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Evaluating the Impact of Labour Market Reforms in Greece during 2010-2018

Briefing Report

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This interim report comprises four sections. The first presents some stylized facts about the Greek labour market before and during the crisis, as well as in comparison with the Euro Area average. The second describes the types and objectives of the main labour market reforms which were implemented in Greece during the bailout programmes. The third provides a brief overview of indicative literature related to impact assessment of labour market policies. The fourth section outlines our research questions, the methodology and collected data, which will be analyzed in order to achieve the research objectives.

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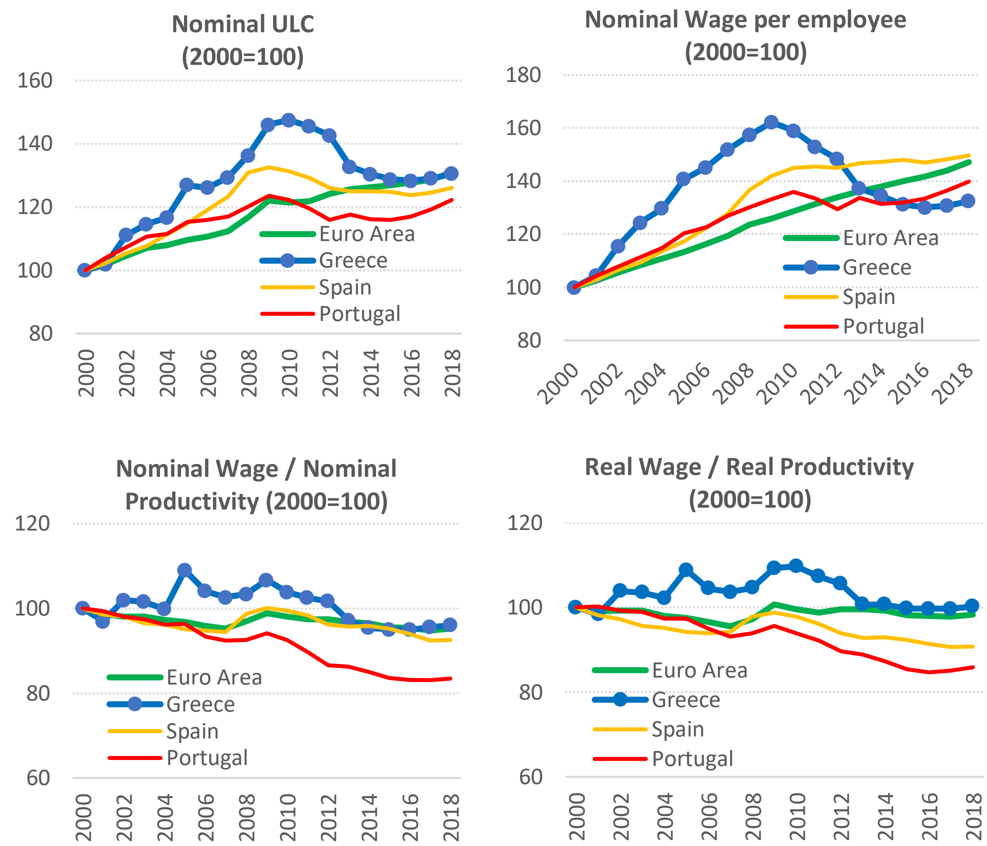
I. Stylized facts about the Greek labour market

During the first decade of the euro adoption, the Greek economy's price competitiveness weakened relative to the euro area average, but also relative to other southern euro area peers, such as Spain and Portugal. Greek nominal unit labour costs increased by around 47 percent from 2001 until 2010, compared to around 20, 22 and 31 percent for the euro area as a whole, Portugal and Spain respectively (Figure 1). Besides, wages in Greece grew faster than productivity, both in nominal and real terms, while wages grew more or less in line with productivity for the euro area average and productivity grew faster than wages in the case of other southern euro area peers, such as Spain and Portugal.

This divergence contributed to increasing external imbalances with current account deficits peaking at over 15 percent of GDP in 2008. Labour market reforms that could help realign wages with productivity and restore cost competitiveness were therefore a priority among the economic adjustment programmes. Such prioritization was further backed by the absence of other adjustment channels such as the exchange rate.

