

# Beyond GDP: An Empirical Study of Well-Being in Post-Crisis Greece

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## ABSTRACT

After the sovereign debt crisis of Greece, the real GDP per capita dropped roughly by 26% and unemployment was 27.5% by 2013 (Andriopoulou et al., 2020, p. 5, 9). Although these aggregate figures have improved greatly, with unemployment falling to 8.9% (European Commission, 2026) and GDP per capita increasing to \$21,921.69 by 2025 (World Bank, 2026a), Greek real GDP per capita remains below its 2007 pre-crisis peak of approximately \$23,974.69 (World Bank, 2026a), roughly 91% recovered, and subjective well-being does not correspondingly improve, with Greece still ranking amongst the lowest countries in life satisfaction scores in the EU.

The purpose of this paper is to explore the reasons for this disparity using a five-factor well-being framework organized around income, leisure, security, inequality, and relative income.

Unlike many papers on the subject, it uses field observations and proxies, which were gathered personally by the author in two differentiated districts of Athens (residential suburb of Chalandri and the city center of Athens), along with national data from Eurostat, the European Commission and academic sources.

The field data shows the pronounced local cost of living differences, the emergence of the “hustle culture” in the commercial core of the city, and a two-point-higher rating of spatial inequality (visual luxury vs. decay scale) in the city center compared to Chalandri. This local trend follows the same pattern as, but does not support, the national Gini coefficient measure since it focuses on something else. It can be said that the well-being gap in Greece, currently around 0.4-0.5 points on the 0-10 EU-SILC scale, is associated with its recovery characteristics: long weekly working hours despite a decrease in Greece’s own annual working hours, unfavourable income comparison to other countries in the EU, and wage inequality.

## INTRODUCTION

The prolonged Greek debt crisis led to an extremely serious economic downturn, as evidenced by a drop in real GDP per capita and equivalised household disposable income by around 26% and 42%,

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respectively, from the pre-crisis peak to the bottom of the recession (Andriopoulou et al., 2020, p. 5). The unemployment rate hit a record high of 27.5% in 2013 (Andriopoulou et al., 2020, p. 9). Aside from these standard macroeconomic indicators of the economy's health, the social cost of the crisis can be observed through data from survey results regarding people's well-being: according to the survey data compiled by Ortiz-Ospina et al. (2013), the share of the Greek population who reported being satisfied with life decreased from 67% in 2007 to 32.4% in 2012, which was the largest decrease among all countries in Europe included in that dataset.

Macroeconomics typically uses real GDP and employment as the most significant indicators of economic welfare. However, happiness economics claims that the costs of welfare due to long working hours, social insecurity, and social comparison can be very different from what would be expected on the basis of GDP and employment figures only (Kahneman & Deaton, 2010, p. 1). As Greece is exiting from its bailout programs, the real GDP per capita growth rate of Greece is increasing; it is growing from \$17,486.95 in 2020 to \$21,921.69 in 2025 (World Bank, 2026a), while the unemployment rate decreased from its peak in 2013 to 8.9% in 2025 (European Commission, 2026). However, 2020 was the lowest point of the pandemic downturn, and not of the sovereign-debt crisis, and thus is not necessarily the most appropriate year of comparison when assessing the degree of recovery. In comparison to the pre-crisis peak of 2007 of \$23,974.69 per capita (World Bank, 2026a), the level of 2025 at \$21,921.69 (World Bank, 2026a) indicates 91% of pre-crisis levels. In other words, Greek GDP per capita is likely to have still been lower than the pre-crisis level 20 years later, which can be an important factor behind low well-being levels unrelated to any of the arguments presented below. This paper questions whether the economic revival in Greece has been matched by an equivalent revival in subjective well-being, using a five-factor well-being framework, organized around income, leisure, security, inequality, and relative income, to structure the analysis.

## **Literature Review**

This section placed the five-factor framework of this paper into the context of the happiness economics literature, prior to the Method section where each factor is defined. Four studies do the central work.

Kahneman and Deaton (2010) differentiate between two types of subjective well-being by means of a comprehensive survey of U.S. citizens: emotional well-being, day-to-day affective experience, which increases with the household income only until a certain income of about \$75,000 per year (in 2008-2009 dollars), and thereafter becomes stable; and life evaluation, reflective assessment of the progress one makes in life, which continues to grow with the log of income, without reaching any kind of satiation point. The importance of this distinction is that the current paper employs a 0-10 life satisfaction scale from the EU-SILC survey as the dependent variable, which is a type of life evaluation and, thus, has no correlation with the \$75,000 threshold specific to U.S. households in 2008-2009 dollars.

According to Clark and Oswald (1996), in their study using a panel data set consisting of approximately 5,000 employees in Britain, job and life satisfaction respond to income relative to some reference point,

such as the income of comparably situated individuals, more closely than to absolute income. This provides the empirical justification behind the separate role of relative income from absolute income in the following model framework, as opposed to the assumption that a higher log-income term suffices.

Alesina, Di Tella, and MacCulloch (2004) analyze whether income inequality is related to a decrease in self-reported happiness when controlling for average income in both the U.S. and Europe. While the main result of the analysis is not only that inequality reduces well-being, but also that this relation is highly contingent on the continent, existing for Europeans and non-existent for Americans, and can be explained by different attitudes towards social mobility. As this paper uses data from Europe, the inequality factor discussed in this paper draws solely on the results for a European sample, and not generally.

Besides these four sources, the overall body of research on happiness-economics has always employed the idea of an additive “happiness function,” incorporating income, employment, and various other determinants of happiness as an analytical framework (see Clark & Oswald, 1996, pp. 3, 8, for a discussion of this convention). This paper does the same thing in words, not in an estimated equation, as explained in the Method.

