REPORT

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ENERGY EFFICIENCY RENOVATION: IMPACT AND CHALLENGES IN GREECE

FEANTSA

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1. INTRODUCTION

In the wake of the pandemic, to deal with its consequences, the European Union (EU) deployed a coronavirus recovery stimulus package, worth over €2 trillion in grants and loans, considered the most significant stimulus package ever financed by the EU.

Within it, the Next Generation EU (NGEU) is a package with an investment pot of €750 billion (in 2018 prices) to support the transition to 'a greener, more digital, more resilient Europe'.[1] At the heart of the European budget is the Recovery and Resilience Facility (RRF), valued at €723.8 billion to support reforms and investments in Cohesion Policy.[2] The European Union is borrowing directly from the markets to distribute €338 billion in grants and €385.8 billion in loans, to be apportioned until the end of 2026, according to the National Recovery and Resilience Plan (NRRP) prepared by each Member State, in cooperation with the European Commission (EC).

Connecting the allocation of resources in each country with each region's GDP per capita and unemployment in the period immediately before the pandemic, Greece will receive the largest funding in proportion to the size of its economy: around 17% of its GDP, or almost €30 billion. According to the simulation models published by the EC in early March, the programme will directly and indirectly add 3.5 points to Greek GDP over the period 2021-2026 - the highest among member states.[3] Combined with other European funding sources, the Greek state will find itself with unprecedented resources for a few years.

The allocation of these funds is interlinked with the NRRPs' compliance with the objectives of the European Green Deal, aiming at making the EU a net-zero emitter of greenhouse gasses by 2050. Extending to many different sectors, including construction, biodiversity, energy, transport and food, the Green Deal has set off to reduce the contribution of buildings to energy consumption and greenhouse gas emissions (40% and 36% respectively), making the renovation of the EU built environment one of its major flagship actions.

Therefore, the single most impactful action of Cohesion Policy for the built environment at large and the housing systems of Member States, depends on the Renovation Wave Strategy (RWS), which promises to double the annual energy renovation rate of residential and non-residential buildings, with a target of 35 million renovated buildings by 2030.

[1] Deloitte (2021) Disruption. Greener. Smarter.Stronger. Together. Next Generation EU funding and the future of Europe. A unique opportunity for Growth. https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/deloitte-next-generation-eu-funding-and-the-future-of-europe.pdf

[2] In addition to the RRF, Cohesion Policy spending also includes the European Regional Development Fund (€226.05 billion), the Cohesion Fund (€48.03 billion) and the REACT EU crisis response fund (€50.62 billion). With the RRF, the total allocation to Cohesion Policy for the period 2021–2027 amounts to €1.203 trillion, a 224 per cent increase with respect to the previous long-term budget.

[3] Nikolaidis, I (2022), The Recovery Fund in Greece and Europe, Dianeosis https://www.dianeosis.org/2022/05/to-tameio-anakampsis-stin-ellada-kai-stin-evropi/

The RWS lists a set of standards spanning from energy efficiency, decarbonisation, respect for aesthetics and high health and environmental standards. It is highly significant that affordability is included as one of the key principles of the Renovation Wave communication,[4] for energy efficient buildings to be made available to middle- and lower-income households, vulnerable people and regions, disproportionately exposed to the risk of poverty and energy poverty.

Regardless of the indisputable significance of setting these high standards, underpinned with resources of considerable volume, the recovery plan's capacity to guarantee the right to decent housing remains questionable.[5] For instance, Housing Europe calculates that the funding streams suggested by the European Commission (EC) will not be enough to ensure that the listed principles are followed and common outcomes achieved.[6] Moreover, the plan's focus on renovation, presumably compatible with the goal of climate neutrality, poses several challenges for affordability, as renovation, in the absence of regulatory framework and tenants' organization, can lead to spiraling housing prices and predatory housing commodification[7] accelerated by the plan's provisioned investments in green infrastructure, mobility and connectivity. The risk of unintended negative consequences has been raised by preceding experiences of renovation programmes, leading to increased overall housing costs.[8]

What seems to be not sufficiently taken into account is the heterogeneity of housing regimes in the EU.[9] The Greek context shows specificities of its own in comparison to the other Member States which in the framework of the RW, we consider could potentially have comparatively more adverse effects on housing security if they were to be implemented without regulation or social criteria. For instance, the relatively extended public housing sector of Sweden cannot be compared with the housing model of Greece, marked by a *familistic* system whereby family assets constitute a welfare substitute, what we would call an *asset based welfare avant la lettre*,[10] a non-existent social housing stock (0%), an institutional amnesia in relation to affordable housing regulation and the limited extent of housing rights struggles and tenants' rights organisations.[11]

[4] European Commission (2020) A Renovation Wave for Europe – greening our buildings, creating jobs, improving lives. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. COM (2020) 662 final.

