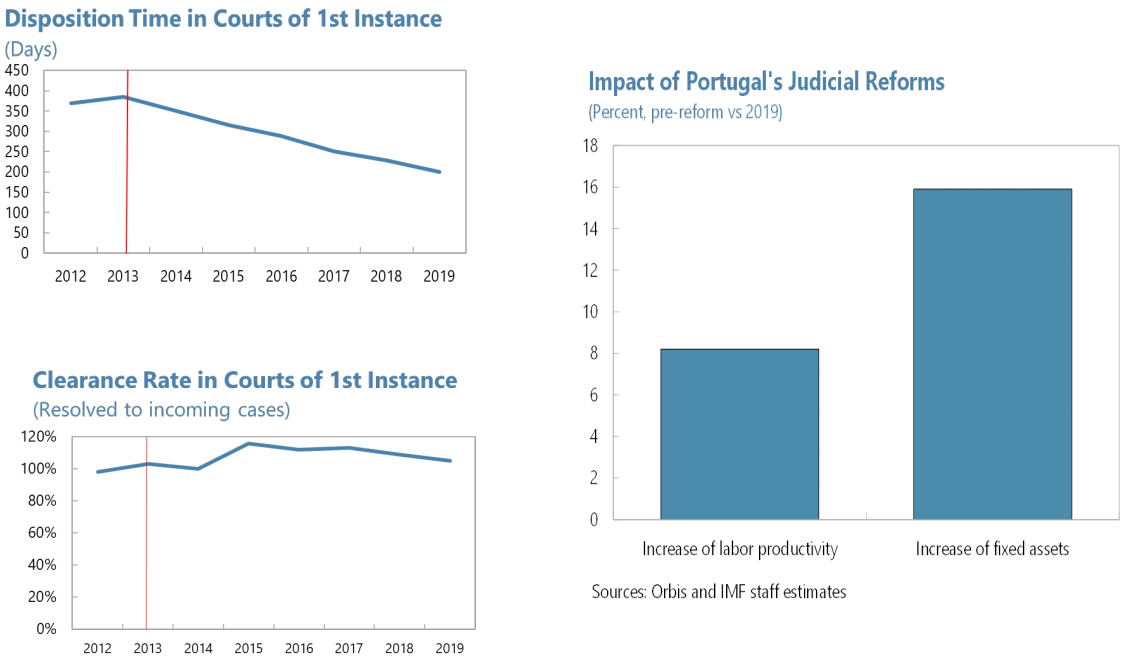
## International Evidence

**23. Cross-country empirical studies provide support for the relevance of these channels for economic performance.** The relevance of investment is confirmed by Pang and Wu (2009) who present evidence that countries with better contract enforcement tend to have more efficient capital allocation in industries that are more contract-intensive, as well as by Lorenzani and Lucidi (2014) who show that higher judicial efficiency leads to higher foreign direct investment. The relevance of productivity is confirmed by Chemin (2020) who finds that judicial efficiency significantly improves firm productivity in sectors requiring more relationship-specific investments, with Lorenzani and Lucidi (2014) presenting evidence for the role of business dynamism in the form of firm entry and exit and Beck and others (2006) for the relevance of firm size. The relevance of credit market is documented by Qjan and Strahan (2007) and Bae and Goyal (2009) who find that better contract enforcement induces credit suppliers to increase loan size, lengthen loan maturity, and reduce loan spreads. Kapapolous and Rizos (2024) provide support for the relevance judicial efficiency for real growth per capita.

**24. Portugal can potentially serve as an example of successful judicial system reforms**. Building on the change in the territorial jurisdiction of courts in 2006, Portugal implemented ambitious judicial reforms aiming at improving efficiency between 2011 and 2013 (Pereira and Wemans, 2018 and 2022). The reforms included a new code of civil procedure facilitating the swift conduct of proceeds by judges and parties, and the implementation of the jurisdictional organization act creating court clusters allowing for greater economies of scale and professional specialization. The reforms also included the creation of the special task forces to reduce pending cases and the introduction of tighter supervision instruments, in addition to extending the toolkit for the alternative dispute resolution through mediation and tax arbitration regimes (Lorenzani and Lucidi, 2014). Benefitting from the reforms, the disposition time in the first instance courts declined from around 400 days in 2013 to around 200 days in 2019, with significant improvements for the

clearance rate. Evidence based on firm-level data for Portugal using the analytical framework by Chemin (2020) suggests a positive impact of the judicial reforms on investment and productivity in Portugal (Appendix I).