## **METHOD**

### **Data Sources**

The data used in this study come from two different sources. First, the primary source is the original field observation checklist completed by the author personally on two different sites in Athens, a suburb (the author's area) and the centre of Athens, collecting eight proxy indicators for income, leisure, security, and inequality (Assessments and Measures, see below and Results, Outcome 1). Secondly, the secondary data is a set of publicly available aggregate national data for Greece collected from 2013 to 2026 and used in Results Outcomes 2-4 to contextualize the field observations on the national level. These sources include Eurostat's EU Statistics on Income and Living Conditions (EU-SILC) life-satisfaction time series, European Commission's biannual economic forecasts for Greece, national accounts data for Greece from the World Bank, via FRED, and previous research on the distributive impacts of Greek adjustment programs (Andriopoulou et al., 2020; Missos, 2024).

### **Ethics Statement**

The author made one daytime visit to each site in the summer of 2026: Chalandri in the late morning and the Athens city center in mid-afternoon, both on weekdays. No personally identifiable information of any sort (names, conversations, or any other identifying information) was collected regarding any individual; all eight proxies in Table 1 refer only to counts, prices, or ratings of the built environment and commerce, not of people. One photograph in this study illustrates the street-level environment (Figure 3); with visible

passers-by that are incidental to the frame, not its subject. No image showing an identifiable person in a vulnerable position is used within this paper.

### **Primary Field Data Collection**

Both locations were visited in person by the author, who recorded eight metrics observed using a standardized checklist, selected as the most relevant observable indicators at the street level to represent the four of the five factors in the well-being framework described below: the price of a 500mL bottle of Vikos-brand water, the price of a freddo espresso coffee, and the price of a gyros wrap, used as an inverse, local cost-of-living indicator that stands in for the income factor at the street level but is not the same construct as national GDP per capita (see the discussion of this distinction in Assessments and Measures below); the percentage of closed shops during siesta hours and the average amount of time spent sitting at a cafe as proxies for leisure; for the cafe sit-time proxy specifically, the author visited one well-known cafe at each site, chosen based on personal familiarity with the areas as a local resident, and timed how long each observed party of patrons visited, recording an average for the final results (n=12 parties timed at the Athens city center cafe; n=7 parties timed at the Chalandri cafe); the number of unattended sidewalk displays or open shop fronts and the number of windows on the ground floor protected by security bars as proxies for security; and a 1-5 scale capturing the contrast between “stark luxury directly next to urban decay” as a proxy for inequality in the built and commercial environment. This is a small sample and single observer field study (two data collection sites, one observation per site) and its limitations (small sample, subjectivity of the 1 to 5 scale, no indication of randomization, and , as noted in the Limitations section, incompletely recorded denominators and procedures for several of the individual counts) are clearly acknowledged in the Limitations section.

These measures were selected based on their direct and reliable observability within a single, timed site visit, not based on assumptions about them being the only or theoretically best proxies for the constructs. Other, more established proxies exist for some of these measures: security, for example, might have been proxied by local crime statistics, not through the number of security bars, and income might have been proxied by an expanded basket of goods including housing, transportation, and utilities, not just three food and beverages. Yet, both were beyond the practical scope of a single-observer field checklist conducted during one visit per site, but are indicated here as potential directions for a more complete replication study. In particular, three of the proxies for income used in this study, bottled water, a coffee, and a gyros wrap, represent only a small portion of local spendings, and are interpreted throughout this paper as examples of street prices reflecting local cost of living rather than as a complete picture of household purchasing power or income.



increases in well-being at low income levels but small ones at higher levels (Kahneman & Deaton, 2010, p. 3). At the local level, proxied inversely by street prices (a 500mL bottle of Vikos water, a freddo espresso coffee, and a gyros wrap) recorded in the primary field checklist; since higher prices locally mean the the same income will buy less, this ölocal proxy should be understood as a measure of the cost of living which is inversely related to income and cannot be considered equal to the national GDP per capita metric.

Leisure. At the national level, approximated inversely by the average number of weekly working hours. Greek workers work 39.8 hours weekly on their main occupation on average (ages 20-64, 2024), the longest weekly work period among all EU member states, with an EU average of 36.0 (Eurostat, 2025c). Locally speaking, estimated from the number of shops closed during the siesta and the average coffee shop sitting time.

Security. At the national level, indicated inversely by general government debt-to-GDP ratio and the unemployment rate; Greek gross public debt stood at 146.1% of GDP in 2025 and is forecasted to decline to 140.7% by the end of 2026 and to 134.3% by the end of 2027 (European Commission, 2026). At the local level, approximated by the observed numbers of unattended sidewalk displays (indicator of low crime threat perception) and ground-floor security bars (the reverse).

Inequality. At the national level, estimated using the Gini coefficient of equivalized disposable income, which rose during the crisis, fell between 2017 and 2019, and has partly risen again since (Hellenic Statistical Authority, 2025, p. 1; see Results, Outcome 4). At the local level, approximated by the author's 1-5 observational rating of the luxury vs. decay contrast in the built and commercial environment.

Relative income. Indicating comparison against other EU living standards. This paper employs Greece's GDP per capita in purchasing power standards (PPS) as a percentage of the EU27 average, which is around 70% in 2024, that is, 30% lower than the EU average (Eurostat, 2025d), as the relative income indicator. The separate financial satisfaction score (5.3/10; Eurostat, 2025a) will be considered as additional supporting evidence for the argument on relative income and not as the indicator itself because, the satisfaction score cannot be seen as a relative number; this follows Clark and Oswal's (1996, p. 11) finding on the effects of relative income on subjective well-being.

Unobserved factors. Other recognized determinants of subjective-wellbeing, such as health, social trust, and family structure, are outside the scope of this paper's framework and are not measured here.

The level of observation is specific for each level of analysis and is stated explicitly for every particular figure provided below: national-level variables (income, leisure, security, inequality, relative income) relate to Greece as a whole in comparison with the average EU level, whereas local-level variables are calculated for the two field locations: Chalandri and downtown Athens. Both levels of analysis are regarded as separate but complementary sets of data, not as one estimated model, for the reasons provided above.

