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Article

Bankflation, the inflation of "banking greed": An empirical analysis and policy recommendation perspective

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Abstract: To fight inflation, European Central Bank (ECB) announced 10 successive interest rate hikes, starting on 27 July 2022, igniting an unprecedented widening of interest rate spreads in the euro area (EA). Greek banks, however, recorded among the highest interest rate spreads, far exceeding EA median and weighted average. Indeed, we document a strong asymmetric response of Greek banks to ECB interest rate hikes, with loan interest rates rising immediately, whilst deposit interest rates remained initially unchanged and then rose sluggishly. As a result, the interest rate spread hit one historical record after another. Greek systemic banks, probably taking advantage of the high concentration and low competition in the domestic sector benefited from key ECB interest rate hikes, recording gigantic increases in net interest income (NII), and consequently, substantial profits (almost €7.4 billion in the 2022–2023 biennium). Such excessive accumulation of profits (that deteriorates the living conditions of consumers) by the banking system could be called the inflation of "banking greed", or bankflation. This new source of inflation created by the oligopolistic structure of the Greek banking sector counterworks the very reason for ECB interest rate increases and requires certain policy analysis recommendations in coping with it.

Keywords: bankflation; bank competition; ECB; inflation; interest rate spread
JEL Classifications: D4; E43; E5; G21; L1; O52

1. Introduction

Regarding the "profits inflation" or "greedflation" for non-financial firms, there is ambiguous evidence either in favor of or against its existence (Bank of Greece, 2023a; Centre of Planning and Economic Research, 2023c; Scanlon, 2024; Vinod, 2022). But regardless of the scientific documentation of greedflation and "corporate greed", food inflation is not open to question as it is running at high rates both in the European Union and Greece, deteriorating the living conditions of millions of citizens. More specifically, according to Eurostat data, more than 22% of the population in the EU27 have been facing poverty and social exclusion for the last nine years. Furthermore, the change in the food and non-alcoholic beverages price index in 2023 (2022) amounted to +12.64% (+11.89%) for the EU27 and +11.61% (+11.69%) for Greece, compared with +1.55% and +1.48% for 2021, respectively. Alternatively, the cumulative increase in food and non-alcoholic beverages prices in 2019–2023 was 31.25% for the EU27 and 28.50% for Greece.

As far as the banking sector is concerned, the picture is clearer for the profitability of banks (both European and Greek) after the start of key interest rate hikes by the European Central Bank (ECB) on 27 July 2022. In fact, return on equity (ROE) and return on assets (ROA) ratios for all the significant ECB-supervised banks increased sharply from 7.59% and 0.46% in 2022:Q2 to 9.31% and 0.63% in 2023:Q4 (ECB, 2023a and 2024b).

In this paper, we demonstrate that after the key ECB interest rate hikes, which were meant to curb the soaring inflation, a new type of inflation emerged. We call it bankflation, or the inflation of "banking greed". Increases in the net interest income of banks, leading to rising profits, trigger bankflation which in turn worsens the living conditions of consumers through elevated borrowing costs, counterwork the very reason for the ECB interest rate increases, and could intensify the feeling of injustice.

2. European banks

According to ECB statistics (ECB, 2024b, 2023a, 2023b and 2022), the profits of the significant banking institutions, supervised by the ECB, amounted to €108.13 billion in 2021 and €127.19 billion in 2022 (+17.6% *y-o-y* change), and in 2023 €164.75 billion (+29.5% compared to 2022). There are approximately €291.94 billion in profits for the 2022–2023 period.

It emerges that the net interest income (NII) is a key contributor to the excessive accumulation of profits by significant European banks and fuels bankflation. Based on the ECB's reported data for the profit and loss accounts of significant banks, operating income has increased from €481.13 billion in 2021 to €524.74 billion in 2022 (+9.06% −*y-o-y* change) and to €583.51 billion in 2023 (+11.20% compared to 2022). NII to operating income has been increasing continuously since 2022:Q2 (53.72%) before taking the value of 61.11% in 2023:Q4. NII was €356.58 billion in 2023 (+19.65% compared to 2022) for the significant ECB-supervised banks.[1] At the same time, net fee and commission income to operating income is shrinking (from 31.92% in 2022:Q2 to 28.15% in 2023:Q4), while net trading and investment income shows "ups and downs" from 9.62% in 2022:Q2 to 6.85% in 2023:Q4. Given that the administrative expenses, depreciation, impairment and provisions did not change considerably—and taking the above into account—it follows that net interest income accelerates bank profits and fuels the inflation of "bank greed" in the significant European banking institutions. Indeed, this is confirmed by the net interest margin (NIM, i.e., net interest income to interest-earning assets), which increased from 1.23% in 2022:Q2 to 1.60% in 2023:Q4, reaching a 35-quarter historical high.[2] Moreover, Robert Holzmann (Austrian Central Bank Governor), argued in a Reuters interview on 3 April 2024 that ECB should stop subsidizing the European commercial banks and cut interest rate payments (4% has been the rate on the deposit facility from 20 September 2023 to 11 June 2024), implying that the NII is magnified by the very high key ECB interest rates.[3]

At this point, we should note that an even more impressive increase in NIM is observed for the less significant European banks, which nevertheless cover about 15% of the total assets of the banks supervised by the ECB. More specifically, the NIM of the less significant ECB-supervised banks increased from 1.38% in 2022:Q2 to 1.98% in 2023:Q4.

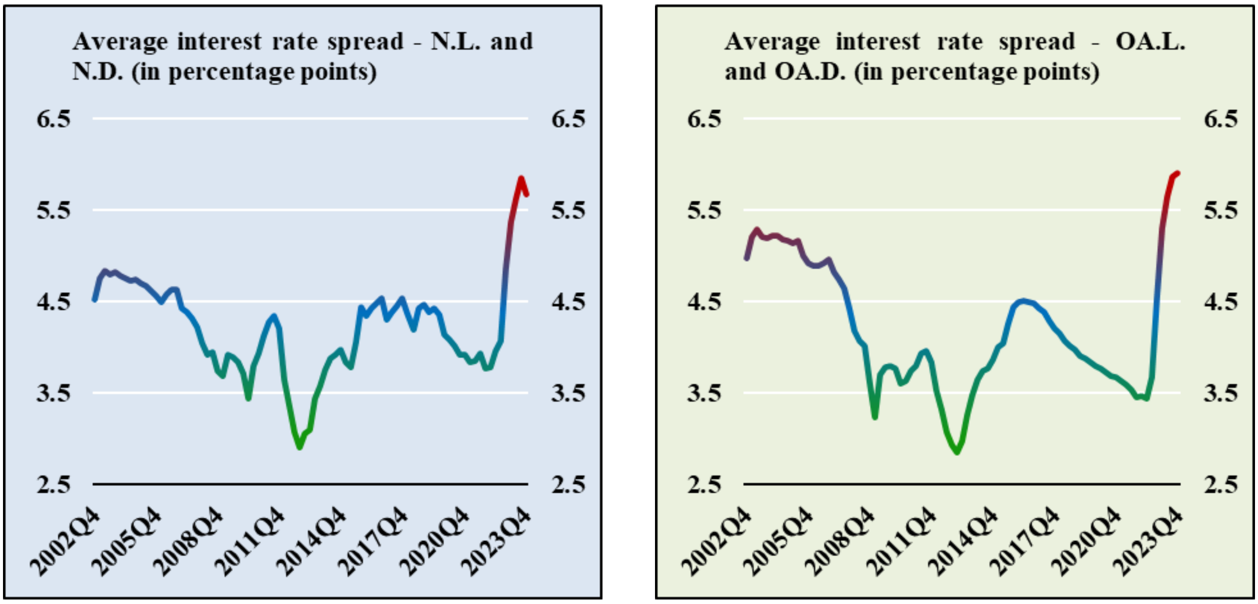
3. A case study for the Greek significant, or systemic, banks

