NATIONAL BANK OF GREECE

GREECE

Special Focus Report:

Residential Real Estate Market Outlook

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The residential real estate market has not only regained demand-supply balance following a decade-long crisis, but is starting to experience supply-constrained price increases

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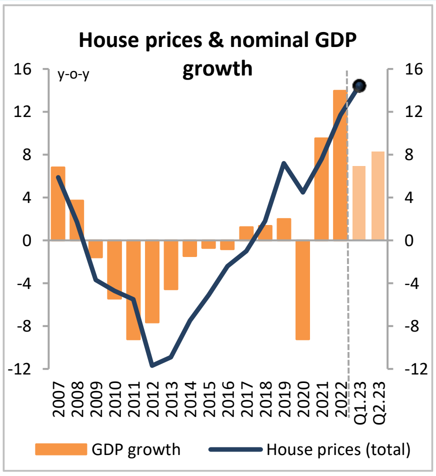
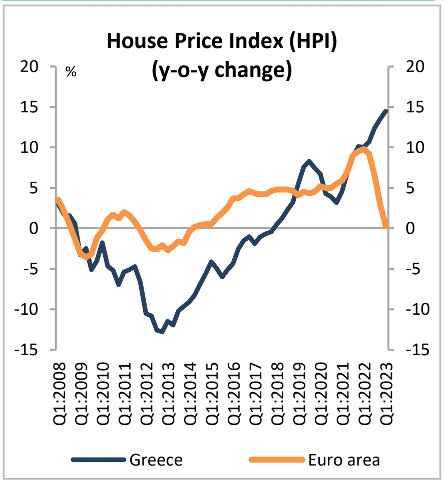
- Greece's residential real estate market continues to surprise on the upside. House prices have risen by a robust 14.5% y-o-y in Q1:2023, the strongest pace in more than 30 years.
- This increase outpaced by a wide margin the euro area average (+0.3% y-o-y in Q1:2023), reflecting the different phases of the respective housing market cycles. In fact, in some euro area countries prices are declining, following many years of increasing valuations, due to tightened monetary policy and slowing economic growth.
- House prices in Greece have appreciated by c. 50% between Q3:2017 – their lowest point during the Greek crisis – and Q1:2023, remaining, however, 14% below their all-time high of Q3:2008
- The turnaround reflects a multi-year adjustment process comprising a sharp drop in residential construction (by c. 90% in 2013-20 compared with its 2000-08 average) and a significant decline in house prices. Specifically, a large supply overhang, peaking at c. 350K units in 2012, appears to have been gradually absorbed by the market through extremely low levels of investment over the past decade and recovering demand more recently.
- The steady pick-up in demand during the past 5 years reflects the following factors:
  - ✓ Strong economic recovery, with solid real household disposable income growth (11% cumulatively in 2018-22 despite Covid-19) and improving economic sentiment, helped to release pent-up demand for property acquisition.
  - ✓ High liquidity buffers, leading to the increasing use of own funds and a pick-up in mortgage lending in 2021-22, financed c. 60% and 40%, respectively, of housing transactions.
  - ✓ Part of this demand came from FDI in residential real estate (incl. inflows related to the "Golden Visa" program), which spiked to c. €3.5 bn in 2018-22, comprising c. 25% of the total value of transactions.
  - ✓ Property taxes were reduced significantly over the past 5 years, with the effective rate of the unified property tax (ENFIA) declining by nearly 40%.
  - ✓ Surging demand for tourism-related short-term renting increased occupancy rates, bolstered rental yields and limited available-for-sale properties.
- Supply trends are also gradually improving as residential investment picks up strongly, reflecting higher valuations. In fact, it doubled to €3.2 bn in 2022 compared with its 2014-20 average, though it still remains less than 1/5 of its pre-crisis level on an annual basis.
- The combination of the market rebalancing and increasing construction costs has added further to house prices, leading the HPI-to-disposable income ratio to exceed the euro area average in 2023, for the first time in a decade.
- According to NBG Economic Analysis estimates, c. €45 bn of additional residential investment will be required until 2030 (35K housing units annually) to maintain demand and supply equilibrium in the long-run and meet the targets for the energy-efficiency upgrade of around 10% of existing residential building stock.
- The HPI is estimated to grow by 7% y-o-y, on average, in 2023-24.

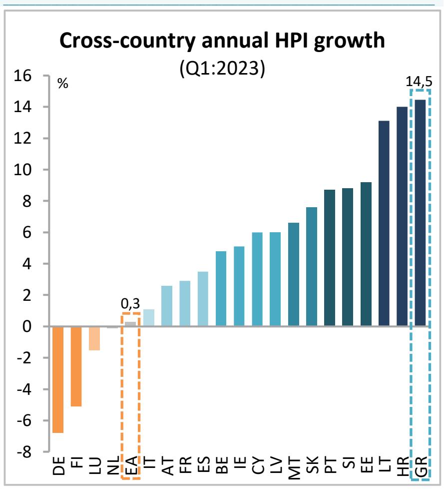
House prices increased by a remarkable +14.5% y-o-y in Q1:2023, recording the 6th year of recovery and the strongest y-o-y growth in more than 30 years



Greece's HPI growth outpaced the euro area average (+0.3% y-o-y in Q1) for a 6th consecutive quarter…



…remaining resilient to the headwinds from the economic slowdown in the euro area and the ongoing monetary tightening



The residential real estate market has not only regained demand-supply balance following a decade-long crisis, but is starting to experience supply-constrained price increases

The Greek residential real estate market had a buoyant start in 2023, with house prices – as measured by the Bank of Greece economy-wide house price index (HPI) – rising by a robust 14.5% y-o-y in Q1:2023, the strongest pace in more than 30 years.

The HPI increase in Greece outpaced by a wide margin the euro area average (+0.3% y-o-y in Q1:2023), reflecting the different phases of their respective housing market cycles. Indeed, in some euro area countries prices are declining, for the first time in more than a decade, due to tightened monetary policy and slowing economic growth (namely in Germany, Finland, Luxembourg, and Netherlands). This increase also marks the 6th consecutive year of recovery after a decade-long crisis. In fact, Greece's real estate market appears to have overcome the more recent headwinds from the Covid-19 pandemic and the energy-related inflation crisis.

