



GREECE

SELECTED ISSUES

November 2019

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CONTENTS

REFORMS, LABOR MARKET DYNAMICS, AND COMPETITIVENESS	3
A. Background	3
B. Pre-Crisis and the 2011–12 Labor and Product Market Reforms	5
C. Unit Labor Costs and Labor Market Developments	7
D. Competitiveness and the Role of the Minimum Wage	10
E. Competitiveness and the Role of the Non-Wage Cost Factors	13
F. Conclusion and Policy Implications	15
References	24
FIGURES	
1. Change in Unit Labor Costs in Selected Countries	16
2. Employment Protection in Selected Countries	17
ANNEXES	
I. Labor and Product Market Reform Retrospective	18
II. Minimum Wage Policy: Effects and Estimates	22
THE QUALITY OF GREECE'S EXTERNAL ADJUSTMENT	26
A. Background	26
B. Was it Structural or Cyclical?	26
FIGURES	
1. Current Account Balance in Selected Countries	26
2. Current Account Decomposition into Cyclical and Structural Factors	27
3. Detailed Current Account Decomposition and Forecasts	28
4. Comparison of Current Account Adjustment in Selected Countries	28

INSTALLMENT SCHEMES, ARREARS, AND PAYMENT CULTURE _____ **29****TABLES**

1. Share of Taxpayers _____	31
2. SSCs Installment Scheme Participation as of March 2019 _____	32
3. VDI Results _____	34
References _____	36

PRIMARY RESIDENCE PROTECTION IN GREECE: IMPACT AND RECOMMENDATIONS FOR REFORM _____ **37**

A. Introduction _____	37
B. Legal Framework: Primary Residence Protection _____	39
C. Options for Reform _____	42
References _____	49

BOXES

1. Law 3869/10 (The "Katseli" Law) _____	40
2. History of Residential Mortgage Protection Laws _____	42
3. Personal Insolvency Laws in Selected Countries _____	46
4. Housing Cost and Social Assistance in Greece _____	47

FIGURE

1. Legacies of Severe Economic Crisis _____	48
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PUBLIC FINANCIAL SUPPORT TO GREEK BANKS OVER THE CRISIS _____ **51**

A. Capital and Liquidity Support Measures in 2008-2018 _____	51
B. Outcomes: Incurred Fiscal Costs and Remaining Risks _____	54
References _____	56

COST EFFECTIVENESS OF STATE SUPPORT FOR BANKS _____ **57**

A. Guidance for a Cost-Benefit Analysis _____	57
B. Preliminary Assessment _____	58

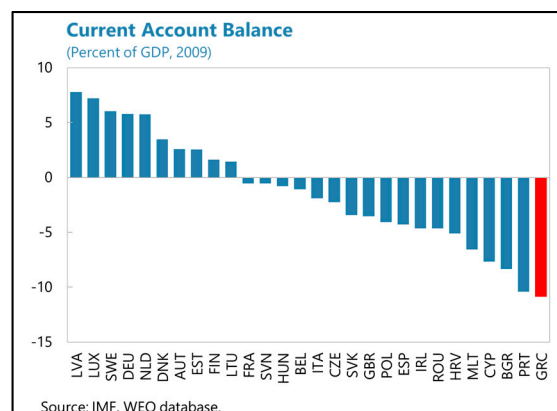
REFORMS, LABOR MARKET DYNAMICS, AND COMPETITIVENESS¹

In the lead-up to the crisis, Greece's economy became increasingly uncompetitive. By 2009, the real exchange rate had appreciated significantly, and the current account deficit hit record highs. A series of program-era policies helped to partially reverse this trend, including labor market policies that cushioned the effect of the crisis on employment and brought unit labor costs broadly in line with trading partners. However, the resulting more competitive wage structure only partly translated into price adjustments due to product market rigidities (with firms retaining some profit margin) and rising non-wage cost factors (e.g., taxes and financing costs). This incomplete internal devaluation and subsequent low productivity gains reinforce the view that Greece has further to go to address its external imbalances. However, labor policy reversals following program exit in August 2018 threaten this objective. This note explores the links between wage policies, non-wage cost developments, and competitiveness. It concludes that Greece must preserve its labor cost competitiveness while increasing efforts to facilitate price adjustment in product markets and reduce non-wage costs.

A. Background

1. Greece entered the crisis with uncompetitive wages, significant labor market distortions, and the largest current account deficit in the EU.

After EMU accession in 2001, falling interest rates triggered rapid credit growth which, coupled with strong wage and pension-related consumption, led to high domestic demand for imported consumption goods and residential investment (instead of productive investment). Indicators for Greece show a significant erosion of cost and price competitiveness during this period. By 2009, export performance was weak, with substantial market loss to main competitors, and the current account hit modern era highs.



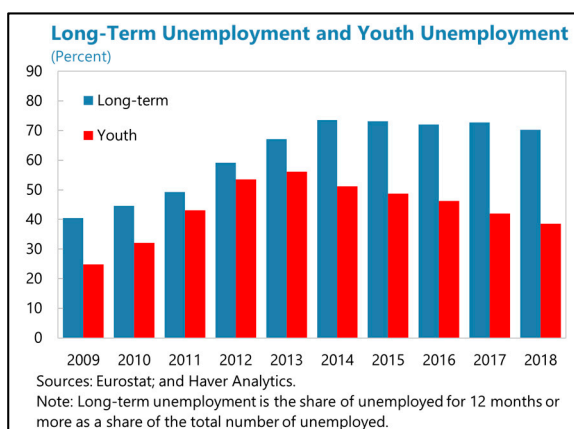
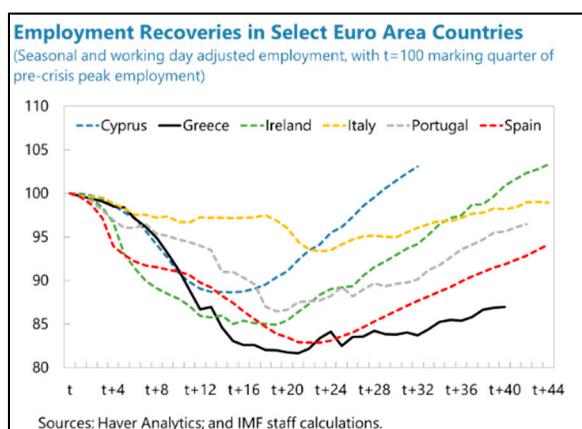
2. Greece's rigid labor markets contributed to the buildup of these imbalances. By the onset of the crisis, the Greek labor market compared poorly to EU peers, with high unemployment and low participation rates (even during the boom years). Over 2001–09, Greece's nominal unit labor costs increased by about 50 percent, compared to around 20 percent for the Euro Area as a whole. While increases in Greece were broad-based, the public and non-tradable goods sector, broadly speaking, contributed disproportionately more (see Gastopoulos, (WP 2019) forthcoming). These

¹ Prepared by Maria Kalimeri, Maria Mendez, and Sebastian Weber (all EUR).

developments reflected a complex collective bargaining system and a generous minimum wage and bonus framework that produced substantial wage drift decoupled from productivity.²

3. Program-era reforms facilitated significant wage adjustment and substantial improvement in unit labor costs. Between 2009 and 2018, Greece restored unit labor cost competitiveness through labor market reforms implemented starting in early 2012 (see Figure 1). These included a reduction of 22 percent in the minimum wage (MW) and a subsequent freeze through 2019 and other reforms that made labor markets more flexible, including suspension of the unilateral recourse to arbitration and collective bargaining principles of ‘extensions’ and ‘favorability’, the easing of employment protection rules, modernization of labor market institutions and procedures, and a more flexible framework for part-time and flexible forms of employment (see Annex 1). As a result, private sector nominal wages decreased by about 20 percent from their peak in 2010.

4. However, price declines were not commensurate with wage declines, and productivity growth was been weak. The CPI-based REER adjustment was incomplete, implying missing or incomplete reforms in goods markets and other (rising) cost factors that offset lower labor costs. This hindered a more vigorous recovery of employment, exports, and growth. The labor market recovery has also been limited. Though the unemployment rate is now falling steadily, Greece continues to have the highest rate in the Euro Area, with long-term unemployment persistently above 60 percent for the last five years and youth unemployment at 40 percent (also the highest in the region). Moreover, Greece’s current account deficit remains among the highest in the EU and is projected to widen further as the output gap closes.



5. Greece’s labor cost-driven external adjustment is not only imbalanced, but also leaves it more vulnerable to reversals. The imbalance in (labor and product market) reforms can rightfully generate the sentiment that too much of the burden of adjustment has been on labor. Moreover,

² OECD (2010).

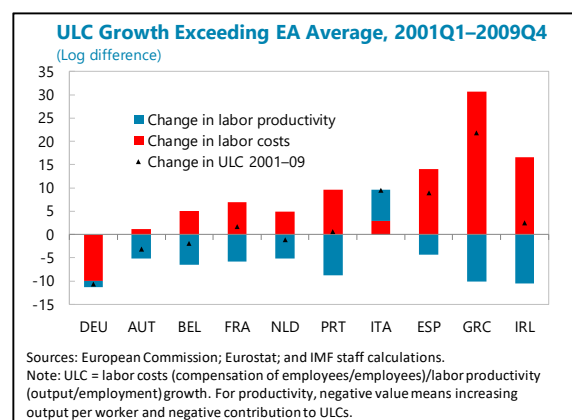
experience elsewhere shows that internal devaluations are more likely to be maintained when accompanied by productivity-enhancing reforms, while the literature has found both wage and labor productivity are important in determining external balances.³

6. Labor market policy reversals between the August 2018 program exit and mid-2019 pose risks to ULC competitiveness gains. During this period, the government reversed key pillars of the 2012 labor market reforms. Notably, Greece returned to favorability and extension principles in collective bargaining agreements (CBA), albeit with better enforcement of the market representativeness mechanism.⁴ This was preceded by a 2014 Council of State decision that reinstated the unilateral recourse to arbitration, i.e. the results of an arbitration process in a labor dispute are binding even if one party does not consent to arbitration. The CBA reversals were followed by a statutory minimum wage hike of nearly 11 percent in early 2019. Simultaneously, the youth subminimum wage was abolished, resulting in an effective 27 percent increase for this group. However, the current government is now reconsidering some elements of these recent changes.

7. To inform the Article IV policy discussion, this paper examines the role of the minimum wage channel, non-wage costs, and the quality of the external adjustment. The rest of this paper begins with a more detailed description and assessment of the 2011 drop/freeze of the minimum wage on wages, prices, employment, and profits at a sectoral level. It then explores developments in non-wage costs to gauge the drivers behind lower price competitiveness gains. The paper concludes with a discussion of priorities to bolster Greece's growth and competitiveness within the Euro Area.⁵

B. Pre-Crisis and the 2011–12 Labor and Product Market Reforms

8. Competitiveness deterioration in Greece was driven by labor costs in excess of labor productivity. Productivity grew vigorously after EU accession thanks to catch-up dynamics and high growth in investment, notably in residential construction.⁶ At the same time, labor compensation grew around five times in excess of labor productivity pushing unit labor costs to the highest rate relative to the then-EA17 average. This resulted in a cumulative appreciation of the unit labor cost-based real effective exchange rate (REER-ULC) of about 60 percent relative to all trading partners and about 20 percent relative to the EA17 from the start of 2001 through the end of 2009.



³ See Blanchard et al (2013) and Bluedorn and Lin (2017).

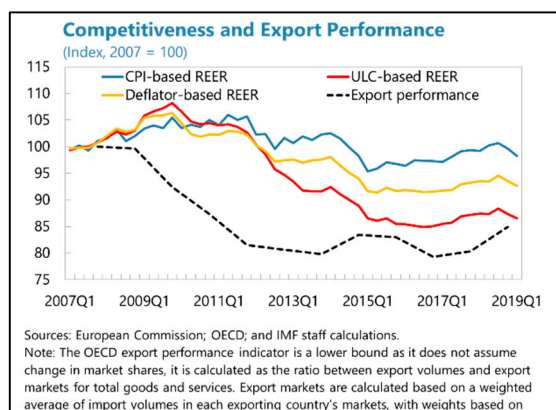
⁴ To reflect market representativeness, the government introduced a new mechanism where signatories must represent a threshold of over 50 percent of labor market share to extend the agreement.

⁵ See also the 2019 AIV 'External Sector Assessment' and the Selected Issues Paper 'The Quality of Greece's External Adjustment'.

⁶ See IMF Article IV 2013 (CR/13/154).

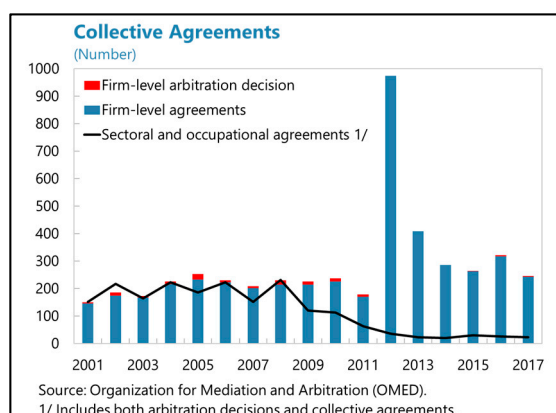
9. In the crisis' aftermath, Greece's presence in the Euro Area required restoring competitiveness through internal price adjustment.

Greece's first economic recovery program included structural reforms to facilitate internal devaluation and boost economic growth.⁷ Early reforms (2009–10) focused on the bloated public sector wage bill and on modest policies to increase flexibility (e.g. symmetric access to arbitration, sectoral agreement opt-outs). However, political instability and the economic downturn were more severe than expected and labor market reforms encountered strong resistance, while private sector wages remained high and in excess of productivity through the end of 2010.



10. The 2011–12 program-era labor market reforms facilitated significant wage adjustment and substantial improvement in ULCs.

Starting in 2011, the government implemented deeper, more aggressive measures to facilitate a substantial internal devaluation by reducing the wage drift that collective bargaining entailed and allow firms to align payment with productivity. The reforms were adopted in a staggered approach over 2011–13, though with delays (see Annex 1).⁸ Reforms aimed at increasing labor market decentralization and flexibility. As a result,



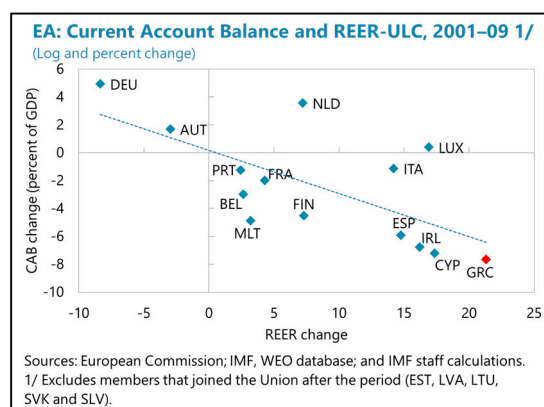
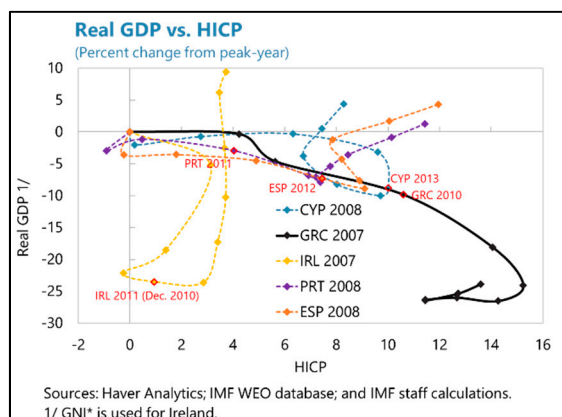
sectoral/occupational agreements declined, while firm-level agreements became more prominent. This allowed businesses to also adjust through prices (instead of just volume, i.e. layoffs), reducing economy-wide wage costs (following the decline in public wages). Private sector nominal wages declined by 20 percent from 2009 to 2015 while the ULC-adjusted real effective exchange rate (ULC-REER) dropped by 20 percent. Other reforms included easing hire-fire rules, lowering employment protection, and implementing a more flexible framework for temporary and part-time work.

⁷ See IMF (2013) and IMF (2017) Ex Post Evaluations of Exceptional Access (EPEA).

⁸ The 2013 EPEA concluded that delays in implementing these reforms aggravated losses from the downturn.

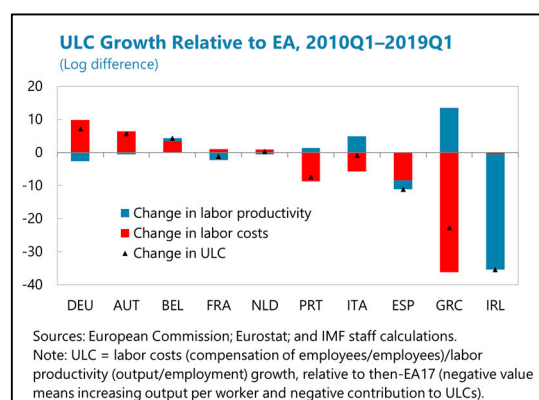
11. Legislative reforms to product market regulation were also broad-based, but labor cost competitiveness only partially translated to price competitiveness gains.

Reforms to product markets included legislative changes to macro-critical sectors to enhance competition, cutting red tape, and changing investment licensing laws to remove approval requirements. Overall, legislation covering product markets and services now broadly follows EU practice, thanks to implementation of the OECD Toolkits (2013–16) (see Box 1). However, the lack of impact on the price level has cast doubt on actual implementation or design of the reforms. Progress was hampered by the lack of ownership, political instability, weak public administration, and resistance from the private sector. Some sectors remain relatively restricted (e.g. notaries, lawyers and retail distribution). Even for sectors that were liberalized, a few remaining restrictions may de-facto render the whole attempt meaningless. Partly as a result of this, prices in Greece saw no meaningful decline despite the substantial drop in output, until well after the start of the program, while mark-ups started to recover after 2011.



C. Unit Labor Costs and Labor Market Developments

12. Wage compression and low productivity have driven unit labor costs developments in the post-crisis period. Greece's labor productivity shrank by 10 percent since the crisis to date, mostly driven by the significant output contraction (-20 of percent since 2009), despite the lower number of workers (-11 percent). In the crisis' aftermath, and unlike more productive peers, unit labor costs adjusted substantially due to wage compression and were actually partly offset by the lower level of labor productivity.

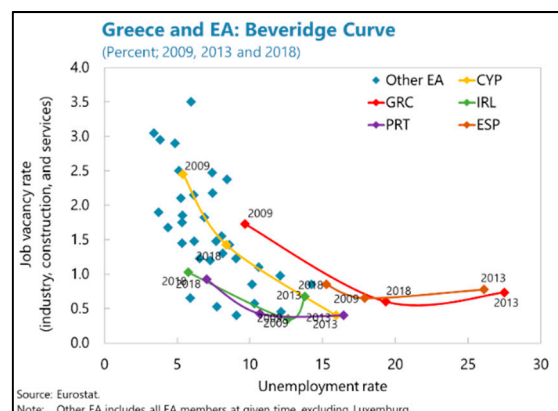


13. Structural features of the economy that have seen little change constrain productivity growth. Low productivity in the post-crisis era has been driven by the low level of investment, linked to investor uncertainty but also to structural features of the economy, notably the predominance of micro-firms, which tend to invest less, less efficiently due to cash flow constraints

and lower access to capital markets.⁹ The landscape of the Greek economy remained remarkably unchanged during the last decade. Greek micro firms make up most of the Greek economy, providing almost 6 out of 10 jobs, compared with the EU average of 3 out of 10 jobs. SMEs generate about 64 percent of value-added and 85 percent of employment, exceeding the EU average of 57 percent and 66 percent of jobs, respectively.¹⁰ Firm-level studies find that after the crisis average firm size actually decreased (with some sectoral variation) as did value-added and output complexity.¹¹ There is recently growing incidence of firm entry and exit (notably in ICT and knowledge-intensive services),¹² but high-growth enterprises (based on employment expansion) remain low by regional standards. Innovation is also limited by insufficient levels of spending in research and development (R&D), recently picking up but low compared to peers. As a result, the current environment is not conducive to higher productivity due to the lack of economies of scale and scope. Finally, a dead-weight on the Greek economy are the persistent zombie firms (broadly the same as ten years ago, a result of the weak insolvency framework), which extract financial resources and keep economy-wide productivity low.