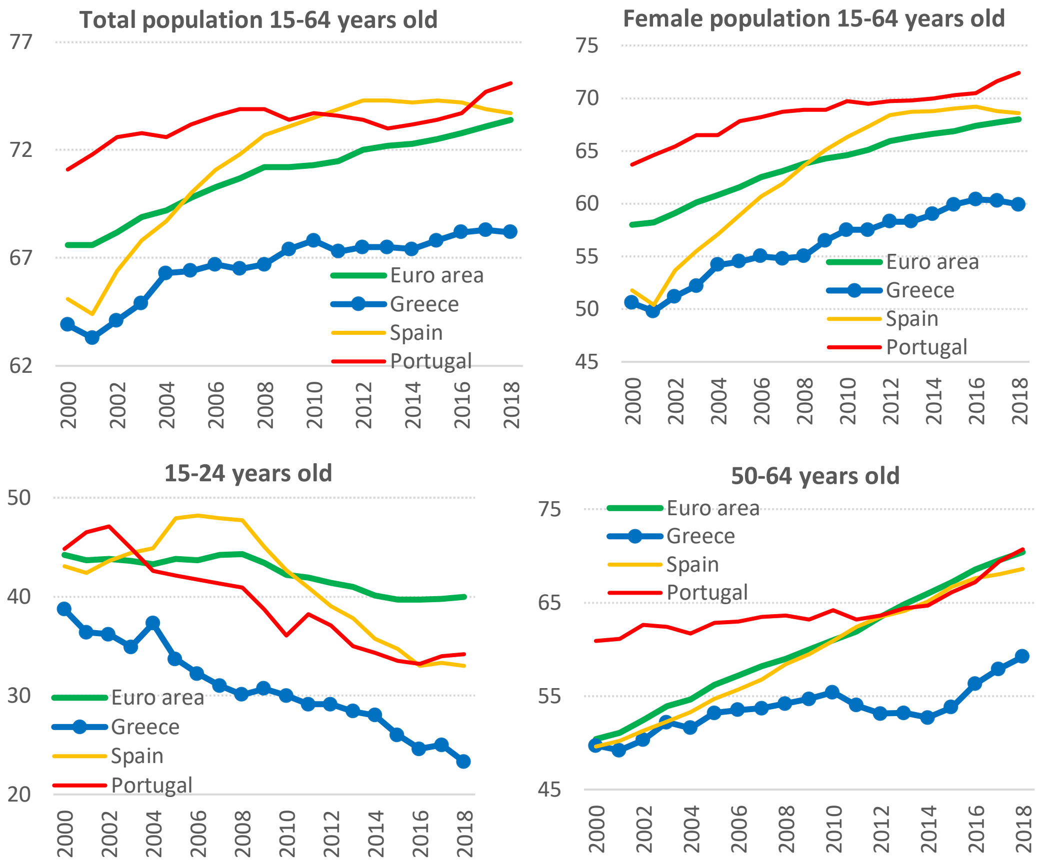
Figure 1: Unit labour costs, wages and productivity growth in Greece versus the Euro Area



Source: Ameco. Note: Nominal ULC is defined as the ratio of compensation per employee to real GDP per person employed. Wage is defined as gross wage per employee. Productivity is defined as GDP per person employed.

The Greek labour market has traditionally been marked by low participation rates, compared to its European peers, which translates into a high share of working age population not willing to join the labour force (Figure 2). Greece's labour participation rate is low especially among women, around 60% in 2018 compared to 68% for the euro area average, and despite progress during the last couple of decades, Greece has not yet converged with its European peers, as Spain did during the same period. Participation rates are particularly low among young population 15-24 years old, inter alia due to the high share of tertiary education graduates in Greece, as well as among population aged 50-64 years old, likely affected by the wide use of early retirement schemes up until the programme periods.