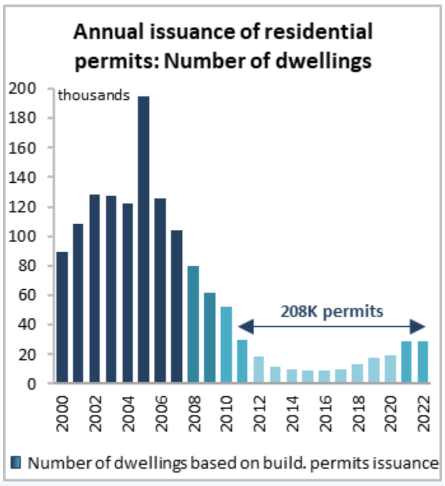
Overall, the HPI has recorded a cumulative increase of c. 50% between Q3:2017 – its lowest point during the crisis – and Q1:2023, remaining, however, 14% below its all-time high level of Q3:2008.

This recovery has been achieved after a prolonged period of rebalancing. Specifically, the advent of the Greek crisis led to a spike in the stock of unsold houses to c. 350K at their peak in 2012. The combination of the demand-supply disequilibrium and the broader economic crises led to a standstill in residential real estate investment and a sharp fall in house prices by 42%.

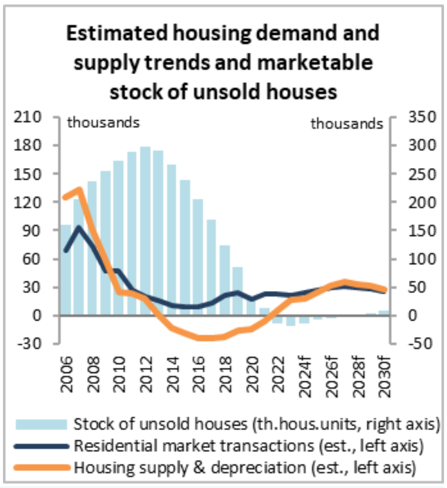
However, the large supply-demand imbalance has gradually closed, mainly arising from a decade of supply depreciation, with only minor new additions of housing units, combined with a recent pick-up in demand, initially from non-residents. As a result of the still limited new supply, low renovation activity and rising construction costs, HPI growth accelerated in 2022 and early 2023. The resilience of demand and the expectations for further price increases set the stage for a period of new investment, attracted by the strong market fundamentals.

Sources: *ELSTAT, Bank of Greece, ECB & Eurostat*

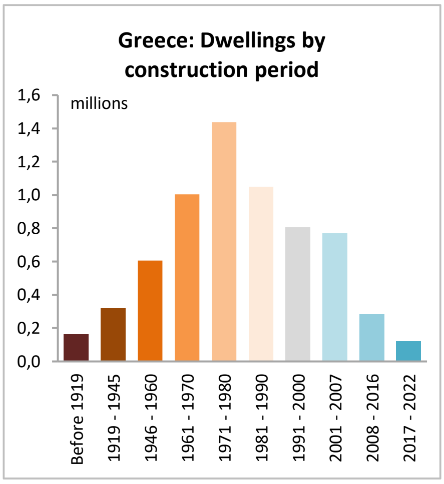
Construction activity shrank sharply…



…speeding up the absorption of the excess housing inventory accumulated in the wake of the Greek crisis



The average age of Greece's housing stock increased further, following a decade of feeble investment, whereas increased safety and energy-efficiency standards speed up the effective depreciation rate…



Residential investment shrank to an all-time low, leading to the reduction of the supply overhang

Residential construction activity declined sharply beginning in 2010, supporting the adjustment of the market facing a large excess supply of housing created by the surge in residential construction in 2006-08. Low supply helped to offset the imbalance and was combined with a large drop in demand – after the onset of the Greek crisis in 2009 – leading to the build-up of a sizeable stock of unsold houses that peaked at around 300K housing units in 2012-13. Moreover, adding to the excess supply, a number of property owners were forced to sell their non-primary residences under the pressure of declining disposable income and higher taxation, increasing further the available-for-sale housing stock in the peak year 2012 to 350K housing units. The widening gap between demand and supply led to an unprecedented fall in HPI by 42% between 2008 and 2017.

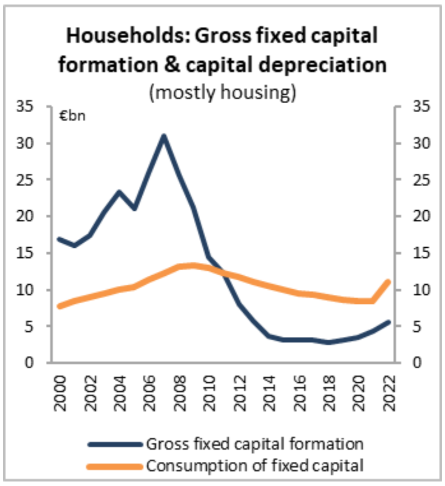
In response to this imbalance and the price declines, annual building activity dropped by nearly 90% compared to its pre-crisis levels according to the residential building permits data (new issuance of 12K permits per annum, on average, in 2012-17, from c. 130K annually in 2001-07). Accordingly, residential investment in constant price terms, as reflected in national accounts data, plunged to €2.2 bn per year in 2012-20 from a peak of €24.9 bn in 2007 and an average of €16.0 bn in 1995-2010.

In addition, the supply of older buildings was further reduced due to increasing depreciation, as renovation activities also plummeted. Indeed, c. 55% of currently existing residential buildings have been constructed before 1980, and their depreciation rate has accelerated as safety and energy-efficiency standards increase.