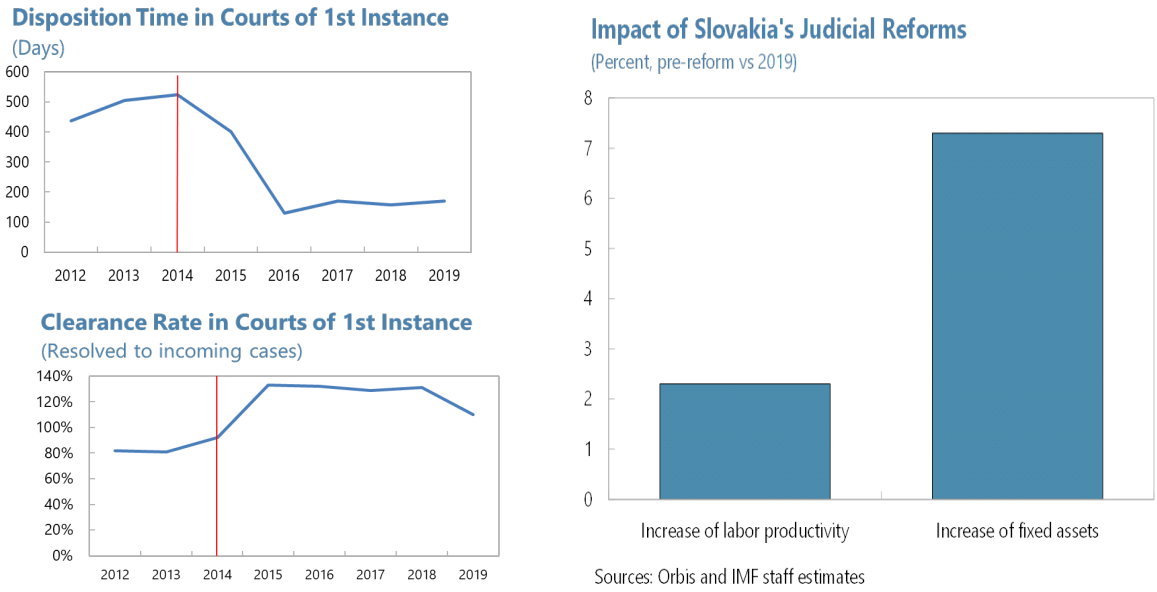
**Figure 13. Greece: Estimated Impact of Judicial Reforms on Investment and Productivity in Portugal**




Source: EU Justice Scoreboard, Orbis and IMF staff estimates.

**25. Slovakia's judicial reforms can help shed some light on their economic impact too.** Slovakia implemented a range of judicial reforms aiming at ensuring quality and effectiveness in adjudication as well as increasing transparency between 2012–16 (Spac and others, 2018). The reforms included establishing of the new court dealing with enforcement, with the main aim to reduce the caseload at the district and regional courts, as well as adoption of two new codes for the civil law and procedure (ENCJ, 2016). Benefitting from the reforms, the disposition time in the first instance courts declined from around 500 days in 2014 to around 200 days in 2019, while the clearance rate increased from around 80 percent in 2013 to around 120 percent in 2019. Similarly to the analysis employing the methodology by Chemin (2020) to Portugal, evidence based on firm-level data for Slovakia also suggests a positive impact of the judicial reforms on investment and productivity in Slovakia (Appendix I).