## **Structural Breakdown of Each Factor**

Both income and leisure are understood in this paper as having decreasing marginal returns to happiness: increases at a low level of income or leisure are expected to matter more than increase at a high level (Kahneman & Deaton, 2010, p. 1). This refers to the nature of the relationship, which is derived from the literature and not the computation performed in this paper, as there are no coefficient estimations being done (see Assessments and Measures above). This will play a significant role in the discussion of the economic recovery of Greece.

Greece has one of the highest working hours in the EU (39.8 hours per week in 2024; Eurostat, 2025c). Across the decade covered by this paper, Greek labour productivity per hour lagged the EU27 for most of that period: it contracted by 2.0% in 2013, when the EU27 still grew 0.9%. Only in the last two years this pattern has reversed: Greek productivity growth of 0.1% (provisional) in 2023, then 0.8% (provisional) in 2024, and 2.6% (provisional) 2025, overtook the EU27's -0.8%, 0.3%, and 1.3% in those same years respectively (Eurostat, 2026). This recent improvement coincides with Greece's hours worked per employed person falling faster than the EU average, down 1.4% in 2025 alone, one of the joint-largest declines among EU member states that year. Together, a decade of long hours without a matching productivity payoff, followed by an uptick only once hours began to fall, is consistent with a workforce that had been running on unsustainable hours for years rather than becoming more efficient, with output per hour only now beginning to catch up as hours are decreased.

The factor of relative income is based on the empirical observation that subjective well-being is related not only to consumption but also to income relative to a reference group, in this case the EU as a whole (Clark & Oswald, 1996, p. 10). Inequality works inversely: higher income inequality is associated with lower average subjective well-being among European populations specifically, irrespective of the average level of income (Alesina et al., 2004, p. 3; the impact is much weaker, if not absent, for the American sample in the same study).

## **RESULTS**

The primary research that has led to this paper is the field observation checklist at two sites, provided in Outcome 1. The national statistics (Outcomes 2-4) follow, and are analyzed in order to determine if there are similarities or discrepancies between the observed patterns at these two sites in Athens and those of Greece as a whole. Consistent with the Method above, the field-level and national-level findings are taken to be complementary but independent rather than reinforcing each other; when they diverge, this is noted rather than smoothed over.

**Outcome 1: Field Observations of the Primary Locations, Chalandri compared to Central Athens**

**Table 1:** The eight proxy metrics observed and collected by the author at each site.

| Metric           | Target Data Point                                                                                                                         | Chalandri       | Athens City Center |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|
| Income proxy     | Price of 500mL water (Vikos brand)<br><b>(kiosk/takeaway vendor at both sites)</b>                                                        | €0.50           | €0.50              |
| Income proxy     | Price of a freddo espresso coffee<br><b>(Chalandri average based on n=4 coffee shops; city-center average based on n=10)</b>              | €2.40           | €4.00 (average)    |
| Income proxy     | Price of a gyros wrap<br><b>(kiosk/takeaway vendor at both sites)</b>                                                                     | €4.20           | €12.90             |
| Leisure proxy    | Shops closed during siesta hours<br><b>(base: 10 shops observed in Chalandri; 35 in city center)</b>                                      | 6 of 10 (60%)   | 2 of 35 (~6%)      |
| Leisure proxy    | Average cafe sit-time observed<br><b>(base: 12 timed parties for the Athens city center cafe; 7 timed parties for the Chalandri cafe)</b> | 90 minutes      | 68 minutes         |
| Security proxy   | Unattended sidewalk displays/open doors<br><b>(reported as a rate using the same shop-count bases as the siesta row above)</b>            | 4 instances     | 3 instances        |
| Security proxy   | Ground-floor windows with security bars<br><b>(reported as a rate using the same shop-count bases as the siesta row above)</b>            | 18 bars counted | 2 bars counted     |
| Inequality proxy | Stark luxury directly next to urban decay (1-5 scale)                                                                                     | 2               | 4                  |

Note: Own field data collected by the author in both areas; see Methods: Collection of primary field data. Rates and qualifications are noted in bold within the table.

The most obvious trend in Table 1 is the disparity in local prices despite an equal price of water: the freddo espresso coffee is 67% more expensive, while the gyros wrap is three times more expensive in the city center compared to Chalandri. The equality in pricing may reflect competition in compliance with national price regulation, according to which, based on the Greek Ministerial Decision 84429/2022 a

maximum price of €0.50 is set for a 500mL bottle of water at certain designated points, airports, movie theaters, beaches, museums, etc. (ΕΚΠΟΙΖΩ, 2026). Both sites are not on this list of venues; thereby, kiosks in this case do not have legal obligations to comply with it. Nevertheless, €0.50 being a standard price of water, regular kiosks will be incentivised to follow it in order to remain competitive in the market. Whereas a bottle of water is not a differentiable good for most customers, and Vikos, the bottled water brand recorded at both sites, is a locally manufactured brand from Greece, which is normally more affordable than the imported brands because of the cheaper manufacturing and transportation costs. The equality in pricing of the bottled water brand is therefore attributable to a combination of the equal affordability of the same low-cost brand in both locations and this competitive anchoring to the regulated price, hence this conclusion is in line with the theory that the other two price differences are a result of cost of living and tourist pricing effects. The gyros wrap and the coffee were sold at similar vendors (kiosk/takeaway) at both sites, and hence these price comparisons are equivalent.

Furthermore, in terms of the leisure proxies, Chalandri is significantly more traditional than the city center in terms of retaining the midday siesta hours tradition (60% of shops closed compared to about 6% in the city center) and has a higher average sitting time in cafes (90 vs. 68 minutes), implying a slower pace of life and preservation of leisure outside the commercial core driven by tourists' needs. The one result in this paper which emerges from the fieldwork that withstands a formal test for statistical significance is that 6/10 of the Chalandri stores are closed in comparison to 2/35 in the city center, the 95% Wilson confidence intervals do not overlap (0.31-0.83 vs. 0.02-0.19) and the Fisher exact probability is less than 0.001. As can be observed in person, the city center demonstrates its "hustle culture" through almost continuous operating hours, quick table rotations, and orientation of the commercial rhythm towards satisfying tourist demand rather than the pace of life of the residential population. Such a phenomenon cannot be considered incidental for the local economy, as tourism made a direct contribution of €30.2 billion to Greek GDP in 2024 (around 12.7% of the GDP), rising to 33.7% once indirect and induced effects are included (Ikkos & Koutsos, 2025, p. 6). Such facts are consistent with the national-level finding that Greece has the longest working week in the EU (Eurostat, 2025c).