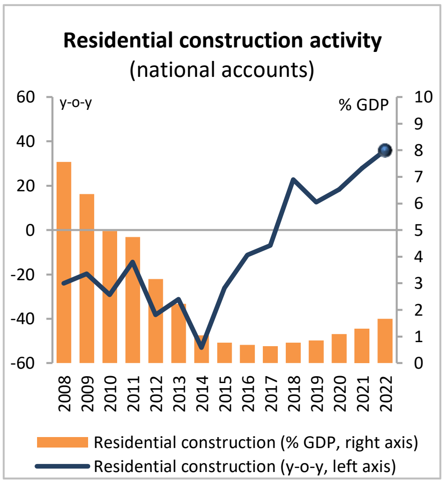
National buildings census and building permits data suggest that the average age of the housing stock is estimated to have increased to above 40 years in 2021 from c. 34 years in 2011. The effective deterioration in the quality of the housing stock was actually higher, since real estate investment by households on existing homes remained lower than the depreciation of fixed capital over the period 2011-22, entailing an estimated net cumulative divestment of c. €35 bn. This adjustment has been translated by NBG Research into a net cumulative drop in the tradable housing stock by c. 250K housing units. The calculation includes an annual physical depreciation rate of the existing

Sources: *ELSTAT, Bank of Greece, EMF-ECBC's Hypostat & NBG Economic Analysis*

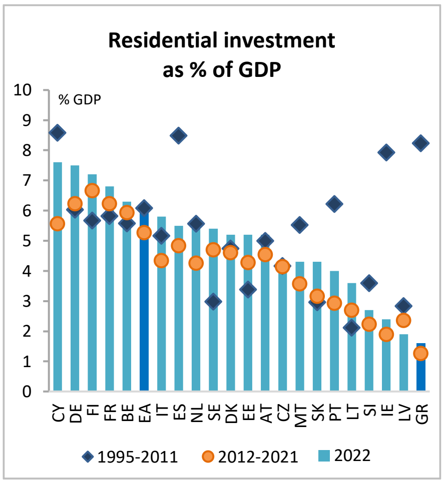
...limiting further the marketable supply of residential real estate



Construction activity rebounded from a very low base but still corresponds to a small fraction of its pre-crisis level...



...remaining significantly lower than in other euro area countries



housing stock of 0.5%, but also takes into account c.130K of new houses built in 2013-22. The implied cumulative adjustment reduced the outstanding stock to c. 100K in 2022. However, the strengthening of demand in recent years has now given rise to a small supply shortage since 2022.

A gradual recovery of demand, supported by resilient domestic and external drivers should continue to strengthen going forward

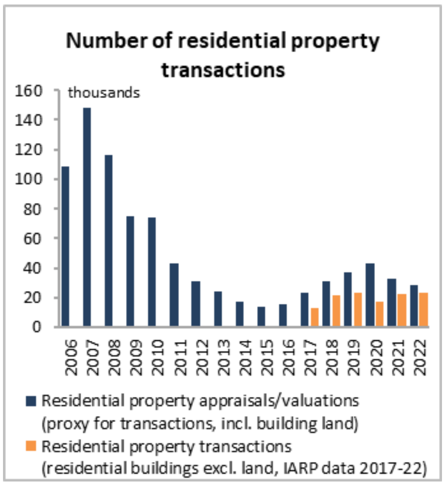
The pick-up in demand over the past 5 years has helped speed up the rebalancing, and subsequently supported the rebound in the HPI. According to NBG estimates that are based on a recently available index of residential transactions compiled from tax authority data – for which the time series only starts in 2017 but is consistent with a longer time series based on a broader definition of transactions used by the BoG – transactions have almost doubled in 2021-22 compared with their 2013-17 average. This measure points to average transactions of c. 20K per annum in 2018-22 accelerating to 23K in 2021-22 in comparison with an estimated average of 12K in 2013-17. The corresponding taxable value of residential property sales climbed to €1.8 bn in 2022 from €0.8 bn in 2017 (€2.2 bn from €0.9 bn, respectively, incl. land transactions).

The key demand-side drivers are the following:

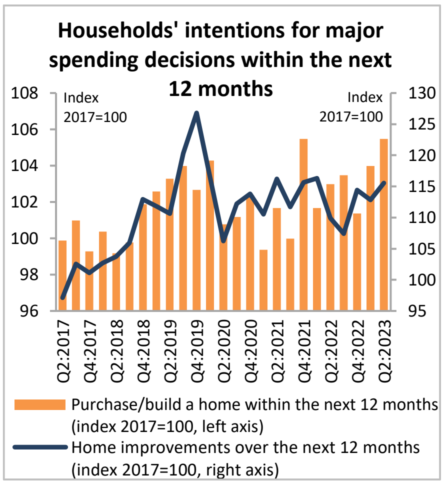
- Greece's economic recovery has gained traction in recent years, with household disposable income increasing and economic sentiment strengthening, resulting in the release of pent-up demand for property acquisition. Specifically, household disposable income rose by +18.7%, cumulatively, in 2018-22 in nominal terms (despite the Covid-related drop in 2020), following a cumulative decline of 33.0% in 2010-17 (+11.0% and -33.6%, respectively, in real terms). Moreover, the economic sentiment index edged up to 109 in 8M:2023, from 106 in 2021-22, and an average level of 99 over the previous decade. Similarly, the subcomponent of the consumer survey referring to Greek households' intention to buy or renovate a home increased to 108 (index 2017=100), on average, in 2019-Q2:2023, compared with an average of 101 in the period 2012-2017.

Sources: ELSTAT, Eurostat & NBG Economic Analysis

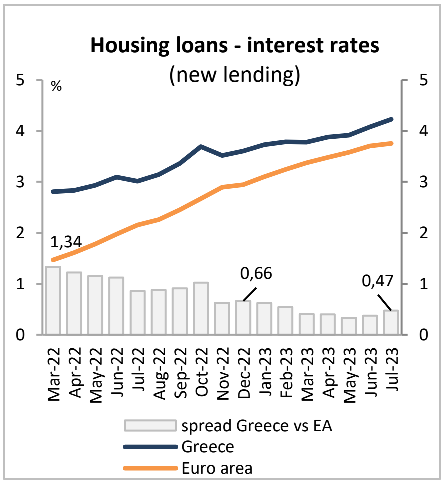
Residential market transactions have picked up from the crisis lows



Domestic demand gains traction as confidence strengthens, encouraging major spending decisions of households



Mortgage lending rates converge to the euro area average, despite the aggressive ECB rate hikes



- New mortgage lending doubled to c. €1.1 bn per annum in 2021-22 – compared with an annual average of €0.6 bn in 2015-20 – financing nearly 40% of market transactions over the past 2 years (i.e., c. 10K loans), compared with c. 1/4 of (far lower) transactions in the period 2015-20. Demand for housing loans was supported by declining nominal interest rates until end-2021, while the drop in real lending rates has been even more pronounced in 2022 and the first months of 2023, due to high inflation. Indeed, real interest rates on new mortgage loans dropped to an all-time low of -6.5% in 2022 and -0.35% in 6M:2023, as CPI growth outpaced the adjustment of nominal lending rates to the policy rate hikes.