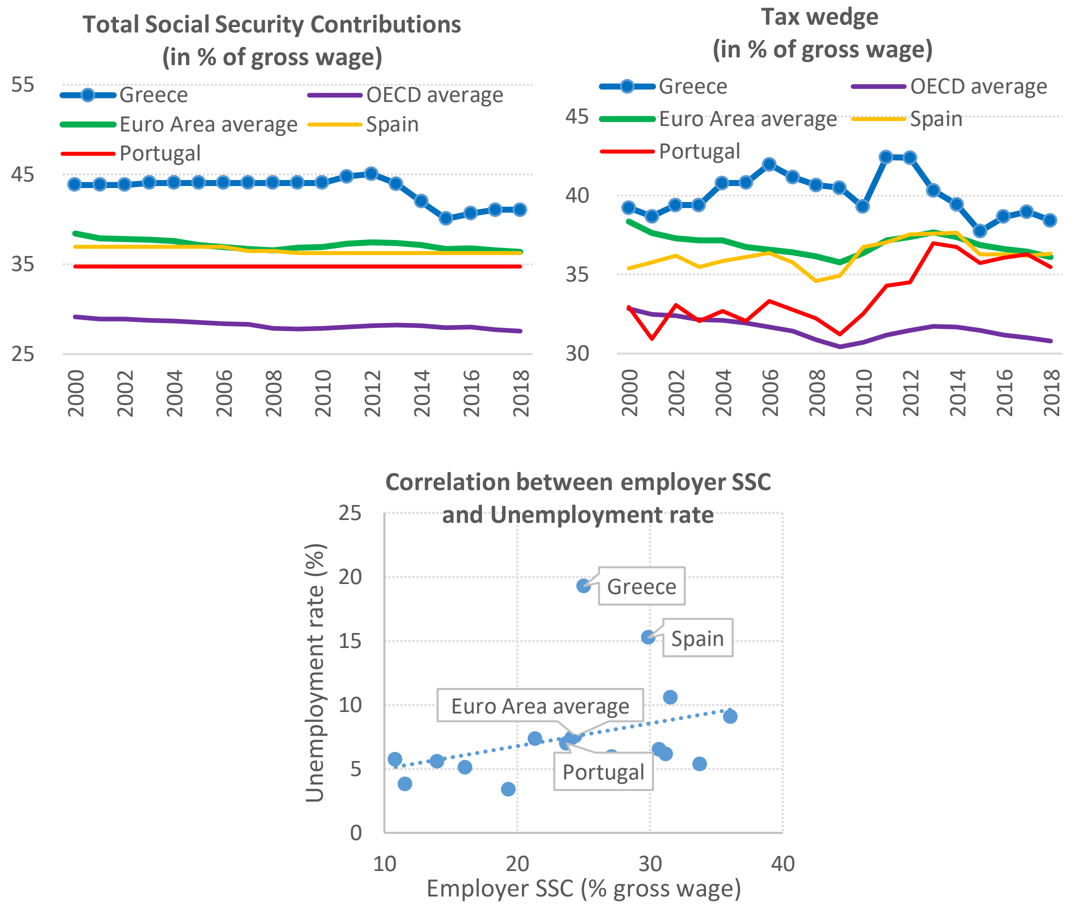
Figure 2: Labour participation rate in Greece compared to the Euro Area



Source: Eurostat. Note: Labour participation is defined as the ratio of Labour Force over Population aged 15-64.

A significant counterincentive for labour participation is very high labour taxation. The aggregate tax burden either measured by social security contribution rates, or total tax wedge, has systematically been above common practice in other advanced economies (Figure 3). This distorts microeconomic incentives for individuals to enter the official labour market and encourages the development of informal labour relations. On a cross-country perspective, it is further observed that the higher the rate of employers' social security contributions, the higher the unemployment rate, at least in the recorded formal labour market. As a result, one of the dimensions of the labour market reforms under the economic adjustment programmes intended to encourage the shift from informal towards the formal labour market, inter alia through lower social security contributions, within the particularly tight fiscal constraints.