**Figure 14. Greece: Estimated Impact of Judicial Reforms on Investment and Productivity in Slovakia**

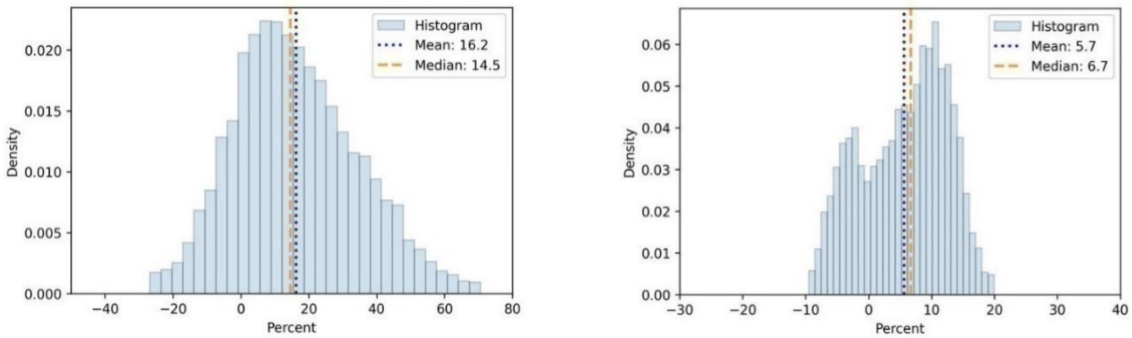



Source: EU Justice Scoreboard, Orbis and IMF staff estimates.

## Policy Simulations

**26. Simulations for Greece suggest good potential for boosting its economic performance.** Policy simulations leverage on pooling the firm-level data for Portugal and Slovakia building on the framework developed by Chemin (2020) who employs a standard ex post evaluation method in the form of the difference-in-difference model (Appendix I). The simulations assuming the average impact of reforms based on the analysis for Portugal and Slovakia suggest that Greece could benefit from judicial reforms in terms of gains in investment and productivity. In line with the results for Portugal and Slovakia, the simulated impact is higher for investment than for productivity. While the results are surrounded by a wide margin of error and presented solely for illustrative purposes, they suggest a meaningful growth dividend payout associated with judicial system efficiency reforms.

**Figure 15. Greece: Simulated Impact of Judicial Reforms on Investment and Productivity for Greece**




Sources: Orbis and IMF staff estimates.

## G. Conclusions and Policy Implications

**27. Greece's judicial system efficiency is one of the lowest in the EU.** The length of dispute resolutions is pivotal for the correct functioning of the economy and good performance in other dimensions, but Greece is one of the countries with the lowest judicial system efficiency in the EU. While the new insolvency framework has helped reducing distressed debt in Greece, its implementation is hindered by an inefficient judicial system, with adverse impact on economic performance.

**28. Earlier weaknesses in judicial efficiency have been amplified by the crisis period, with both demand and supply factors contributing.** There was a massive increase in demand for judiciary services during the crisis period, leading to the congestion of the system. The crisis period has resulted in significant business and personal insolvencies. While court fees tend to be on the low side, legal aid is left for courts' discretion. Alternative dispute resolutions have only recently become an important supporting factor. Supply of judiciary services has been on the downward trend since the crisis period, with important factors being inadequate deployment of human and financial resources and a low level of digitalization. Further room for improvements in the incentive structure of judges and their specialization are desirable.

**29. Enhancing judicial efficiency could potentially boost economic performance**. Key transmission channels through which judicial system efficiency affects economic performance include investment, productivity, and credit market. Cross-country empirical studies provide support for the relevance of these channels for economic performance. Portugal and Slovakia can serve as relevant examples of judicial system reforms benefitting economic performance in terms of investment and productivity. Illustrative policy simulations for Greece suggest good potential for boosting its economic performance.

**30. Addressing the efficiency challenges requires a multi-pronged approach that focuses both on its quantitative as well as qualitative aspects.** Case processing times, court backlogs and staffing levels are key quantitative indicators of judicial efficiency affecting debt enforcement and insolvency proceedings. The currently ongoing reform of the judicial system, leveraging the EU funding, appropriately prioritizes actions to address the efficiency challenges through court reorganization, digitalization, training, and shifting away some tasks from judges. Quantitative indicators should be established to monitor progress for these policy priorities, being sufficiently specific and providing for the possibility of aggregation and disaggregation at different levels. Qualitative factors in terms of the specialization of judges and the professionalization of insolvency representatives, while more challenging to measure, are equally important in enhancing judicial efficiency.