Moreover, the two security proxy measures point in opposite directions, and are worth considering together rather than individually. The number of unattended sidewalk displays was significantly greater in Chalandri when expressed as a rate against the number of shops from the list above (40% vs. 9%), despite a smaller difference in absolute numbers (4 vs. 3), consistent with the hypothesis that areas with an informal atmosphere are characterized by a higher degree of social trust in the residential neighbourhood. But there were many more window security bars in Chalandri than in the city center (18 vs. 2), which contradicts the straightforward interpretation of the hypothesis that more trust means less security. The security bars counted is based on the same denominator as the siesta closure and sidewalk display rows above (10 shops in Chalandri, 35 in the city center). Thus, expressed as a rate, Chalandri exhibits 1.8 security bars per shop observed, compared to 0.06 in the city center. Part of the discrepancy is also an artefact of measurement, since in central Athens, most stores use rolling metal shutters to cover windows, which were not counted for this proxy. In other words, the low number of security bars in central Athens could reflect an underestimation of real security, since rolling shutters serve the same function but were

not counted. A second, complementary explanation is that the two proxies measure something fundamentally different: unattended sidewalk displays measure the degree of immediate trust among those familiar with an area, while security bars and their functional equivalent, rolling shutters, are a structural response to perceived overnight or property crime risk, a risk that may be higher in a suburban, low-density area such as Chalandri with less constant surveillance and foot traffic.

The official Hellenic Police (ΕΛ.ΑΣ.) crime statistics for the region of Attica show that residential burglary is a significant and consistent type of crime in the wider region from which the field sites are drawn: 12,888 successful residential burglaries were reported in 2019 in Attica, only slightly lower than 13,284 in 2018, along with 4,121 successful store robberies in 2019, somewhat lower than 4,329 in 2018 (Hellenic Police, 2020). These numbers were collected in 2018-2019, between six and seven years prior to the 2026 fieldwork, and should be considered in this context when they are used to substantiate that the risk of burglary was a matter of interest during the field visits. Official crime statistics are available only for the whole region of Attica, not for each neighbourhood separately, so they do not prove or refute the hypothesis of a specific difference in burglary risk between the two field sites. They do, however, indicate that the residential burglary risk captured by the security-bar proxy was, in the relevant period, a legitimate issue in the region rather than purely a field-checklist artefact, even though a neighbourhood-specific comparison is not possible with the available data.



**Figure 3:** Metal shutters used to cover storefronts in central Athens, taken by the author during field work. This represents the security system mentioned above; since the proxy for the security factor measured only fixed window bars, storefronts utilizing this kind of protection could not be counted,

despite the functional similarity. Passers-by are visible incidentally and are not the subject of the photograph (see the Ethics Statement).

Finally the inequality measure is stated explicitly, but should be taken as a subjective assessment performed by one observer rather than as a “clear” objective measure; the city center receives a two-point-higher score (4 out of 5) than Chalandri (2 out of 5) on the luxury-versus-decay scale, implying spatial inequality between the commercial core, which has luxurious tourist facilities in close proximity to urban decay, and the residential suburb.

## **Outcome 2: Macroeconomic National Statistics**

Table 2 provides summary details of the verified macroeconomic and well-being statistics at the national level for Greece during the time frame considered in this paper. In contrast to Table 1, where the author has provided statistics from their own observations, Table 2 contains secondary statistics, gathered and reported by reliable national and international sources (Eurostat, the European Commission, the World Bank, the OECD), and, where no such publication was found, data reported by reputable media sources based on those organizations’ figures. The data is used here solely to check whether the trends noted firsthand in Outcome 1 are consistent with the general statistical state of affairs in Greece.

**Table 2:** Macroeconomic and Well-being Indicators at National Level for Greece, 2013-2026

| Indicator                                          | 2013 (Crisis-Era Value)                                 | Latest Verified Value                                                                                                                                                           | Source                                                                           |
|----------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Unemployment rate                                  | 27.5%                                                   | 8.9% (2025); 8.3% (2026 forecast)                                                                                                                                               | (Andriopoulou et al., 2020, p. 9)<br>(European Commission, 2026).                |
| Real GDP per capita, and % of 2007 pre-crisis peak | Approx. 26% below the 2007 peak by the mid-2010s trough | \$17,486.95 (2020) → \$21,921.69 (2025) [2010 U.S. dollars]; 2007 pre-crisis peak ≈ \$23,974.69; 2025 level ≈ 91% of that peak                                                  | (Andriopoulou et al., 2020, p. 5)<br>(World Bank, 2026a).                        |
| General government debt (% of GDP)                 | 175.1% (Q4 2013)                                        | 146.1% (2025) → 140.7% (2026 forecast). Peak was Q4 2020 at 205.6% of GDP, the all-time high for the EU in Q4 2020, not 2013; 2013 data are mid-crisis, not peak of the crisis. | (Eurostat, 2014, p. 4)<br>(European Commission, 2026)<br>(Eurostat, 2021, p. 1). |

|                                            |                                                                                      |                                                                                                                                                                  |                                                                                      |
|--------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| CPI inflation (annual average)             | ≈ -0.9% (2013, deflation); ≈ -1.3% (2014, deflation); ≈ -1.7% (2015, max. deflation) | 2.9% (2025); 3.7% (2026, forecast)                                                                                                                               | (World Bank, 2026b) (European Commission, 2026).                                     |
| Average hours worked per worker (annually) | ≈ 1,996.60 hrs/year (2013)                                                           | ≈ 1,893.06 hrs/year, a decline of roughly 5% since 2013. Cross-sectional comparison for the year after (2024): Greece 39.8 hrs/week vs. EU average 36.0 hrs/week | (University of Groningen & University of California, Davis, n.d.) (Eurostat, 2025c). |
| Overall life satisfaction (0-10 scale)     | Share reporting satisfaction fell from 67% (2007) to 32.4% (2012)                    | Greece: 6.7 (2022), 6.9 (2023), 6.7 (2024); EU average: 7.1-7.3                                                                                                  | (Ortiz-Ospina et al., 2013) (Eurostat, 2024; Eurostat 2025b).                        |

Note: The “Average annual hours actually worked” row utilizes the Penn World Table’s (via University of Groningen & University of California, Davis) annual series data for both years instead of adding up the annual 2013 data and inflating it to weekly using the assumption of 52 weeks of work; the “like-to-like” comparison indicates that Greek annual hours have decreased, yet when comparing same year weekly hours in Figure 5, Greek weekly hours remain among the highest in the EU.