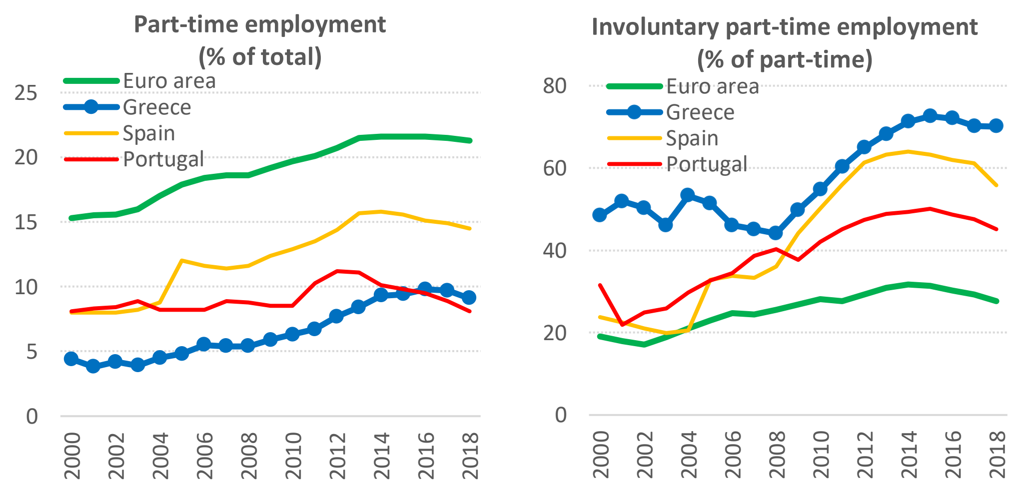
Figure 3: Social security contribution rates and tax wedge in Greece compared to peers



Source: OECD. Note: Tax wedge is measured by the ratio between the amount of taxes paid by a two-earner married couple (one at 100% of average earnings and the other at 67 %) with 2 children and the corresponding total labour cost for the employer.

Furthermore, high degree of employment protection, combined with low degree of use of flexible forms of employment have been common features of the labour markets in southern euro area members. Indicatively, part-time employment in Greece corresponded on average to 5% of total employment during 2000-2010, compared to 18% for the euro area (Figure 4).

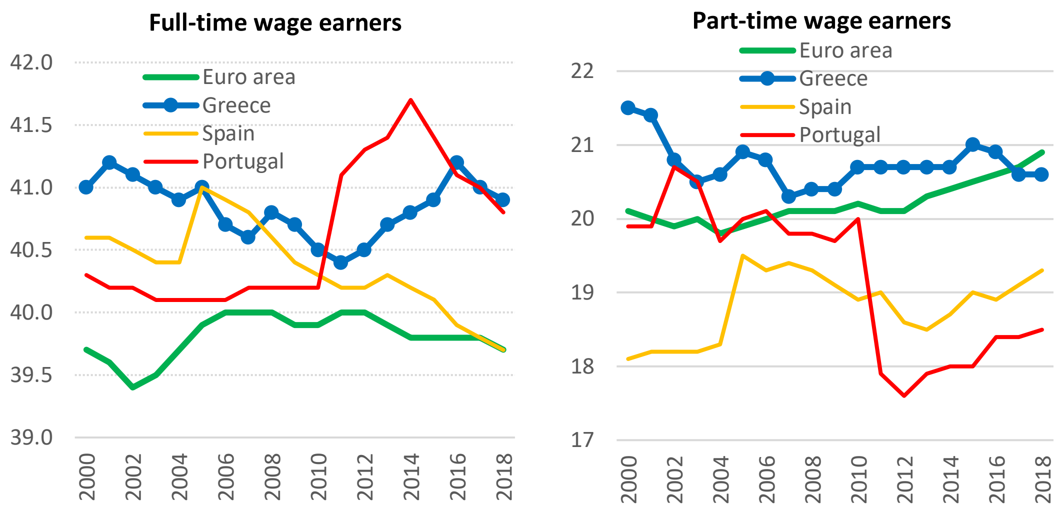
Figure 4. Part time employment in Greece compared to the Euro Area



Source: Eurostat

The average number of working hours for full-time employees in Greece, while higher than in the Euro Area average, had been declining during the pre-crisis expansion phase, contrary to the increasing trend in the Euro area (Figure 5). This may relate to regulations increasing the cost of overtime work or of forms of employment beyond the regular work timetable. At the same time, the average number of working hours for part-time employees in Greece have been close to Euro Area average and above the respective hours of southern peers.