Turning our attention to Greece, the four systemic banks recorded significant profits in 2022 after a long time and this is firstly, due to reduced provisions for credit risk, as most non-performing loans have already been transferred from banks' balance sheets to credit servicing firms ("servicers"), and, secondly, due to the increase in operating income. According to ECB statistics (ECB, 2024b, 2023a, 2023b and 2022), the profits of Greek systemic banks amount to €3.76 billion in 2022 compared to losses of €4.69 billion in 2021. This is because impairment and provisions reduced from €6.38 billion to €2.20 billion and operating income increased 67.33% from about €6 billion to €10.04 billion. While net interest income increased by almost 5% (or €267.23 million), the rise in operating income was mainly due to the net trading and investment income (€1.27 billion annual change) and the net other operating income (€2.06 billion annual change).

In 2023, the profits of Greek systemic banks are slightly less than those in 2022, amounting to €3.62 billion (−3.7% *y-o-y* change). Therefore, the aggregate profits for 2022 and 2023 are equal to €7.38 billion.

We find that the accelerating accumulation of profits of systemic banks is due to NII, which is boosted by the colossal increases in NIM and interest rate spread. As a result, NII contributes to the inflation of "banking greed" in Greece. More specifically, operating income amounted to €10.31 billion in 2023, up 2.69% from 2022 (€10.04 billion), while net interest income increased 44.98% (from €5.58 billion to €8.09 billion) in 2023 compared to 2022.[4] In terms of operating income, NII has been increasing continuously since 2022:Q2 (46.28%) before reaching 78.47% in 2023:Q4. Net fee and commissions income relative to operating income slightly increased from 2022:Q2 (14.93%) to 2023:Q4 (16.18%), while net income from trading and investments shrank over the same period (from 24.96% in 2022:Q2 to 0.78% in 2023:Q4). Based on the above, and the fact that administrative expenses, depreciation, and earnings before tax did not exhibit notable changes, it is implied that the NII inflates the profits of Greek systemic banks and fuels the inflation of "banking greed".

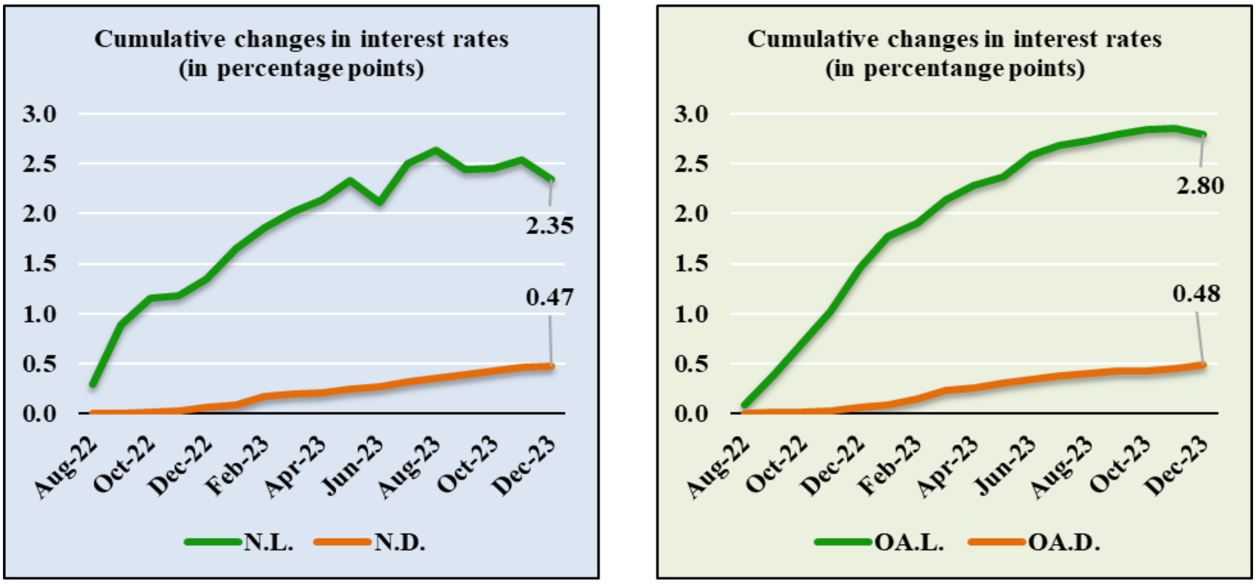
This can be confirmed: firstly, through NIM, which is constantly increasing from 1.89% in 2022:Q2 to 3.23% in 2023:Q4 (being the highest value since 2017:Q4), and secondly, through the interest rate spread, which records unprecedented increases and hits historical records (see **Figure 1**, and Bertsatos, 2023). Indeed, there is an asymmetric response of the Greek banking system, as loan interest rates immediately increased in contrast to deposit interest rates (see **Figure 2**), following the interest rate hikes by the ECB. At this point, it should be noted that NIM has also increased for the less significant banks in Greece, as it rose from 2.10% in 2022:Q2 to 3.15% in 2023:Q4.



(a) **(b)**

Figure 1. Average interest rate spread in the Greek banking system. **(a)** Average interest rate spread—N.L. and N.D. (in percentage points); **(b)** average interest rate spread—OA.L. and OA.D. (in percentage points).

Notes: The interest rate spread is defined as the difference between the interest rate of loans and the interest rate of deposits. The left graph shows the quarterly average of the monthly interest rate spread of the Greek banking system based on the monthly weighted average interest rates for new loans (N.L.) and new deposits (N.D.). The right graph shows the quarterly average of the monthly interest rate spread based on the monthly weighted average interest rates for the outstanding amount of loans (OA.L.) and the outstanding amount of deposits (OA.D.).
Source: Bank of Greece data—Authors' calculations.