[5] Delclós & Vidal (2021) Beyond renovation: Addressing Europe's long housing crisis in the wake of the COVID-19 pandemic, European Urban and Regional Studies, Vol 28 (4), https://doi.org/10.1177/09697764211043424

[6] Housing Europe (2021) The State of Housing in Europe 2021. Brussels: Housing Europe. Available at: https://www.housingeurope.eu/resource-1540/thestate-of-housing-in-europe-in-2021

[7] Dominika V. Polanska, Karin Backvall, Åse Richard & Irene Molina (2022) Predatory commodification and housing renovation, Journal of Urban Affairs, DOI: 10.1080/07352166.2022.2088375

[8] For example see, M. Mangold, M. Österbring, H. Wallbaum, L. Thuvander, P. Femenias (2016), Socio-economic impact of renovation and energy retrofitting of the Gothenburg building stock, Energy and Buildings, 123: 41-49 and Grossman, K (2019), Energy efficiency for whom? A conceptual view on retrofitting, residential segregation and the housing market, SOCIOLOGIA URBANA E RURALE, N 119. 2019. 78-95.

[9] Scheurer L and Haase A (2017) Diversity and social cohesion in European cities: making sense of today's European Union–urban nexus within cohesion policy. European Urban and Regional Studies 25(3): 337–342 and Delclós & Vidal, 2021.

[10] Vrantsis, N. (2022) Towards a political economy of violence: Property and revanchism in West Thessaloniki, Radical Housing Journal, 4(1), pp. 95-116; https://doi.org/10.54825/ZBSG1610

[11] Siatitsa D. 2016. Changes in Housing and Property under the Austerity Regime in Greece: challenges for the movement and the left. In: B. Schonig, S. Schipper eds. Urban Austerity: Impacts of the Global Financial Crisis on Cities in Europe. Berlin: Theater der Zeit, pp. 145–160.

In light of the lion's share of green transition funds reserved under the RRF for member states, many EU MS have channeled these funds for the renovation of social housing stock and public buildings. Greece, with an abysmal absence of social housing stock has evidently directed its renovation related funds to homeowners[12] as an extension of existing energy upgrading of buildings programmes.

WHAT OF RENOVATION? IMPACT OF ENERGY UPSCALING ON PROPERTY VALUES

As noted elsewhere[13] while energy renovations are not in themselves the driver of population displacement and gentrification, the risk is that renovation driven by the need for the energy transition might help to accelerate it, unless a more holistic approach is adopted triangulating housing, environmental and economic policy so that each are not having to compensate for the deficiencies in the other after they have delivered potential negative consequences. While renovations are deemed as the most appropriate strategy to alleviate energy poverty, the oxymoron is that in many cases it can lead to a renoviction wave, pushing energy poor and vulnerable households out from renovated homes to homes with low energy efficiency again perpetuating the energy poverty cycle,[14] also known as "renoviction".

In the absence of data collected to reveal the full picture of the impact of retrofitting and renovation on the prices of dwellings after renovation, we draw our assumptions for the Greek case on the expected value return identified a) based on research done at European level and b) expected return for the Greek case based on national level research and c) local case studies showing direct causal link between energy savings investments and increases of property prices.