14. The low level of productivity is mirrored by a high structural unemployment rate.

Structural unemployment is estimated at around 13 percent, twice the EA average of 7.5 percent. Despite some changes to the institutional labor market set-up, indicators related to the determinants of structural unemployment point to the need for further improvements, mostly on mismatching as the suspension of collective bargaining principles lowered trade union density, while the duration for receiving unemployment benefits was reduced to increase the incentives for the non-employed to find jobs.¹³ Employment protection indicators are not available after 2013 but easing of dismissals and relaxing of hiring/firing rules placed Greece in a comparatively benign position vis-à-vis the region after 2012 (see Figure 2).



15. Greece's persistently high long-term unemployment attests to the difficulty of transitioning between jobs and limited labor market churning. This is due to a number of interrelated factors. Greece has a high degree of skills mismatch compared to the EA, notably due to

⁹ Kadapakkam et al (1998).

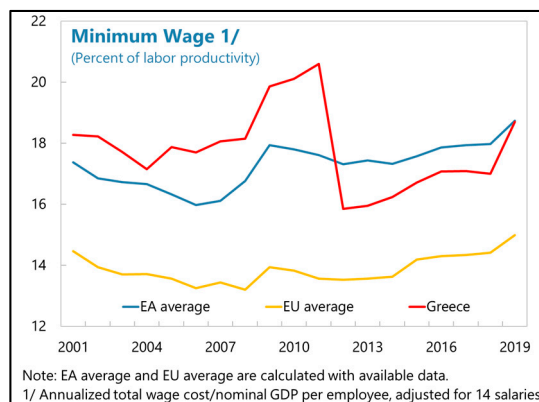
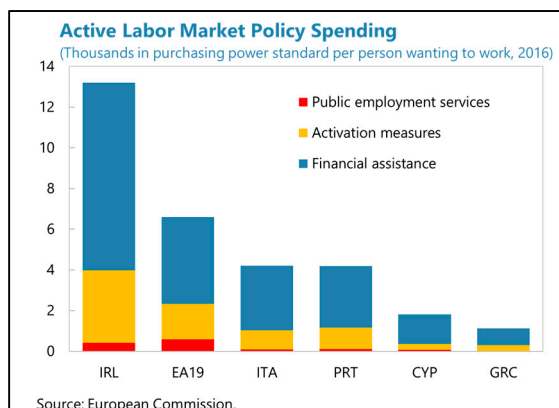
¹⁰ EC Small Business Act Factsheet for Greece (2018).

¹¹ "10 Years of Crisis: A smaller but unreformed economy", PriceWaterhouseCoopers (2019).

¹² IOVE (2018).

¹³ Law 3986/2011 introduced a new ceiling on the max duration of benefits (400 days, for unemployed that receive the unemployment benefit for a 2nd or 3rd time within 4 years). Criteria and standard duration of the benefit have not changed substantially, but the amount declined thanks to the MW drop/freeze in 2012.

overqualification but also in terms of occupation (see also the position of the Beveridge curve). One driver behind this seems to be the lower demand for jobs associated with construction, which declined in the aftermath of the construction boom. Recent surveys show Greece currently features an oversupply in occupations related to construction and the building trade—in tandem with a shortage of managers and ICT professionals.¹⁴ Moreover, while Greek tertiary education attainment is above the EU average (44 percent vs. 40 percent in 2017, respectively), Greek graduates face the lowest employability in the region (in addition to the highest overqualification).¹⁵ In response, Greece is currently testing a new system of active labor market policy (ALMP) spending, but the allocation has been traditionally low compared to EA peers.¹⁶ In parallel, vocational training has low take-up, declining since the crisis despite legislative reforms and growing evidence that vocational students have less problems in finding a job.¹⁷ Female labor participation remains low by regional standards, particularly among older females. This may be linked to tax treatment of secondary earners (high tax wedges), lack of early childhood (or elderly) care options, and persistent cultural attitudes.¹⁸ Finally, a long-standing feature of the Greek labor market is the high tax wedge, which reduces the incentives to find work by lowering workers' net take-home pay. The tax wedge in Greece for each of the eight income groups is larger than the OECD average. Moreover, Greece ranks among the top countries with the highest wedge (out of 37) regarding singles with children and couples with children.



¹⁴ European Commission Directorate-General for Employment, Social Affairs and Inclusion and European Centre for the Development of Vocational Training Skills Panorama Portal.

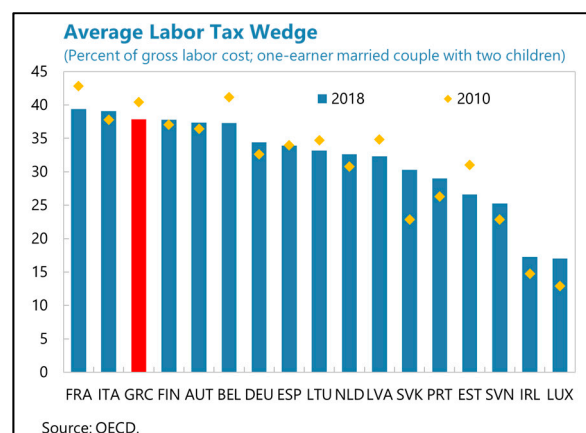
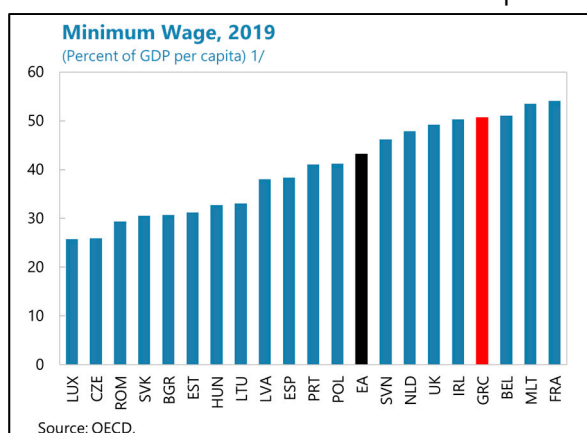
¹⁵ Eurostat and European Commission, Education and Training Monitor (2018). Employment of recent graduates ages 20-34 1-3 years after graduating stands at 50 percent, compared to a regional average of 80 percent.

¹⁶ A new ALMP system was rolled out in June 2018 and is currently in the testing phase in one local office of the public employment service (Elefsina) covering three municipalities (with about 10,000 registered unemployed). Rollout is expected by the end of 2019. The system relies on a data-assisted configuration to support caseworkers in profiling job seekers and offers a menu of options and programs to the unemployed (EC Enhanced Surveillance Report, June 2019). With respect to impact, OECD (2014) finds a broadly positive impact, conditional on the type of ALMP with targeted employment search assistance and retraining policies working better than public works.

¹⁷ Greece introduced new legislation to reform the Vocational Lyceum (Upper Secondary Vocational Cycle) aiming to promote permeability between education pathways. Participation in VET however, has remained broadly stable at 31 percent compared to the regional average of 45 percent (European Commission).

¹⁸ See for example, Papapetrou and Tsalaporta (2018) on the persistence of intergenerational transmission found in Greece regarding education attainment and labor market participation.

16. The level of the minimum wage relative to the actual distribution of wages is also a negative contributing factor (providing disincentives for higher productivity and hindering lower structural unemployment). Before the crisis and prior to the reduction in the MW in 2012, minimum wages in Greece were high compared to peers and productivity. Sectoral data on wage compression (only available to 2017) show sectoral variation with higher wage compression in services and manufacturing.¹⁹ Following the 2019 increase, there is a risk that the pre-crisis situation will re-emerge, as relative to the country's output, minimum wages are very high and compared to EU peers always remained high. Inclusive of the 2019 wage hike, Greece's minimum wage is on the high end compared to GDP per capita and relative to labor productivity. The MW hike (especially if it acts a precedent for future increases) in combination with the return to favorability and extensions is risky, as evidence shows high union involvement in wage setting compresses wage differentials in the lower part of the earnings distribution to the point where significant numbers of low-skilled workers are excluded from employment.²⁰ High wage compression may also act as a disincentive to education and can further reduce labor productivity.



D. Competitiveness and the Role of the Minimum Wage

17. To gauge risks going forward, we analyze the impact of the 2012 minimum wage drop-freeze on wages, employment, prices, and profits. The change in 2012 was followed by a significant improvement in the ULC-based REER and to a lesser extent price-based REER. It is instructive to assess the quantifiable effects of the 2012 reform on key variables of interest to form a view of the potential impact of the recent increase in the minimum wage.²¹ To this end, sectoral wage, employment, and price level data is analyzed distinguishing close to 40 sectors by the degree to which minimum wages are binding.²² Formally we estimate the following relationship by standard OLS:

¹⁹ ERGANI Data.

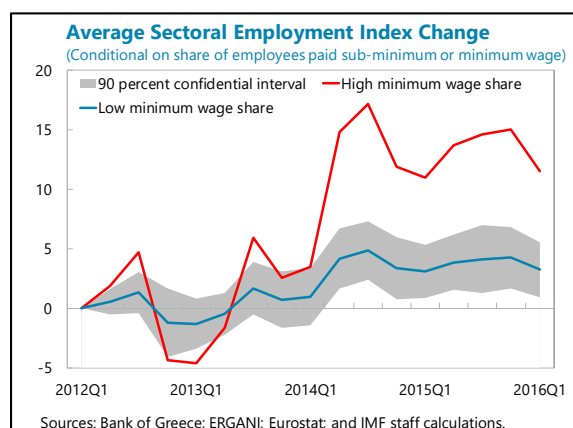
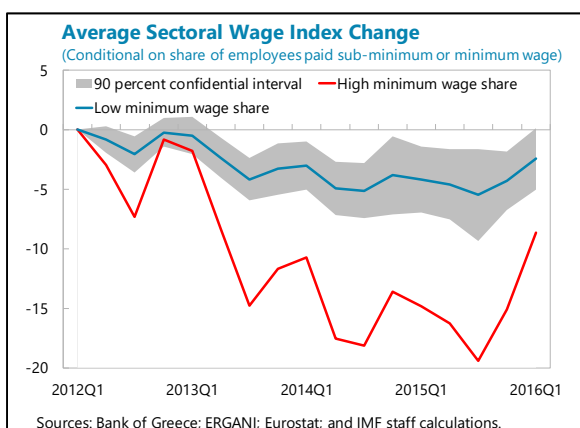
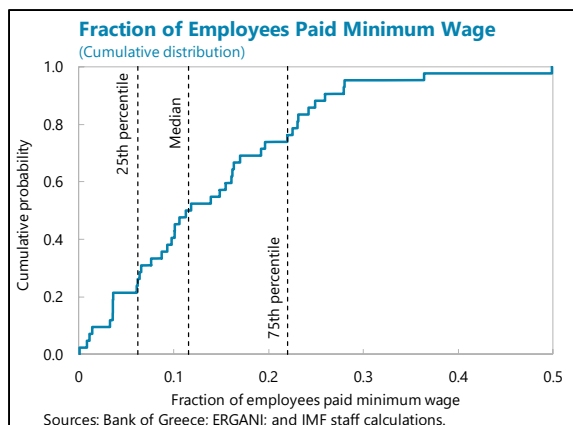
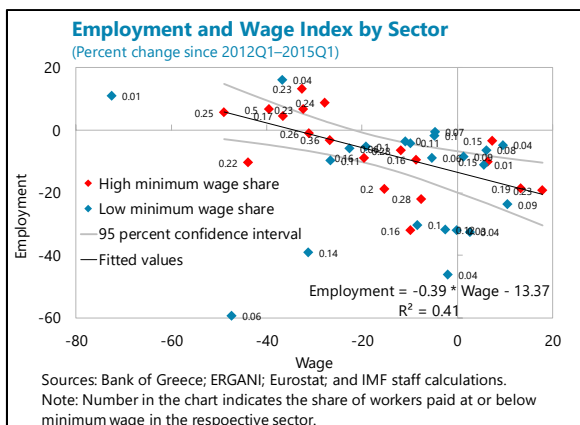
²⁰ OECD Employment Outlook (2004).

²¹ It is too early to assess the minimum wage hikes impact given the delay in data reporting and the need for several quarters to pass before being able to measure the full pass-through to macroeconomic variables of interest.

²² NACE employment and wage data are taken from Eurostat. Corresponding sectoral price data are drawn from multiple sources. For details see the Appendix.

$$Y_{i,2012Q1+t} = \alpha_t + \beta_t \cdot MWshare_i + \gamma_t \cdot Sector + \varepsilon_t$$

Where $Y_{i,2012Q1+t}$ is the cumulative (log) change in the wage (employment or price) level t quarters after the introduction of the new minimum wage in sector i , $MWshare_i$ is the share of employees paid at or below the minimum wage in sector i ,²³ and Sector reflects dummies for sectors belonging to the broad category of Service, Manufacturing, Mining, Public or other sectors. To gauge the impact of the minimum wage, we compare the predicted responses of wages, employment and prices implied by the estimated coefficient of β_t evaluated for a high ($\hat{\beta}_t \cdot MWshare_{75th}$) and low ($\hat{\beta}_t \cdot MWshare_{25th}$) share of employees constrained by the minimum wage, respectively.

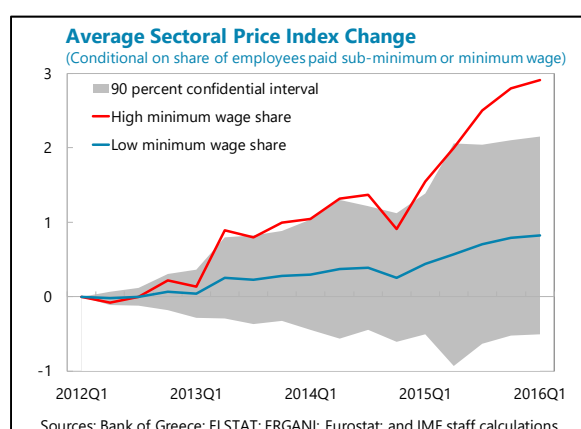
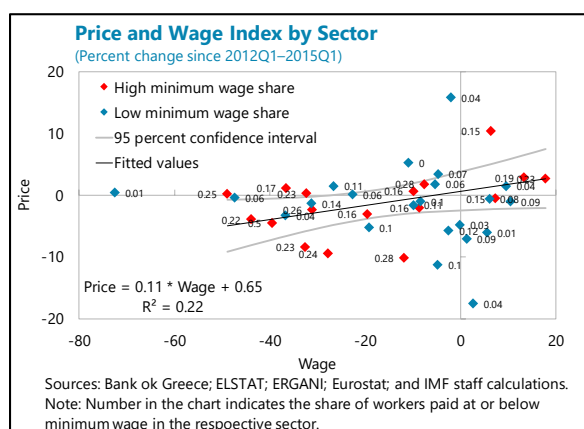


18. Sectors with a higher share of workers subject to minimum wages, witnessed a higher drop in wages for a prolonged period. Normalizing wages to zero at 2012Q1, when the minimum wage was adjusted, wages fell on average by 10 percentage points more in sectors with a higher

²³ While it would have been preferable to use values from quarters prior to the minimum wage decision for the shares, only data for 2017 is available. While the actual share may be different, the relative position of the respective sectors is likely unchanged which is most relevant for the identification in the estimation.

share of workers paid the minimum wage.²⁴ While it took more than a year for the minimum wage to pass-through to actual wages, by 2014/15 wages fell by about 15 percent in sectors that are highly constrained by the minimum wage and about 5 percent in sectors that are only weakly constrained compared to the benchmark sector that is unconstrained.²⁵

19. Employment fell significantly more in sectors that experienced more limited wage reductions. Repeating the same exercise but replacing wages with sectoral employment reveals that sectors that were constrained by the minimum wage experienced an about 10 percentage points higher employment level than sectors that were unconstrained by the minimum wage. Together with the previous result on wage changes, this suggest that the elasticity of employment to wages in Greece is significant. It is supported by the relationship between wage and employment adjustment by sector following the 2012 minimum wage change: after three years following the minimum wage change, sectors that experienced 10 percent lower wages, saw employment fall by about 4 percent less in sectors that are constrained by the minimum wage.²⁶



20. While sectors with higher minimum wage share experienced lower wages and higher employment—prices did not show the expected adjustment. While wages and employment appear to react according to standard neoclassical models (see Box 1 for a more general discussion of minimum wage effects), the lower wages in sectors with a higher share of employees paid minimum wages did not translate into on average lower output prices in those sectors compared to

²⁴ Specifically, wages are estimated to have dropped 10 percentage points more in sectors with about 20 percentage points higher share of employees paid at or below minimum wage.

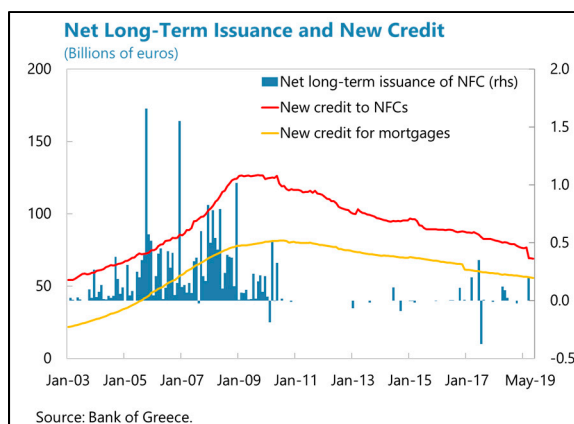
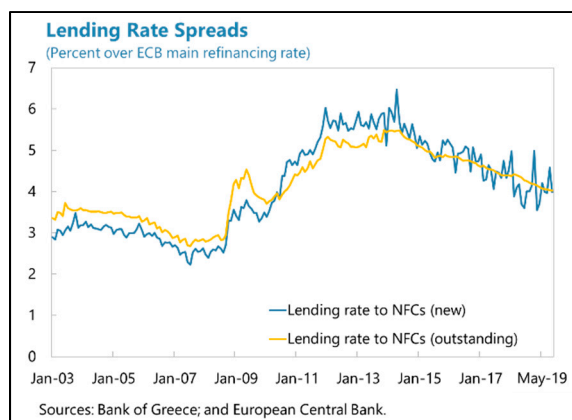
²⁵ Coefficient estimates for the constant and sector dummies imply that also fully unconstrained sectors saw a decline in wages. However, this may be a result of a combination of minimum wage spillover and endogenous response of wages to the economic decline.

²⁶ The relationship does not hold for sectors that are unconstrained by the minimum wage, and consequently the estimated elasticity is with -.27 lower for the overall economy. Results are confirmed at different horizons with the estimated elasticity falling over time.

sectors with a low share of minimum wage earners.²⁷ There are several potential reasons for this: first, the price level data may not fully correspond to the sectors output price. We consider this less likely as we see little reason for a systematic bias related to the minimum wage intensity of the sector.²⁸ Second, sectors where minimum wages are binding experienced a disproportionate offsetting increase in other cost factors (e.g. oil price, taxes, etc.). Third, sectors with a high share of minimum wage workers experienced a more severe drop in labor productivity. And finally, competition in sectors with high minimum wage share is more limited (regulation more protective) which allows firms to keep prices relatively unchanged and increase price mark-ups/profits.