(a) **(b)**

Figure 2. Cumulative interest rate changes in the Greek banking system. **(a)** Cumulative changes in interest rates (in percentage points) of N.L. and N.D.; **(b)** cumulative changes in interest rates (in percentage points) of OA.L. and OA.D.

Notes: The left graph shows the cumulative change in the monthly weighted interest rates for new loans (N.L.) and new deposits (N.D.), and the right graph shows the cumulative change in the monthly weighted interest rates for the outstanding amount of loans (OA.L.) and the outstanding amount of deposits (OA.D.). Source: Bank of Greece data—Authors' calculations.

According to **Figure 1a**, we notice that the interest rate spread between new loans and new deposits sharply increased from 3.95% in 2022:Q2 to 5.67% in 2023:Q4, i.e. a rise of 172 basis points was recorded. The same picture holds for the interest rate spread between the outstanding amount of loans and the outstanding amount of deposits (**Figure 1b**); specifically, it skyrocketed from 3.44% in 2022:Q2 to 5.90% in 2023:Q4, experiencing an increase of 246 basis points. Moreover, during the period August 2022–December 2024, the cumulative change of interest rates of new loans was 5 times that of new deposits, as the interest rates of new loans cumulatively rose by 2.35% and those of new deposits by 0.47% (**Figure 2a**). Regarding the interest rates of the outstanding amount of loans and deposits, the aggregate change of interest rates of the outstanding amount of loans amounted to 2.80% and that of the outstanding amount of deposits was 0.48% (**Figure 2b**). As a result, the aggregate change of interest rates of the outstanding amount of loans was almost 6 times that of the outstanding amount of deposits. To sum up, **Figures 1** and **2** provide concrete evidence of a rapid increase in loan interest rates and a sluggish increase in deposit interest rates.

The oligopolistic structure and low competition prevailing in the Greek banking industry (Agiomirgianakis et al., 2024; Bertsatos, 2023)—with the concentration of the systemic banks, based on book value of assets, in Greece being much higher than in Europe (almost 12 percentage points; see **Figure 3**)[5]—facilitates the preservation of the higher interest rate spreads, which intensify the "banking greed" more for the Greek systemic banks than for the European significant banks. This is captured through the:

- higher NII as a percentage of operating income for the four Greek systemic banks compared to the significant European banks: 78.59% versus 58.70% in 2023:Q1, 77.98% vs 59.50% in 2023:Q2, 79.25% vs 60.56% in 2023:Q3, and 78.47% vs 61.11% in 2023:Q4,
- higher NIM for the four Greek systemic banks compared to the significant European banking institutions: 2.99% vs 1.48% in 2023:Q1, 3.13% vs 1.53% in 2023:Q2, 3.20% vs 1.56% in 2023:Q3, and 3.23% vs 1.60% in 2023:Q4, and
- the notably higher interest rate spread for the Greek banking system compared to the euro area median and weighted average (Bank of Greece, 2023c).

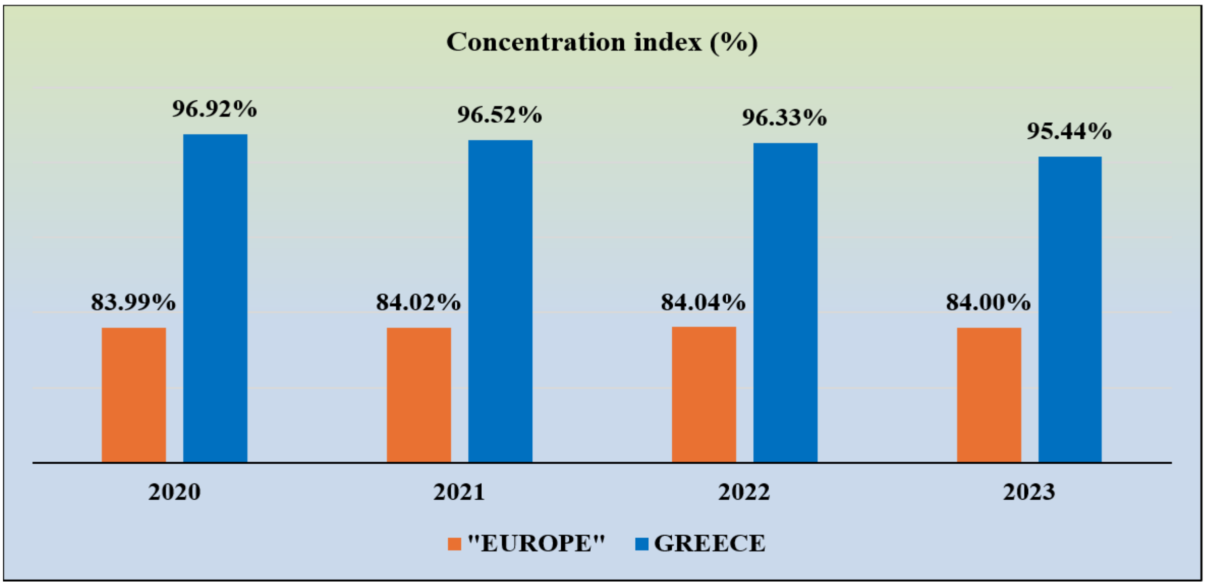


Figure 3. Concentration of systemic banks in terms of book value of assets.

Notes: The graph depicts the concentration index as the percentage of the book value of assets of significant European banks supervised by the ECB ("EUROPE") relative to the total book value of assets of significant and less significant institutions supervised by the ECB, as well as the corresponding concentration index for the Greek systemic banks (GREECE).
Source: ECB data—Authors' calculations.

3.1. Vicious circle

The loan-to-deposit (LTD) ratio—based on households and non-financial corporations (NFCs)—has been facing a downward trend in recent years. This means that the fewer the loans and/or the more the deposits, the lower the loan-to-deposit ratio. More specifically, at the end of 2015 the LTD ratio was 123.21% for the significant European institutions supervised by the ECB, and since 2021 it hovered around 104% (102.74% in 2023:Q4).

This negative trend is also recorded in Greece, but it is much steeper. At the end of 2015 loans represented 129.66% of deposits in the four Greek systemic banks (again based on households and NFCs), at the end of 2018 loans fell below 100% of deposits, and now the LTD ratio is 58.81% (2023:Q4), which is the lowest value for all significant European banks in 2023:Q4, as well as the lowest value for the Greek systemic banks at least for the last nine years. Such a low value reflects a limited credit expansion relative to deposits. The widening gap in LTD between the ECB-supervised significant European banks and Greek banks could be explained by the fact that loans to households and NFCs in Greece fell by 24.8% from 2015 to 2024, and those from the ECB-supervised significant European banks increased by 23.6%.[6] Therefore, we spot a diametrically opposite movement: a credit crunch took place in Greece—possibly due to the presence and following remnants of the financially painful memoranda for Greek consumers and firms—while the loans granted by the ECB-supervised significant European banks increased considerably.