Figure 4. Greek Unemployment Rate, 2013-2026

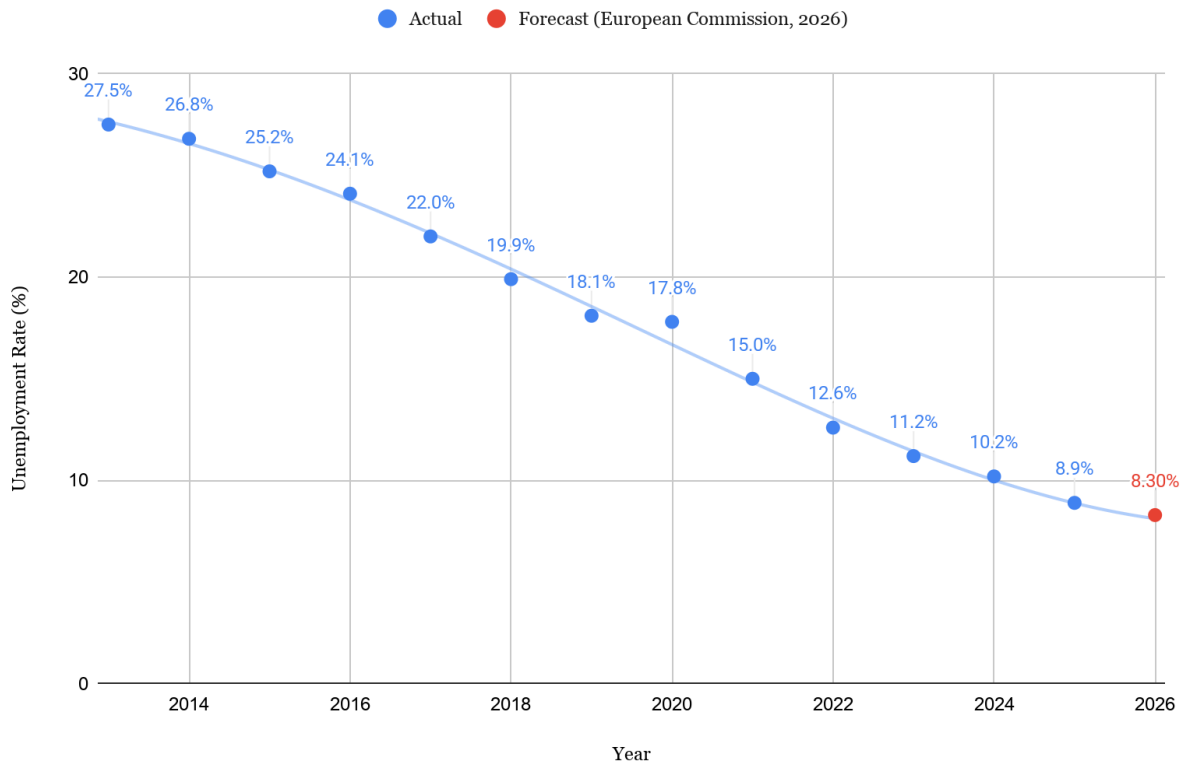


**Figure 4:** The unemployment rate in Greece has dropped consistently from its peak value of 27.5% in 2013 to 8.9% in 2025; according to the European Commission (2026), it is forecasted to drop further to 8.3% by the end of 2026. Data collected by the author from the European Commission, FRED (Federal Reserve Economic Data), and Andriopoulou et al. (2020).

In total, these seven national measures constitute the Greek statistical profile against which the rest of the Results section is based: a nation that has made great strides with respect to employment and income since 2013, though real income per person has assumingly still not fully recovered to its pre-crisis peak, but whose subjective happiness (shown in the last row of Table 2) has not recovered nearly as quickly, showcasing a national-level version of the income/leisure discrepancy already visible in Table 1. Outcomes 3 and 4 proceed through each part of this national data set and connect it to the field observations as the well-being framework.

### Outcome 3: The Leisure and relative Well-Being Gap

Returning to both the field data in Table 1 and the aggregate figures for Greece in Table 2, there are two structural gaps that the well-being framework points to as plausible drags on subjective well-being despite

improvements in the headline statistics: the leisure gap and the relative-income and comparison gap. The framework does not, and makes no attempt to, compare these to one another or to the third factor mentioned in Outcome 4, because none of the five factors have been quantified as part of the total gap (see Assessments and Measures).