According to research conducted by the Joint Research Centre (JRC) of the European commission at the European level the price increase of residential assets, expected as a result of retrofitting and renovation, generally fluctuates between 3-8% as a result of energy efficiency improvements, and around 3-5% in residential rents compared to similar properties. For commercial buildings, the premium seems to be higher, over 10%, and in some studies even over 20% of sales price increase, compared to similar properties, has been reported. Rental prices of commercial buildings have also been positively affected by 2-5%.[15] Although estimations for the value impact of renovations only indirectly take into consideration the role of energy performance improvement in prices, energy performance is becoming one of the central elements in a buildings' appraisal price.[16] In Greece according to the Hellenic property Federations' research[17] the expected increase in sale prices of properties after retrofitting ranges from at least 2% to 7%. A case study conducted in the Municipality of Thessaloniki on the other hand on specific cases of retrofitted units, reveals that energy efficiency interventions can contribute to increase of price from 3% (for upgrading of its energy class by 1 grade) up until 20% (upgrading the energy class by 8 grades).[18]

[12] See analysis of the share of renovation among landowners to date, conditions for renovation of stock which is rented, under the section 'The state of the building stock and living conditions at large'.

[13] Maby, Catrin (2020) Renovation: Staying on Top of the Wave, FEANTSA

[14] Grossman, K., 2019, Energy efficiency for whom? A conceptual view on retrofitting, residential segregation and the housing market, SOCIOLOGIA URBANA E RURALE, N 119. 2019. 78-95.

[15] Zancanella, P., Bertoldi, P., Boza-Kiss, B., Energy efficiency, the value of buildings and the payment default risk, EUR 29471 EN, Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92- 79-97751-0, doi:10.2760/267367, JRC113215, p.27

[16] Ibid., p 27

[17] Referred to in the report: Long-term strategy report on the mobilisation of investment for the renovation of commercial and residential private, public and national stock, (2014), Ministry of Energy and Environment, P. 99.

[18] Sabbidou, P. (2021), The Role of Energy Upgrading in Property Values: Applying the Hedonic Price Method in the 1st District of the Municipality of Thessaloniki, Thesis, Aristotle University Urban Planning Department, p. 47.

STRUCTURE OF THE REPORT

In this report we look at the architecture of energy upscaling programmes in Greece to date and see whether there are any safety nets embedded in them that can disincentivise or prevent rent spikes and rent increases as a result of renovation investments. The aim is to underline the shortcomings of the Greek NRRP in bridging climate neutrality with housing cost neutrality. The underlying hypothesis, as will be argued, is that the coordinates set by and found in the Greek proposal, marked by an emphasis on energy efficiency without due consideration of social impact, and not factoring, in the design, regulation and control against potential spikes in housing costs, jeopardize the set of principles listed by the RWS, at the risk of the Greek NRRP becoming a facilitator of predatory housing commodification, contributing to exacerbated tenure inequality and housing financialization. We therefore assume, based on studies showing that energy efficiency measures add higher priced housing to the market and lead to a decrease of affordable housing for low-income households in any given city,[19] that in the absence of rent controls, regulations and embedded measures in programmes to limit the social risk from the price impact of renovations there is reasonable certainty that large-scale renovations of the residential housing stock can lead to at the least deepening of social divisions and more likely to a sharpening of housing exclusion, a decline in living conditions and a serious risk of formal and primarily informal evictions.

The report tries to answer the following key questions: What are the specificities of the Greek housing model and its trajectory that need to be taken into account so that the Renovation Wave will not simply lead to a Renoviction Wave? What kind of interventions and changes should be made to make the Greek NRRP a tool bridging the two principles of creating energy efficient and affordable housing?

In attempting to highlight the pitfalls of heavy investment in renovation that will be available to private owners through the RRF as the main current instrument for financing, considering housing affordability, we draw on the following influencing factors:

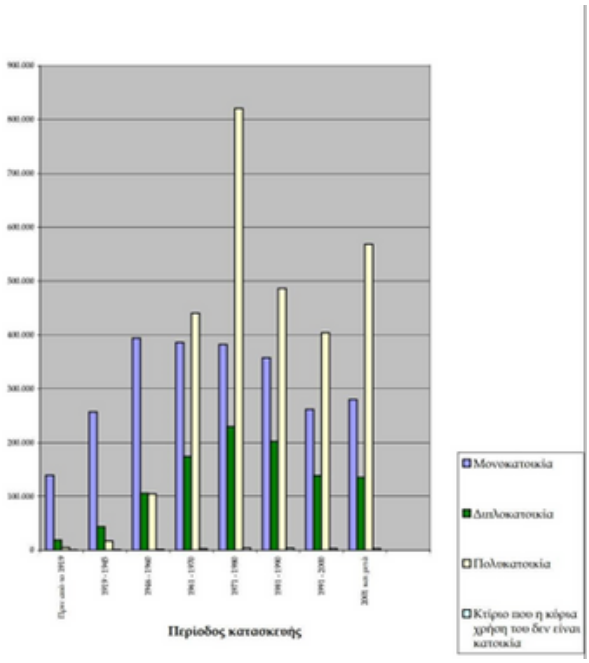
- The trajectory of the Greek property regime and housing model
- The shift in the property regime in Greece that has steadily destabilized residential ownership as a welfare buffer after the 2008 debt crisis and ensuing economic crisis, with a disproportionate impact on tenants in urban areas, with meager housing-oriented welfare support
- Existing trends in lack of affordability of the housing stock (steady increase in rents)
- The lack of data specifically in view of monitoring ex-post impact of renovations and upscaling of building stock which could assist in designing preventive measures and assessing the social impact of renovation interventions
- The potential impact of existing energy upscaling programmes in place in combination with the above trends
- The connection between the rate of energy upscaling investment, trends in the increase of rents combined with the absence of security valves in these programmes for the ex-post use of renovated residences and their potential negative social impact

[19] Zancanella, P. Ibid., p. 92.

In the first part of the report *(Context),* we will go through the trajectory of the property regime, distilled in the distinct form of the built environment, to its current post-welfare context, to show how historically determined conceptual categorisations and the current shifts ooze into the very architecture of the Greek NRRP. We proceed with a documentation of the effects of the financial collapse and ensuing economic crisis, that brought about the current state of play: a restructuring of the order of spaces making up the built environment, the destabilization of the prevailing social practices after turning residential property from asset to debt, the plotting of subjects within this renewed and over-stratified social and physical space, and the trends of spiking rents and unregulated speculation over real estate and debt.

In the second part of the report (*Renovation in Greece*) we look at the existing energy upscaling programmes in combination with trends in the increase of rents and with the absence of policy for the right to housing. The role of state institutions and welfare policies and their inability or weaknesses in providing a viable safety net to counter the energy and housing crises completes the review of influencing factors. This is crucial for understanding the high probability of RRF, through its renovation measures targeting individual households, becoming an accelerator and facilitator of *predatory housing commodification*[20], contributing to exacerbated inequality and housing financialization either directly through its measures or the absence thereof, rather than what could have potentially been instrumentalized to build the basis for more social & affordable housing.

We finally conclude with main findings and recommendations on how to build in just transition principles and counter negative effects of energy renovation investment on housing outcomes.



[20] Dominika Polanska, Karin Backvall, Åse Richard & Irene Molina (2022) Predatory commodification and housing renovation, Journal of Urban Affairs, DOI: 10.1080/07352166.2022.2088375

2. CONTEXT

For the potential implications, limitations as well as opportunities presented by the magnitude of investment reserved under RWS and the green transition pillar of the RRF, understanding the specific contexts in which they will operate are key in informing also their potential outcomes. Despite the fact that the housing affordability crisis affects diverse segments of the population across all member states, the room for intervention differs in every state, something that is directly related to the specificities of each property regime, the magnitude of the social and affordable housing stock, the institutional memory of regulations and interventions (or the lack thereof) and the level of tenants organization and collective claims that mark each context.

In this section[21] we will briefly follow the trajectory of the Greek residential property regime and its social and spatial expressions to its post-welfare context and we will map how the ongoing economic transformation, facilitating the commodification of and speculation over the built environment, exacerbates inequalities, reorders the social structure and destabilizes the pillars of social reproduction for large segments of the population.