The increases in the key interest rates by the ECB have led to high borrowing rates, which result in a large interest rate spread, discourage borrowing (tendency towards credit stagnation) and constitute an "Achilles' heel" for the financing of the Greek real economy. More specifically, loans to households and NFCs were €122.67 billion in December 2023 and €121.39 billion in June 2022 (sluggish credit expansion

1.05%), while the corresponding figures for loans to households were €40.11 billion and €43.85 billion (credit crunch 8.5%).[7] On the other hand, high amounts of deposits in the Greek banking system (€208.58 billion in December 2023 and €196.51 billion in June 2022 for households and NFCs, with the corresponding amounts for households being €154.53 billion in December 2023 and €145.56 billion in June 2022, respectively) may prevent substantial increases in deposit interest rates and thus, the interest rate spread is locked at high levels. High concentration and low competition in the Greek banking industry facilitate the maintenance of an elevated interest margin, and as a result the vicious circle of high lending rates and low deposit rates persists to exist. As long as this situation is preserved, banks will enjoy increased net interest income (and probably great profits) in the short term, but this is not sustainable and will eventually come to an end as borrowers—pressured by the high prices of goods and services—could have diminishing ability to repay their loans.

As long as the key ECB interest rates remain at high levels, the reduction of lending rates in the domestic banking sector, either through the establishment of upper limits or through the reduction of concentration and strengthening competition in the domestic sector by the Greek supervising banking sector authorities, is a necessary move to put an end to the above vicious cycle. The occasional calls by the Greek Ministry of Finance and the Bank of Greece to shrink the interest rate spreads have been of little effect. However, a prudent approach would be to use these short-term gains to further shield Greek banks (for more details see the conclusions and policy proposals below), so that the banks are prepared for possible future difficult situations.

3.2. Economic developments in Greece

3.2.1. Reduced real wages

The gross average full-time adjusted salary per employee increased in Greece by 3.8% (5.1% in the EU27) in 2022 to €16,661 (€35,329 in the EU27). But taking into account the general price levels, it is found that, at constant 2015 prices, the average gross wage decreased by 5.1% in Greece (3.8% in the EU27) in 2022. Compared to 2009, when the average gross wage was at its highest level in Greece, there has been a nominal cumulative decline of 22.85% in 2022 (in the EU27 there is an aggregate increase of 34.40%). If we incorporate the general price levels, the real decline, at constant 2015 prices, is 34.23% in 2022, whilst in the EU27 there has been a real increase of 3.33% (see **Figure 4**).[8]

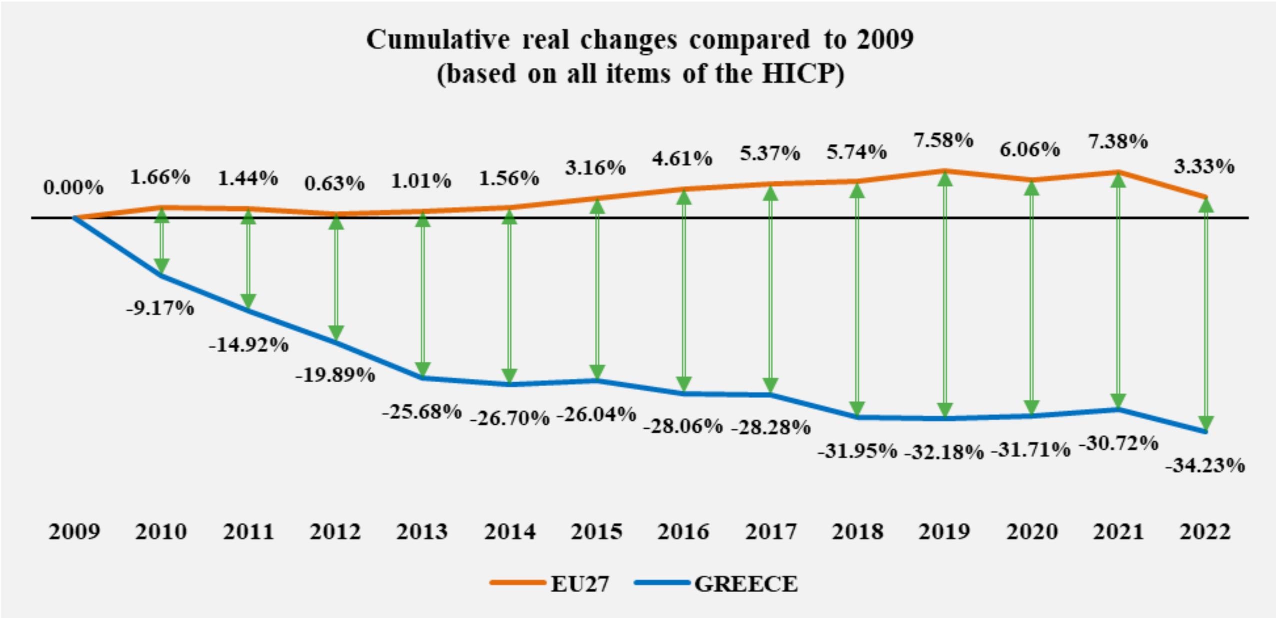


Figure 4. Aggregate wage changes, at constant prices in 2015, compared to 2009.

Notes: The graph shows the cumulative changes for the gross average full-time adjusted salary per employee (at constant 2015 prices, based on all items of the harmonized index of consumer prices) compared to 2009.
Source: Eurostat data—Authors' calculations.