**31. Consideration could be given to setting up commercial courts to enable judges to specialize in commercial matters on a permanent basis.** The complexity and urgency of insolvency cases, the high economic stakes involved, and the inevitable discretion that courts have in these cases, call for specialized judges with the necessary qualifications and expertise. These requirements are essential to ensure that court proceedings work efficiently and provide legal

certainty.[6] Having judges that specialize in commercial matters—as opposed to judges that rotate between all types of civil cases—creates synergies by providing judges with expertise in areas (e.g. company law, commercial contracts, intellectual property) that are relevant for decision-making in complex cases of reorganizations and liquidations. Indeed, a resolution of a corporate insolvency case will usually involve multiple aspects of these different legal areas. Enhancing support staffing and ensuring an adequate budget are also important.[7]

**32. Judicial statistics have an important role to play in the effective management of the court system.** Better qualitative and quantitative statistics would support proper budgetary and staffing decisions. Data systems should cover the entire system and not just singular courts. Resources could be assigned and reallocated as needed across the system for cases to be effectively managed. Adequate and centralized management at individual court level and system wide, based on reliable and comprehensive statistics, would ensure there is such flexibility in moving resources across courts and rebalancing workload as needed in a timely manner.[8]

**33. Procedural efficiency will be just as key to a well-functioning court system**. The ongoing work on revising and simplifying the Code of Civil Procedure is a step in the right direction. It is important that the functioning of the court system be supported by an efficient and flexible set of civil procedure rules that limit the room for postponement and adjourning of trials and delaying tactics by parties.

**34. Further development, adequate regulation and continued supervision of insolvency professionals will remain crucial for strengthening institutional capacity.[9]** Insolvency professionals play a vital role in the insolvency process. In an efficient and well-functioning system, an insolvency professional is well-qualified and equipped to take decisions with legal effect on many matters in the insolvency case, leaving the court and judge to act as a recourse should these decisions be challenged. Hence, the qualification and skillset of insolvency professionals have a direct bearing on alleviating the workload of the court, allowing judges to focus their already scarce resources strategically on more complex issues.

**35. Bold and swift policy actions are indispensable**. These actions are required not only to address the legacy issues, but even more importantly, to create conditions for higher growth and greater economic resilience going forward. The ongoing reform of the judicial system has correctly identified key challenges, appropriately prioritizing ensuing actions to address them, but requires a swift execution to meet the ambitious disposition time target and generate a meaningful growth dividend payout in foreseeable future.

[6] See WB Principles D1.2 and D1.5. See also Article 25 of Directive 2019/1023 on restructuring and insolvency ("the Directive") and Garrido et al (2021), p.31.

[7] The upcoming appointment of 300 new judicial clerks is a positive step and continued efforts—be it continuously managing staffing levels or trainings—are needed to ensure that judges are equipped with adequate support staff.

[8] See WB Principles D3.

[9] See WB Principles D8. See also Articles 26-27 of the Directive and Garrido et al (2012), p. 31-32.

# Appendix I. Technical Aspects

## Data

**1.** The data to analyze the impact of judicial reform on productivity and fixed asset growth (Section D) are sourced from the Orbis data set. We follow Díez et al. (2021) to clean the data. The analysis is confined to the market economy sectors and it therefore excludes sectors including education, human health and social work activities, and public administration and defense, as defined by NACE Rev. 2. The dataset is annual and covers period from 2010 to 2020. To filter out the disruptive the impact of Covid19, we truncate the data up to year 2019. For the estimates of the impact of judicial reforms, we focus on firms that are available both in the year before the reform (2012 for Portugal, and 2013 for Slovakia) and in year 2019, the end of our sample. For the simulation analysis of counterfactual impact on Greek firms, we use year 2019 as the starting point. The data cleaning leaves us with about 62 thousand, 10 thousand and 5 thousand firms for Portugal, Slovakia and Greece respectively.