E. Competitiveness and the Role of the Non-Wage Cost Factors

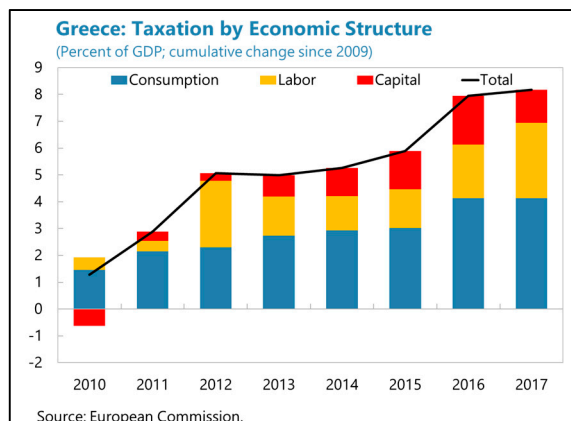
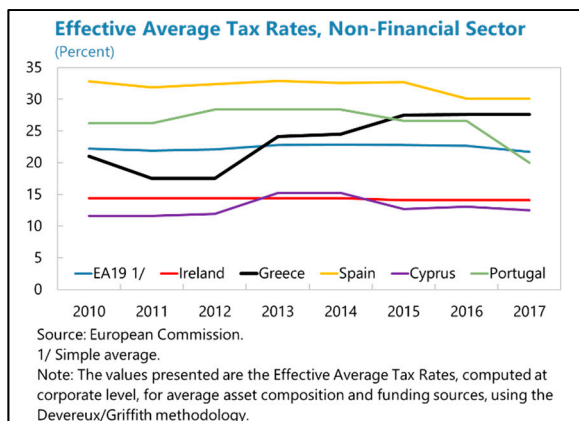
21. The cost of capital in Greece increased significantly during the program era, thus offsetting some of the lower wage costs. As sovereign yields increased, the cost of capital rose and the availability of credit for non-financial corporations tightened. While bank credit is the main source of funding for the SME-dominated economy, higher costs in capital markets implied an increased cost of capital to firms, reflected by the absence of bond issuances by Greek firms.



22. An increase in the taxation of capital added to firms' rising marginal costs. Looking at the tax revenue to GDP generated from capital or the effective average tax rate on non-financial corporations, both indicate that capital costs related to taxes increased from 2012-2016. This eliminated another part of the competitiveness gain from lower wages, as taxes on capital in peer countries either remained unchanged or declined, while the effective tax rate on capital in Greece increased by 10 percent.

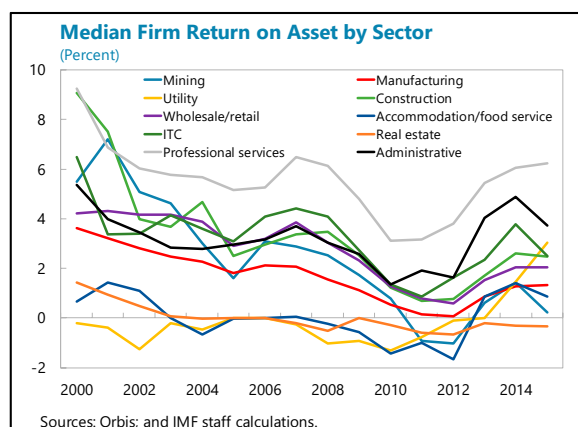
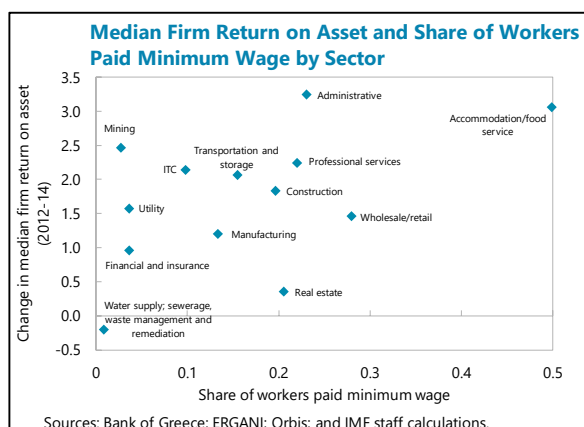
²⁷ However, note that within the group of sectors with an above median share of employees paid at or below the minimum wage, prices fell more in those sectors where wages fell more.

²⁸ Results are also unchanged if we focus only on sectors where price data is excluded if derived from CPI data.



23. Labor tax increases also offset some of the ULC gains. In 2012, when the minimum wage reduction was implemented, revenue from labor taxation as a percent of GDP started to increase by more than 2 percent of GDP reflecting largely an increase in revenue from PIT, because of new tax scales²⁹, reductions and eliminations of tax credits. Not all of these had an immediate effect on the cost of firms, but they reduced net take home wages.

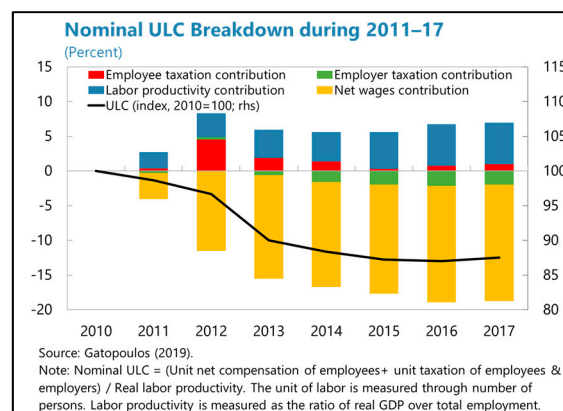
24. The increase in average profits after 2012, also suggest that product market reforms and opening professions have not delivered on increasing competition. Based on firm level (Orbis) data, median and mean measures of mark-ups (e.g. RoE, RoA and profit per employee) across almost all sectors increased after 2012 following their respective low-points. Repeating the previous exercise for wages employment and prices, for firm’s profit margin³⁰ indicates that firms in sectors with a higher share of workers paid at or below the minimum wage experienced a significantly higher increase in profit margins following the minimum wage reduction. This (together with a possible change in labor productivity – see below) could explain why there is no markable drop in prices in low wage sectors following the minimum wage reduction, i.e. competition was not sufficient to force firms to pass-on lower production costs.



²⁹ Which had already been introduced earlier starting in 2010.

³⁰ Specifically, we regress firm return on assets in the years 2013–15 in deviation from their 2012 value on the corresponding sectoral share of workers paid at or below the minimum wage for a sample of about 23,000 private sector firms.

25. Combining wage and non-wage cost factor developments with standard theory can explain the observed patterns in term of employment, labor productivity, ULC, and price competitiveness. Once the elements on minimum wages, taxation, capital costs, and mark-ups are combined in a standard cost-minimization / profit maximization framework, the observed pattern for key variables following the labor market reforms can be broadly accounted for. The price reducing effect of lower wages was partly offset by higher labor taxes and higher capital costs and taxes. Increased mark-ups due to a lack of sufficient competition further limited the fall in prices but increased the fall in real wages. The relative cost of capital increased causing production to be more labor intensive and thus labor productivity to decline.

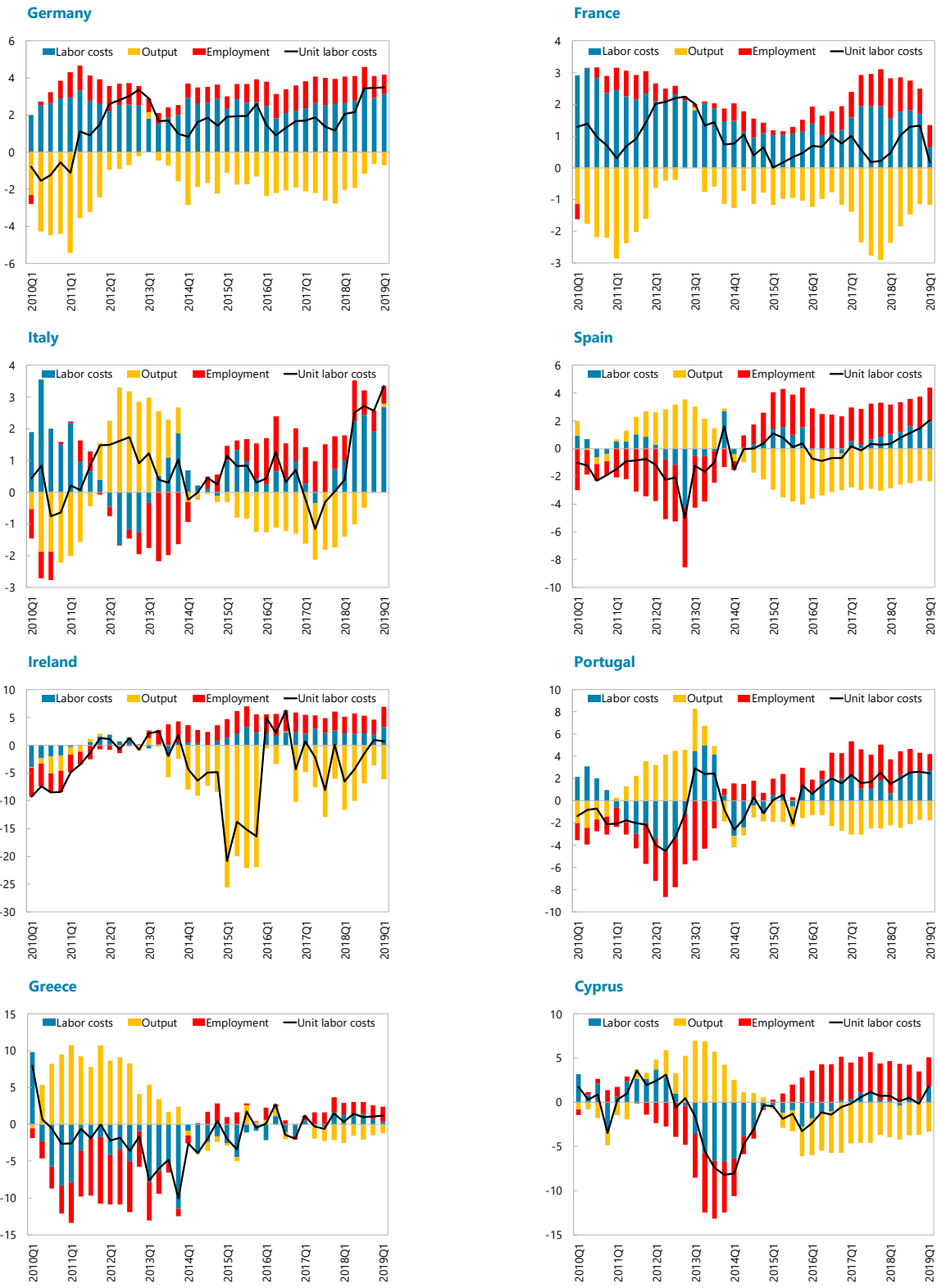


F. Conclusion and Policy Implications

26. The labor market recovery remains tenuous, with labor market flexibility still necessary and in need of protection. The labor market policy reversals at program exit are risky. They revert to a wage-setting process that did not serve Greece well in the first place, and pose risks of slower job growth, hysteresis, exclusion, and in-work-poverty. Mitigating factors (improvements to the CB representativeness mechanism, relatively faster price increases in trading partners, low pass-through) may provide short-term cushion, but restoring the full program-era labor market reforms would better help address these challenges.

27. Greece should address risks to external competitiveness (and job growth) from rising labor costs, but other (non-wage) reforms have further to go and should be prioritized. Non-wage factors such as product market/business climate/banking reforms deserve more attention. More competitive firm dynamics would encourage employers to compete for and invest in retaining workers by offering better-quality jobs. Priority should also be placed on other areas to leverage (and ameliorate) the burdens put on labor (ALMPs, educational reforms, targeted social support). Together, this would amplify the benefits of labor market deregulation by further stimulating competition, supporting productivity, increasing the elasticity of labor demand, and help bring the full beneficial effects from the program-era labor reforms to Greece's external competitiveness. It would also address concerns that labor has shouldered the bulk of adjustment burden and help build consensus for reforms.

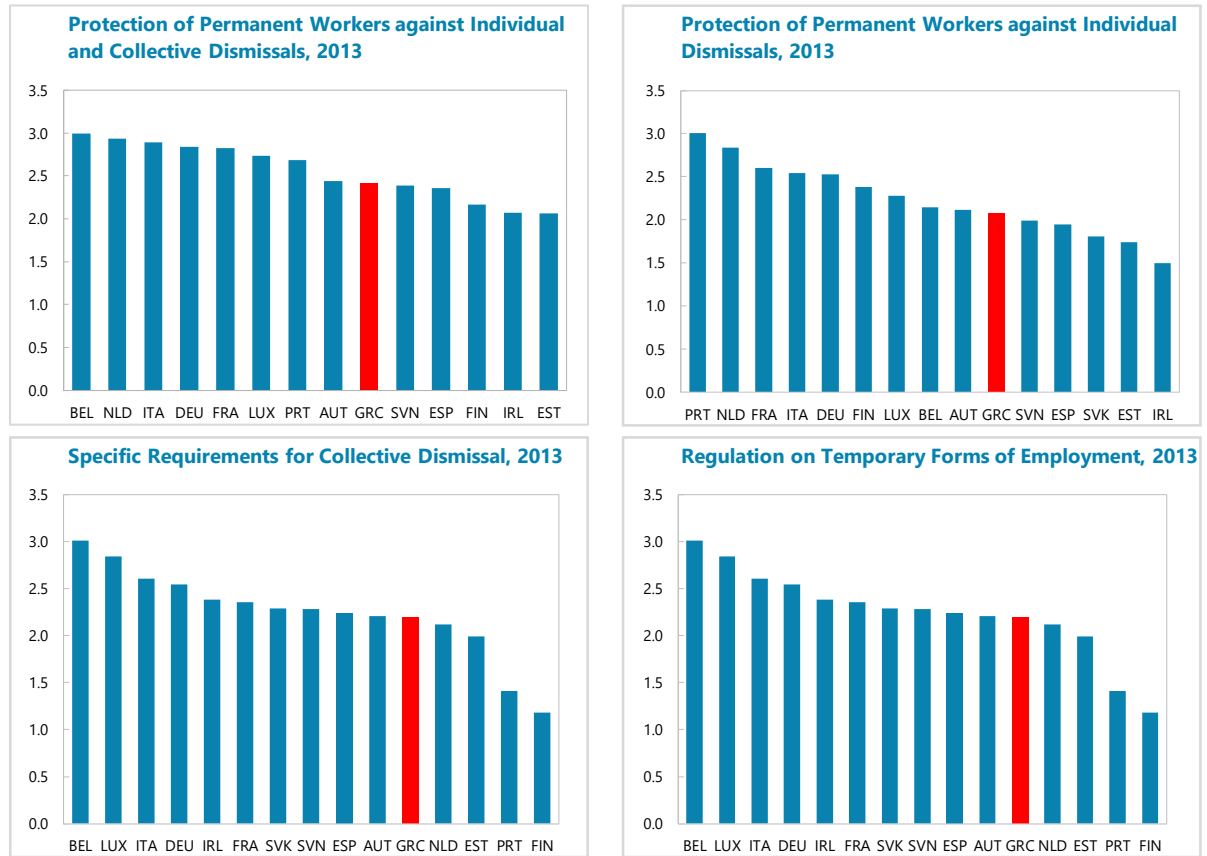
Figure 1. Change in Unit Labor Costs in Selected Countries
(Percent change, yoy)



Sources: Eurostat; and IMF staff calculations.

Figure 2. Employment Protection in Selected Countries

(Index, 0=least restrictions to 6=most restrictions)



Source: OECD.

Annex I. Labor and Product Market Reform Retrospective

Labor Market Reforms

1. **Greece entered the crisis with uncompetitive wages and significant labor market distortions.** Prior to the crisis, the Greek labor market compared poorly to EU peers, with high unemployment and low participation rates (even during the boom years). This reflected complex wage-setting, strong employment protection, and a rigid collective bargaining (CB) system). In the run up to the crisis, these factors, along with a rapidly accelerating public sector wage bill, led to wage drift several times beyond productivity growth, which contributed to real exchange rate appreciation and to an unsustainable external position.
2. **Early labor market reforms (2009–10)** focused on the public sector wage bill and on modest policies to increase flexibility. Starting in 2011, deeper reforms were implemented to facilitate internal devaluation, albeit with costly delays. These included:
 - **Collective Bargaining.** In 2011, procedures for firm-level agreements were simplified, allowing the implementation of less favorable conditions than those offered by sectoral/occupational agreements (suspension of ‘extension’ and ‘favorability’ principles).¹ Recourse to unilateral arbitration to solve disputes was also suspended, allowing an arbitration dispute to proceed only if restricted to basic pay issues and if all were party to the agreement. These changes allowed businesses to negotiate at the company level and adjust wages to reflect firm-specific circumstances, while the abolition of unilateral recourse to arbitration encouraged negotiations among social partners for the signing of collective agreements.² To further increase the ability of firms to respond to shocks, firms were allowed to extend daily working hours in periods of high employment, with certain caveats. As a result of these changes, firm level agreements rose significantly, from an average of 220 in the period 2005–10 to 416 from 2012–17, but then dropped back down to 155 in 2018 when the favorability principle was reinstated.³ In 2018, immediately upon exit from the ESM program, the authorities reintroduced the extension and favorability principles. Since then, 17 collective agreements have been extended, impacting about 230,000 employees. Earlier, the suspension of unilateral arbitration was revoked by a decision from the Council of State.⁴

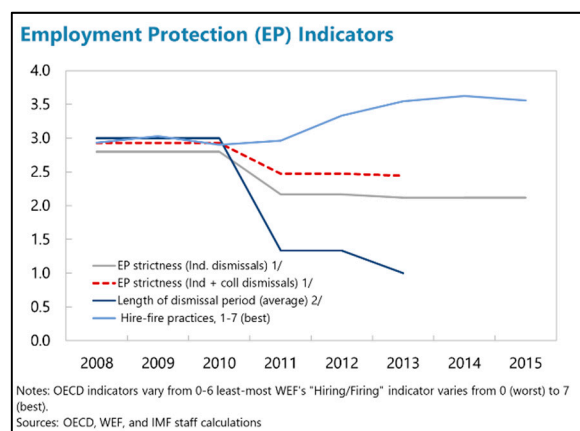
¹ Law 4024/2011, art. 37 par. 5. Prior to their suspension, the “extensions” and “favorability” principles allowed the conditions of one subgroup of workers to be extended (by government) to all workers in the sector/occupation, while workers subject to multiple CBAs could choose the most favorable one.

² Before 2011, arbitration/mediation decisions would cover about half of the occupational and sectoral collective agreements. The percentage dropped to 8.7 percent in 2013 when unilateral arbitration was abolished. It increased to 30 percent in 2014, the year that Council of State reinstated it.

³ Firm level agreements rose from 227 in 2010 and 170 in 2011 to 975 in 2012 and 409 in 2013. The rise in firm level agreements should also be seen against a decline in economic activity and active number of firms in the second period.

⁴ CoS Decision 2307/2014.

- Employment protection.** Collective dismissals (CD) rules were eased,⁵ including increasing the number of employees for which a dismissal is considered collective and the administrative pre-approval of collective dismissals was replaced with a notification procedure.⁶ It is unclear to what extent this change had a material impact as the number of collective dismissals that were requested from 2008–16 was only low, despite a larger number of firms declaring bankruptcy in this episode (about 250,000).⁷ Individual dismissal rules in Greece have been partially amended. The requirements for a dismissal to be legal remained unchanged, but both the severance pay for cases without prior notice and the notice period for employment termination was reduced.⁸ These changes increased firms' flexibility and reduced firing costs.