3.2.2. National debt crisis

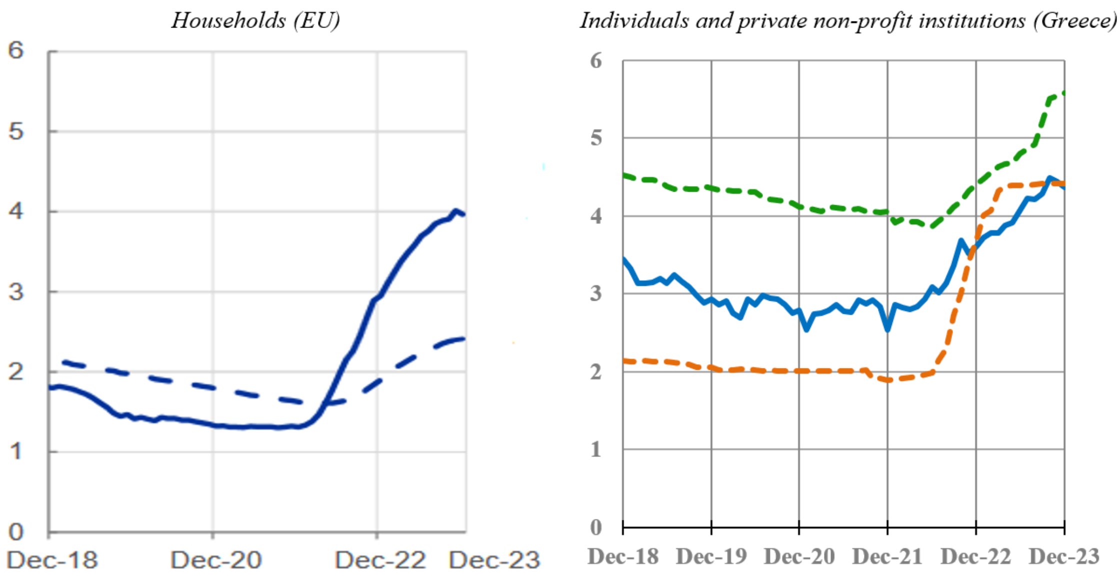
The debt crisis of the Greek economy led to a series of memoranda, austerity measures and cuts in wages/pensions and spending, as well as to the much-discussed "haircut" that took place on about €206 billion Greek government bonds (through PSI). Various institutions (e.g., insurance funds, micro-bondholders, companies, and banks) had enriched their investment portfolio by buying Greek bonds. Unfortunately for these bonds' buyers, the realized return on this investment was strongly negative as the debt crisis in Greece occurred and the "haircut" of Greek bonds was authorized. As a result, the buyers of these bonds suffered significant losses. The Greek banks ended up with negative book equity and the Greek government bailed them out to maintain the financial stability of the country, providing a total of €46 billion (see History on the HFSF website) to the Greek banking sector. However, as it turned out, these funds provided had a low recovery rate and their performance was not ideal. By 2016, €3.2 billion had been recouped and the expected losses of the intervention in the Greek banking sector were €36.4 billion (European Court of Auditors, 2017), while just before the start of the HFSF's disinvestment program in October 2023, the market value of the HFSF's stake in the four Greek systemic banks was around €3.1 billion (Centre of Planning and Economic Research, 2023b). For more details on this issue see Agiomirgianakis et al. (2024) and Moody's (2023). Centre of Planning and Economic Research (2023a, b), and European Court of Auditors (2017).

3.2.3. Housing problems of young people and negative saving rates

The saving rate of Greek households returned to negative levels in 2022 at −4.03% (12.17% in the EU27 in 2022 and 12.85% in 2023), i.e., it takes negative values (dissaving rate) as in the period 2012-2019 where the average saving rate was −3.96%. Moreover, there is a suffocating environment regarding the independence of young people in Greece and the creation of their own families. 71.9% of young people aged 18 to 34 live with their parents (49.4% in the EU27) in 2022 and 66.4% in 2023 (49.6% in the EU27). On the one hand, the index of apartment prices (according to the Bank of Greece) has risen rapidly recently, but on the other hand, it is almost 9.3% lower in 2023 than the historically high value in 2008. This, combined with falling real wages, highlights the financial suffocation and difficulty for young people in Greece.

3.2.4. Declining purchasing power of Greek households and non-performing loans

Negative savings rates reveal the shrinking purchasing power of Greek households and that wages are not sufficient to cover basic needs. Especially if we take into account that more than a quarter (namely 26.7% in 2022 and 28.5% in 2023) of the population (8.7% and 8.9% in the EU27, respectively) spends more than 40% of disposable income on housing expenses, with the corresponding figure soaring to 84.5% in 2022 (33.1% in the EU27) and 86.3% in 2023 (33.6% in the EU27) for households with disposable income below 60% of median income: **Figure 5** shows that interest rates on housing loans are higher in the Greek banking system than in European banks, especially on the outstanding amount of loans. According to the European Commission, negative savings rates indicate that households are either using their accumulated savings or borrowing to finance their expenditure. However, this is a paradox for Greece, as according to ECB (ECB, 2023b and 2017) from 2016 to 2024, household deposits increased (from €111.2 billion to €154.5 billion) and loans to households decreased (from €81.2 billion to €40.1 billion). This may be a signal of undeclared work and the underground economy.



(a) **(b)**

Figure 5. Interest rates on housing loans. **(a)** Households (EU); **(b)** Individuals and private non-profit institutions (Greece).

Figure 5a: Notes: Blue continuous line: new loans. Blue dotted line: outstanding amount of loans. Source: Lane (2024, ECB), lending rates to households.
Figure 5b: Notes: Blue continuous line: new loans. Green dotted line: outstanding amount of loans (maturity up to 5 years). Orange dotted line: outstanding amount of loans (maturity over 5 years). Source: Bank of Greece data.

Additionally, the household debt of around €92 billion in 2023 (about €94 billion in 2022), or the private debt of more than €212 billion in 2023 (€209 billion in 2022), according to Eurostat, results in another burden on Greek consumers that is further magnified by high interest rates on loans and low interest rates on deposits (and in general by the skyrocketed interest rate spread). Non-performing loans amount total around €80 billion in the country's financial system in 2023 (**Figure 6**), with most of them being in servicers and the NPLs' systemic size overall being high (almost 36% of GDP)[9], and the re-default rate of already restructured loans is expected to rise due to high lending rates. Regarding the NPLs ratio of the four Greek systemic banks in 2023:Q4, it is about 4.04% (excluding cash balances) and the respective ratio for the significant ECB-supervised banks equals 2.30% (ECB, 2024b).