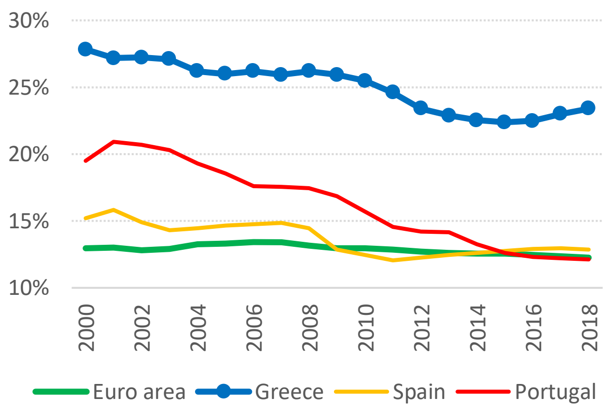
Figure 5: Average weekly working hours in Greece compared to Euro Area peers



Source: Eurostat

A significant structural feature of the Greek labour market is that almost one in every four labour force members is self-employed, double the respective share in the Euro Area (Figure 6). The consequences for the labour market is that it consists of many sole proprietorships and micro entreprises, as opposed to other countries were wage earners consist of the vast majority of the workforce. Self-employment share in Greece has slightly declined during the crisis, but it has not converged much to the Euro Area, as the respective share of Portugal did.

Figure 6. Total number of self-employed over total labour force in Greece and the Euro Area



Source: Eurostat

II. Description of labour market reforms in Greece during 2010-18

In view of the aforementioned stylized facts of Greece's labour markets, at the onset of the sovereign debt crisis, the economic adjustment programmes pursued labour market reforms with at least two objectives.

First, support the adjustment in the economy, through reforms targeting to ease labour market rigidities in order to cushion the negative impact on employment when domestic demand was severely hit by the crisis, as well as to facilitate a faster employment recovery as soon as the country returned to economic growth. Introducing more flexible labour market regulations was considered important in order to assist the labour market rather adjust through prices (wage cuts) than through volumes (layoffs), also given a context where resources for the welfare state are highly constrained.

Second, enhance gains in cost competitiveness. In the absence of an exchange rate policy instrument, the competitiveness channel required adjustment in relative prices and nominal wages in order to correct the large imbalances in Greece's external accounts. The policy of internal devaluation would have side effects on households' purchasing power similar to the ones of a sharp currency devaluation, in the case the exchange rate instrument had been available, which in turn would have led to higher inflation and thereby lower real wages translating into more expensive imports.

Both objectives targeted to preserve existing jobs, facilitate the creation of new ones, enhance the reallocation of factors towards tradable sectors, and encourage scale economies. In view of these objectives, a broad range of policy interventions in the labour markets mainly touched upon five dimensions (Table 1).

Table 1. Indicative Labor Market Reforms in Greece during 2011-2014

Labor market dimension	Policy rationale	Year	Legal reference
I. Collective bargaining framework	Increase system's flexibility, decentralization, in order to facilitate adjustment via wages rather than volumes	2011, 2012	Laws 4024/2011, 4046/2012
II. National minimum wage	Reduce Greece's minimum wage in order to lower labor costs, avoid low skilled being priced out of the formal labour market, introduce new setting mechanism based on tri-partite consultation and evidence-based wage floor setting.	2012	Laws 4046/2012, 4093/2012, 4172/2013, 4254/2014
III. Employment protection	Reduce Greece's exit costs in order to foster employment.	2012	Laws 4046/2012, 4093/2012
IV. Flexible forms of employment	Facilitate flexible forms of employment in order to increase labor participation rates and foster job creation.	2011, 2012	Laws 3986/2011, 4093/2012
V. Labor tax wedge	Reduce non-wage costs mainly through employers' social security contributions	2012, 2014	Laws 4093/2012, 4254/2014

The measures pursued included revising the wage setting mechanisms, reducing exit costs and hence making hiring more attractive, introducing more flexible working time, reducing non-wage costs, combating undeclared work and improving active labour market policies. In relation to wage setting, a series of measures concerned the framework of collective bargaining as well as national minimum wage setting, inter alia aiming to remove automatic increases in bonuses and allowances that, over time, decoupled wages from productivity. In parallel, measures targeted easing employment protection, enhancing flexible forms of employment, tackling undeclared labour and lowering the tax wedge, albeit within tight fiscal constraints. More specifically, labour reforms during the economic adjustment programmes included the following eight areas of measures.

(1) Collective bargaining framework. Measures implemented in 2011 and 2012 inter alia included the temporary suspension of the extension mechanism of collective agreements,

the possibility for firm level collective agreements to prevail over sectoral and occupational agreements (suspension of favourability principle), the restriction of 'after effects' of collective agreements, and the revision of the rules on recourse to arbitration. Institutional reforms aimed at increasing flexibility, decentralization, and effective representation within collective bargaining. The objective was to put firms in a flexible position to adjust through price rather than through volume (layoffs) and informality.