- Bureaucracy and inflexibility.** Before 2012, digitalization was absent. Reporting requirements were outdated, inefficient and costly for both the public and private sector. Many documents on everyday operational procedures of a company, such as the submission of working time schedules and changes on the terms of employment, had to be physically delivered to the Manpower Organization (OAED) and the Labor Inspectorate (SEPE). Strict work schedules, high overtime, and Sunday pay and restrictions on seasonal and shift work prevented companies from matching work with business intensity. The creation of the ERGANI platform in 2013, allowed companies to notify electronically the competent authorities for any new hiring, firing, modification of contracts and other required actions. This increased transparency and reduced business costs associated with bureaucracy.

⁵ Law 3863/2010 art. 74.

⁶ Under Greek law, collective dismissal refers to cases where the number of workers dismissed is more than six per month in enterprises employing 20 to 150 workers and 5 percent of workers in enterprises employing over 150 workers. Prior to the reform, these figures were 5 workers and 2–3 percent, respectively. This definition of collective dismissals in Greece is more restrictive than the EU average. The EU Directive provides for at least 10 workers dismissed in enterprises employing twenty 20 to 100 workers and at least 10 percent of workers for enterprises employing from a 100 to 300 workers.

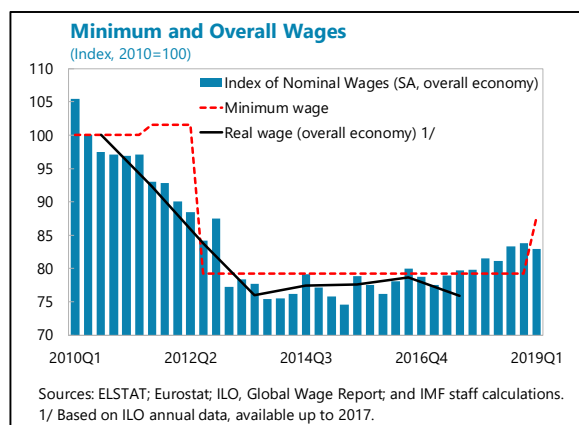
⁷ From 2008 until 2016, 26 requests for CDs were reported to have been submitted to the MoL. In 10 cases, there seems to have been an agreement between the company and the employees that prevented layoffs. In 10 other cases the company was reported to have withdrawn the request and laid off workers in stages, remaining below the limits of CDs. Five CD submissions are reported to have been rejected. The single, first CD reported as approved was for Chalyvourgia SA in June 2014. In May 2017, law 4472/2017 lifted the pre-approval requirement.

⁸ The severance pay has been reduced up to 50 percent. The exact share and shortening time for notification is a function of tenure.

3. In 2010–11, adjustments to public sector wages took place, followed by reductions in minimum wages in the private sector in 2012.

In 2010–11, public wages and bonuses were cut, but private-sector wage adjustment lagged.⁹ Initially, reductions in private wages were not seen as critical by some, including by the business sector (which did not consider labor costs to be excessive and viewed exports as unlikely to be wage-sensitive).¹⁰ The focus was on increasing the scope for wage bargaining at the firm level, although few such agreements were signed at the time. In March 2012, in an attempt to

realign labor costs with productivity and fight youth unemployment, the national minimum wage was lowered by 22 percent, generally, and 32 percent for those under 25 years of age and then was frozen at this level until the end of the adjustment program.¹¹ In addition, several allowances were abolished, and seniority premiums were frozen.¹² In July 2013, the decision over the minimum wage was transferred from social partners to the government, following a consultation process with scientific institutions and social partners (though it was agreed that this new legislated framework would take effect only after program exit).¹³ In September 2018 (just after program exit), the government activated the 2013 framework for the first time, six months earlier than originally mandated under the legislated framework. The decision resulted in a 10.9 percent increase of the minimum wage, the abolition of sub-minimum wage for youth, and the maintenance of seniority premiums.



Product Market Reforms

4. Reforms to product market regulations formally covered the full spectrum of the Greek economy but de facto achievements have been limited. Prior to the crisis, Greece businesses faced heightened bureaucracy, regulation shielding incumbents, and market distortions. This was reflected by poor scores in most rankings related to competition and doing business. The structural policy package aimed at opening markets, create economic opportunities, encourage innovation, and make Greece more competitive and business-friendly. The main projects implemented between 2010 and 2018 were:

⁹ It was only with the approval of the EFF in March 2012 that significant labor reforms took place, including reductions in minimum wages in the private sector.

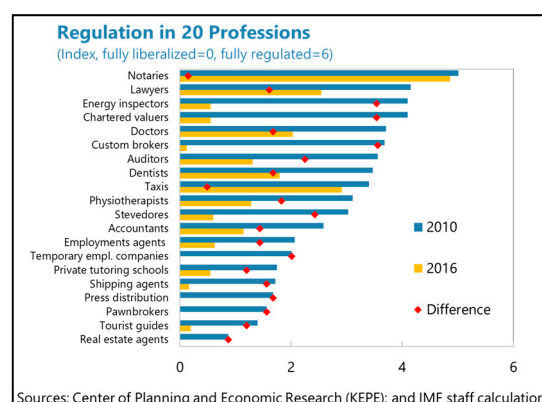
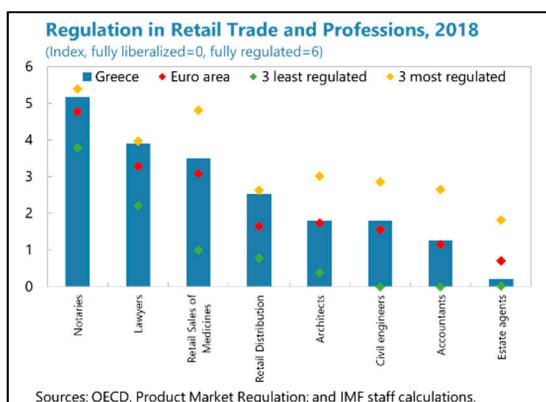
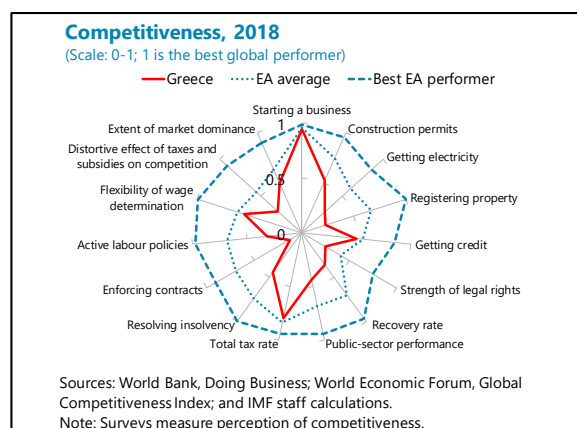
¹⁰ See European Commission (2010). Also see Papaconstantinou (2010): "Competitiveness is a broader issue than wages in Greece and also has to do with the oligopolistic nature of markets: wage cost is part of the discussion but not a main element."

¹¹ Law 4046/2012.

¹² A seniority premium of 10 percent was granted to workers for every three years of work experience, up to 30 percent. The freeze is effective until unemployment falls below 10 percent. To facilitate re-entry to the labor market, allowances were halved in 2014 for the long-term white-collar unemployed (Law 4254/2014).

¹³ Law 4172/2013, art. 103.

- Competition:** The OECD toolkits process was a three-phase sectoral review of the competition conducted by the OECD between 2013 and 2016 that reviewed existing legislation and made 673 recommendations to lift restrictions to competition in 10 macro-critical sectors of the economy (manufacturing, trade, tourism, constructions etc.). Most of those recommendations were implemented, though in several cases with significant delays and in others, cornerstone reforms (e.g. open shops on Sundays) have been watered down.
- Red tape:** The aim was to reduce administrative burdens by 25 percent in 13 selected areas (agriculture, energy, public procurement, taxation, pharmaceuticals, etc.). The OECD made 86 recommendations, the majority of which were adopted, though about 20 percent of those took over three years to be implemented.
- Investment licensing:** Supported by technical assistance from the World Bank, the reform aimed at simplifying investment licensing procedures both horizontally and on a sector-by-sector basis. In 2011 and 2014 Greece passed legislation to implement a system that largely focuses on notification and legislation that simplified environmental licensing, among others. From 2015 until 2018, over 70 percent of the sectors of the economy have been reviewed under the framework of the investment licensing project, while the rest were covered by other reforms (OECD toolkits) or were subject to specialized regulation (e.g. banks).
- Regulated professions:** Prior to the crisis, the so-called “closed professions” accounted for 30 percent of total private sector employment. Substantial progress was made from 2010 until 2014 with the liberalization of professions, mostly through a framework law that established professional freedom and abolished horizontal restrictions related to entry and operation. In 2015, reforms broadly stalled, with little progress in controversial areas.



Annex II. Minimum Wage Policy: Effects and Estimates

1. Theoretical considerations on the impact of minimum wage changes suggest that the impact depends on market structure.¹ In a neoclassical model with perfect competition, workers earn the marginal product of labor and a binding minimum wage (MW) leads to lower employment. Under a monopsony, firms can set wages below the employees' marginal product. In this case, an increase in wages can lead to a reduction of firms' monopsonistic profits and increase wages, employment and output to levels consistent with perfect competition.

Annex II, Table 1. The Effect of Minimum Wages on Employment: What Meta-Analysis Show in Selected Countries

Study	Number of studies covered	Country coverage	Impact on employment	Impact on youth employment
Doucouliaos and Stanley (2008)	64	United States	Little or no impact	Negative, but small
Boockmann (2010)	55	15 industrial countries	Negative, but varies across countries	
Nataraj et al. (2014)	17	15 low-income countries	Ambiguous	
Leonard, Stanley and Doucouliagos (2014)	16	United Kingdom	No impact	
Belman and Wolfson (2014)	23	Mostly United States	Small negative impact	
Chletsos and Giotis (2015)	77	18 developed and developing countries	No impact	More negative, but not always significant
Broecke, Forti and Vandeweyer (forthcoming)	74	10 major emerging economies	Little or no impact	More negative, but still very small

Source: OECD, Employment Outlook 2015.

2. Results from cross-country empirical studies about the employment effect of minimum wage changes are indeed mixed. A number of studies have summarized the findings of the literature. The selected findings, which are presented in Table 1, show that the impact of MW increases on employment tend to be country-specific, on average limited for overall employment, although with some evidence of negative effects on vulnerable groups (e.g. youth).

3. The limited research on Greece is inconclusive, although estimates based on recent data point to a negative elasticity of employment to minimum wage increases. As shown in Table 2, Koutsogeorgopoulou (1994) finds small negative elasticities (between -0.05 and -0.11), focusing on minimum wage effects on industry employment. Kapopoulos, Papadimitriou and Siotis (2003) also found no effect when focusing on industry employment and pre-Euro adoption years. A more recent study by Kanellopoulos (2015) used data from years 2004–13 (the period of high increases and later the drop/freeze of the MW) concluded that the MW has a negative effect

¹ A full analysis of the existence of monopsonist profits is beyond the scope of our analysis. Monopsonistic behavior could be diagnosed using micro evidence on firm behavior, reflected in increasing firm concentration (Azar and others 2018) or rising corporate market power (De Loecker and others, 2018, and Diez and others, 2018). In this study we largely rely on macro data and refer to benchmarking of MWs relative to peers.

on employment, with the elasticity estimated at -0.17. Regarding the impact of the MW on youth unemployment, Karageorgiou (2004) found that the MW is correlated positively with teenage employment while Yannelis (2014) concluded the impact of the MW is significantly negative for youth, especially for low earners, with an elasticity between -0.28 and -0.46.

Study	Reference period	Impact of MW on:		MW elasticity on:	
		Employment	Youth employment	Employment	Level of wages
Kanellopoulos (2015)	2004-2013	Negative		-0.17	-0.4
Kapopoulos, Papadimitriou & Siokis (2003)	1970-1997	Not statistically important (focuses on industry)			
Koutsogeorgopoulou (1994)	1962-1987	Small to marginal negative (focuses on industry)		between -0.05 and -0.11	
Karageorgiou (2004)	1974-2001, 1981-2000		Not statistically important for youth, positive for teenagers		
Yannelis (2014)	2009-2013		Significant negative, especially for low earners	between -0.28 and -0.46 (for 22-27 years-old)	

4. Inequality and poverty considerations may tilt the balance on minimum wage setting as an effective policy tool, but they are unlikely to be the first best policy option. Often minimum wages are motivated by high wage inequality being considered a source of inequality or in-work poverty. In such cases, potential gains in terms of inequality and in-work poverty reduction would need to be weighed against possible disincentives for effort and education (due to high minimum to average wages), unemployment and resulting out-of-work poverty increases.² Policies such as means-tested cash transfers or ALMPs focused on individual worker re-training and support could be considered first or as complementary measures.

5. Other considerations can help inform policy choices. Cyclical conditions and spillovers to the overall wage level (e.g. through benchmarking to the minimum wage) also shape the overall effect. Minimum wages create downward rigidities. In a recession, these considerations may be problematic in a currency union where the exchange rate cannot contribute to endogenously re-establish competitiveness. Product market reforms can be used to increase competition, while effective active labor market policies (ALMP) can help address information asymmetries.

² This note abstains from analyzing wage compression and inequality measures, given a lack of data following the MW hike. However, historical data show high wage compressions in key sectors, which could point to lower returns to education.

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THE QUALITY OF GREECE'S EXTERNAL ADJUSTMENT¹

In the lead-up to the crisis, Greece's economy became increasingly uncompetitive. By 2009, the real exchange rate had appreciated significantly and the current account deficit (CAD) hit record highs. A series of program era policies helped to partially reverse this trend. However, this note concludes that the current account adjustment (which briefly brought the CAD to near-balance) was driven far more by cyclical than structural factors. The conclusion is that Greece has further to go to boost competitiveness and achieve a durable improvement of the current account within the currency union.²

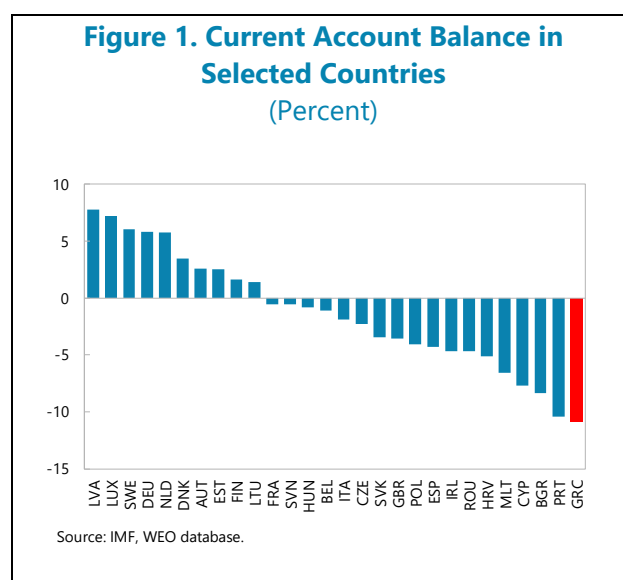
A. Background

1. Greece entered the crisis with uncompetitive wages, significant labor market distortions, and the largest current account deficit in the EU (Figure 1).

Indicators for Greece show a significant erosion of cost and price competitiveness during this period. By 2009, export performance was weak, with substantial market loss to main competitors, and the current account deficit hit modern era highs. Greece's rigid labor markets contributed to the buildup of these imbalances.

Program-era reforms facilitated significant wage adjustment and substantial improvement in relative unit labor costs. However, price declines were not commensurate with wage declines (and productivity growth was weak), implying missing or incomplete reforms in goods markets and other (rising) cost factors that offset lower labor costs. This can be seen in the far more muted adjustment of the CPI-based REER indicator. These developments hindered a more vigorous recovery of employment, exports, and growth. This also raises the question of how much further Greece has to go to address external imbalances.

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B. Was it Structural or Cyclical?

2. This note examines how much of Greece's current account (CA) adjustment can be attributed to structural and cyclical factors using a country-specific model.³ The decomposition

¹ Prepared by Efthymios Argyropoulos (EUR)

² See the section on "Reforms, Labor Market Dynamics, and Competitiveness" and Annex II of the 2019 AIV Consultation staff report ("External Sector Assessment") for related discussions.

³ The single country approach used here is related to EBA's panel methodology and aims to improve the fit of the model by capturing structural policies that are not explicitly modeled in EBA, contributing to large residuals for Greece (see also Moral-Benito and Viani, 2017. "An anatomy of the Spanish current account adjustment: the role of permanent and transitory factors").

considers as cyclical the output gap, the commodity terms of trade, the credit to GDP gap, and volatility proxied by the VIX index. Structural or more permanent factors include the cyclically-adjusted fiscal balance, real unit labor cost (ULC), measures of the institutional/political environment, net foreign assets (NFA) to GDP, the old-age dependency ratio and expected GDP growth (5 years ahead). The following linear regression model is estimated:

$$CA_t = c + \beta_c x_{t,c} + \beta_s x_{t,s} + \varepsilon_t,$$

where CA_t denotes Greece's current account in percent of GDP at time t , c denotes the constant term, $x_{t,c}$ is a vector containing all cyclical factors and $x_{t,s}$ is a vector of all structural factors and policies (considered to be of a more permanent nature).⁴ The estimated coefficients from the model are used to decompose the CA into cyclical and structural components (Figure 2).

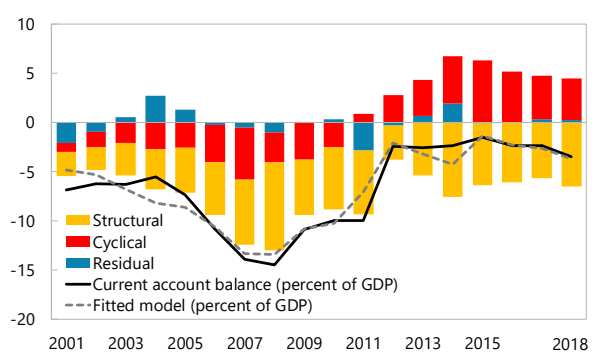
3. Between 2004–08, the largest part of the deterioration in the CA was structural.

The headline deficit rose sharply after 2004, reflecting the decline in private and especially public savings (as pension and public wage bill spending rose rapidly), which far exceeded the slowdown in private investment (with public investment remaining roughly unchanged). The rapid expansion of credit, as evidenced by the positive credit gap, triggered expectations of high future growth rates leading to higher private consumption and lower saving. Furthermore, Greece's NFA position deteriorated substantially during this period.⁵

4. The recession starting in 2009 wiped out almost the entire CA deficit in just four years.

The gradual structural improvement only started from 2012 onwards following the turnaround in the fiscal position and, to a lesser extent, improvements in competitiveness through lower ULC after significant labor market reforms. Exports of traditional products increased substantially, but Greece's pattern of comparative advantage did not change materially during the past decade, suggesting that no new dynamic goods sectors have emerged.

Figure 2. Greece: Current Account Decomposition into Cyclical and Structural Factors (Percent)



Sources: Greek authorities; and IMF staff calculations.

⁴ Data are annual, covering the period 1986–2018. All variables except for the output gap, cyclically adjusted fiscal balance and expected growth have been standardized. To address serial correlation in innovations and endogeneity biases in the regressors, we estimate the model by using the Fully Modified OLS (FM-OLS) estimator. The model has also been estimated with quarterly data covering the same period. The estimated parameters and conclusions were similar.

⁵ A mitigating factor is the current lower average external interest rate for Greece related to official sector loans (which will gradually shift to market rates over time).