- Despite the rapid monetary policy tightening since mid-2022, lending conditions remained supportive. The spread of interest rates on new housing loans over the euro area average has shrunk in H2:2022 and H1:2023, to a 7-year low of 0.35% in May-June 2023, due to competitive pricing by Greek banks. In fact, the average lending rate on new mortgage loans in Greece increased by c. 98 bps in the past 12 months, compared with cumulative ECB policy rate hikes of 425 bps in the same period.

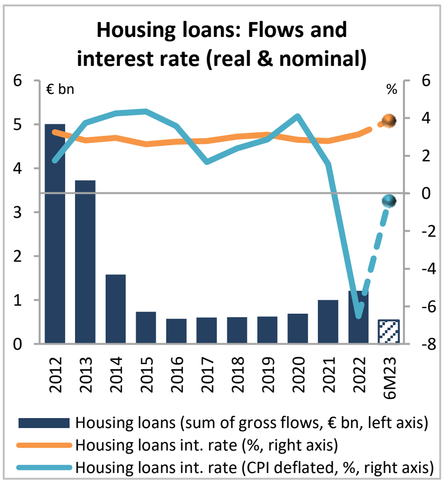
- Importantly, the majority of transactions were financed by own funds of households from excess savings as well as FDI inflows. Indeed, household deposits increased by €38.8 bn in 2018-7M:2023, to a nearly 12-year high of €143 bn in July 2023. In fact, a part of the observed decrease in economy-wide cash hoarding by c. €30 bn compared with the crisis peak in 2015 – according to ECB data on banknotes and coins in circulation – should be related to "cash transactions" involving real estate property.

- FDI in residential real estate (incl. inflows related to the "Golden Visa" program), spiked to c. €3.5 bn, cumulatively, in 2018-22. As a result, FDI accounted for approximately 1/4 of total residential real estate transactions over this period. In fact, the total real estate related FDI reached €9 bn (incl. investment on commercial real estate and REITs) in this period, corresponding to c. 40% of total FDI inflows since 2018.

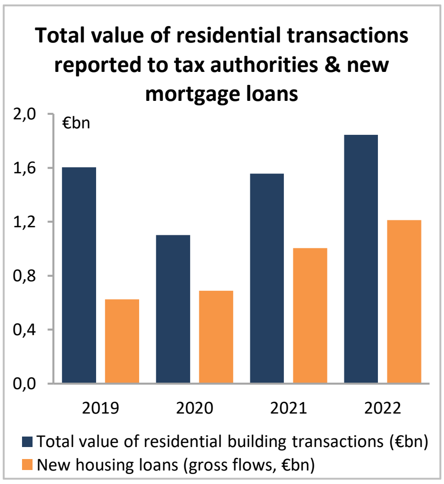
- It should be noted that, despite the recent price rally, property values in Greece remain relatively attractive in comparison with southern European peers. The economy-wide average price per square meter ("sqr/m") reached c. €2,230 in Greece, against a euro area average of €4,850 per sqr/m. Property

Sources: Bank of Greece, European Commission, ECB, IARP & NBG Economic Analysis

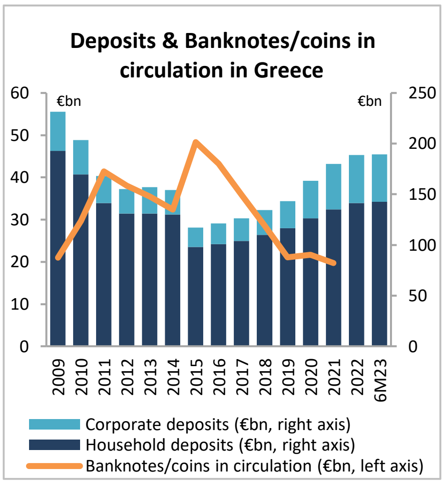
New mortgage lending has picked up, while the spike in inflation led to a highly negative real lending rate



New mortgage lending plays an increasing role in financing house purchases even compared to the rather conservative "taxable" value of residential transactions



The majority of transactions were financed by own funds of households and "cash financing"



prices in premium areas exceed the country average by a wide margin but still remain below that of comparable properties in other leading southern European markets.

- FDI has been supported by the Golden Visa program. In fact, around 11K residence permits (c. 36K including family members and renewals) have been granted in the period 2013-6M:2023 to non-EU citizens who have invested more than €250K in the Greek real estate market. This threshold has been raised to €500K in certain areas (Athens, Thessaloniki, Mykonos and Santorini) since 01/08/2023, leading to a spike in demand in the first half of 2023 (issued golden visas up by 155% y-o-y). This programme accounts for approximately 3/4ths of FDI in residential real estate over the period 2018-22.

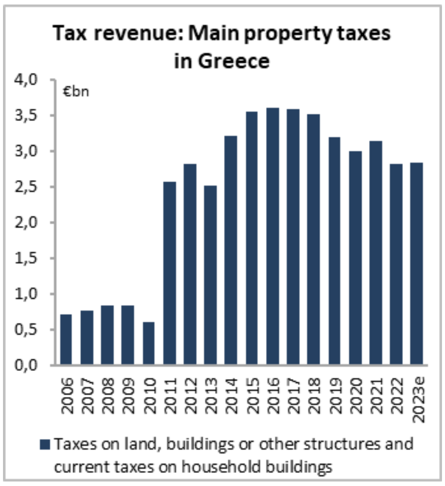
- Demand has also been bolstered by the reduction in real estate property taxation. In fact, revenue from the Uniform Real Estate Property Tax (ENFIA) declined by c. 25% in 2018-22, due to lowered tax rates by an estimated 40% (from an effective rate of c. 0.5% of the taxable value of real estate wealth in 2018 to 0.3% in 2023).

- Surging demand for tourism-related short-term renting increased occupancy rates, bolstered rental yields, and further strengthened demand for residential real estate by investors (e.g. Blueground). It is estimated that c. 150K properties are currently available for short-term renting in Greece through the most popular online rental platforms, as well as through P2P contracts, with average occupancy rates exceeding 80% in the core months of the tourism season. This development also lowered both the stock of available-for-sale properties and the property supply for long-term renting by residents, increasing rental costs and feeding into house prices.