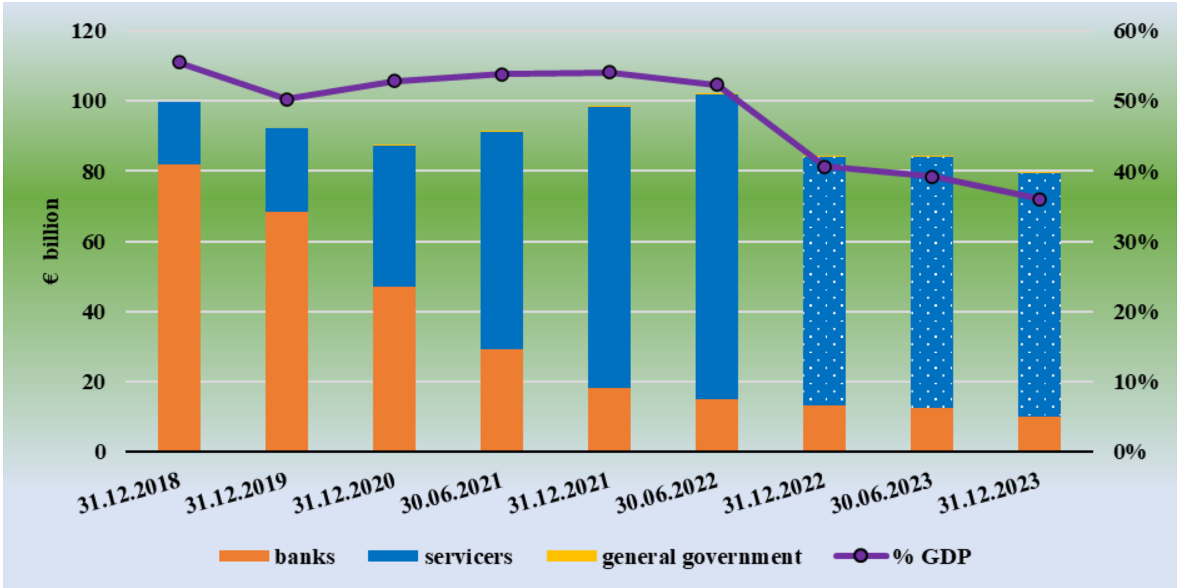


Figure 6. Total non-performing loans in Greece's financial system.

Notes: Total NPLs (on bank balance sheets, servicers, and general government) remained high until mid-2022. Since then, they appear to have declined in late 2022 and 2023, but this decline may be fictitious. This is because, as of 2022:Q4 (see "blue diamond grid" columns), the face value of loans managed by servicers does not include the off-balance sheet interest and write-offs that had been performed by the lending institution that transferred the loan portfolio. In other words, the measurement has changed and, as a result, the comparison with previous quarters has become problematic. In conclusion, what can be said is that, on the one hand, banks are "carrying" fewer NPLs in their portfolio, but on the other hand, NPLs remain in the Greek financial system as they have been transferred to servicers. The left axis in **Figure 6** is in billions of euros and the right axis is in % of Greek GDP.

Source: Bank of Greece data, ELSTAT data—Authors' calculations.

3.2.5. Summary

All these constitute an "explosive cocktail" for Greece, which could worsen the country's position in terms of poverty and social exclusion. Greece had up to 2022 the 3rd highest poverty or social exclusion rate over time (26.3% in 2022 and 26.1% in 2023), since 2015 when Eurostat started recording data, behind Bulgaria (30% in 2023, and 2nd position over time) and Romania (32% in 2023, and 1st position over time). Under these difficult living conditions, the phenomenon of moonlighting (i.e., looking for a second, or even a third job, to make ends meet), as well as expatriation, is gaining ground in Greece. Indeed, it is estimated that at least 500,000 Greeks migrated abroad from 2010 to 2019 (Pratsinakis, 2022)[10].

All this overshadows the "aura" of the recovery of Greece's investment grade in September 2023 (Centre of Planning and Economic Research, 2023a), which so far is reflected through the deceleration of Greek bond yields in the last months of 2023 (Economou, 2024), and through the rally of the Athens Stock Exchange. It appears that, on one hand, the market had discounted the recovery of the grade much earlier [in early January 2023 the stock index was below 1000 points (as in almost the last decade), while for most of July–August 2023 it was above 1300 points], and on the other hand, the stock index exceeded 1500 points in May 2024 and seems to be hovering around 1400 points in 2024.

4. Concluding remarks—Policy recommendations

The presented analysis firstly identifies and highlights the inflation of "banking greed" or bankflation and secondly, draws policy recommendations concerning the sustainability of the triptych: Greek consumers, domestic banking system, and economic growth of Greece.

One could observe the following paradox: ECB launched its interest rate hikes to tame the soaring inflation and bring it back to 2% in the medium term, but at the same time ECB also contributed, though not intentionally, to the creation of another inflation: the inflation of banks' profits, or "banking greed", through the increased net interest income and high interest rate spread. This is what we call bankflation, a bank-oriented inflation that [i] puts extra pressure on consumers and increases their already heightened cost of living (given the rapid increases in prices of goods and services in the last years) and [ii] could lead to an economic slowdown and harm economic development and growth.

As long as ECB keeps its key interest rates high, Greek banks are expected to make significant gains through increased net interest income and interest rate spreads, thus "feeding" the inflation of "banking greed". Indeed, the net interest income of €8.505 billion in 2023 is 51.5% greater than that of €5.613 billion in 2022 (Bank of Greece, 2024) in the Greek banking system. It is a unique opportunity for the four Greek systemic banks with their whopping 2022–2023 profits (almost €7.4 billion) to strengthen their capital buffers and accelerate the amortization of deferred tax (Centre of Planning and Economic Research, 2023a), rather than focusing exclusively on lucrative dividend policies. Of course there are short-term benefits for the banks from this situation, but on the other hand there are sustainability issues in the medium and long term for the banking sector and for the country's growth and social cohesion. To prevent the completion of the "myopic behavior" (short-term benefits vs long-run losses), immediate actions are required (given the prevailing stagnation in the Greek bank credit) by the supervising banking-sector authorities in Greece in tackling the growth of the alternative banking—i.e., the shadow banking[11]—which is generally much less supervised than the traditional banks, and consequently much more risky for borrowers and investors potentially by creating bubble bursts.

At this point, it should be noted that dividend payments are undoubtedly very important for the shareholders of the Greek banks, who have not received dividends for over 15 years. However, other factors should be considered, and a multi-faceted and multi-dimensional approach should be adopted. Furthermore, it should be noted that an equal replenishment of deferred tax with corporate profits, i.e., capital of high quality, implies an increase in capital ratios (via the denominator) as risk-weighted assets (RWAs) decrease.

Consequently, the Greek systemic banks should focus on:

- the strengthening of capital ratios that are below those of the European ECB-supervised significant banking institutions 14.27% vs 15.61% in CET1 ratio, and 17.65% vs 19.69% in TCR ratio (ECB, 2024b), especially given the amplified geopolitical instability with three active frontlines (Ukraine, Palestine, Yemen) and a potentially emerging one between Israel and Iran, as well as the increased Taiwan-related tension between China and USA,
- accelerating the amortization of deferred tax credits (DTCs) to substantially increase the quality of capital. It should be noted that DTCs are potential state-aid capital support and constitute the Greek banking system quasi-public. DTCs were €13.4 billion accounting for 51% of total regulatory capital in June 2023 (Bank of Greece, 2023b), and, respectively, €12.9 billion and 44% in December 2023 (Bank of Greece, 2024). In addition, in June 2023, there are deferred tax assets (DTAs) of €6.6 billion, of which €2.4 billion are calculated on the capital base and represent almost 9% of the total regulatory capital (Bank of Greece, 2023b), with the corresponding figures being €6.3 billion, €2.6 billion and 9% in December 2023 (Bank of Greece, 2024),
- revisiting their pricing policies on commissions and fees, the reduction of the elevated interest rate spread, especially if we take into account the positive effects on banks of the recovery of the country's investment grade rating (Centre of Planning and Economic Research, 2023a), and
- increasing the financing of the real economy, with an emphasis on small and medium-sized enterprises. SMEs constitute the backbone of the Greek economy, as they contribute on average 67% of total value added, employ 85% of total employees (Centre of Planning and Economic Research, 2023a) and account for 99.9% of total enterprises over time.