5. For the period as a whole (2008–18), according to model estimates, about 75 percent of the overall correction of Greece’s external position can be attributed to cyclical factors and the remaining 25 percent to structural factors and policies. Specifically, Greece’s actual headline CA adjustment for the period 2008–18 was around 11 percent (of GDP). The model implies 9.9 percent, out of which, 75 percent (or 7.4 pts) is attributable to cyclical and 25 percent (or 2.5 pts) to structural factors. Furthermore, the model implies a structural CA deficit of 6.4 percent of GDP in 2018 (close to the structural CA deficit estimated by EBA). Most of the structural deficit comes from Greece’s negative NFA position (Figure 3), while subdued credit growth in the medium term dampens the headline CA deficit.

6. Compared to other EU countries that improved their external position during 2009–2016, Greece’s had the largest cyclical contribution (Figure 4). Moreover, since almost all EU countries improved their CA (perhaps in part due to a weaker euro), Greece remains near the bottom by 2018. This likely reflects the modest improvement in price competitiveness, as reforms in goods markets were largely unsuccessful, and rising non-wage costs (including taxation), declining productivity, deteriorating financing conditions, and high economic and policy uncertainty offset some of the wage cost gains.

7. In sum, the analysis indicates that Greece has much further to go to secure external competitiveness and eliminate external imbalances. The recession starting in 2009 wiped out almost the entire CA deficit in just four years, but the bulk of the adjustment was cyclical (considerably more than in Portugal and Spain). The underlying structural deficit is estimated at around 6.4 percent of GDP compared to an estimated structural deficit of 9 percent of GDP on the eve of the crisis.

Figure 3. Greece: Detailed Current Account Decomposition and Forecasts
(Percent)

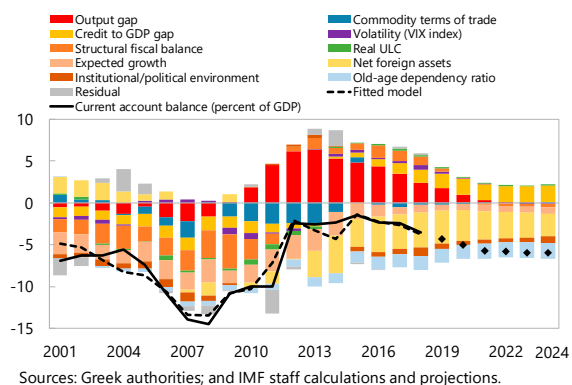
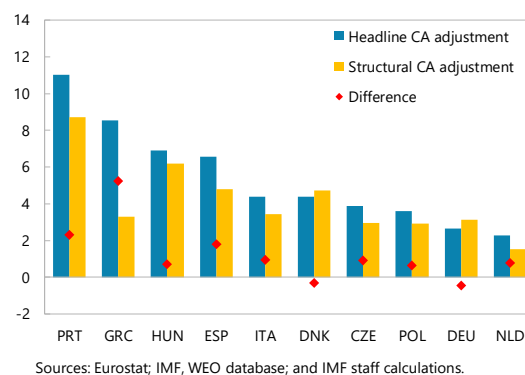


Figure 4. Comparison of Current Account Adjustment in Selected Countries
(Percent of GDP, 2009–2016)



INSTALLMENT SCHEMES, ARREARS, AND PAYMENT CULTURE¹

A large informal sector, widespread tax evasion, and strategic defaulting are symptomatic of the weak payment culture in Greece. This has contributed to persistently high levels of tax and social security debt and complicated efforts to reduce banks' non-performing exposures. Rather than redoubling enforcement efforts, there is a long history of relying on generous installment schemes for debt resolution or legal protections, often motivated by social policy objectives. The installment schemes have been largely ineffective, marked by very high drop-out rates, including because they lacked a detailed assessment of debtor payment capacity and compliance history. The latest chapter includes yet another extension (and expansion) of primary residence protection (PRP) with subsidies for mortgage debtors in March 2019 and new installment schemes for tax, social security, and local government debt legislated in May 2019 (further expanded in August).

1. The informal economy in Greece is estimated to be among the highest in the EA.

Vasardani (2011) points to an informal economy equivalent to about 30 percent of official GDP, with undeclared work at around 25 percent of all employees. Oxfam (2013) reports that, on average, 27.5 percent of GDP went untaxed in Greece between 1999-2007. Estimates in Medina and Schneider (2018) suggest that Greece's informal economy in 2017 was between 14 and 21.5 percent of reported GDP depending on the methodology, well above Eurozone peers. These estimates are significantly higher than official figures based on self-reporting (which indicates the informal sector to be around 3 percent of total employment) or findings by the Labor Inspectorate (SEPE), which, for the first 8 months of 2017, showed undeclared workers in 15 percent of the inspected companies, equivalent to 5.9 percent of the total official number of workers.

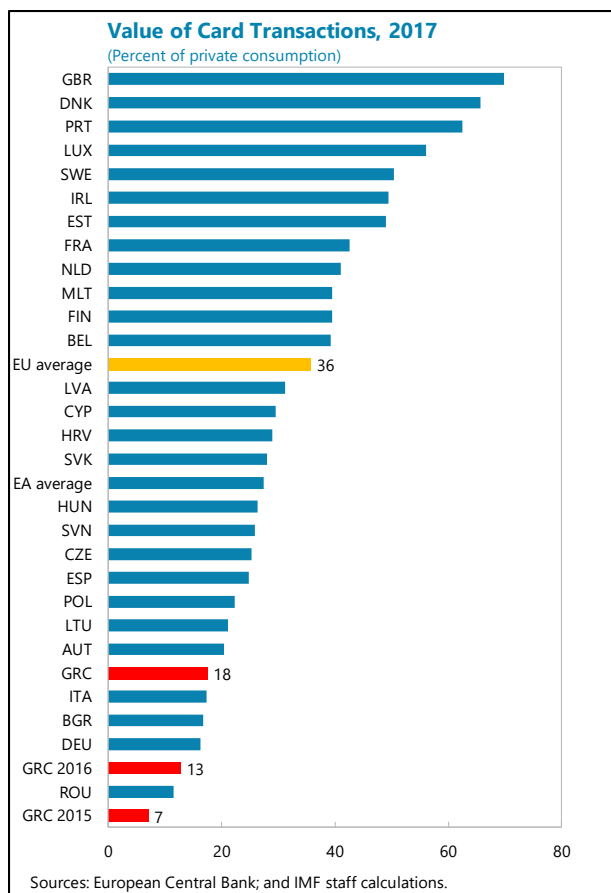
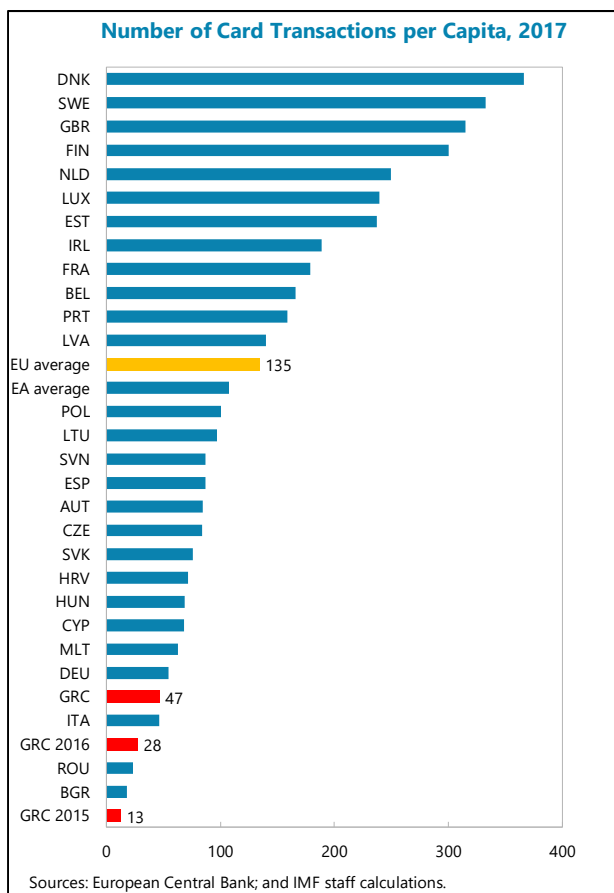
2. The informal economy is facilitated by cash transactions. One recent study found that Greece ranks in the bottom quintile of EU countries (seventh from last) in terms of the value of electronic transactions as a percentage of private sector consumption (18 percent in Greece in 2017 versus the EU average of 36 percent), despite taking off since the introduction of CFMs in 2015 (when the use of credit and debit cards sharply increased).² The study concludes that reaching average European Union levels in terms of the use of plastic money would increase VAT compliance by €3.3 billion a year.

3. Substitution from formal to informal activities dampens the effect of tax policy changes on revenue and debt sustainability. Artavanis (2015) estimated VAT evasion in the Greek restaurant industry using the reported sales-to-input ratio as a measure for hidden sales. The study finds a negative relationship between tax rates and compliance, particularly for smaller restaurants. Likewise, Dellas et al. (2017) added an informal sector to the BoG's DSGE model, which suggests that the actual impact of the fiscal consolidation on output during 2010-2015 was considerably smaller

¹ Prepared by Dennis Botman and Niki Kalavrezou (all EUR)

² See Foundation for Economic & Industrial Research (IOBE), 2018.

than the officially reported output and employment decline (reflecting an increase in the informal sector). The model also implies that the size of fiscal adjustment and the drop in official economic activity could have been considerably milder had the informal sector been curtailed—a finding with significant implications. The authors conclude that the underground economy seems to have been a key factor in Greece’s failure to achieve orderly public debt consolidation, but also effectively cushioned the economic downturn.



4. Empirical evidence suggests that almost half of self-employed income went unreported prior to the crisis. Artavanis et al. (2016) estimate tax evasion in Greece by exploiting the idea that banks provide credit based on their assessment of the borrowers’ true income. To estimate the latter, they use microdata on household credit from a Greek bank and replicate the bank’s underwriting model. Their data show that between 2003-2009, self-employed Greeks spent 78 percent of their monthly *reported* income on debt servicing with the figure rising to at or above 100 percent for manufacturing, engineering, medicine, education, media, accounting, law, and proprietors of restaurants, hotels, and retail—clearly implausibly high numbers (implying substantial tax avoidance). They found that, prior to the crisis, 43-45 percent of self-employed income went unreported and thus untaxed, particularly in professional services such as medicine, law, engineering, education, and media—professions for which there is a low paper trail and close alignment with the occupational background of parliamentarians. Other micro evidence points to

the presence of strategic defaulters on mortgage loans. For example, Artavanis and Spyridopoulos (2018) conservatively estimate that 28 percent of defaults in primary residence mortgages are strategic, which corresponds to over €5 billion in non-performing loans for the Greek banking system (see also Selected Issues Paper, 'Restrictions on Mortgage Enforcement in Greece: Design, Impact and Recommendations for Reform').

5. Other studies and data point to similar wide-spread tax evasion. Declared taxpayer data (relating to tax and social security obligations) indicate that the vast majority of reported non-wage/salary incomes is implausibly well below per capita GDP. In 2017, around 85 percent of business income taxpayers reported earning well below per capita GDP, which stood at €16,736 in 2017 (Table 1). Vasardani (2011) reached a similar conclusion on data for 2009, noticing that from a total of 3 million of non-wage/salary earners and non-pensioners, 2.5 million (or 83%) reported a personal income of less than €10,000, and 47% reported zero income. In early 2017, the base for calculating social security contributions changed from notional to actual net earnings in the previous year. Following this reform, the number of business income declarations declined cumulatively by 50,000 (text chart) despite positive overall economic growth that year.

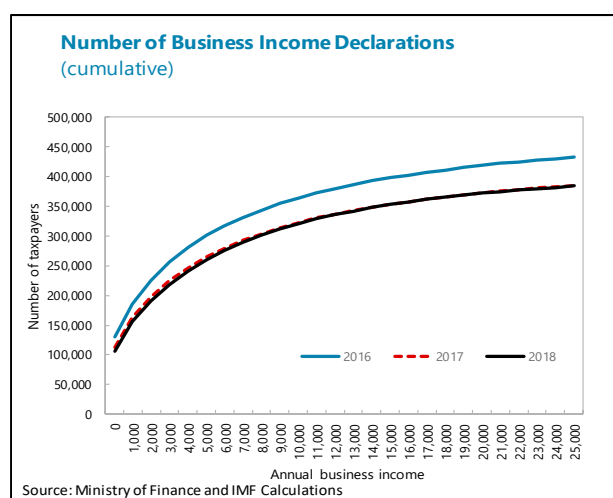


Table 1. Greece: Share of Taxpayers

	2016	2017	2018
Reported annual business income below:			
12,000	78%	79%	80%
13,000	79%	80%	82%
14,000	81%	82%	83%
21,000	88%	89%	90%
22,000	88%	89%	91%
23,000	89%	90%	92%
24,000	89%	91%	92%
25,000	90%	91%	93%
26,000	90%	92%	93%

Source: IMF Calculations

6. The authorities have resorted in past decades to amnesty-like and increasingly generous installment schemes for debt resolution. More than 50 tax and Social Security Contribution (SSC) installment schemes have been legislated since 2001, with lengthened installments, lower interest rates, and fewer eligibility requirements (see IMF, 2017). In contrast to many other countries, tax payer participation in Greece has been essentially voluntary, without sufficiently meaningful parallel enforcement efforts. The typical design of installment schemes has provided the debtors with strong incentives to drop out quickly after receiving a tax or SSC payment certificate needed to conduct business transactions. The drop-out rate for installment schemes has been as high as 50-80 percent in the first year of the schemes, particularly for SSC. The frequent introduction of new successor installment schemes has created self-fulfilling expectations of more generous schemes in the future.

7. The 2013 program-era reform of installment schemes sought to address the systematic payment culture problems but was subsequently eroded. In 2013, all past installment schemes were closed to new applicants and a new, less generous “Basic scheme” was introduced for tax and SSC debt with strict eligibility criteria for viable debtors. Instead of focusing on improving enforcement, the authorities unilaterally introduced yet another very generous scheme in late 2014, granting 100 monthly installments to all tax and SSC debtors with an outstanding debt below €1 million (the authorities had signaled their intentions in this area already in the summer of 2014, which likely contributed to weak revenue performance around that time). Almost all debtors under the “Basic scheme” and some still grandfathered under earlier programs dropped out immediately and entered the new 2014 scheme. An even more generous scheme was then introduced in March 2015, granting 100 installments to all tax payers, including large debtors, with lower interest rates and a looser definition of drop-out. The effect was that almost all debtors under the ‘new’ 2014 scheme dropped out again and entered the 2015 scheme.

Table 2. Greece: SSCs Installment Scheme Participation as of March 2019¹
(millions of euros)

		Active	Completed	Drop-out	Drop-out (%)	Total
Standard scheme (L. 4152/2013)	No of cases	50,749	65,412	192,873	62.4	309,034
	Amount	440	427	5,517	86.4	6,384
100 installments (L. 4321/2015)	No of cases	57,563	8,808	52,096	44.0	118,467
	Amount	1,361	182	2,315	60.0	3,858
L. 4305/2014	No of cases	6,894	3,449	24,014	69.9	34,357
	Amount	78	47	801	86.5	926
OCW (L.4469/2017)	No of cases	1,644	81	181	9.5	1,906
	Amount	258	2	63	19.5	323
Other schemes	No of cases	832	3,700	16,727	78.7	21,259
	Amount	105	52	592	79.0	749
Total	No of cases	116,038	81,369	285,710	59.1	483,117
	Amount	1,984	708	9,225	77.4	11,917

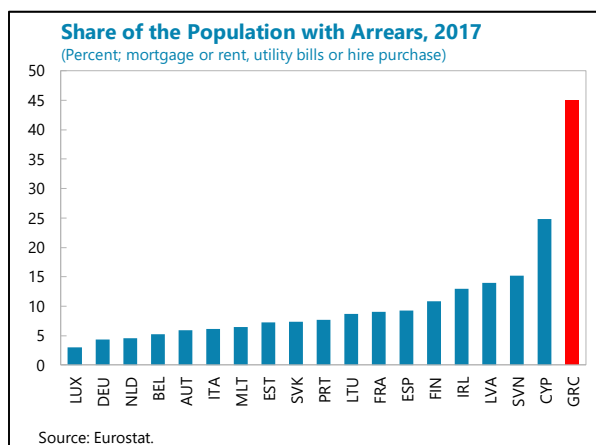
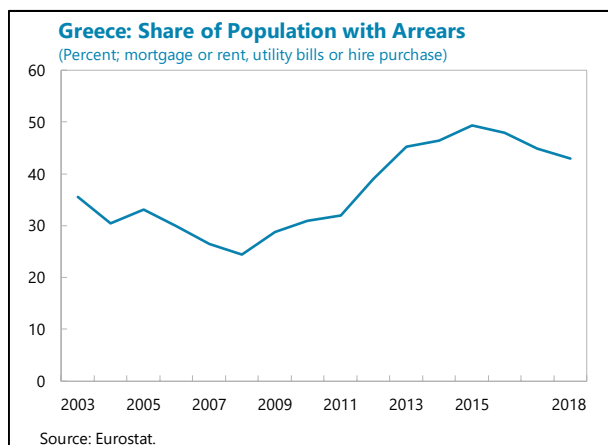
Source: KEAO progress report (January - March 2019)

¹ An out-of-court workout (OCW) mechanism was legislated in April 2017 to restructure private and public debt of viable borrowers with inclusion in an installment scheme following a successful negotiation

8. From mid-2015 through 2018, enforcement was strengthened, and no new schemes were introduced. The 2015 installment scheme was closed to new applicants and therefore only the Basic Scheme remained. Interest rates were raised to a market-based rate for existing debtors under the 2014 and 2015 schemes. Also, the tax and SSC administration authorities were authorized to shorten the installment duration for those debtors with stronger capacity to pay.

9. Despite these efforts, as of end-2018, 4 million or nearly two-thirds of all Greek taxpayers had arrears to the tax administration, out of which 800 thousand were included in IAPR installment schemes and more than 1 million under enforcement measures. In addition, more than 1.4 million taxpayers had social security contribution debt. Total SSC debt is

approximately €35 billion, out of which €2 billion of arrears are under installment schemes corresponding to 116,038 “active” debtors. Five different SSC installment schemes are currently operational (Table 2). In addition to tax arrears, about 45 percent of the population had various types of non-tax arrears (text charts). This points to capacity to pay issues (which relates to the deep recession) but also the weak insolvency framework in Greece), and a deeply entrenched weak payment culture.



10. In mid-2019, the outgoing government introduced a series of new, poorly targeted, and more generous installment schemes for tax, social security, and local government debt that have put another dent in the payment culture.³ A new tax installment scheme legislated in May 2019 includes only a rudimentary capacity-to-pay assessment based on declared income data from 2017 (and neglecting to consider compliance history). It features installments up to 120 months for individuals and from 24 months and up for businesses with a reduction of surcharges as a sweetener. A separate new SSC debt installment scheme does not include any assessment at all of debtor characteristics, offers up to 120 monthly installments for all participants, includes haircuts on principal debt (ostensibly compensated by cuts to future entitlements, but this link is partially broken due to the presence of the non-contributory national pension), and allows for an 85 percent cut in surcharges and interest. In August, the new government made the new tax installment scheme even more generous by further lowering interest rates, extending the number of installments, raising the ceiling of debt to €1 million for businesses, and reducing the minimum monthly payment from €30 to €20, while stating that this would be the ‘final’ exceptional debt installment arrangement. The fact that public debt installment schemes tend to be automatic may reflect lingering fears of personal liability, which makes it riskier to use discretion by designing restructuring solutions tailored to the debtor’s situation.