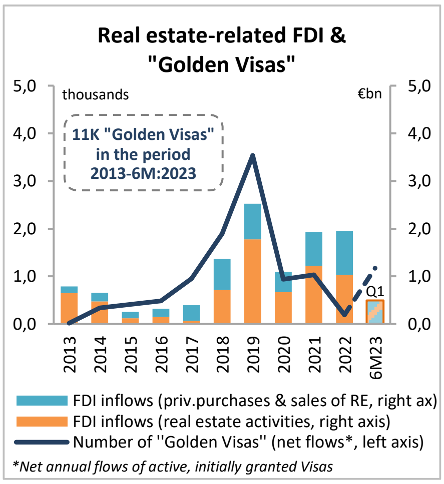
- Region-specific catalysts, such as large real estate development and infrastructure projects, which are currently under construction or planned for the next years, have also boosted prices in several areas. The completion of important infrastructure projects, such as the extension of Athens Metro network, the operation of Metro in Thessaloniki, the construction of new highways, the upgrade of railway and regional ports, and other restoration and redevelopment plans in urban or tourist areas (i.e., large projects in the coastal area in the southern suburbs of Athens) will be factored into property valuations in the coming years.

Sources: ELSTAT, Bank of Greece, ECB, IARP & NBG Economic Analysis

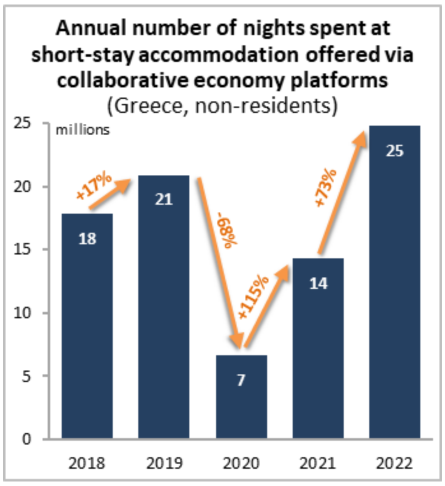
The reduction in the real estate property tax encouraged investment, following a decade of large tax hikes



Real-estate-related FDI, supported by the "Golden Visa" program, has been upbeat in the past 5 years



Surging demand related to short-term renting has peaked at c. 150K housing units



Sources: *Bank of Greece, European Commission, Greek Ministry of Migration & Asylum, IARP & NBG Economic Analysis*

A wave of new real estate investment and renovation projects will be required to ensure home affordability and alignment with climate goals looking forward

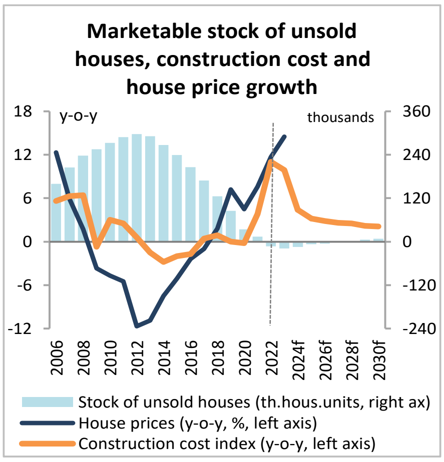
The Greek housing market appears to not only have corrected for the excess supply overhang created during the prolonged economic crises but to now be experiencing demand-led price pressures. As described above, the cumulative adjustment in supply over the previous decade lowered the marketable housing supply to approximately 100K housing units from 350K in 2012, whereas the upswing in demand (cumulative number of transactions in 2013-22 is estimated at 120K according to the Tax Authority definition) led to a complete rebalancing of the market by 2022. In fact, a marginal supply shortage of 20K housing units is likely to have emerged by end 2022.

The new market equilibrium is encouraging higher investment albeit from a very low starting point. In fact, residential gross fixed capital formation increased by 32.0% y-o-y, on average, in 2021-22, and accelerated to 47.5% y-o-y in H1:2023, equivalent to 1.7% of GDP in FY:2022 (compared with 6.2% of GDP for euro area average) and 2.0% of GDP in H1:2023 (annualized basis) from 0.7% of GDP per year in 2015-19. Reinforcing this positive backdrop, the issuance of residential building permits tripled to c. 30K annually in 2021-22, compared with 10K annually in 2013-17. However, the current levels of both variables correspond to only 18.2% and 26.4%, respectively, of their average levels in 2001-10 and remain very low compared with euro area peers.

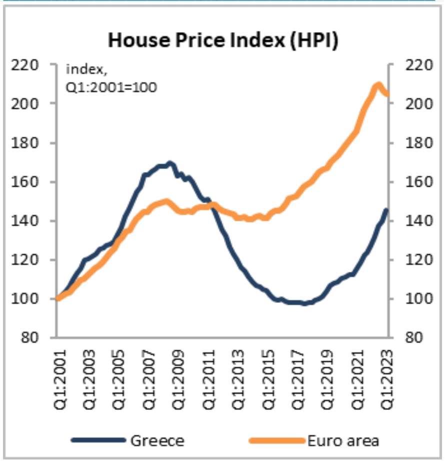
The net supply related to completed auctions of residential real estate properties has been limited but could add to future supply. Indeed, the completed auctions of residential property over the 2018-H1:2023 period were only 15K (c. 3K per year). However, auctions are expected to remain low in 2023-24, at c. 2.5-3K per annum but accelerate, to probably double the pace seen in over the past 5 years, in 2025-30.

The accelerating HPI reflects not only the rebalancing in the market but also rising construction costs. Indeed, in a tight market the pass-through of rising costs to final prices is high. Specifically, the ongoing increases of construction costs translate, according to NBG estimates, into a high single-digit cost-push impact on HPI growth in 2023-24 (incl. time lags). Indeed, construction costs surged by an average annual pace of 7.4% in 2021-22 – according to the ELSTAT's composite index of

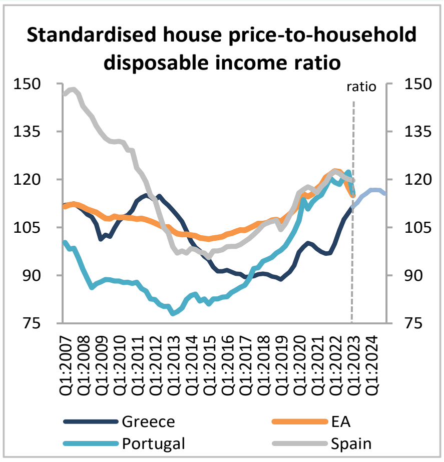
The Greek housing market appears to not only have corrected for the excess supply overhang but to now be experiencing demand and cost led price pressures



The average HPI level in Greece surged by 50% but remains c. 14% lower than its all-time high of 2008, whereas in the EA increased by 37% over the same period



New investment will secure a sustainable equilibrium as the price-to-disposable income ratio has reverted to its long-term average



building material costs – and by 8.7% y-o-y in 7M:2023, remaining 20% higher than their average level over the previous decade. Similarly, the labor cost index related to construction activity increased by 4.9% y-o-y in 2022 and 4.3% y-o-y in 6M:2023, with further increases expected for the remainder of the year. Overall, cost-push inflation accounts for c. 60% of the HPI increase in Q1:2023. Looking forward, this cost push element of the HPI should diminish as construction cost growth is expected to slow to c. 2.5-3.0% y-o-y in 2024-30, slightly above the trend CPI growth path (due to import intensive components of building costs, especially those related to energy efficiency).