Greek taxpayers have experienced (and are still experiencing) unprecedented financial difficulties and at the same time, they have helped over the years to ensure the stability of the banking system through various state aids (such as recapitalizations, "Hercules" programs, and deferred tax). It is now interesting to see how domestic banks will behave—in times of favorable conditions for them—and whether they will positively contribute to Greek society and entrepreneurship. Otherwise, interventions/regulations—for the fundamental increase (reduction) of competition (concentration)[12], and reduction of the interest rate spread or the concrete enhancement of capital quality by accelerating DTCs amortization—on the domestic banking sector seem to be inevitable, bearing in mind the sustainable development of Greece and the harmonious coexistence of Greek consumers, businesses and banks.

The above-mentioned recommendations are further strengthened if we consider the encouragement by the Single Supervisory Mechanism (SSM) through its Chair, Claudia Buch, on 12 February 2024 (ECB, 2024a). More specifically, she said that banks are reaping the interest rate hikes by the ECB and are enjoying improved profits. It would be advisable to use these earnings to shield banks and strengthen their capital ratios, as there are heightened macroeconomic and geopolitical risks, and there is no room for complacency. Towards the end of her speech, the President implicitly called for a less bank-centric approach and putting more focus on society. She referred to the concerns of consumers about rising borrowing costs and financial difficulties, who at the same time are seeing banks making significant profits, and how this could exacerbate the feeling of injustice.

In addition, as far as the Greek banking sector is concerned, one interesting question arises: how will the interest rate spread move after the announced cuts (12 June 2024, 18 September 2024 and 23 October 2024) in key interest rates by the ECB?[13] Will it decline at the same rate as it did after the interest rate hikes, or will there be a rigidity in the banks' net interest income to the detriment of Greek borrowers?

To conclude, further expected cycles of interest rate cuts by the ECB will reveal whether a further demonstration of the power of a looming "banking cartel" in Greece will play its role. Note that since mid-2023 it has been communicated that the government, if necessary, should take aim at a few—but powerful—interest groups that prefer immobility and speculate at the expense of the many (Centre of Planning and Economic Research, 2023d).

We should also point out that some measures that have been proposed regarding the connection of the loan amounts with the commercial value of the real estate and the monthly instalment with the borrower's income are in the right direction for the Greek banking sector.[14] However, these proposals are incomplete as they concern only new loans and do not incorporate the outstanding amount of granted loans.

Finally, one proposal in the same vein as Agiomirgianakis et al. (2024)—stemming from their evidence that competition negatively affects the net interest margin—for the European banking system, would be for the ECB and the SSM to systematically monitor banking concentration indicators (such as the standard Concentration Ratio and the Herfindahl-Hirschman Index, or the more specialized Boone and Lerner indices). So, interventions could take place when a significant deviation of the banking market in question from competitive levels is observed, especially when combined with a battery of high indicators such as the interest rate spread, the net interest margin and the net fee and commissions income.

Regarding suggestions and ideas for future research, practitioners and researchers could focus on each of the rest countries—whose significant banks are supervised by the ECB/SSM—and check whether there is evidence of bankflation stemming from the net interest income.[15] Is bankflation unique to Greece and the total of ECB-supervised significant banks, or does it individually exist in other European countries too? After the anticipated ECB interest rate cuts, will there be evidence of diminishing bankflation, or will it remain rigidly persistent? Future research will illuminate us soon.

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(1) https://www.bankingsupervision.europa.eu/banking/statistics/html/index.en.html;
(2) https://data.ecb.europa.eu/data/datasets/SUP (Supervisory Banking Statistics—ECB/SSM);
(3) https://www.bankofgreece.gr/en/homepage (Bank of Greece);
(4) https://www.statistics.gr/en/home (Hellenic Statistical Authority—ELSTAT).

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Notes

1. Given the NII of €298.02 billion in 2022 (+14.32% *y-o-y* change), the aggregate NII in the period 2022-2023 is €654.6 billion for the significant ECB-supervised banks.
2. Son (2024) also argues that higher NIM values are associated with stronger bank profitability.
3. See the link: https://www.reuters.com/markets/europe/ecb-needs-stop-subsidizing-banks-holzmann-says-2024-04-03/
4. Given the NII of €5.58 billion in 2022 (+4.89% *y-o-y* change), the cumulative NII in the 2022-2023 biennium is €13.67 billion for the four Greek systemic banks.
5. An alternative concentration index could be created in terms of profits. According to the Bank of Greece (2024), total profits of the Greek banking system amount to €3.825 billion in 2023 and €3.434 billion in 2022. Combining these figures with the previously reported profits of the Greek systemic banks of €3.62 in 2023 and €3.76 in 2022, it turns out that the "big 4" Greek banks capture about 94.6% of total banks' profits in 2023 and 109.5% in 2022 (it is higher than 100%, mainly, due to losses of one of the less significant Greek banks). We thank an anonymous referee for the suggestion of this alternative concentration index.
6. On the other hand, deposits to households and NFCs rose by 53.6% in Greece from 2015 to 2024, and 47.1% in the ECB-supervised significant European banks.
7. Regarding the ECB-supervised significant banks, it appears that loans to households and NFCs increased from €11,650.05 billion in June 2022 to €11,757.76 billion in December 2023 (+0.92%), and loans to households increased respectively from €6,057.17 billion to €6,122.61 billion (+1.08%). Hence, we spot a sluggish credit expansion for the ECB-supervised significant banks during that period with elevated key ECB interest rates.
8. In the same vein, Greece suffers from the largest fall (23.7%) in real hourly wages over the 2009-2023 period amongst EU27 countries (see Missos, 2024). However, we should also note that the minimum wages in Greece, from 2019 [i.e., just before the beginning of a series of multiple global crises that triggered high inflation rates (see Bertsatos, 2023)] up to 2023, rose by 6.15% in real terms and 20% in nominal terms.
9. Greek banks are now free of non-performing loans which were largely transferred from their balance sheets to the credit servicing firms ("servicers").
10. According to Eurostat data for the period 2010-2022, about 627 thousand Greeks migrated abroad and almost 377 thousand returned, resulting in a net outflow of 250 thousand Greek migrants. Moreover, for the same period, the total emigration flows from Greece amounted to 1.258 million and the total immigration flows to Greece were 1.076 million, resulting in a net emigration flow of about 182 thousand migrants in Greece.
11. Shadow banking includes non-bank financial institutions (e.g., hedge funds, mutual funds), which behave like traditional banks but are not subject to the same supervisory rules.