(2) Minimum wage setting framework. The minimum wage was reduced by 22% (32% for employees up to 25 years old) in February 2012. The setting mechanism was modified in that the statutory minimum wage is set by the government following consultation with social partners and input by stakeholders taking into consideration economic and social criteria. The rationale of the new mechanism was to strengthen evidence-based wage floor setting, as well as to directly involve the government through a tri-partite framework into steering labour market developments as a third party while taking into account the various objectives expressed by incumbent employees and employers.

(3) Employment protection. The probation period for new hires was extended (2010), the severance payment and notification periods for dismissals were reduced (2012). The rationale was to facilitate firms' increased responsiveness to the economic cycle at the extensive margin, by lowering exit costs so as to encourage hirings despite the volatile and uncertain crisis environment.

(4) Flexible forms of employment. The use and renewal of fixed-term contracts was facilitated (2011), regulations for part-time shift work and working time arrangements were made more flexible (2010, 2011 and 2012), premia for part-time and overtime work were reduced (2010), the scope of temporary work agencies was broadened in line with other countries (2010 and 2014). The rationale was to facilitate firms' increased responsiveness to the economic cycle at the intensive margin, as well as to enhance labour participation and shift informal labour relations into the formal labour market.

(5) Tax wedge and non-wage labour costs. Employers' social security contribution rates were reduced by 1.1 and 2.9 percentage points in 2012 and 2014 respectively, while employees contributions were reduced by 1 percentage point in 2014. Besides, bureaucracy on labour arrangements has been reduced, inter alia through abolishing the pre-approvals of overtime work and streamlining other reporting requirements (2012 and 2014). The rationale was to reduce labour costs and strengthen the incentives for employment without negatively affecting take home salary.

(6) Active labour market policies. Both public and EU funds were used in order to implement short-term public work programmes (2013 onwards), internships with youth voucher schemes, while apprenticeships and vocational training schemes were revisited with an aim to increase their effectiveness. The rationale was to assist job finding and enhance the skillset of the large shares of the population who were either unemployed or inactive.

(7) Undeclared work. Stricter sanctions for undeclared work were imposed (2013), the labour inspectorate initiated a multi-year action plan including risk-based audits, digital systems were put in place in order to allow checking of both undeclared and under-declared work. The rationale was to combat the high rates of informal work in Greece which have a negative impact on workers' insurance rights as well as on public finances.

(8) Labour institutions and transparency. The Labour Inspectorate (SEPE) introduced risk based more targeted audits, the Public Employment Service (OAED) was restructured, the Arbitration Body (OMED) was complemented by an appeal committee, the Supreme Labour Council (ASE) was upgraded in that it obtained a decisive role with regards to the process of collective dismissals. Transparency in relation to monitoring labour market

developments and data disclosure were improved, including through the initiation of digital systems such as ERGANI for employment flows, ARTEMIS for undeclared work audits, as well as through the creation of the National Employment Institute (EIEAD).

Overall, within the bailout programmes' set of structural reforms, it is widely perceived that labour market reforms where the most pronounced. Despite the magnitude of policy interventions in the labour market, unemployment rate in Greece increased significantly during the crisis, peaking around 27 percent in 2013, while only gradually fades out since then, with a negative impact on productivity, poverty rates and inequality indicators. One explanation offered by policy experts is the inadequate sequencing of reform implementation during the bail outs, i.e. the lack of parallel front-loaded implementation of product market reforms (Meghir et al. (2017)). In such turbulent periods, it is of course hard to identify an adequate counter-factual scenario in order to isolate the effects of labour market reforms. Our research project aims to offer further insights towards that direction.

III. Literature review

There is extensive theoretical work in relation to the impact of distinct labour market measures, such as the ones pursued during the programmes. These strands of literature may offer mixed conclusions depending on the prioritized policy objectives, especially on controversial issues such as the minimum wage, the degree of centralization of collective bargaining, or the optimal degree of employment protection.