The real estate market should remain tight during the following 2-3 years, with house prices continuing to rise in real terms in 2023-24

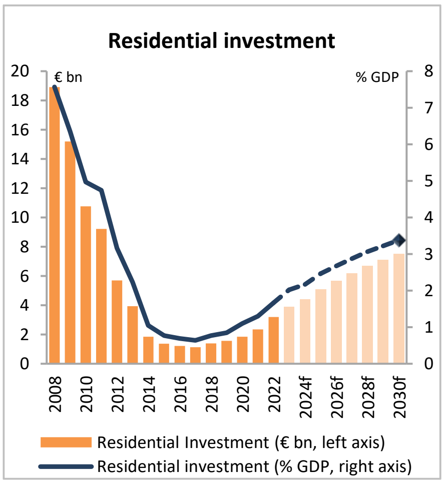
Regarding the relationship between supply and demand going forward, the sizeable stock of household financial savings, in conjunction with increasing real disposable income and bank lending, are expected to lead housing demand to c. 35K units per annum in 2023-24 (broadly stable until the end of the decade), according to a stylized equation of housing demand estimated by NBG Research. Had demand not been weakened by increasing prices – which have been taken into account in the empirical relation – the estimated number of transactions could have been even larger. According to the current trajectory of building permits issuance, new house completions will be slightly lower averaging at c. 30K annually in 2023-24, as new permit issuance has been stabilized due to high construction costs and labor shortages in the sector (broadly stable permit issuance, in y-o-y terms, in H2:2022 and H1:2023).

This trend is expected to continue the situation of an increase in excess demand (supply shortage) of c.30K in FY 2023 and 2024, which in conjunction with the lagged impact of still rising construction costs are estimated to lead to an average annual HPI growth of c. 7% in 2023-24

This increase in house prices is projected to push the HPI-to-disposable income ratio for Greece above the euro area average in 2023-24, for the first time in a decade, pointing to increasing affordability concerns. It should be noted that this ratio increased sharply by 24.8% in 2019-Q1:2023, to 111.5 from a crisis low of c. 90 in Q1:2019.

Sources: *ELSTAT, BoG, European Commission, ECB & NBG Economic Analysis*

Over €45 bn of additional investment will be required through 2030 to permit the market to reach a new equilibrium and align long-term HPI growth with household disposable income trends



A sustainable alignment of house price trends with domestic fundamentals along with the achievement of the ambitious targets of the National Energy and Climate Plan (NECP) for 2030, involving a significant upgrade of the housing stock, will require a substantial amount of new investment. According to the NBG model relating residential investment with key macroeconomic drivers (described in previous paragraphs) over the period 2023-30, it is estimated that c. €45 bn of new residential investment (constant prices) will be needed to achieve a sustainable market equilibrium entailing a lower HPI growth than disposable income growth in the medium term. Around €40 bn of this investment will be linked to new building activity and another €5 bn will be related to energy efficiency upgrade of around 10% of existing residential buildings. Moreover, €2.4 bn are allocated by the RRP for renovation of private and public buildings.

The new investment will lead to the addition of around 350K housing units in the marketable stock until 2030 and permit the market to reach a new equilibrium. This sustainable rebalancing is expected to lead to an average annual HPI growth of 3% per annum in 2025-30, slightly lower than the trend growth of household disposable income.

Sources: *ELSTAT, OECD & NBG Economic Analysis*

Greece – Indicators of Economic Activity in high frequency

	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20
PMI (index level)	54,4	56,2	42,5	29,5	41,1	49,4	48,6	49,4	50,0	48,7	42,3
Industrial confidence (index level)	3,6	5,7	2,3	-8,0	-21,2	-19,4	-13,3	-14,8	-14,7	-7,9	-12,0
Manufacturing production (y-o-y)	4,7	-1,0	1,4	-12,3	-9,3	-0,6	0,1	-0,9	-3,7	-2,4	7,1
Industrial production (y-o-y)	-0,6	-2,9	0,0	-10,8	-8,2	-4,6	-0,1	-3,9	-2,1	-3,2	8,9
Services confidence (index level)	22,7	30,5	24,5	-1,0	-49,9	-52,4	-36,4	-29,2	-26,4	-22,2	-22,0
Consumer confidence (index level)	-12	-8	-24	-42	-40	-33	-36	-34	-41	-39	-45
Retail confidence (index level)	24,1	24,4	16,1	1,4	-26,3	-7,5	-22,0	-20,5	-17,2	-11,5	-11,0
Retail trade volume (y-o-y)	6,2	2,5	-2,4	-24,6	-3,0	-3,8	-2,8	-0,6	-4,0	4,7	-7,4
Construction Permits (y-o-y)	44	71	54	-18	5	11	18	-11	-14	-13	-15
House prices (y-o-y, quarterly series)	6,7	6,7	6,7	4,3	4,3	4,3	3,9	3,9	3,9	3,2	3,2
Construction confidence (index level)	-23	-29	-31	-89	-85	-57	-29	-43	-51	-46	-29
Employment (y-o-y)	1,5	0,4	-4,6	-8,7	-13,8	-11,7	-3,8	-0,3	-0,9	-3,7	-6,2
Interest rate on new private sector loans (CPI deflated)	3,5	4,1	4,1	5,6	5,4	5,6	5,9	6,0	5,9	5,9	6,2
Credit to private sector (y-o-y)	-0,6	-0,8	0,1	0,3	0,7	0,4	1,5	1,9	2,4	2,5	2,6
Deposits of domestic private sector (y-o-y)	6,3	7,7	8,8	8,6	9,4	8,4	9,5	9,0	10,3	11,6	14,0
Interest rate on new time deposits (households, CPI deflated)	-0,5	0,1	0,3	1,7	1,4	1,8	2,1	2,2	2,2	2,0	2,3
Economic sentiment index (EU Commission, Greece)	110	113	108	96	83	85	90	90	91	94	92
Economic sentiment index (EU Commission, Euro area)	105	105	94	60	64	75	83	90	95	96	92
Exports (excl. oil & shipping, y-o-y, 6m mov.avg)	5,6	6,3	4,2	1,3	-1,9	-3,8	-6,0	-8,7	-8,0	-6,2	-2,8
Imports (excl. oil & shipping, y-o-y, 6m mov.avg)	0,5	1,4	-1,7	-4,4	-9,2	-9,9	-12,0	-12,8	-10,9	-9,1	-4,5
BoG - Tourist arrivals (y-o-y)	19,7	24,6	-46,8	-96	-98	-93,8	-85,4	-73,3	-73,9	-65,6	-81,1
AIA - International passenger traffic development (y-o-y)	10,2	6,4	-62,0	-99,2	-98,4	-93,4	-76,1	-66,2	-72,3	-72,2	-86,0
Estimation of total electricity demand in the network (y-o-y)	-3,2	-1,5	0,3	-6,9	-4,5	-13,1	-0,8	-7,9	1,2	-0,6	4,4
VAT on other goods & services (y-o-y)	-0,8	1,1	-23,7	9,1	-51,1	-17,1	-15,4	-10,0	-10,8	-15,1	-12,8
Business Turnover (y-o-y, double-entry bookkeeping)	11,4	-2,0	-9,6	-29,1	-25,0	-13,4	-14,0	-18,9	-8,9	-3,9	-6,3