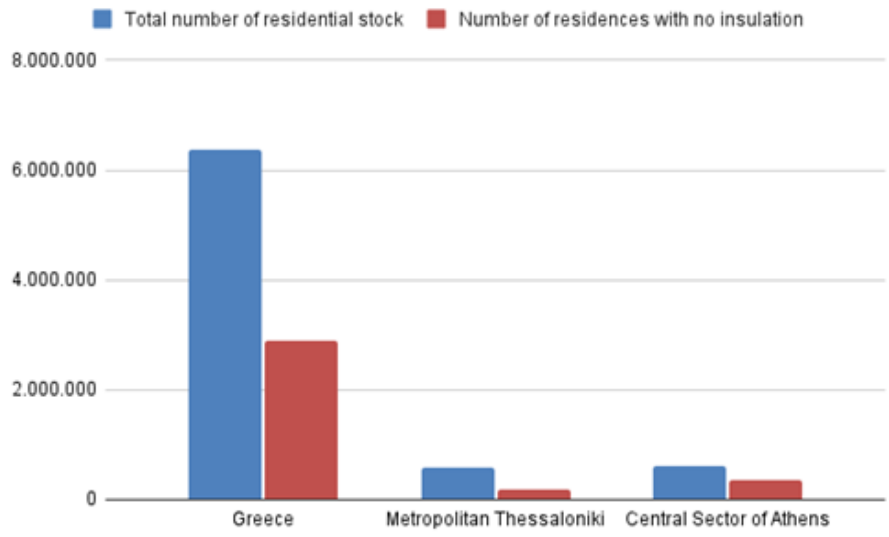


Figure 1: Number of residences with no insulation compared to the total stock. Source: ELSTAT

After WWII (1939-1945) and the ensuing Civil War (1946-1949), the Greek State did not take active part in housing provision; instead, it supported the population to build their houses by themselves (Kalfa, 2019; [22] Leontidou, 1990;[23] Maloutas et al., 2020 [24]), encouraging and normalizing a hybrid ethos of familism and laissez-faire attitude for gaining access to residential assets (Balabanidis et al., 2013). [25]

[21] Note that this section draws largely on Vrantsis, N. (2022), supra.

[22] Kalfa, K. (2019) Self-sheltering, now! The invisible side of American aid to Greece (Athens: Futura).

[23] Leontidou, L. (1990) The Mediterranean city in transition, (Cambridge: Cambridge University Press).

[24] Maloutas, T., Siatitsa, D., & Balampanidis, D. (2020) Access to Housing and Social Inclusion in a Post-Crisis Era: Contextualizing Recent Trends in the City of Athens. Social Inclusion, 8(3), pp. 5–15.

[25] Balampanidis, D., Patatouka, E., & Siatitsa, D. (2013) The right to housing during the period of crisis in Greece, Geographies, 22, pp. 31–43.

This indirect housing policy, favored by the state through different retroactive managerial and administrative possibilities (Isaias, 2017;[26] Mavridou-Sigalou, 1988),[27] translated into a system of self-provision: the land-for-flats system (αντιπαροχή) (Maloutas & Karadimitriou, 2001),[28] that was based on arrangements between landowners and building promoters who joined their labor and capital to produce building blocks: the promoters saved themselves the cost of buying land by giving landowners a share of the constructed units once completed. This system catapulted in the 1960s onwards, (re)shaping and defining the built environment, where land ownership is extremely diffuse and fragmented and building is dominated by a combination of owners and small scale speculative developers most of which do not depend on bank financing.

Given the absence of direct housing policy, and the lack of any regulation related to construction and building standards, the plethora of residential buildings constructed during that period, now dominating the built environment, are marked by lack of insulation and have high energy and thermal requirements (and costs) (Figure 1). Most of the residential properties are found in apartment buildings built in the decades before 1990, whereas most of them were built in the 1971-1980s (Figure 2), under conditions of a deliberately unregulated construction regime and the total absence of construction standards. For instance in the metropolitan area of Thessaloniki out of the approximately 203,000 dwellings 130,000 are constructed between 1961-1980.[29]