In the context of collective bargaining, for instance, economic theory on one hand suggests that broadening the scope of firm-level bargaining is efficient because it allows agreements to account for the particular circumstances of firms in a weaker condition. Empirical findings by Bertola et al. (2010) provide evidence that firms covered by higher-level collective wage agreements were more likely to look for cost reduction by reducing the number of temporary employees and less likely to reduce wages. They further found that firms bound by higher-level collective agreements were more likely to increase prices following a cost-push shock. This risks resulting in a damaging spiral of wage and price increases, further eroding competitiveness. Notwithstanding, Boeri (2014) has argued that a two-tier bargaining system may reduce the scope for efficient firm-level bargaining, while there is also critique that fully decentralized systems may hinder collective bargaining. In the case of Greece, Kosma et al. (2017) find that labour reforms effectively facilitated firms to adjust both labour input and wages during the crisis.

According to international practice with respect to the minimum wage setting mechanism, ILO (2014a) notes that such wage setting decisions should be made following tripartite social dialogue and collective bargaining should be informed and evidence-based. From a cross-country perspective, ILO (2014b) finds that the state has an active role in setting minimum wages in the majority of ILO member states. Nonetheless, the issue of who holds the ultimate decision making power (government or social partners) as well as to what extent changes in the minimum wage spillover to the whole wage ladder or affect unemployment remain controversial issues. In the case of Greece, Georgiadis et al. (2018) find that minimum wages are highly correlated with the median wage, while there is lack of conclusive evidence for systematic employment effects. Yannelis (2014) finds that hirings increase following a reduction in the minimum wage, while disemployment effects kick in only above a certain threshold of minimum wage. Kanellopoulos (2015) finds a negative relationship between minimum wage and employment.

In the context of this research project, we will focus our analysis on empirical literature findings and methodologies aiming to assess the impact of labour market reforms on both microeconomic incentives and the macroeconomic framework. Indicatively for collective bargaining, institutional reforms during the programme aimed at increasing flexibility, decentralization, and effective representation. OECD (2011) argues that the prevalence of sector-level bargaining, the automatic extension of bargaining agreements, and a unilateral recourse to arbitration have contributed to the rise in labour costs and high minimum wages for new entrants to the labour market during the pre-crisis period. The reforms' objective was hence to put firms in a flexible position to align pay with productivity and adjust labour costs through price rather than through volume (layoffs) and informality. Micro level evidence suggests that firm-level agreements signed after the reforms indeed led to downwards adjusting wages. Koukiadaki and Kokkinou (2012) and Ioannou and Papadimitriou (2013) provide evidence that most post-reform firm-level agreements stipulated either wage reductions or adjustments to the levels of the national minimum wage. At the same time, Daouli et al. (2017) do not find strong evidence of a negative relationship between wages and regional unemployment except during the early crisis period 2010-2011.

The impact of labour market reforms has been studied in other southern Euro Area peers like Spain and Portugal, which have commonalities with the Greek labour market and which also went through economic adjustment programmes. OECD (2014) use a regression discontinuity in time (RDiT) approach allowing them to compare labour market performance before and after the reforms' date of enactment. They find that labour market reforms contributed to 50 percent of the observed drop in Spanish unit labour costs. OECD (2017) notes that reforms on employment protection had significant positive impact, contrary to the mixed impact of reforms on collective bargaining. Stepanyan and Salas (2020) assesses the impact of the Spanish labour market reforms on income distribution and macroeconomic variables such as employment growth, youth unemployment rate and in-work poverty. They find that reforms significantly enhanced employment and income equality, albeit in-work poverty and involuntary part-time work were also negatively affected.

IV. Methodology and data

This work aims to shed light on at least two key fronts (a) evaluate the impact of Greek labour market reforms on microeconomic incentives of individuals in relation to entering the formal labour market and (b) estimate the impact of labour market reforms on selected macroeconomic and social indicators.

In relation to the microeconomic analysis, we have collected micro-data for Greek households from the EU Survey for Income and Living Conditions (EU-SILC) during the crisis years and up until 2018. Likewise, we have collected micro-data from the Labour Force Survey on a quarterly frequency and up until 2019. For the purposes of our methodology, the data from EU-SILC will be used as input within a microsimulation framework with the deployment of EUROMOD. This tool applies tax and benefit policy rules applying within a given year policy system and simulates in great detail at an individual and household level, the taxes, benefits, social insurance contributions, and also can compute accurately the resulting disposable income resulting for the households when the system rules are applied (Sutherland & Figari, 2013). EUROMOD has been extensively used for simulation of policy reforms (Leventi, C. & Matsaganis, M., 2013). Using EUROMOD we will simulate accurately the components that critically impact labour market participation incentives at both the intensive and extensive margin. These components are taxes paid, benefits received, social insurance contributions paid, and labour earnings.