	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21
PMI (index level)	46,9	50,0	49,4	51,8	54,4	58,0	58,6	57,4	59,3	58,4	58,9
Industrial confidence (index level)	-7,4	-8,0	-6,6	-4,7	-4,6	4,8	1,6	8,3	11,3	4,4	9,3
Manufacturing production (y-o-y)	0,8	1,3	2,3	3,3	23,0	14,5	7,1	5,8	6,3	12,9	15,1
Industrial production (y-o-y)	3,8	3,4	4,0	5,6	22,6	14,1	9,0	8,2	10,2	10,7	16,7
Services confidence (index level)	-24,4	-24,2	-14,7	-10,3	-13,0	12,0	27,4	29,7	32,6	39,6	42,1
Consumer confidence (index level)	-37	-39	-43	-40	-38	-22	-25	-31	-32	-38	-40
Retail confidence (index level)	-19,4	-11,9	-3,9	1,4	6,7	2,5	2,3	8,6	9,7	4,4	21,4
Retail trade volume (y-o-y)	-11,5	-2,5	-2,8	-0,7	39,8	15,0	11,3	11,3	5,3	9,6	8,4
Construction Permits (y-o-y)	14	4	22	33	116	100	51	20	57	39	61
House prices (y-o-y, quarterly series)	3,2	4,5	4,5	4,5	6,9	6,9	6,9	8,8	8,8	8,8	10,1
Construction confidence (index level)	-37	-12	-10	-7	-6	-12	-10	4	-5	11	3
Employment (y-o-y)	-4,3	-4,2	-3,1	-0,2	4,6	17,1	15,4	6,7	4,3	4,9	6,8
Interest rate on new private sector loans (CPI deflated)	6,1	5,8	5,1	5,7	4,1	3,8	2,9	2,7	2,3	1,6	0,5
Credit to private sector (y-o-y)	3,5	3,7	3,7	2,9	2,4	2,2	2,3	1,2	0,8	0,8	0,9
Deposits of domestic private sector (y-o-y)	14,4	15,3	14,9	13,8	14,8	13,7	14,5	13,2	13,9	13,3	11,5
Interest rate on new time deposits (households, CPI deflated)	2,5	2,2	1,5	1,8	0,4	0,0	-0,9	-1,2	-1,7	-2,1	-3,3
Economic sentiment index (EU Commission, Greece)	94	93	95	99	98	107	108	112	114	111	113
Economic sentiment index (EU Commission, Euro area)	97	96	98	103	105	110	115	118	117	118	119
Exports (excl. oil & shipping, y-o-y, 6m mov.avg)	-1,5	-1,1	1,8	7,5	14,5	19,2	23,6	28,7	32,7	33,1	30,4
Imports (excl. oil & shipping, y-o-y, 6m mov.avg)	-3,8	-3,6	-3,2	3,1	11,7	18,5	24,1	30,4	36,9	35,5	33,6
BoG - Tourist arrivals (y-o-y)	-86,0	-87,9	-87,8	-75,9	186	414	317	240	125	124	125
AIA - International passenger traffic development (y-o-y)	-87,7	-88,2	-89,8	-72,2	1292	1083	435	139	91	122	139
Estimation of total electricity demand in the network (y-o-y)	-4,9	-10,6	-6,8	2,7	6,2	3,6	11,7	14,9	15,2	-3,8	3,1
VAT on other goods & services (y-o-y)	-7,5	-10,0	-8,6	28,6	-1,4	72,3	29,2	14,9	14,4	18,2	21,2
Business Turnover (y-o-y, double-entry bookkeeping)	-5,3	-13,6	-8,5	13,3	39,4	24,4	22,4	23,4	32,2	28,0	23,9