**Figure 5. Average Actual Weekly Working Hours (main job, ages 20-64), 2024**

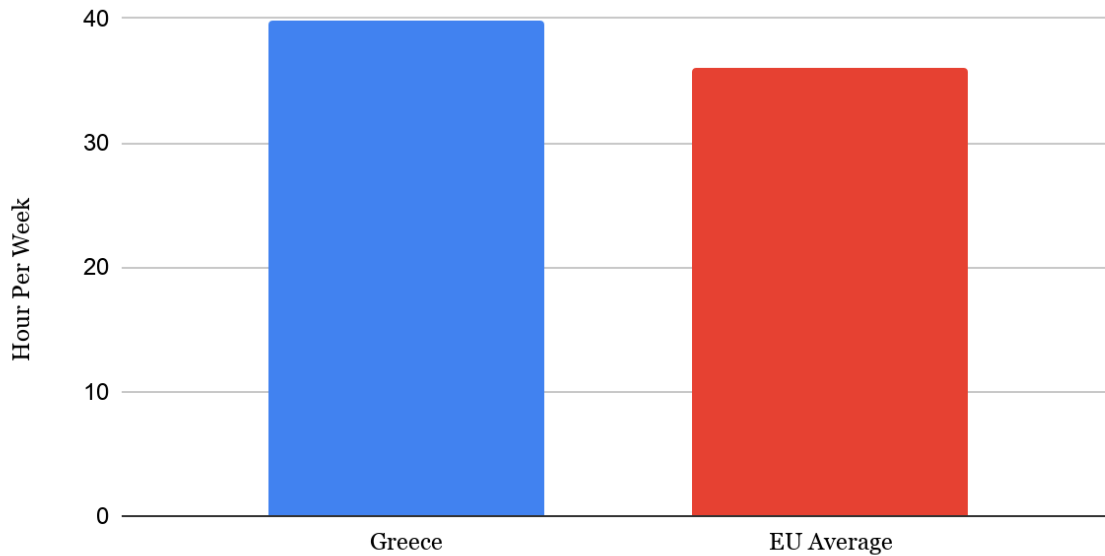


**Figure 5:** Greek workers spent an average of 39.8 hours a week on their main employment in 2024, compared to an EU average of 36.0 hours, the highest working week in the EU that year (Eurostat, 2025c). The same-year cross-sectional comparison serves as this paper’s primary evidence for the existence of a leisure gap; see Table 2 and its note.

This leisure gap is associated with a consistent well-being gap: since at least 2022, Greece has been trailing behind the EU average in life satisfaction by 0.4 to 0.5 points per year; in 2023, Greece ranked alongside Latvia (at 6.9) as second-to-last in life satisfaction in the EU, right above Bulgaria (5.9) (Eurostat, 2025b). This is the same series of life-satisfaction numbers provided in the lower part of Table 2, here broken down by year, and it follows the same direction as the main field observation that even in Athens, where commercial activity is more prevalent, there is less free leisure time (siesta closings and cafe sitting time) than in Chalandri.

**Figure 6. Overall Life Satisfaction Greece vs. EU Average (0-10 scale, EU-SILC)**

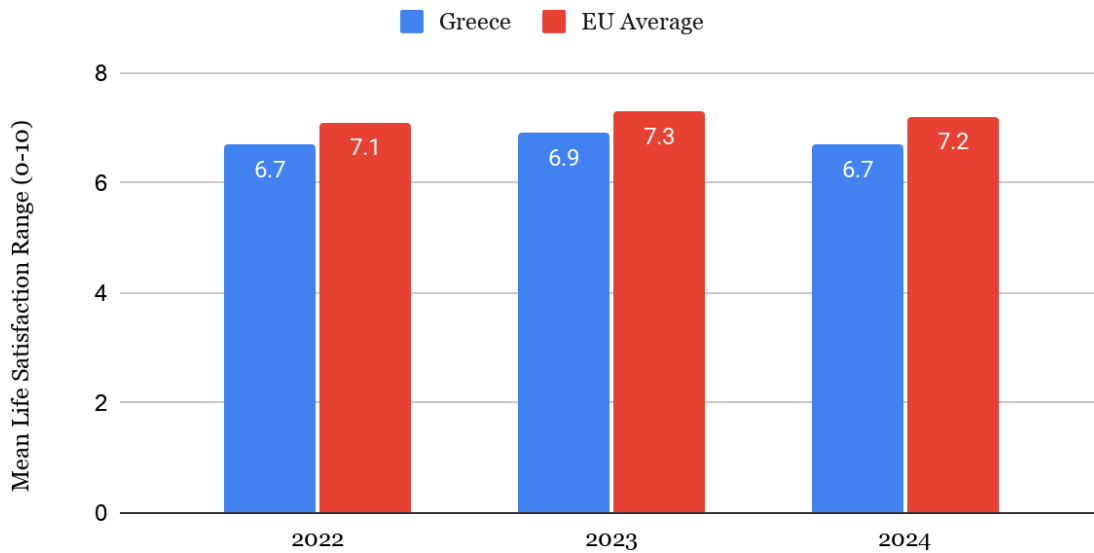


**Figure 6:** The Greek level of satisfaction (6.7/10) has consistently remained below the EU average (7.1-7.3) from 2022 to 2024, despite an overall improvement in unemployment and income data (Eurostat, 2024; Eurostat 2025b).

It is worth considering whether an interval of four to five tenths of a point on a scale from zero to ten is considered large or small. As a comparison, one can use the variability of the mean scores for different countries within the EU27 itself: in 2023, life satisfaction in the EU-SILC survey of the European Union varied between 5.9 (Bulgaria) and 7.8 (Finland), which amounts to a range of approximately 1.9 points (Eurostat, n.d.). Against such a range, the deficit of Greece's score relative to the mean in the EU27 amounts to only 0.4 points, which accounts for approximately  $\frac{1}{5}$  of the entire interval between the highest and the lowest scores among the member states of the EU. The exact figure for the standard deviation of all 27 country averages would give a more precise basis for comparison but was not calculated from the available sources; the range is reported here as the best available approximation.

#### **Outcome 4: Distribution and Inequality Results**

Inequality as a factor depends on the pattern of inequality development in terms of the Gini coefficient of equivalised income of Greece, which ELSTAT's EU-SILC series puts at 34.2 in 2015, rising slightly to a high of 34.3 in 2016, before falling to a low of 31.0 in 2019, then fluctuating in the 31-32 range and settling at 31.8 in both 2023 and 2024, the latest available year, an inversion but not a continuation of the previous decline (Hellenic Statistical Authority, 2025, p. 1; refers to Results, Outcome 4). The period between 2016 and 2019 saw a decrease in the levels of inequality that happened at the same time but not

before the early stage of the recovery of the Greek labour market due to the decline in unemployment rates (Table 2), while the partial reversal took place from 2019 onward, stabilising rather than continuing to fall during the further deepening of the recovery period.