³ This was preceded by a remodeling of the primary residence protection framework in March 2019, which now includes business loans secured by a primary residence and provides a standardized restructuring solution and partial write-off of mortgage debt (for loan-to-value ratios above 120 percent) with generous eligibility criteria that proxy for the debtor’s payment capacity or the business viability. Restructured debt is rolled into 25-year installments with the government subsidizing 30-50 percent of the payments.

11. In addition to these tax and SSC schemes, there has been a proliferation of installment schemes to deal with undisclosed income, overdue electricity bills, municipal debt, illegally constructed dwellings, and arrears to banks.

- A tax amnesty scheme that was introduced in 2016 and ended in November 2017 provided amnesty for undisclosed income (Voluntary Disclosure of Income program). IAPR data reveal that 507 thousand applications were submitted under the scheme, corresponding to approximately €10 billion of previously undisclosed tax liabilities resulting in an assessment of just €795 million unpaid taxes (Table 3). The program gave the possibility to pay these taxes either as a lump-sum amount or in 2-12 monthly installments with significantly reduced penalty surcharges. Through April 2018, €262.2 million had been paid by taxpayers (€231.3 million as lump sum).

Table 3. Greece: VDI Results

(millions of euros)

	Declared amount	Main and supplementary tax	Effective tax rate (%)
With audit order	4,724.6	377.4	8.0
Income	1,728.8	243.4	14.1
VAT	184.4	69.3	37.6
Capital (incl. property)	767.8	14.6	1.9
Fees	926.9	23.2	2.5
Other	1,116.7	26.9	2.4
Without audit order	5,361.2	417.9	7.8
Income	2,338.6	229.6	9.8
VAT	198.6	56.1	28.2
Capital (incl. property)	2,026.7	37.5	1.9
Fees	541.6	18.5	3.4
Other	225.7	76.3	33.8
Total	10,085.8	795.3	7.9
Income	4,067.4	473.0	11.6
VAT	383.0	125.4	32.7
Capital (incl. property)	2,794.5	52.1	1.9

Source: IAPR

- In a context of recession and reduced spending power, the mounting number of unpaid electricity bills contributed to the financial problems of the public power company (PPC). To improve collection, the PPC has provided a flexible installment scheme that categorizes customers according to their characteristics and payment capacity, with monthly installments up to 24 months. State-owned nickel producer Larco's debt to PPC amounts to €300 million and recently reached an agreement with PPC to repay its debts in 120 monthly installments in exchange for discounts in electricity prices.

- Total debt to Municipalities and their legal persons is estimated at €800 million by 1.2 million citizens. The government introduced a scheme allowing citizens to settle these arrears in 100 monthly installments in 2017.
- Over 1 million properties have been included in special installment schemes to pay fines for legalizing illegally built buildings in 2011 (e.g. outside planning zones or by violation of the building legislation).
- To address non-performing exposures, banks offer various restructuring options including through out-of-court workouts, settlement prior to an e-auction, the NPL forum, the aforementioned new PRP scheme, and bilateral agreements between the bank and the debtor.⁴ Compared to tax and social security debt installment schemes, restructuring solutions offered by the banks are more likely to be based on a case-by-case approach with a forward-looking assessment of the debtors' capacity to pay. The exact number of debtors under installment schemes with banks is not known. The lack of a well-functioning insolvency regime that could ease debt burdens where warranted, has contributed to the persistent debt overhang for households and the accumulation of, especially mortgage, NPEs.

12. This experience underscores the importance of ending the string of ad hoc 'temporary' protection and installment schemes in the tax and financial sectors. These may have served a purpose in the height of the crisis, but now perpetuate a weak payment culture in Greece.

⁴ Up until 2015, foreclosures on primary residences were, in some cases, fully blocked under the 'Katseli' household insolvency law.

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PRIMARY RESIDENCE PROTECTION IN GREECE: IMPACT AND RECOMMENDATIONS FOR REFORM¹

A decade-long policy of primary residence protection in Greece, which has focused more on a 'social' goal than on resolving debt overhang, has contributed to a deterioration of payment discipline and the persistence of high mortgage NPLs. Impaired bank balance sheets and household debt overhang remain drags on economic recovery. Concerted effort is needed to ensure meaningful resolution of legacy household debt and to create an insolvency regime that serves the needs of a post-crisis economy. In this respect, Greece should adopt a personal insolvency law which provides a fresh start for individuals with unsecured debt and does not aim to keep individuals in homes they cannot afford. To immediately further the goal of NPL reduction, Greece should eliminate the backlog of personal insolvency cases in the courts and establish a credible threat of foreclosure. Complementing these measures, active supervisory oversight is needed to speedup balance sheet clean-up via sustainable debt solutions. Means-tested social support for housing should also be provided.

A. Introduction

- 1. The Greek economic crisis resulted in a significant deterioration of household indebtedness and a rapid increase in delinquencies on mortgage debt (Figure 1).** Household debt as a share of disposable income, which had already increased before the crisis driven by lending, spiked from about 80 percent in 2008 to above 120 percent in 2012 due to high unemployment, adjustment of wages and pensions, and an increasing tax burden.² Real estate prices collapsed, and banks largely stopped new mortgage lending. By 2012, the share of non-performing loans in the consumer and residential segments reached 51 and 28 percent, respectively.³
- 2. Banks' capacity to deal with the growing volume of bad loans proved to be weak.** The system had no capital buffers to absorb increasing losses. Internal structures were not ready for massive debt workouts. Banks' initial response was to engage in short-term loan modifications (arrear capitalization, reduced payments, etc.), without a sufficiently prudent assessment of the sustainability of such solutions. Most banks had low standards for borrower qualification and loan structure, with redefault rates on such modifications close to 60 percent within one year (Blackrock 2011). Restructurings proved to be inefficient, and NPLs increased further.
- 3. The legal framework contributed to the growing NPL problem by removing any threat of foreclosure.** At the onset of the economic crisis, Greece amended its legal framework to prevent

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² In addition, many mortgage borrowers with FX-denominated debt were hit by swiss franc appreciation.

³ For purposes of this paper, non-performing loans (NPLs) refer to loans more than 90 days past due and denounced loans; non-performing exposures (NPEs) include, in addition to NPLs, other categories of problematic loans, consistent with the definition developed by the European Banking Authority. No data on NPE is available before 2015.

creditors from foreclosing on primary residences and to allow borrowers to reschedule mortgage loans over decades, often with minimal payments. Inefficiencies in the court system allowed debtors to benefit from a blanket stay on creditor action for years before their cases would be heard. These legal shortcomings prevented the restructuring of non-performing mortgage loans and created significant opportunities for strategic default (ECB (2016), Stournaras (2019)).

4. More than ten years after the start of the crisis, banks still suffer from persistently high NPLs, and net mortgage lending remains negative. Despite recent improvement in economic conditions and housing prices, creation of specialized bad debt units within the banks, and development of a distressed debt market in Greece, no major progress has been observed in the residential NPE portfolio (43 percent of residential loans as of 2019 Q2). The stock of these bad loans remains close to €27 billion—about one-third of total NPEs—reflecting only a marginal decline since its peak in 2015. The cost of new mortgage loans is prohibitive, as creditors internalize upfront the risks of such lending, and mortgage lending is essentially non-existent.

5. Primary residence protection and banks' own policies have hindered the sale and resolution of bad mortgage loans, and borrowers continue to face debt overhang, absent meaningful restructuring.⁴ About one-third of residential NPEs remain under protection from foreclosure, due to pending proceedings in the courts under the personal insolvency law. With respect to the remainder, banks have pursued a de facto bank policy not to foreclose, given political pressure (¶11). Over the years, banks have gradually shifted to longer-term loan modifications; but they have been reluctant to engage in restructurings that involve a write-down of such claims.⁵ Given still high redefault rates, some banks recently launched programs that imply write downs of the mortgage to the commercial value of the property (i.e., a loan-to-value ratio (LTV) below 100 percent), and have intensified efforts to proactively reach out to borrowers. However, absent of a real threat of foreclosure, it has been challenging to ensure debtors' compliance with revised loan terms. No sales of residential-only loan portfolios have taken place.⁶

6. The paper is structured as follows. Section B provides an overview of primary residence protection in Greece and its implications. Section C discusses measures needed to address the fundamental imbalances that have been created in the system.

⁴ As used throughout this paper, "primary residence protection" refers to the protection afforded to primary residences under the Greek legal system, including by Law 3869/10 ("the Katseli Law"), which allowed a debtor to receive, upon filing with the court, a stay on all creditor action against the debtor's property and a forced restructuring by the court of the loan tied to the primary residence (that could not give creditors less than what they would receive had they liquidated the property). See Section B.

⁵Based on Bank of Greece (BoG) data, as of mid-2019, the share of loan modifications with partial debt forgiveness was less than six percent, and more than half of long-term loan modifications were extensions of principal only. On all types of loan modifications, redefault rates were over 50 percent over a 12-18 month horizon.

⁶A minimal number of residential loans were included in other portfolios sales and securitizations, as part of the total debt of selected borrowers. Two banks are considering securitizations consisting solely of residential mortgage portfolios, which will include mainly loans that have already been restructured by the court.

B. Legal Framework: Primary Residence Protection

7. Greece first introduced a general moratorium on mortgage enforcement in 2009. The measure banned auctions of property tied to claims by credit institutions of up to €200,000.⁷ In 2010, this already broad protection was supplemented by a provision of the personal insolvency law (see below), which provided for an effectively blanket moratorium on foreclosure of primary residences. The moratorium applied to homes with an objective (i.e., tax assessed) value below €300,000,⁸ implying a near universal protection of primary residences, as almost all residences fell below this threshold.⁹

8. This moratorium was coupled with a procedure in the personal insolvency law which allowed mortgage debt to be written down and rescheduled. In August 2010, Greece adopted its first ever personal insolvency law, which primarily aimed to deal with household indebtedness: the ‘Katseli’ law (Law 3869/10)—named after the then minister of economy (see Box 1). In addition to providing for an effectively blanket moratorium on mortgage foreclosure (Article 19), the law provided debtors, under certain conditions, with the ability to file for insolvency and receive a write-down of the value of the mortgage debt up to 85 percent of the tax-assessed value of the residence, which debtors could repay over a decades-long repayment plan (Article 9).

9. In practice, lengthy insolvency procedures allowed debtors to make negligible payments to creditors on their mortgages for years. By 2016, over 200,000 people had filed personal insolvency applications (approximately 2 percent of Greece’s population). The biggest wave of filings took place in 2015, after the blanket moratorium on primary residences (Article 19) was lifted and before amendments to the law were introduced to make eligibility requirements more stringent. In the meantime, the wave of filings overwhelmed the court system, causing a massive backlog that locked debtors and creditors in the system for years, with a current estimated backlog of cases of over 100,000 as of 2019 Q2. The strict deadlines set forth in the law were entirely unrealistic given capacity constraints in the judicial system. Debtors would typically receive hearing dates five or more years after filing, essentially meaning that they would make negligible payments on their mortgage loans for years.^{10, 11} During this period, the underlying loans remained as NPLs and could not be reclassified or resolved. This incentivized strategic filings (estimated at over 30 percent), which then further increased the backlog, perpetuating the vicious circle.¹²

⁷ Auctions had previously been a feature of the Greek NPL landscape, though data on their use are not available.

⁸ The ceiling could be increased up to €450,000 depending on the marital status and the number of children.

⁹ Blackrock (2011) found that residential property objective values were estimated to be 33% below market values. Artavanis and Spyridopoulos (2019) found that almost 99 percent of their sample fell below the €300,000 threshold.

¹⁰ The Katseli law provided for automatic suspension of all enforcement actions, if debtors were considered eligible. However, given that eligibility was often not determined until the judge considered the case, the mere filling of an application would typically suspend mortgage enforcement for years, even if a filing had no validity. While debtors awaited a final hearing, they were obligated to pay creditors an amount equal to 10 percent of their last overdue loan installment (which could not be less than 40 euros per month).

¹¹ The waiting time for a hearing was over five years in 60 percent of cases. (Action Plan (2018)).

¹² ECB (2016) estimated that about 30 percent of debtors who stopped servicing mortgage loans were strategic defaulters who they took advantage of the moratorium and inefficiencies of the insolvency process. Analysis by

(continued)

Box 1. Law 3869/10 (The “Katseli” Law)

Objective: The aim of the law (as stated in the explanatory note) was to (i) help vulnerable debtors to regain their purchasing power, enhancing at the same time economic activity; (ii) give debtors with proven, non-fraudulent, and permanent inability to pay a second chance, and a way for creditors to get back a part of their loans; and (iii) protect the main primary residence of debtors, while not hurting creditors' interests.

Overview: Article 9 of Law 3869/10 allowed debtors to apply to the local magistrate court to protect their primary residence from enforcement while a restructuring of mortgage debt was sought. The initial iteration of the law allowed the debtor's mortgage loan to be written down to 85 percent of the objective (i.e., tax assessed) value of the primary residence, and debtors would have up to 20 years (subsequently extended up to 35 years), to repay the remaining balance, based on their capacity to repay (after allowing for reasonable living expenses). (Venieris 2019). In the post-2015 version of the law, there was no set threshold on the extent of the mortgage write-down, although as a safeguard for creditors, judges had to determine that after the mortgage restructuring, creditors were no worse off than they would be if they had liquidated the property. Under Article 8 of the law, debtors could also receive a shorter repayment plan (3-5 years) for unsecured debts, and the remainder of those debts would be discharged. Courts could require liquidation of the debtor's property, apart from the protected mortgage. In practice, debtors often received a “grace period” on their mortgage repayment plan equal to the length of the shorter repayment plan, so they would not have to pay simultaneously on these two plans (Ferretti, et al (2016)).

Process: On its face, the law provided for a relatively quick, structured procedure. After submission of an application to the local magistrate court, a temporary hearing was required to take place within two months to verify eligibility, at which time a provisional injunction preventing all creditor action against the debtor was put in place. Although the injunction was by law prescribed to be (i) no longer than six months (when the main hearing was supposed to be scheduled) and (ii) only granted if the court believed the debtor's application to be probable on its merits, in practice courts very generously granted the injunction in almost all cases. The applicant, through subsequent petitions, could roll the six-month injunction over multiple times until the final hearing date (which could be years from the date of initial filing).

Scope and Eligibility: The law was amended several times (2013, 2015, 2018) at the behest of the IMF and European Institutions, to narrow its scope and eligibility criteria, and to limit its use by strategic defaulters. However, the scope of mortgages eligible for protection remained broad. In the law's final iteration, debtors were able to file for residential mortgage protection, provided the objective (i.e. tax assessed) value of the primary residence was no greater than €280,000.

Expiration: Various elements of Law 3869/10 expired. Article 19 of the law provided for a moratorium on residential property outside of the insolvency law, which expired on December 31, 2014 (see Box 2). Article 9, which provided for primary residence protection and restructuring, expired at end-February 2019. Therefore, while Law 3869 is still valid, it does not technically provide for mortgage protection. However, debtors are still able to file for insolvency under the Law and receive a blanket stay on all enforcement actions, which, given inefficiencies in the court system, could last for years.

10. While originally designed to be temporary (and similar in spirit to other early stage crisis country experiences), primary residence protection became a permanent feature of the Greek legal system. The IMF has recognized that in the wake of a massive economic crisis, some

Artavanis and Spyridopoulos (2019) using proprietary data from a large bank showed a similar estimate, with 28% of defaults in primary residence mortgages found to be strategic. As of mid-2018, almost half of the applications under the insolvency law were eventually rejected, as the courts considered that there was no need to grant the protection status to the applicant, as either the debtor did not meet the requirements, or the borrower had the ability to fully repay his debt.

level of temporary protection for residences may be warranted, given that mass foreclosure could further depress real estate prices, force unnecessary losses on the banks, and exacerbate household debt distress.¹³ However, only in Greece did the temporary crisis measures become effectively permanent: The 2010 moratorium on foreclosure was scheduled to expire in 2011, but through a series of yearly extensions did not officially expire until end-2014 and was replaced thereafter by a de facto bank policy not to foreclose on primary residences, largely due to political and societal pressure. See Box 2. Deficiencies in the judicial system remained largely unaddressed, such that debtors could continue to file under Katseli and receive years-long stays on enforcement. While legal reforms were made in 2018 to mandate that all foreclosures of residential mortgages take place via electronic auctions, the use of this system to go after unpaid residential mortgages has been limited.¹⁴ The total number of successful auctions for residential real estate in 2018-2019 was about 1500 (with a total value of €200 million), and 70 percent of all auctions end in failure.

11. The mortgage protection provisions of Katseli expired at end-February 2019 and were immediately replaced by a primary residence protection and state subsidy scheme (the “PRP”), outside the insolvency law. PRP allows eligible debtors with mortgage or business loans non-performing at end-December 2018 and secured with a primary residence, to benefit from a restructuring solution of 25 years and write-down of the loan to 120 percent of the commercial value of the property. Debtors are then eligible to receive a state subsidy of between 30-50 percent of the monthly repayment installment, depending on income and family size. While the property value thresholds are lower than under the Katseli law, the perimeter was expanded to cover business loans secured by primary residences. The process uses an automatic platform to assess eligibility criteria (e.g., property value and assets), and there is no case-by-case assessment of the debtor’s capacity to repay. Since the launch of the platform in July 2019, use of the process has been minimal, with only 41 completed application and seven agreements reached. However, already over 90 court cases have been filed regarding the proceeding.¹⁵ Banks have recognized that 120 percent LTV over 25 years, even with a subsidy, may not create sustainable restructuring solutions. Therefore, while it is premature to fully assess experience, the PRP appears to perpetuate the legacy of Katseli, by creating obstacles to mortgage enforcement, emphasizing long-term repayment plans instead of meaningful debt reduction, and creating opportunities for litigation. The window for applying for PRP is set to expire at end-2019.

¹³ Indeed, the IMF at the time commended the passage of the Katseli law, and IMF staff has generally recommended adoption of personal insolvency laws that balance debtor-creditor rights, in the wake of widespread household debt distress (Laeven and Laryea (2009), Liu and Rosenberg (2013), Andritzky (2014)).

¹⁴ Law 4335/2015 (effective as of January 1, 2016) adopted a significant reform of the Code of Civil Procedure, which facilitated enforcement actions, including enabling the use of electronic auctions. Due to notarial abstention from auctions (due to violence or threatened violence against notaries), the first auctions (in electronic form) started again in November 2017, after almost ten years of suspended enforcement. Law 4512/2018 mandated the use of electronic auctions for sales of immovable property (including residences) as of February 21, 2018.

¹⁵ Based on data provided by the Special Secretariat for Private Debt Management (September 2019).

Box 2. History of Residential Mortgage Protection Laws

Year(s) of protection	Law	Scope
2008-	3714/08	Prohibition of all property auctions at a price lower than their objective value. Prohibition of primary residence auctions for debt related to credit cards and consumer loans up to €20,000.
2009-2013	3814/10	Suspension of <i>all property</i> auctions tied to claims by credit institutions up to an objective value of €200,000 from September 16, 2009 to June 30, 2010; subsequently extended until to December 31, 2013 ¹ .
2010-2014	3869/10	The auction of the primary residences is prohibited from August 3, 2010 to December 31, 2013 (initial deadline extended by L.3910/11, L.3986/11, L.3996/11, L.4047/12, L.4128/13). From January 1, 2014-December 31, 2014 (L. 4224/2013), auctions could be suspended provided the debtor and the property met eligibility and property value requirements
2010 - 2019		Exemption of a debtor's primary residence from liquidation in insolvency; allows for restructuring of mortgage loan, provided the property's objective value does not exceed €300,000 (up to €450,000 depending on family size). Amended through L.4336/15, L.4346/15, L.4549/18, and L.4592/19 to introduce stricter income, wealth and property value criteria and help banks identify strategic defaulters.
2019	4605/2019	Primary residence protection and rescheduling, with a government subsidy, under stricter income and wealth criteria and introduction of an electronic platform for applications.