	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
PMI (index level)	58,8	59,0	57,9	57,8	54,6	54,8	53,8	51,1	49,1	48,8	49,7
Industrial confidence (index level)	8,4	6,7	12,1	10,7	10,3	3,4	6,9	0,8	-1,4	-2,8	-3,7
Manufacturing production (y-o-y)	10,4	7,1	1,8	9,1	5,4	-0,8	6,2	8,8	6,2	5,0	1,5
Industrial production (y-o-y)	9,0	9,2	-0,8	5,8	8,8	-4,7	4,2	9,3	6,8	4,6	-1,3
Services confidence (index level)	48,4	35,2	32,4	40,4	33,2	15,2	17,4	17,7	17,3	23,0	42,9
Consumer confidence (index level)	-39	-38	-41	-39	-51	-55	-51	-53	-55	-54	-51
Retail confidence (index level)	13,1	22,7	13,8	10,3	3,7	-1,5	2,7	0,9	1,2	-7,0	-0,4
Retail trade volume (y-o-y)	16,7	19,6	7,6	10,8	12,3	8,7	-4,6	1,2	2,1	5,2	1,2
Construction Permits (y-o-y)	76	14	24	32	-6	2	-15	-19	-7	-17	-17
House prices (y-o-y, quarterly series)	10,1	10,1	10,0	10,0	10,0	10,7	10,7	10,7	12,4	12,4	12,4
Construction confidence (index level)	-1	-6	-8	-5	-1	-9	-28	-14	-34	-32	-28
Employment (y-o-y)	11,2	9,8	7,6	12,1	13,4	10,3	5,1	4,2	3,2	1,9	2,6
Interest rate on new private sector loans (CPI deflated)	-1,1	-1,4	-2,3	-3,5	-5,0	-6,0	-7,5	-8,1	-7,9	-7,4	-7,4
Credit to private sector (y-o-y)	1,1	1,4	0,9	1,4	1,6	2,8	3,3	4,5	5,5	5,8	6,0
Deposits of domestic private sector (y-o-y)	10,4	9,9	9,3	8,7	7,0	5,8	6,3	6,9	6,1	5,2	5,9
Interest rate on new time deposits (households, CPI deflated)	-4,7	-5,0	-6,1	-7,1	-8,7	-10,0	-11,2	-12,0	-11,5	-11,3	-11,9
Economic sentiment index (EU Commission, Greece)	113	110	113	114	112	104	107	104	100	101	106
Economic sentiment index (EU Commission, Euro area)	117	115	113	114	106	104	104	103	99	98	95
Exports (excl. oil & shipping, y-o-y, 6m mov.avg)	32,9	32,3	31,4	30,7	28,2	26,6	26,9	27,6	26,9	28,2	27,7
Imports (excl. oil & shipping, y-o-y, 6m mov.avg)	34,9	38,3	41,0	42,0	40,0	38,1	38,2	33,8	29,8	27,0	25,9
BoG - Tourist arrivals (y-o-y)	219	294	257	315	319	884	673	241	87	44	52
AIA - International passenger traffic development (y-o-y)	389	388	297	436	556	616	355	157	63	42	52
Estimation of total electricity demand in the network (y-o-y)	3,2	9,1	8,8	3,4	10,4	-6,3	1,6	0,0	-11,8	-13,2	-3,3
VAT on other goods & services (y-o-y)	29,9	29,9	-4,2	58,9	27,7	20,9	25,6	15,0	22,4	23,8	20,7
Business Turnover (y-o-y, double-entry bookkeeping)	38,1	30,5	28,9	43,1	44,4	37,1	49,2	44,8	38,4	50,0	47,5

	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23
PMI (index level)	48,1	48,4	47,2	49,2	51,7	52,8	52,4	51,5	51,8	53,5	52,9
Industrial confidence (index level)	-5,5	-4,1	-0,4	3,8	5,3	2,5	2,9	0,6	3,9	1,1	3,8
Manufacturing production (y-o-y)	1,9	2,4	5,6	9,0	6,9	8,3	3,2	3,5	-0,6		
Industrial production (y-o-y)	-2,8	-1,1	-1,4	0,5	5,0	0,3	4,2	1,9	-3,6		
Services confidence (index level)	14,5	20,7	25,4	16,1	16,1	17,1	35,1	34,4	36,6	45,0	38,4
Consumer confidence (index level)	-58	-52	-48	-41	-47	-41	-45	-35	-31	-29	-35
Retail confidence (index level)	12,4	17,9	5,5	17,0	23,6	23,7	27,4	15,4	20,8	23,9	24,7
Retail trade volume (y-o-y)	-1,9	1,1	-1,1	0,0	1,1	-8,7	-5,0	0,2	-7,6		
Construction Permits (y-o-y)	-24	1	47	37	-22	66	-5	5			
House prices (y-o-y, quarterly series)	13,5	13,5	13,5	14,5	14,5	14,5					
Construction confidence (index level)	-24	-24	-22	-24	8	18	3	9	-7	-7	-8
Employment (y-o-y)	2,5	1,2	2,5	3,6	-0,5	1,2	2,0	1,3	2,0	2,6	
Interest rate on new private sector loans (CPI deflated)	-4,2	-3,6	-2,2	-1,6	-0,6	1,2	2,8	3,3	4,1	3,7	
Credit to private sector (y-o-y)	5,3	5,0	6,3	5,7	4,8	5,2	3,9	3,1	2,8	1,2	
Deposits of domestic private sector (y-o-y)	5,6	4,2	4,5	3,2	2,6	4,5	3,7	3,3	3,5	3,1	
Interest rate on new time deposits (households, CPI deflated)	-8,9	-8,3	-6,9	-6,5	-5,1	-3,4	-1,8	-1,5	-0,3	-1,0	
Economic sentiment index (EU Commission, Greece)	99	102	104	106	108	107	109	108	110	111	112
Economic sentiment index (EU Commission, Euro area)	94	95	97	100	99	99	99	96	95	95	93
Exports (excl. oil & shipping, y-o-y, 6m mov.avg)	27,3	21,8	19,7	19,1	14,6	13,5	9,9	7,9	4,7		
Imports (excl. oil & shipping, y-o-y, 6m mov.avg)	24,5	18,4	14,2	11,7	7,9	4,9	1,6	-0,6	-1,6		
BoG - Tourist arrivals (y-o-y)	29	45	52	86	81	61	30	14	18		
AIA - International passenger traffic development (y-o-y)	46	35	55	103	78	45	30	25	21	18	
Estimation of total electricity demand in the network (y-o-y)	-8,3	-11,6	-15,0	-14,8	-2,5	-17,7	-6,7	-10,0	-17,5	4,3	
VAT on other goods & services (y-o-y)	27,9	16,0	5,7	58,4	-7,5	10,6	17,3	10,7	11,4	11,8	
Business Turnover (y-o-y, double-entry bookkeeping)	32,3	21,1	33,5	24,3	1,1	2,6	-2,0	-1,0	-6,0		

Color map scale

Rapid contraction | Moderate contraction | Slow contraction | Stabilization | Slow expansion | Moderate expansion | Rapid expansion

Sources: NBG, BoG, ELSTAT, Ministry of Finance, EU Commission, IHS Markit, IOBE, AIA, ADMIE

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The analysis is based on data up to September 6, 2023, unless otherwise indicated