There is an obvious connection between the Gini trend in Greece and the observation made on-site, that the city center rated two points higher than Chalandri in the luxury-versus-decay scale, and both would imply that inequality is an issue in Greece. However, there is no connection between those two as they are separate evidence for the same claim. The Gini index in Greece is a decade-long national time series of household income inequality; the field rating is simply one observer's visual impression of the two streets on a single day. A national time series does not in and of itself affirm or refute any particular two-neighbourhoods spatial comparison because it makes no prediction about the spatial difference at all; a Greece with a rising, falling, or static Gini coefficient could reflect the exact same difference between the suburban and tourist cores in Greece. Thus, the field data and national data should be seen as parallel streams of information on inequality in Greece, rather than as mutually confirming results.

Another distributional issue concerns youth unemployment, which, while not explicitly separated out in the well-being framework, could plausibly affect well-being via both the security factor and the relative-income factor for younger people. The youth unemployment rate for Greece (ages 15-24) peaked at 57.3% in June 2013 (Eurostat, 2013, p. 2), more than double the standard unemployment rate given in Table 2 for the same year. This is a reason why the recovery of overall unemployment (Table 2, row 1) might understate the well-being losses of the cohort that experienced the crisis at its most productive age range, a group not separately tracked by the overall EU-SILC figures in the same table.

Lastly, wage-level evidence supports the income recovery trend presented in Table 2, yet only partially. Real hourly wages in Greece were recorded to fall by 23.7% between 2009 and 2023, which was the biggest wage cut within the EU27 during this period according to Missos (2024, p. 52). This observation complements, rather than corroborates, the GDP-per-capita recovery shown in Table 2 and Figure 4, as aggregate real GDP per capita can increase even if the real wages of median workers remain low, if employment composition has shifted toward lower-paid or less productive jobs, a scenario consistent with both the post-crisis skew of job secretion toward tourism and hospitality and the price premium of city-center food and coffee documented in Table 1.

## DISCUSSION

Using the five-factor well-being framework on post-crisis Greece helps explain a pattern that headline macroeconomic indicators cannot do alone: although the unemployment rate has decreased by over 18 percentage points since 2013 and real income per capita has been recovering since 2020, Greek subjective well-being remains among the lowest in the EU (Eurostat, n.d.). Firstly, and importantly, one part of an alternative explanation is that real income per person has yet to make up the loss even according to its own metrics: as discussed in the Introduction, Greece's GDP per capita in 2025 is at about 91% of its

2007 pre-crisis peak level, meaning that some of the supposed mismatch between “recovered” output and non-recovered welfare is actually due to the fact that the output itself hasn’t been fully recovered yet. This alternative explanation doesn’t depend on any of the five points made in this paper.

Moreover, there is some discussion in the happiness economics literature concerning the income variable as an additional reason for a well-being gap based on an income threshold of \$75,000 annually after which an additional increase in income will produce only marginal benefits for well-being (Kahneman & Deaton, 2010, p. 1). The \$75,000 limit, however, holds true only for Kahneman and Deaton’s emotional well-being metric, as well as for U.S. households in dollars from 2008-2009, and is not applicable to the life evaluation metric, which is more relevant to the EU-SILC life satisfaction metric presented throughout this paper, and continues to increase without any satiation point as income increases logarithmically. Since Greek incomes continue to fall behind the EU average despite economic recovery, further income-driven increases in subjective well-being can still be expected in principle; the three factors below describe why, according to the framework, they may be partially offset.

It is important to be explicit about what this paper’s framework does, and does not, establish. Because it is presented in words rather than estimated with data, this paper cannot determine the share of Greece’s well-being gap attributed to any one factor relative to the others. The following three factors are best read as realistic, literature-backed contributions that plausibly act in the expected direction, not as a quantified breakdown of the gap.

The first counterbalancing effect comes from the leisure factor. Based on cross-sectional analysis using the same year, the Greek workforce works among the highest number of hours per week compared to other EU nations: 39.8 hours per week in 2024 against an EU average of 36.0 (Eurostat, 2025c; Figure 5). However, on a year-over-year basis based on the same series, annual Greek hours actually worked have decreased since 2013 from around 1,996.60 to around 1,893.06 hours (Table 2), a fall that is in line with the falling trend in working time seen in most other EU economies over the same time period and does not, by itself, prove that the gap in well-being is increasing. The more convincing point is the level comparison: Greece still works the highest number of hours per week compared to other EU nations even as its own hours have fallen, showcasing that the leisure factor causes a plausible drag on well-being.

The relative-income factor is the other explanation. Subjective well-being partially depends on income relative to a reference group rather than absolute income alone (Clark & Oswald, 1996, p. 11). Expressed through GDP per capita in PPS as a percentage of the EU average, approximately 70% in 2024, 30% below the EU average (Eurostat, 2025d), as the relative-income measure, Greek households sit well below their EU peers even as their absolute income rises; consistent with this, Greeks also report some of the lowest financial-satisfaction rating in the EU (5.3/10 in 2022; Eurostat, 2025a), though that satisfaction figure is used here only a corroborating evidence, not as the definition of relative income itself (see Assessments and Measures). Such an adverse comparison of itself may be likely to keep undermining subjective well-being even if there is an increase in absolute income levels, in keeping with the results of

Clark & Oswald (1996, p. 6-7), who, using a sample size of around 5,000 British workers, found that the well-being of a nation may not change even as absolute incomes increase.

This is further complicated by the findings of Outcome 4 regarding inequalities. The Gini coefficient's fluctuating trend (from 34.2 in 2015, a high of 34.3 in 2016, a low of 31.0 in 2019, then settling at 31.8 in 2023 and 2024) suggests that inequality is being addressed in part, but lately in reverse, and not as consistently as the unemployment or GDP recovery in Outcome 2, while the fastest drop in the EU27 in real hourly wages (23.7%, 2009-2023; Missos, 2024, p. 52) suggests inequality in the recovery process. A disproportionate amount of employment creation since the crisis could have been in low-productivity, low-wage industries like tourism and hospitality, resulting in an income recovery for typical workers that lags beyond the aggregate per-capita figures in Table 2. The primary field data presented in Table 1 is consistent with the same tendency, in the price premium for food and coffee observed in the city center. This composition effect might help explain the delayed life-satisfaction recovery of Greece (Figure 6) compared to the GDP recovery.