In particular, we will examine the effects stemming from two relevant policy reforms, the reduction in social security contributions and unemployment benefits (stemming from the change in minimum wage) which took place in 2012 and the further reduction in social security contribution rates which took place in 2014. We will hence provide the contribution of each relevant reform to the evolution of the following measures of intensive and extensive margin labour market incentives:

(1) The Marginal Effective Tax Rates (METR) at the intensive margin, measuring the effects on the taxes due when labour income increases.
(2) Participation Tax Rates (PTR), as in (Immervoll, 2007) - for the extensive margin measuring the proportions of gross earnings lost because of higher taxes, higher social insurance contributions and lower benefits when an individual participates in the labour market.

The above metrics require that counterfactuals will be simulated for each individual in the sample. For the PTR calculations, the taxes, benefits and social insurance contributions of individuals need to be simulated under both employment and unemployment states. For METR, again the same holds for taxes paid but under states of lower and marginally increased income. EUROMOD will allow us to calculate these quantities for households and individuals.

In relation to the macroeconomic impact, we will focus on the performance of variables such as employment growth, participation rate, inequality metrics, use of flexible forms of employment, average working hours, youth unemployment and in-work poverty. Regarding participation rates, the microeconomic findings will be used as input in an econometric framework within which we can estimate elasticities of the overall economy labour market participation with respect to the PTR. Our approach will hence quantify labour market incentives as they changed through the years as reforms have been introduced. In parallel, econometric methods on repeated cross-sections employing group-means (Markus Jäntti, 2015) will be applied to form elasticity measures of the participation rates for Greece.

For the purposes of the macroeconomic impact we will follow the synthetic control method, similar to Stepanyan and Salas (2020). This requires the use of a combination of other countries to construct a “synthetic” control country which resembles relevant economic characteristics of Greece before the economic crisis. The synthetic control is constructed as a weighted average of the available control units based on the similarities on a set of chosen covariates with other countries and the resulting weight of each control unit determines the contribution of each control unit to the counterfactual of interest. As a counterfactual scenario, we plan to test a broad set of countries that did not employ major labour market reforms after the global financial crisis, and also compare with a narrower set of other programme countries whose labour markets had common features with Greece, like Spain and Portugal. We adjust the original data for country-specific and common effects in a cross-country-panel regression, and then remove the pre-reform trend to obtain a time-variant country-specific component that captures only policy and other idiosyncratic shocks. In the second stage, using time-variant country-specific components, we construct synthetic control measures as counterfactuals to assess the impact of the labour market reforms. Taking into account that the largest bulk of reforms were implemented around 2012 (collective bargaining, minimum wage, employment protection and flexible forms of employment) we will consider that year or surrounding years as the turning point to be tested via the synthetic control method.

In view of robustness tests and further descriptive analysis of both the micro and macro data sets before and after the labour reforms, we will exploit the technique of pseudo panel data using cohorts. The LFS and EU-SILC datasets are not genuinely panel data, but repeated cross-sectional surveys. In a seminal paper, Deaton (1985) suggests the use of cohorts to estimate a fixed effects model from repeated cross-sections, where individuals sharing some common characteristics (most notably year of birth) are grouped into cohorts, after which the averages within these cohorts are treated as observations in a pseudo panel. Estimation techniques based on grouping individual data into cohorts are identical to instrumental variables approaches where the group indicators are used as instruments. Paweenawata and McNown (2017) employ a pseudo-panel approach using repeated cross-sectional data from labour force surveys in order to examine female labour supply in Thailand by analyzing the evolution of employment, hours worked, and women's wages. Their synthetic cohorts are constructed based on age, year of birth, and level of educational attainment. We plan to use similar criteria in order to show the evolution of various variables of interest before and after the reforms.

V. Assessment – Next steps

The research project, including the empirical findings and comprehensive impact assessment of labour market reforms in Greece during the bailout programmes, on both the microeconomic and macroeconomic fronts, will be finalized by end-August 2020.

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