¹ In July 2015, the legislation imposing capital controls was passed, which also banned auctions and foreclosures. This was subsequently extended through October 2015.

12. The Greek experience demonstrates the negative effects of a policy that elevates primary residence protection well-above other considerations. The existing framework does not provide a lasting solution to the indebtedness problem for either debtors or creditors and merely absorbs already-stretched judicial and administrative resources (IMF (2017)), while further weakening payment culture.

C. Options for Reform

13. Action must be taken to address the fundamental imbalances that have been created in the system. The problems are numerous, including poor payment culture; high mortgage NPL levels and lack of new credit; limited ability to enforce against non-compliant debtors; a perpetual state of debt overhang at the expense of sustainable debt relief; and the use of the banking system to substitute for missing elements of social policy. These distortions contribute to preserving impaired balance sheets and disappointing lending growth, which imply elevated financial stability and fiscal contingency risks.

14. In the short-term, Greece should accelerate efforts to ensure meaningful write downs of legacy mortgage debt. Key measures include the following:

- *Backlog*: Consistent with the commitments made in the context of European enhanced surveillance and in connection with an updated action plan,¹⁶ the Greek authorities should eliminate the backlog of household insolvency cases by end-2021, if not before. This will serve the purpose of (i) weeding out strategic defaulters and (ii) providing more substantial income to the banks, as until a final plan is reached debtors make only minimal payments, and NPLs cannot be resolved. Moreover, guidance should be given to judges (or if possible, a law adopted) to ensure that restructuring solutions are sustainable for debtors. These could take the form of maximum length of repayment plans, given the debtor's ability to pay, as determined by debt service to income ratios. The authorities plan in 2019 Q4 to screen pending Katseli filings with an electronic system that will identify ineligible applicants, and courts should act quickly to dismiss these cases once ineligible applicants are identified.
- *Credible Threat of Foreclosure*: Mass foreclosures are not desirable from a social or economic perspective. However, foreclosure against non-compliant debtors—particularly against those who may be acting strategically—provides an important disciplining mechanism. Banks should increase efforts to identify and foreclose on debtors engaging in strategic behavior to send an important message that this will not be tolerated. The authorities should also ensure that debtors cannot use legal loopholes to thwart foreclosure.¹⁷ Banks' recent announcement that they intend to discontinue their de facto policy not to liquidate residential properties of lesser value is welcome, but this threat must be credible.
- *Expiration of the Primary Residence Protection Scheme*: PRP should be allowed to expire at end-December 2019, as planned. Continued extensions would perpetuate the perception that the state will always step in to prevent foreclosure and further erode payment culture.

15. In parallel, Greece should overhaul its personal insolvency framework. The fundamental principles guiding such a framework should be as follows:¹⁸

- *Debtors should be relieved from the burden of their unsustainable debt.* When burdened with a debt they cannot repay, debtors do not have the incentive to maximize income when they know this will go towards repayment of debt. They may also hide income from creditors and seek work in the informal economy. If debtors can receive a discharge from their debt burden, they are more likely to be contributing economic actors.
- *Creditors should realize their losses.* An insolvency law should make creditors acknowledge the reality that their debts are largely uncollectable, and thereby internalize the costs of their lax over-lending. This contributes to the health of the banking system because banks' balance

¹⁶ See [Enhanced Surveillance Report—Greece, June 2019](#).

¹⁷ The banking association has claimed that in order to delay or block enforcement proceedings, some debtors resort to filings under the household insolvency law to receive a stay on creditor action, or they submit petitions under the Civil Procedure Code to revise upwards the minimal bid price of the property, based on non-expert witness testimony.

¹⁸ See World Bank (2013).

sheets better reflect their actual assets (and may free up capital for new lending) and because the insolvency system imposes a disciplining mechanism that may prevent banks from over-lending.

16. Building on these principles, Greece should adopt a personal insolvency law that gives debtors with unsecured debt a fresh start. In line with most insolvency systems (Box 3), key elements of a new law would include:

- a *discharge of unsecured debt* after liquidation of all the debtor's nonexempt assets. To protect against moral hazard, debtors would be required to dedicate their income (minus an amount for reasonable living expenses) to repay creditors for a period of three years, after which a discharge would be granted. The discharge would be subject to revocation and the face value of debt fully reinstated if creditors bring to the court's attention evidence of a debtor's bad behavior (e.g., substantive failure to disclose or misrepresentation of income/assets).
- Applications would be *screened immediately* by an electronic filing system for eligibility.
- Most importantly, the law should explicitly provide that a filing for insolvency *does not inhibit* a secured creditor's ability to enforce against collateral (i.e., there would be no stay on secured creditor action). However, a stay on action by unsecured creditors could be provided while the proceeding is ongoing (e.g., for a period of six months).

17. Such a framework would not include primary residence protection, consistent with most other insolvency systems. Since (non-strategic) debtors who file for debt adjustment are seriously over-indebted, the point of departure in most personal insolvency systems is that debtors will not be able to keep the home in the personal insolvency procedure. (See Box 3 and Technical Background Note XI in Aiyar et al (2015)). Therefore, in most countries, the creditor can sell the home or file for forced sale if the debtor is in default on secured debt irrespective of a personal insolvency procedure (World Bank (2013)).

18. Revisions to the framework should be supplemented by efforts to improve the capacity of the judicial system. The new framework should be coupled with substantial resources dedicated to improving the courts' capacity to implement the law. This would build on current efforts undertaken by the Ministry of Justice to increase the institutional capacity of magistrate courts and judges who oversee insolvency cases. Preparation has begun to include financial training courses in the syllabus of the National School of Judges to increase financial literacy. These efforts should be accelerated and prioritized, both for existing judges and future ones. Lastly, the authorities must collect reliable data about insolvency proceedings to assist in identifying bottlenecks in the procedure and procedural abuses (Garrido et al (2019)).

19. For the mortgage NPLs remaining in the system, supervisory pressure should help to speed up NPL reduction. The ECB has announced a supervisory approach aimed to help banks resolve their NPLs and to push for a discontinuation of "wait and see" approaches observed in the past (ECB (2019)). It has also adopted guidelines for banks on non-performing loans, which requires

banks to adopt their own strategies for NPL resolution (ECB (2017)). As discussed above, so far these measures have had limited effect on residential NPLs in Greece. However, more recent supervisory steps (thematic review of mortgage portfolios across Europe, introduction of provisioning calendar from 2020) could put more pressure on banks through ensuring a fair assessment of such loans and enforcing more demanding provisioning requirements.

20. Meanwhile, banks themselves should more proactively engage with delinquent debtors and ensure the sustainability of restructuring solutions. NPL strategies announced by the Greek banks (targeting still double-digit NPL levels on average by end-2021) imply greater emphasis on sales and securitizations for non-residential loans. Household NPEs are highlighted as a key challenge. While some banks envisage securitizations of residential loans, restructurings are viewed as the main tool for these portfolios. Some banks have already initiated programs that envisage partial debt write-downs (targeting monthly payments calibrated to match the debtor's repayment capacity, but also within the banks' ability to absorb related losses¹⁹). Moreover, banks have begun using the interbank platform Tiresias to share information amongst each other about debtors that have filed under the Katseli law, so that they can offer multi-lateral restructuring solutions. An efficient legal framework could help to improve payment culture and the prices of NPL sales (Aiyar et al (2015)). At the same time, banks should be ready to seize market opportunities to bolster capital buffers, and accordingly absorb the cost of more aggressive write-off policies.

21. Finally, the removal of primary residence protection will need to be balanced with appropriate social policy. While the goal of a personal insolvency regime is to provide debtors with a fresh start, the role of social policy should be to protect those in need with an appropriately tailored system of housing benefits. In Greece, housing costs compared to disposable income are among the highest in the euro area, with very limited housing benefit support programs. The 2018 housing benefit reform was a step in the right direction (IMF 2018 AIV), but the government should scale up the social assistance program to ease the excessive burden of housing costs (both rent and mortgage) for vulnerable groups (see Box 4).

¹⁹ As of Q2 2019, provisioning coverage for residential NPEs in the four systemic banks was between 39 and 45 percent.

Box 3. Personal Insolvency Laws in Selected Countries

United Kingdom: The UK has two procedures which provide for liquidation of unsecured assets, followed by a discharge. First, debt relief orders (DROs), which are intended to be a cheaper alternative to bankruptcy, are available to individuals whose debts do not exceed £15,000, and whose nonexempt assets do not exceed £300. The debtor's surplus monthly income (amount available after paying essential living expenses) cannot exceed £300. DROs last one year (during which all creditor action is stayed), after which all unpaid unsecured debt is forgiven. The second option is bankruptcy, under which the debtor pays his or her surplus income to the official receiver over a period of up to three years, and receives a stay against collection activity until a discharge is granted, which occurs one year after filing. A debtor's assets are sold (other than personal belongings and tools of the trade) and proceeds distributed to creditors. Creditors continue to have the right to take possession of the debtor's home if the debtor does make the scheduled payments.

United States: The U.S. Bankruptcy Code provides for two bankruptcy procedures: Chapter 7 and Chapter 13. Chapter 7 is the liquidation procedure. The debtor must surrender all nonexempt property to the creditors and a discharge is received immediately. Mortgage foreclosures generally can go forward, with only a three to four months delay, despite the bankruptcy filing.

Spain: Spain's insolvency framework for individual consumers and entrepreneurs consists of two mandatory, consecutive stages: one out of court with a view to reaching a plan and, if unsuccessful, an in-court bankruptcy liquidation. After the liquidation, the debtor may apply to receive an immediate yet provisional discharge. This discharge affects (i) all outstanding unsecured and subordinated claims, (except public claims and alimonies) and (ii) the part of secured claims that remains unpaid following execution of the collateral. All non-discharged claims (except public claims) are then subject to a payment plan that lasts up to five years. A final discharge is generally granted upon compliance with the payment plan but may be revoked if various types of fraud are discovered. There is a stay on executions (up to 3 months).

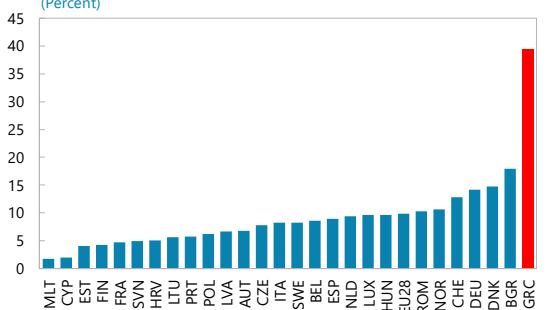
Germany: The Germany Insolvency Law grants a discharge to debtors following personal insolvency proceedings ending in liquidation. "Discharge" requires both liquidation of a debtor's existing non-exempt (i.e., garnishable) assets and mobilization of the debtor's earning capacity during a defined period of best efforts ("discharge period") to achieve non-exempt income for creditors. The discharge period is three years for debtors who achieve at least 35% recovery for creditors and to five years for debtors who manage to pay at least the cost of proceedings and six years for the remaining debtors. The plan does not affect mortgage debt (which may be executed).

Box 4. Housing Cost and Social Assistance in Greece

In 2018, about 40 percent households had to spend more than 40 percent of their disposable income on housing. This is four times higher than the EU-28 average (10 percent) and more than double the second highest in Europe (18 percent). Over 90 percent of households at risk of poverty were overburdened by housing costs.

Government support to ease the burden of excessive housing costs remains limited. In 2017, the Greek government spent only 0.02 percent of GDP on social assistance for housing, only one tenth of the EU-28 average. Two additional measures were launched by the government in 2019 are steps in the right directions but will have only marginal impact even if implemented in full. The first measure is a new means-test housing benefit targeting households who live in rented primary residences. The budgeted envelope is set at €300 million (half of the original amount envisaged in 2017 when the measure was designed to cover mortgage debtors as well), and about 250 thousand applications have been filed. The other measure is a government subsidy under the primary residence protection law (Law 4605/2019) available for eligible delinquent households, provided their mortgage debt was restructured to satisfy certain requirements (see ¶12). The allocated budget resources for this scheme are €150 million in 2019, and €200 million annually in the following years. However, as of September 2019 no application for subsidy was approved.

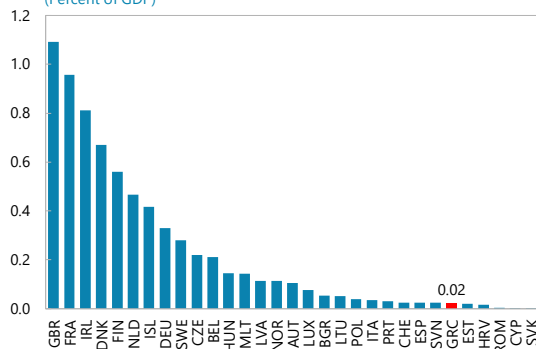
Households Overburden by Housing Cost, 2018
(Percent)



Source: Eurostat.

Note: The housing cost overburden rate is the percentage of the population living in households where the total housing costs (‘net’ of housing allowances) exceed 40 percent of disposable income.

General Government Expenditure on Housing, 2017
(Percent of GDP)



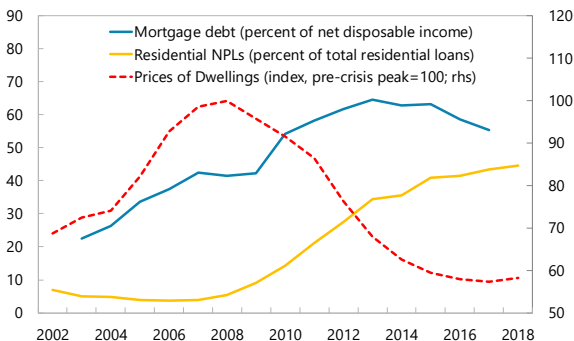
Sources: Eurostat; and IMF staff calculations.

Figure 1. Greece: Legacies of Severe Economic Crisis

The crisis accelerated deterioration in households' indebtedness, as incomes declined, and house prices collapsed.

While debt level remained close to EA average, NPLs soon become the highest in the EU as changes to legal framework contributed to strategic defaults.

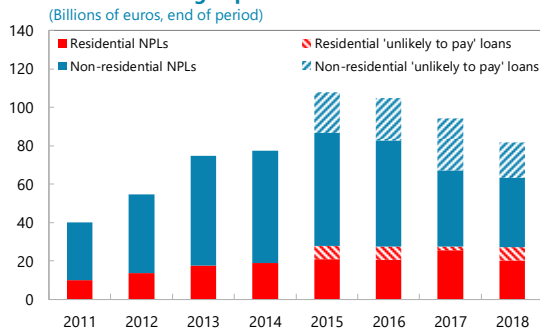
Greece: Real Estate and Mortgage Markets



Sources: Bank of Greece; European Central Bank; Eurostat; and IMF staff calculations.

Mortgage-backed NPEs remain the most difficult part of banks' bad loans portfolio...

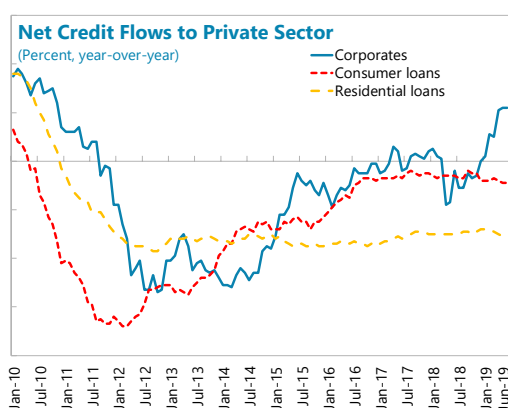
Non-Performing Exposures



Source: Bank of Greece.

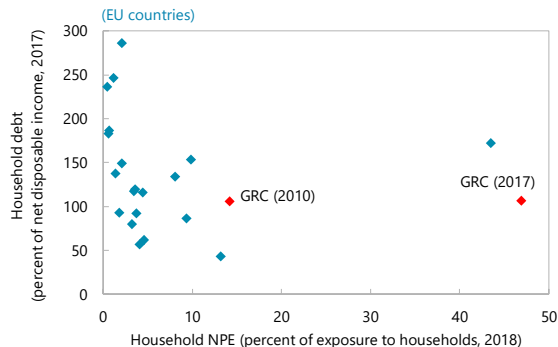
Note: NPLs include loans more than 90 day past due (including denounced loans). No data on unlikely to pay loans is available before 2015.

Credit to households continue to shrink...



Sources: Bank of Greece; ELSTAT; Haver Analytics; S&P Market Global Intelligence; IMF, Financial Soundness Indicators database; and IMF staff calculations.

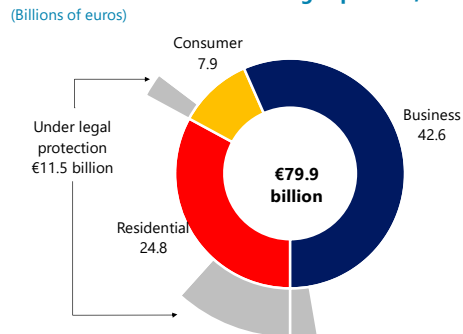
Household Debt and NPE



Sources: European Bank Authority; and OECD.

...with about one-third of residential NPEs subject to formal legal protection due to pending proceedings (see grey areas).

Greece: Banks' Non-Performing Exposures, 2019Q2

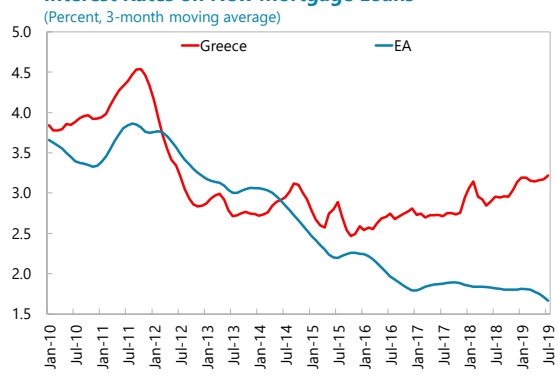


Sources: Bank of Greece; and staff estimates.

Note: On balance sheet NPEs, solo basis.

...and interest rates on new residential loans remain high in contrast with other EA countries.

Interest Rates on New Mortgage Loans



Source: European Central Bank.