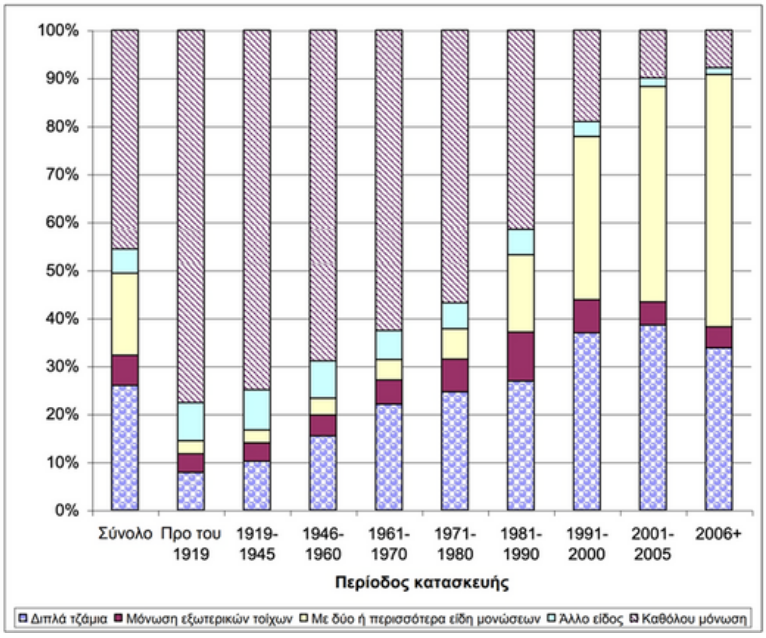


Figure 2: Number of residences per period and building type. Source: ELSTAT

Yet, this indirect policy was efficient for housing a rapidly urbanizing population, sidestepping the creation of a direct regulatory framework to intervene in the domain of housing and dodging state spending on infrastructure and welfare by outsourcing construction and provision costs to the population itself.

[26] Issaias, P. (2017) From the Flat to the City: The Construction of Modern Greek Subjectivity, Joelho Revista de Cultura Arquitectonica, 8, pp. 126–139.

[27] Mavridou-Sigalou, M. (1988) The coincidental development of a suburban area: Nea Liosia. Urban and social consequences from the creation of urban land rent through the spontaneous, out of town plan, house construction, Unpublished Doctoral dissertation, National Technical University of Athens, Greece.

[28] Maloutas, T., & Karadimitriou, N. (2001) Vertical social differentiation in Athens. Alternative or complement to urban segregation? International Journal of Urban and Regional Research, 25(4), pp. 699–716.

[29] Hatziprokopiou, P. et. al. (2021), p. 55. http://housing-thessaloniki.gr/static/pdf/Affordable%20Housign_Full%20Report_ENG.pdf

It effectively made way for the over-reliance on the family institution as a welfare buffer,[30] emerging as a substitute social security system vis-a-vis the deliberate inactivity of the administration organizing the population into households, turning them into *petty-propertied* individuals, stratified vertically in the residential blocks.

In this *asset-based welfare avant la lettre* [31] access to residential property turned into a key tool for ordering subjects, rendering (in)accessibility to residential assets the yardstick, distinguishing between 'worthy' and 'unworthy' subjects.[32] At the success of this indirect housing policy, lies the total absence of any social housing stock - making Greece an outlier even when compared to its South European counterparts - the lack of any institutional legacy in regards to direct control over the housing market for tenant protection, as well as the absence of tenant organization since renting has long been regarded a transitory phase in the 'normal' housing pathway of households. [33] As for the migrants arriving to Greece on the other hand, having no access to the informal circuits of welfare, given the atrophic institutional memory of direct intervention for housing provision, are *excluded by default*, gated in camps, pushed to the fissures of the built environment or accepted only as renters of the undesired and inexpensive apartments of the lower floors in residential blocks, translating social inequality to spatial inequality expressed vertically or horizontally.

By the start of the 1990s a new phase was entered with accelerating pro-market reforms, increasing economic and monetary integration to the EU and fast expansion of mortgage and consumer credit. [34] With Greece's entry into the Eurozone, the country's credit rating was upgraded, and credit institutions began to lend lavishly to Greek banks. Interest rates for mortgage loans were set at the European average of 5% and Greek banks engaged in a race to grant mortgages. In a single decade mortgage loans in Greece increased from 5.8% of GDP in 1999 to 33.9% in 2009 (Figure 3). Access to housing became reliant on finance and credit became crucial for preserving the purchasing power of households bolstering the housing model. Yet housing inequalities exacerbated, for homeownership increased among higher occupational groups, but decreased for manual workers with limited access to credit, all the more so for immigrants deprived of access to the informal welfare and outrightly owned assets that the national poor households usually possessed.