[12] The announced merger, the so-called 5th banking pillar, of two less significant banks (Attica Bank and Pancreta Bank) is a good step towards mitigating the banking concentration and increasing competition in Greece. However, these banks cover less than 2.3% of the assets of the Greek banking industry in 2023.

[13] In the case of excessively heightened geopolitical risk (see e.g., in the Middle East between Iran and Israel), inflation could spike again. Namely, a (partial) disruption of supply chains and increases in oil and natural gas prices could trigger a new cycle of skyrocketing prices. Therefore, interest rate cuts could be delayed, or even new hikes could take place, resulting in a prolonged or higher bankflation. In the same vein, Jamie Dimon (JPM's CEO) recently argued for possible inflationary pressures due to entering the most perilous geopolitical era since World War II (see the link: https://www.jpmorganchase.com/ir/annual-report/2023/ar-ceo-letters).

[14] See the link: https://www.bankofgreece.gr/en/news-and-media/press-office/news-list/news?announcement=491c0d72-bc75-45a4-8fc2-6effd43c34c9

[15] Based only on available ECB data for [i] the net interest income as a share of operating income and [ii] the net interest margin, for the periods 2022:Q2 and 2023:Q4, it appears that, especially, Latvia and Lithuania, among the other European countries (whose significant banks are supervised by the ECB), are worth exploring whether they experienced bankflation or not.

References

Agiomirgianakis, G., Arvanitis, S., Mamatzakis, E., Sfakianakis, G (2024). Net interest income of Greek banks: is it a case of bankflation? Journal of Policy Modeling, 46 (2), pp. 417-431.https://doi.org/10.1016/j.jpolmod.2024.01.013

Bank of Greece (2024). Hellenic Financial Stability Report, April 2024, p. 122.

Bank of Greece (2023a). Monetary Policy - Interim Report, December 2023, p. 153.

Bank of Greece (2023b). Hellenic Financial Stability Report, November 2023, p. 116.

Bank of Greece (2023c). Hellenic Financial Stability Report, May 2023, p. 176.

Bertsatos, G. (2023). International developments on inflation and banks—Market concentration and interest rate policy of the Greek banking system, Greek Economic Outlook, KEPE, 51, pp. 87-99. https://www.researchgate.net/publication/372656398_International_developments_on_inflation_and_banks_-_Market_concentration_and_interest_rate_policy_of_the_Greek_banking_system

Centre of Planning and Economic Research (2023a). Greek National Productivity Board, KEPE, November 2023. Athens, Greece, p. 112. https://www.researchgate.net/publication/376099167_GREEK_NATIONAL_PRODUCTIVITY_BOARD_Annual_Report_2023_Challenges_and_Policies_for_Sustainable_Development

Centre of Planning and Economic Research (2023b). The dark side of the moon: The negative impact of the HFSF's disinvestment from the Greek banking system. Current Developments Analysis 4/2023 (Bertsatos, G., Loizos, K.), p. 7. In Greek. https://dx.doi.org/10.13140/RG.2.2.34140.56968

Centre of Planning and Economic Research (2023c). Greek Economic Outlook, KEPE, Issue 52, October 2023, p. 74.

Centre of Planning and Economic Research (2023d). Greek Economic Outlook, KEPE, Issue 51, June 2023, p. 105.

Economou, F. (2024). Return to investment grade and high returns for the Greek stock market in 2023. Greek Economic Outlook, KEPE, 53, p. 24-29.

European Central Bank (2024a) European banking supervision a decade on: safeguarding banks' resilience amid global challenges, Speech by Claudia Buch, Chair of the Supervisory Board of the ECB, House of the Euro, Brussels, Brussels, 12 February 2024. https://www.bankingsupervision.europa.eu/press/speeches/date/2024/html/ssm.sp240212%7E8b11e7f6c7.en.html

European Central Bank (2024b). Supervisory banking statistics. Banking supervision. Fourth quarter 2023, p. 131.

European Central Bank (2023a). Supervisory banking statistics. Banking supervision. Fourth quarter 2022, p. 126.

European Central Bank (2023b). Supervisory banking statistics. Banking supervision. Third quarter 2022, p. 126.

European Central Bank (2022). Supervisory banking statistics. Banking supervision. fourth quarter 2021, p. 120.

European Central Bank (2017). supervisory banking statistics. Banking supervision. fourth quarter 2016, p. 101.

European Court of Auditors (2017) Special Report No 17/2017: The Commission's intervention in the Greek financial crisis, p. 131.

Hellenic Financial Stability Fund. History. https://hfsf.gr/en/history/

Lane, P. R., (2024) Special Report No 17/2017: The banking channel of monetary policy, Online seminar on "Monetary Policy and Banks' Business Strategies", organized by the Florence School of Banking and Finance as part of the Bank Board Academy, p. 13. https://www.ecb.europa.eu/press/key/date/2024/html/ecb.sp240215_1~94ec8ed129.en.pdf?89aa6df5319af5d43c2e25f22a91053b

Missos, V. (2024). Comparing the average hourly wage between Greece and the EU27, Greek Economic Outlook, KEPE, 54, pp. 50-53. https://www.kepe.gr/wp-content/uploads/2024/07/3.2.pdf

Moody's (2023). reports, Bank—Greece, 10 October 2023. https://www.moodys.com/research/Banks-Greece-HFSF-sells-its-14-stake-in-Eurobank-a--PBC_1384636

Pratsinakis, M. (2022) Greece's Emigration During the Crisis Beyond the Brain Drain, in Kousis, M., Chatzidaki, A., Kafetsios, K. (eds) Challenging Mobilities in and to the EU during Times of Crises, IMISCOE Research Series, Springer, Cham. https://doi.org/10.1007/978-3-031-11574-5_2

Scanlon, P., (2024). A model of greedflation. Economics Letters, 234. http://dx.doi.org/10.2139/ssrn.4134413

Son, N. N., (2024). Analyze the impact of factors on Vietnam banks' net interest margin: A panel data approach. Journal of Infrastructure, Policy and Development, 8 (3), 2796. https://doi.org/10.24294/jipd.v8i3.2796

Vinod, H. D., (2022). Greedflation from causal paths between profits and inflation, p. 22. http://dx.doi.org/10.2139/ssrn.4134413