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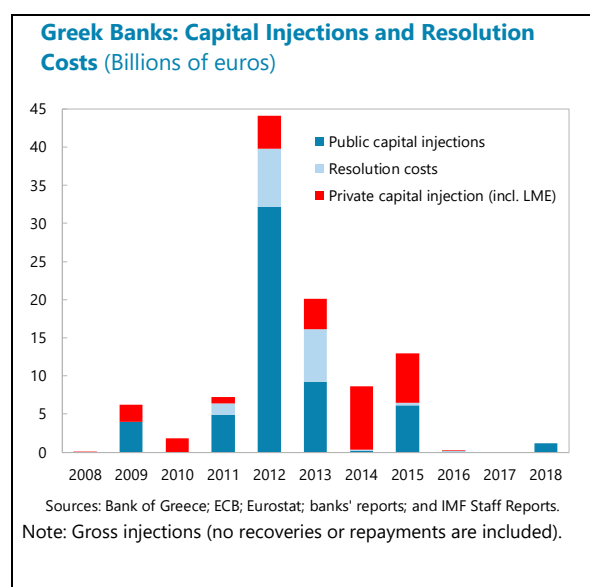
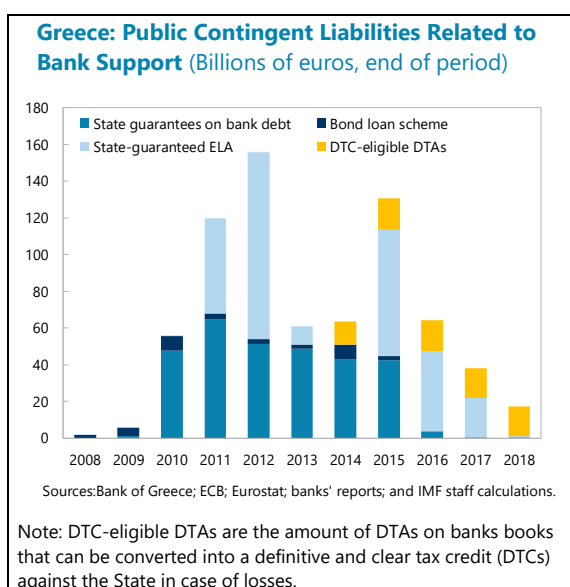
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PUBLIC FINANCIAL SUPPORT TO GREEK BANKS OVER THE CRISIS¹

Greece has provided extraordinary budget support to the banking sector over the last decade, including capital injections, liquidity support measures, and resolution funding. While these measures helped to ensure continued functioning of the financial system, the fiscal cost proved to be high at about €45 billion contribution to the public debt stock, or a quarter of 2018 GDP (on top of substantial private injections).² In addition, outstanding contingent liabilities remain well above the value of government holdings of equity and debt in banks. This substantial commitment of government funds (but still weak bank balance sheets) underscores the importance of carefully assessing the costs and benefits of further government support.

A. Capital and Liquidity Support Measures in 2008-2018

1. This section highlights key public interventions in the Greek financial sector. Liquidity measures mainly resulted in a temporary surge of state contingent liabilities, while also creating revenue streams for the budget (as banks were paying fees on government guarantees). Capital support measures included direct injections (through equity and debt instruments) and commitments to convert part of the banks' deferred tax assets (DTAs) into government shares in return for additional cash injections by the State in case of losses. The latter is treated as a contingent liability for the purposes of this analysis.

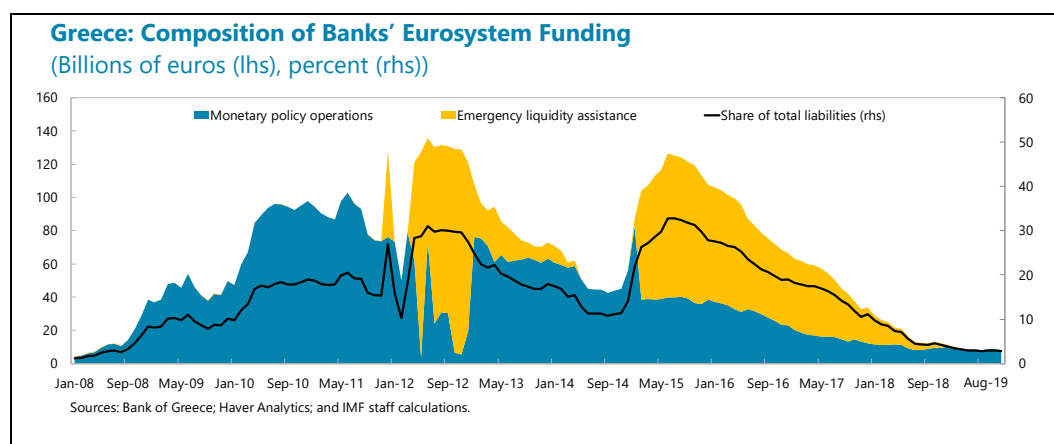


¹ Prepared by Natalia Novikova (EUR)

² These estimates are based on a bottom-up analysis using publicly available information. There are modest discrepancies with the estimates provide by the Eurostat (2019) and the ECB (2019), including due to valuation effects.

2. The first crisis package was introduced in late 2008, when Greek banks came under pressure and were cut off from international capital markets. A set of liquidity measures and precautionary capital injections implemented by the government were designed to ensure sufficient capital buffers, facilitate bank access to funding, and promote lending (EC 2008). The liquidity support included government guarantees on new bank debt and a bond loan scheme. The initial government guarantee envelope of €15 billion was increased several times and remained in place until 2016. The bond loan program of €8 billion was extended multiple times until mid-2015, and after that the unused envelope was added to the government guarantee scheme. None of these guarantees have been called, while fees paid by banks amounted to €400 million per year on average during 2009–2018. The 2008 package also included €5 billion of capital injections via preferred shares in exchange for special purpose bonds issued by the Greek government. Ten banks had used this facility by the end of 2009 following an asset quality review (AQR) and stress tests conducted by the Bank of Greece (BoG). Two banks also benefited from an extension of the scheme in the end of 2011.^{3, 4}

3. The use of government guarantees was later expanded to include funds provided by the BoG under the Emergency Liquidity Assistance (ELA). At the end of 2011, this funding aimed at counterbalancing the decreasing value of collateral eligible for monetary policy operations amid large deposit outflows (BoG 2014). In February 2012, Greek government bonds—the most common marketable assets in Greek banks’ portfolios— temporarily ceased to be accepted as collateral by the Eurosystem. The state guarantees were introduced to safeguard BoG claims against the credit institutions’ risks. ELA funding was a major source of bank liquidity in 2012–13 and in 2015–mid-2018, when it was also combined with capital flow management measures (see IMF 2019, Annex II).



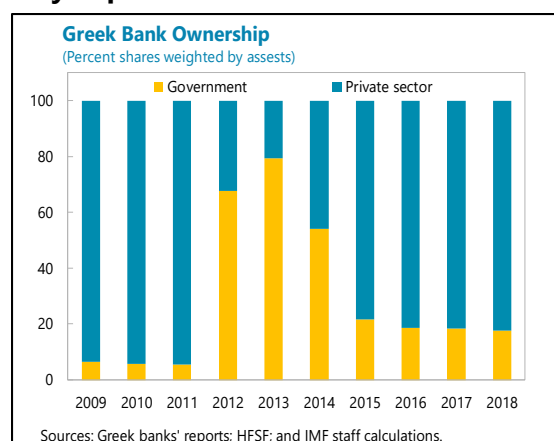
³ This additional capital was required to comply with a BoG-mandated increase in the core tier 1 minimum requirement from 8 percent to 10 percent starting from 2012, while recognizing the losses related to public debt restructuring (see ¶14). In addition, banks’ preferred shares were exchanged for Greek government bonds, with the fair value of the bonds estimated at 85 percent of their nominal value in light of the upcoming debt operation.

⁴ As of end-2018, all preference shares resulting from this package had been either absorbed in resolutions (5 banks), repaid (2 banks in 2014), converted into common shares (1 bank in 2015) or exchanged for Tier 2 bonds (2 banks in 2018).

4. Meanwhile, the deep recession eroded banks' balance sheets, and an imminent government default exposed a massive capital shortfall that triggered further injections into the system. A comprehensive assessment conducted by the BoG with the help of BlackRock in 2011-2012⁵ concluded that banks would need approximately €40 billion of capital for strengthening their capital base during 2012–14. Among other factors, these estimates incorporated losses related to the Private Sector Involvement (PSI). During 2012-early 2013, the capital shortfall was to a large extent covered by the Greek state via the government-owned Hellenic Financial Stability Fund (HFSF) and, partially, by private shareholders through Liability Management Exercises (LME) and new equity. As a result, banks' capital and liquidity positions improved as the EFSF bonds received in exchange for common shares issued to the Greek State (held by HFSF) during recapitalization were a valid collateral banks could use for refinancing operations. In addition, the tax code was amended to allow for an extended amortization of PSI losses over a 30-year period through recording DTAs in banks' balance sheets.

5. Fiscal resources were also used to fund resolution of non-viable institutions, which were absorbed by the four largest banks. Twelve banks were resolved between 2011 and 2013 (BoG 2014b). During this time, the HFSF and the Deposit Guarantee Fund spent almost €15 billion on recapitalization of bridge banks, funding gaps between assets and liabilities in the sale of business cases, and about €1.8 billion on capital transfers to acquiring institutions.

6. By end-2013, the state became the main shareholder of a highly concentrated banking system; the operational control, however, remained mainly in private hands. Due to M&A activity and resolutions, the share of the four systemic institutions (SIs) in total assets of the banking system reached about 95 percent. Private shareholders were severely diluted in 2012, and the state became the main shareholder of the four SIs.⁶ However, 'in light of the poor track record of some state-controlled banks in Greece',⁷ those banks that managed to attract 10 percent of the capital increases from private sources were kept largely under private control subject to targeted HFSF governance vetoes. The only bank that was not able to do so was Eurobank, which therefore remained under full HFSF control for several months in 2013-early 2014.



7. Subsequent reviews identified additional capital needs; the aim was to attract private investors, with public injections designed to play a backstop role only. The four SIs were

⁵ The assessment included a diagnostic study of domestic loan portfolios and stress tests.

⁶ The public share in the fifth largest bank, Attica, was also high (about 50 percent).

⁷ See for example, European Commission state aid decision No SA.34826.

recapitalized again in early 2014 by private investors, who invested about €8 billion in new equity, such that two banks were able to repay State-owned preference shares. While no direct public interventions were made at that time, legislative changes were introduced to allow conversion of banks' DTAs into tax credits in case of losses, which effectively created contingent liabilities for the state.⁸ However, by end-2015 a new comprehensive assessment of the system—involving a stress test and an AQR—revealed a €15 billion capital gap in banks, including a €4.4 billion shortfall related to the baseline scenario (mainly due to the AQR). Private investors provided €5.6 billion through LMEs and new capital. Two SI banks were fully covered by private injections. The other two banks benefited from additional government support including conversion of preference shares into common shares, and investments in new equity and contingent convertible bonds. On net, the HFSF's overall holdings in the four systemic banks were significantly diluted.

B. Outcomes: Incurred Fiscal Costs and Remaining Risks

8. The overall impact on public debt from government financial support to Greek banks over the last decade was close to a quarter of 2018 GDP. Based on a transaction by transaction analysis of the bank recapitalizations in 2008-2018, staff estimates that the government spent about €57 billion (gross) on capital support and bank resolutions (in addition to about €28 billion of new capital and LME costs incurred by the private sector). From this public support, about €7 billion was repaid or recovered via liquidations. Net budget revenues from all forms of financial support to the system was close to €5 billion (with the cost of funding for state-support mitigated by access to official lending on concessional terms).⁹ Together, this results in a net impact close to €45 billion, and as a share of GDP is one of the largest government interventions in the financial sector among the euro area countries following the Global Financial Crisis (Igan et al (2019)).

9. The state remains exposed to substantial fiscal risks. As of end 2018, remaining contingent liabilities (mainly DTCs) were close to €17 billion, compared to an estimated value of government holdings of just above €5 billion (consisting of equity and debt instruments, and estimated potential gains from the assets currently under a liquidation process).

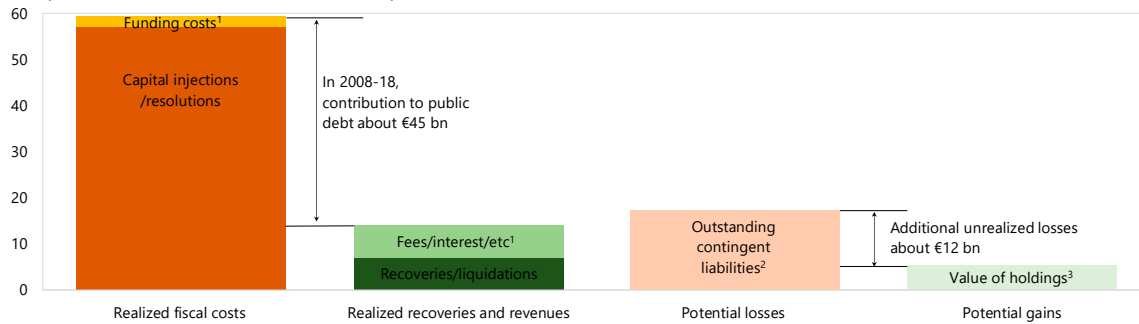
10. Despite the substantial injection of government funds since 2008 (and still-high contingent fiscal risks), bank balance sheets remain weak. The Greek banking system remains a source of fiscal and financial stability risks (Section C of the Staff report). This underscores the importance of carefully assessing the costs and benefits of any further government support, in the context of a broader strategy to bring the financial sector back to full health.

⁸ Such a conversion would require cash injections by the Greek government and would result in dilution of private shareholders. These amendments allowed a mitigation of the impact of regulatory changes to banks' CET1 capital, as otherwise, the DTAs reliant on future profitability would have been deducted from the regulatory capital. The Greek DTC law was later amended to address state aid concerns, including introduction of fees paid by banks on the amount of DTC-eligible DTAs (see Article 27A of Law 4172/2013 as amended by Law 4472/2017).

⁹ Net revenues are calculated as a difference between budget revenues and funding costs, including accrued and imputed borrowing costs (see Eurostat (2019)). In addition to fees on government guarantees, interest and dividends received from capital instruments reported by the Eurostat, revenues include fees paid by banks on the stock of DTC-eligible DTAs.

Greece: Realized and Potential Fiscal Costs of Public Support to Banks in 2008-2018

(Billions of euros, as of end-2018)



Sources: ECB; Eurostat; HFSF; and banks' reports.

1/ Eurostat methodology. Gains include guarantee fees and dividends received plus interest paid (or accrued).

2/ Includes DTCs and State guarantees on banks' debt.

3/ Fair value of government's shares, coco bonds and other debt instruments in banks, estimated recoverable amounts from liquidations.

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COST EFFECTIVENESS OF STATE SUPPORT FOR BANKS¹

1. Should banks be in need of additional capital, the first best option is private capital support (e.g. through the issuance of non-dilutive instruments), but alternative strategies relying on State support may become inevitable. The government, the HFSF, and the BoG acknowledge the need for some form of intervention (catalyst) to address the lack of progress in NPE resolution and growing vulnerabilities in banks. Recently, several proposals to facilitate the reduction of the NPE stock using public funds were put forward by various stakeholders: (i) an *Asset Protection Scheme (APS)*, now referred to as the ‘Hercules’ scheme, involves issuance of State guarantees on senior tranches of securitized NPE portfolios and is based on voluntary participation of banks (on a first come, first served basis); (ii) an *Asset Management Company (AMC)* that would consolidate denounced NPEs of the four major banks and receive half of their DTCs, with the State and banks holding junior tranches. Another option could be a *stand-alone conversion of DTCs* that would aim at broadly similar NPE rate targets, with the conversion being triggered by aggressive NPE resolution strategies that lead to after-tax losses. The assessment of these clean-up strategies ought to be benchmarked, based on as granular data as possible, against the *status quo*, i.e., the baseline scenario underpinning the current SSM-agreed NPE reduction targets, which has a three-year horizon but entails a non-negligible risk to financial stability.

2. In any of these schemes, compliance with the EU state aid framework is a key prerequisite. The use of public funds could be characterized as State aid that accordingly needs to be deemed compliant with EU/State aid rules. This may require, among other things, calibration of parameters for each scheme to ensure such compliance (a process recently completed for the Hercules scheme).

A. Guidance for a Cost-Benefit Analysis

3. The cost-effectiveness of such system-wide initiatives should be carefully analyzed according to multiple criteria.² The ultimate aim should be a prompt and sustainable clean-up of the financial system, that helps banks to attract private capital and become more resilient to shocks (including through a lower bank-sovereign nexus)—and ultimately help revive healthy lending. The following important elements and trade-offs would need to be carefully assessed:

- **Impact on the banks’ balance sheets and income statements.** Any comparative analysis should capture both gains in terms of asset quality (level/composition/coverage of NPEs) and impact on capital adequacy (both level and quality).³ If relevant, the impact of the remuneration of state intervention on banks’ income statements should also be taken into account.

¹ Prepared by Thierry Bayle (MCM)

²Where relevant, such an analysis can usefully draw on cross-country experience.

³ The effects on asset quality should be assessed through the NPE rate, the composition of NPEs (i.e. their breakdown between unlikely-to-pay, past-due, denounced), and the provisioning rate. Capital adequacy should be assessed in terms of level, i.e. considering the phased-in or the fully-loaded CET1 ratios, and of quality, i.e. considering the share of DTCs in CET1.

- **Impact on the State's balance sheet.** The assessment should capture the overall expected cost, timing and type of financial support, and any potential compensation (i.e. whether and how the State intervention is to be rewarded).
- **The speed of materialization of the above-mentioned impacts.** While fast results would be preferable for banks, and could be helpful in reducing risks to growth, the State's capacity to absorb large one-off shocks to its debt/deficit without creating further risks to debt sustainability may be limited (while also taking into account the offsetting benefits from higher GDP growth).
- **Impact on bank-sovereign nexus.** This is an important vulnerability, with transmission of shocks both ways. Therefore, ceteris paribus, options that do not exacerbate bank-sovereign nexus should be prioritized.
- **Other considerations (even if not decisive, these qualitative aspects would need to be also taken into account):** the governance of the NPE resolution process, its efficiency for a clean-up of borrowers' balance sheets, the potential to increase moral hazard and impact on payment discipline, the capacity to attract investor interest, consistency/conflicts with existing initiatives pursued by individual banks, and the effect on the banking system's concentration. The final aim is to boost lending and ultimately growth.

B. Preliminary Assessment

4. In the absence of sufficiently granular information, preliminary assessments could be guided by preliminary simulations based on assumptions. Key assumptions would include, among others, the level of provisioning related to the targeted NPEs portfolio, the absence of additional incurred losses in the current loan books, and the sale/transfer prices for these NPEs. As mentioned above, some of the parameters would need to be adjusted to make the scheme compatible with the EU/State aid rules.

5. The following practical approach is proposed for preliminary assessments of the cost and benefits of the options noted above, based on the criteria discussed in ¶3 above. These options should be benchmarked against a baseline scenario where banks only aim to achieve SMM-agreed NPE reduction targets over a three-year horizon, but still face the risk of loss-triggered DTC conversion.

- The *efficiency of the bank clean-up* could be measured by the change of the Texas ratio⁴, which provides a synthetic assessment of a bank's cushion, combining both capital and provisions, compared to a starting point. For the four Greek Significant Institutions (SIs), this ratio stood at 125 percent at end-March 2019. Further, to allow for the quality of capital, a DTC-adjusted Texas ratio⁵ can be considered as a synthetic indicator of the bank clean-up (167 percent as of end-

⁴ The Texas Ratio, defined as the ratio: (Total NPEs) / (Capital + Provisions).

⁵ The DTC-adjusted Texas ratio is defined by: (Total NPEs) / (Capital - DTC + Provisions).

March 2019). As a complement, information on the impact on capital (CET1 ratios), NPE ratios, and profitability would also need to be considered.

- *The cost-effectiveness can be assessed by assuming instantaneous implementation of the various options*, i.e. by end of the present fiscal year. However, ideally a dynamic, forward-looking assessment would be conducted that includes assumptions regarding banks' profitability prospects, the speed of materialization of the schemes, and the timing of incoming supervisory constraints (provisioning backstop, phasing of regulatory capital requirements).
- Likewise, *fiscal impact* could be measured as a one-off total disbursement of public funds in nominal terms on an undiscounted basis, assuming that all the costs associated with the scheme are triggered at the time of the scheme launch⁶.
- *Ideally, bank-specific impacts* should also be considered (but a preliminary assessment could proceed without this).

⁶ A more granular and dynamic approach could be considered at a later stage to account for the timing of realization of these costs, impact on cash balances, deficit, debt level, but also to take into account potential income flows, e.g. on guarantees.