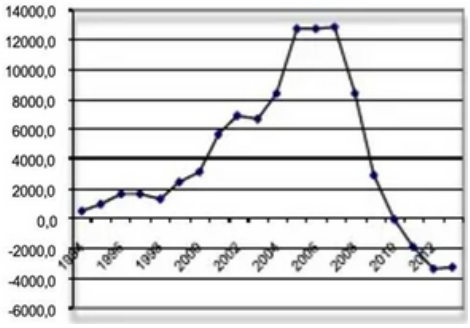


Figure 3: Housing Finance 1994-2013 Source: ELSTAT (Greek Statistical Authority), Bank of Greece, Emmanuel, 2014

[30] Papadopoulos, T., & Roumpakis, A. (2013) Familistic welfare capitalism in crisis: Social reproduction and anti-social policy in Greece, Journal of International and Comparative Social Policy, 29(3), pp. 204–224 & Dagkouli-Kyriakoglou, Myrto. "The ongoing role of family in the provision of housing in Greece during the Greek crisis". Critical housing analysis, no. 5(2018): 35-45.

[31] ibid

[32] Ozgunes & Vrantsis, upcoming

[33] Siatitsa, 2019, supra.

[34] Emmanouel, D (2014), The Greek System of Home Ownership and the Post-2008 Crisis in Athens, Région et Développement 39, pp 167-182

An abrupt halt to this trajectory came with the global financial crisis, which turned into a state-debt crisis. Premised on the country's 'exceptionality' sketched as a weak link in the stable EU chain, the harsh, 'modernizing' structural adjustments imposed on Greece by the TROIKA (ECB, EC, IMF), led to a recessionary spiral, downscaling GDP by about 30%.[35] The policy prescriptions targeted wages and pensions, while public properties were sold en masse to private investors. The outsourcing of the costs of the crisis to the institution of the family to tackle state deficit, had a negative knock-on effect upon the three key pillars of their members' social security: employment security for households' primary earners; pension adequacy; property and home ownership.

Unemployment rates skyrocketed and the annual disposable income of households fell by 37.6% between 2010 and 2016, with 18% of the population at risk of poverty in 2019.[36] In addition to indirect taxes imposed on fuel, electricity and essential goods, income tax rates changed, while property is being subjected to additional taxation through the ENFIA (Figure 4). Property taxes sextupled, whereas housing costs went through the ceiling. Mortgage arrears swelled from 4% to more than 45%, destabilizing property ownership that was dependent on lending rather than traditional mechanisms together with its ideological underpinnings.

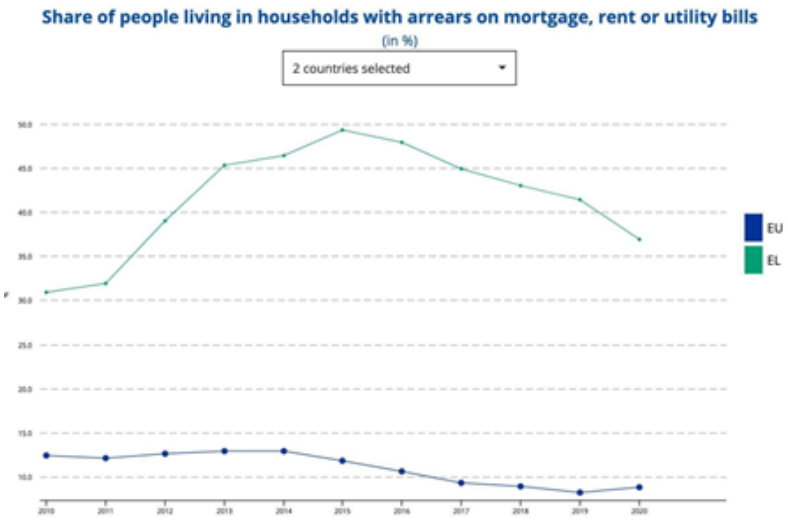


Figure 4:
Source: Eurostat, 2021

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
10,2	15,9	24,9	34,5	41,5	44,6	48,9	49,1	48,6	45,1	37,8	30,3

Figure 5: NPLs as a percentage of GDP
Source: Bank of Greece, Alexandri, 2022

As many households became unable to repay their debts, as well as tax and social security, households began to resort to their savings or take on debt, translated in the banks' books as an increase in non-performing loans (NPLs) (Figure 5).

[35] Alexandri & Janoschka, 2018, supra.

[36] P. Hatziprokopiou, M. Karagianni, M. Kapsali, (2021) Social and Affordable Housing in Thessaloniki. Extended Summary Report, AUTh, Major Development Agency of Thessaloniki S.A.