## Methodology

**2.** The impact of judicial reform is estimated employing the standard ex-post evaluation methodology in the form of the difference-in-difference technique. The methodology allows to examine the difference in responses of the court-sensitive sectors relative to sectors that are less reliant on courts. The latter serves as a control group for the impact of the business cycle and other concurrent reforms which affect all firms. Our empirical strategy follows the one proposed by Chemin (2020). Building on the seminal contributions by Levchenko (2007) and Nunn (2007), we identify the court-sensitive sectors as those that are more capital intense, namely, manufacturing, financial and insurance activities, real estate activities and construction. They will benefit more from a more efficient judicial system which will relieve fixed assets trapped in less productive firms. The regressions to estimate impacts of judicial reforms is set up as the following and estimated separately for fixed asset growth and labor productivity growth:

$$\ln \text{Fixed assets}_{i,t} = c_i + \gamma_t + a \cdot \text{firm features}_{i,t-lags} + \beta D_t I_{i \in \text{court sensitive}} + \varepsilon_{i,t},$$

and

$$\ln \text{MRPL}_{i,t} = c_i + \gamma_t + a \cdot \text{firm features}_{i,t-lags} + \beta D_t I_{i \in \text{court sensitive}} + \varepsilon_{i,t},$$

where $D_t$ denotes a dummy variable for judicial reforms, and the firm features include lagged values of the firm's log fixed assets, log marginal revenue productivity of capital and labor in the year before the judicial reform. The coefficient $\beta$ is stands for the impact of judicial reforms.

## Regression Results

**3.** Table 1 and Table 2 below shows the estimates of the regressions. The standard errors are in brackets.

**Table 1. Greece: Impact of Judicial Reforms on log Labor Productivity Growth**

| | Portugal | | Slovakia | |
|---|---|---|---|---|
| ln Fixed assets | | -0.054 | | -0.047 |
| | | (0.001) | | (0.003) |
| ln MRPK | | -0.074 | | -0.057 |
| | | (0.001) | | (0.004) |
| $I_{i\in\text{court sensitive}}$ | 0.077 | 0.083 | 0.021 | 0.023 |
| | (0.004) | (0.004) | (0.011) | (0.011) |

**Table 2. Greece: Impact of Judicial Reforms on log Fixed Assets Growth**

| | Portugal | | Slovakia | |
|---|---|---|---|---|
| ln Fixed assets | | -0.073 | | -0.127 |
| | | (0.002) | | (0.007) |
| ln MRPK | | 0.159 | | 0.087 |
| | | (0.002) | | (0.008) |
| $I_{i\in\text{court sensitive}}$ | 0.141 | 0. 159 | 0.021 | 0.073 |
| | (0.007) | (0.007) | (0.021) | (0.020) |

## Policy Simulation

**4.** We apply the estimates to Greek firms' data in a scenario of improved efficiency of courts. To quantify the heterogeneous impacts on firms with different features, we refined the regressions discussed in the previous paragraph as below:

$$\ln \text{Fixed assets}_{i,t} = c_i + \gamma_t + a \cdot \text{firm features}_{i,t-lags} + D_t I_{i\in\text{court sensitive}} \cdot \beta\text{firm features}_{\text{i,s,t}} + \varepsilon_{i,t},$$

and

$$\ln \text{MRPL}_{i,t} = c_i + \gamma_t + a \cdot \text{firm features}_{i,t-lags} + D_t I_{i\in\text{court sensitive}} \cdot \beta\text{firm features}_{\text{i,s,t}} + \varepsilon_{i,t},$$

where $s$ stands for NACE Rev. 2 level 2 industries. The conditional variables, firm features$_{\text{i,s,t}}$, includes industry level fixed coefficients, firm's log fixed assets, log marginal revenue productivity of capital and labor relative to the industry average. The results of the simulation are shown in Figure 15 of the main text.

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