Moreover, the relationship found between unemployment and youth is consistent with this interpretation. A maximum youth unemployment rate of 57.3% in 2013 (Eurostat, 2013, p. 2) indicates that a whole generation entered adulthood during the crisis period, facing severe constraints in accessing the labour market, just when early-career income and work experience are expected to influence the well-being later in life. Since the EU-SILC life satisfaction data used in this research provides only national-level figures without age breakdown, the overall recovery found in Figure 6 could underestimate persistent well-being issues specific to this generation, an issue returned to below.

Counterarguments, aligned with a more positive interpretation of the recovery process, could be made about the speed of real progress that the framework may underestimate. Unemployment was 8.9% in 2025, the lowest since 2008 (European Commission, 2026). According to the European Commission, GDP growth is expected to continue at least through 2027 (European Commission, 2026). If there is a time delay in the effect of macroeconomic conditions on life satisfaction, consistent with findings elsewhere in the happiness-economics literature, then lower subjective well-being in Greece may simply reflect a lag rather than a genuine structural gap. Under this interpretation, further employment and income growth will eventually raise life satisfaction scores, no policy on working hours would be needed, and the Gini coefficient's recent partial rise would be read as noise around an underlying, still-improving trend rather than as a genuine reversal.

A second counterargument concerns measurement: EU-SILC life-satisfaction figures are self-reports, and populations that have experienced a shock of this kind may reset their reference level for what counts as a "satisfying life," making them report lower satisfaction regardless of their actual material situation. If Greek respondents have not yet reset their reference point, current life-satisfaction measures could understate the degree of material improvement already achieved. Under this interpretation, the gap in Figure 6 should decrease gradually as reference points themselves adjust over a longer timeframe than the

2022-2024 period showcases, a slow-moving process not directly testable through the cross-sectional comparison used in this paper.

A third counterargument concerns the method: because the framework is descriptive rather than estimated on individual-level data, the apparent persistence of the leisure and relative-income gaps could reflect the coarseness of national-average comparisons rather than as genuine drag on well-being from those specific factors. Testing the true effect would require individual-level panel data for Greek households during both crisis and recovery periods.

Overall, given the durability of the working-hours gap, relative-income gap, and the recently reversing inequality gap in Greece, the latter two representing independent and structurally relevant attributes of the Greek economy's place in the EU's income distribution that are backed up by primary sources in this paper, the well-being gap does not appear, on the evidence assembled here, to be simply an adaptation gap. In other words, policy based solely on GDP and employment recovery may be insufficient, on this reading, to bring about a recovery of the subjective well-being gap between Greece and the EU average. The framework instead implies that productivity growth, reductions in working hours, further convergence in relative income, and interventions in favour of the hardest-hit young people are the main routes through which further macroeconomic recovery will lead to well-being recovery. However, as emphasis throughout, this paper's design does not permit ranking the importance of these factors against one another; that would require estimating a model on individual-level panel data, which is beyond its scope.

## **Limitations**

There are eight key limitations concerning this research paper.

First, the field observations data for Table 1 consists of only one observation session at each of just two locations, conducted by a single observer with no stated randomization of timing or day of week and on a subjective 1-5 scale for the inequality proxy; it should be understood as an illustration rather than a statistically representative sample of either neighbourhood.

Second, the well-being framework is presented descriptively, in words, rather than estimated econometrically with individual-level data (see Assessments and Measures); hence, this paper cannot determine which of the five factors is primarily responsible for Greece's well-being deficit.

Third, the crisis-era life-satisfaction measure (percentage of those satisfied, 2007-2012) uses a scale different from the recent EU-SILC 0-10 scale used elsewhere in this paper; the depth of the well-being collapse during the crisis and the current gap between EU average and Greek satisfaction are comparable in direction but not in magnitude.

Fourth, since the life-satisfaction averages used throughout this paper are available only at the national level and not disaggregated by age, this paper cannot directly demonstrate whether the cohort that faced peak youth unemployment in 2013 experiences a distinct, more long-lasting well-being deficit compared to the national average in Figure 6; this is inferred from the youth-unemployment and wages declines in Outcome 4.

Fifth, the decision not to include rolling shutters in the ground-floor security-bars count was deliberate rather than overlooked; shutters are disproportionately a commercial rather than residential installation, common on storefronts but not on private residences, so including them would make the proxy biased towards measuring commercial rather than overall neighbourhood security; this means, however, that the security proxy still likely underestimates the overnight security level in the city center relative to Chalandri, which is acknowledged in the Results section.

Sixth, while income, leisure, security, inequality, and relative income each find individual support from the literature discussed in this paper, they have not been compared with one another, or to other sets of variables, nor does this paper claim that they constitute the full or the only set of variables that determine happiness; other correlates like health, social trust, and family structures are considered simply as unobserved factors outside this paper's scope.

Seventh, the proxies at the local level in Table 1, especially the consumption items used for the income cost-of-living indicator (water, coffee, and a gyros wrap), were selected because they are common, easily acquired items that can be found anywhere at almost every kiosk, cafe, or food stand in both neighbourhoods; bread was not considered as a candidate, since there is such variety in what types and prices of bread exist. Even three items, however, are a very limited basis, and not a comprehensive picture of local purchasing power or standard of living.

Eighth, the benchmark against which the extent of the well-being gap for Greece is evaluated relative to the spread of country means in EU27 (Outcome 3) is based on the range of data from all countries' scores (ranging from 5.9-7.8 in 2023) instead of the entire standard deviation calculation, since an entire set of data is not possible to acquire for all 27 members of the EU27; this could be improved in a future version of the paper.

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