The crisis exacerbated housing inequalities and had a disproportionate impact upon the less protected: low-income tenants, immigrants and refugees were the most affected, exacerbating their precarious position in the housing market. Homeowners were also affected since the rules of the game changed with the accumulation of mortgaged debts, the pressure from banks to clear their balance sheets from NPLs (Basel I,II,III), and the large increase of property taxes. In 2017, the law on electronic auctions was introduced, so the process can bypass the interventions of social groups aiming at cancelling the auctions. Another program, entitled *'Hercules'* was introduced to become the first securitisation and mortgage loan programme, under which "red" loans are transferred to a special purpose vehicle (SPV) in Ireland, which securitizes and resells them to foreign investors, while at the same time collection agencies, undertake to convince debtors to service their debt.

The crisis has contributed to the worsening of intra-building inequalities. The way that social dynamics and practices were translated into the built environment made apartment buildings the spatial expressions of a vertical social differentiation: apartments on the highest floors were owned by the wealthiest demographic groups, while apartments of inferior design quality on the lower floors housed (were rented by) the poorest demographic groups.[37] However, the heating of the buildings was largely centralized. During the crisis, the inability of many households to meet the central heating costs, led to the abandonment of centralized heating and to personal heating strategies for each household, with a disproportionate impact on tenants and precarious households.

Moreover, Greece was recorded as having the highest percentage of vacant houses among all EU Member States. According to the 2011 census, out of a total of 6,384,353 dwellings, 2,249,813 (35.3%) were vacant.[38] Given the age of a stock, its inadequate construction standards and the high number of vacancies, the energy and structural upgrading of the stock is considered urgent. Yet, upgrades have mainly involved partial upscaling of single apartments [39] rather than entire buildings,[40] benefiting mainly single property owners able to afford the cost. When the upgrading is not intended to improve the use values of the property and living conditions of its owner-user, it is intended to increase its exchange value.

Since 2017 the Greek political economy with regards to housing has been reconfigured to accommodate rentiers,[41] transforming the built environment into a commodity and a source of rent extraction: a portion of the population continues to divest and sell properties to save on taxes and debt, while real estate investors have started buying.

[37] According to P. Hatziprokopiou, M. Karagianni, M. Kapsali, (2021) data low skilled professions are more likely to pay rent and reside in older dwellings of smaller size and without heating. The latter conditions also govern lower educational owner occupied dwellings. A heavy presence of migrants in rented accommodation with poor quality is also visible, p. 20.

[38] Of the vacant dwellings, 729,964 (11.5%) were holiday residences, 621,881 (9.8%) were secondary residences, 453,901 (7.1%) were available to be rented, 355,071 (5.6%) were recorded as vacant for other reasons, and 88,996 (1.4%) were available for sale. The top two regions in the country with the highest number of vacant dwellings were Attica (609,058), Central Macedonia (360,990).Among EU countries, Portugal (31.9%), Malta (31.8%), Bulgaria (31.4%) and Cyprus (31.1%) also have high vacancy rates.

[39] Vatavali & Hatzikonstantinou & https://eteron.org/energeiaki-ftocheia-stegasi-kai-ergaleia-politikis-anaparagontas-tis-anisotites/

[40] See references and analyses in Greece's long term renovation strategy: https://energy.ec.europa.eu/system/files/2021-08/el_2020_ltrs_en_version_0.pdf

[41] We follow Christopher's definition of rent as income derived from the ownership, possession, control of a scarce resource in conditions of limited or no competition, see Christophers, B (2020), Rentier Capitalism, Who Owns The Economy and Who Pays for It, Verso

Rating agencies restored the country's credit ratings and the property market was considered an 'opportunity' by investors aiming at closing the open *rent gap*.[42] Although in the period before the financial crisis mortgage credit growth supported the expansion of the house price cycle, the recent dynamics are broadly characterized as *"credit-less"*.[43] The growth of real estate purchases found its corresponding demand in the sharply growing tourist flows, golden visa buyers [44] and short-term leases. Property prices are beginning to rise (Figure 6), affecting the books of defaulted properties found in the books of banks, which now can sell them, making profits rather than losses. The latter are redefining their position in mortgage debt negotiations: if the debt is small and attached to a property found in a considerably good location, they claim ownership.

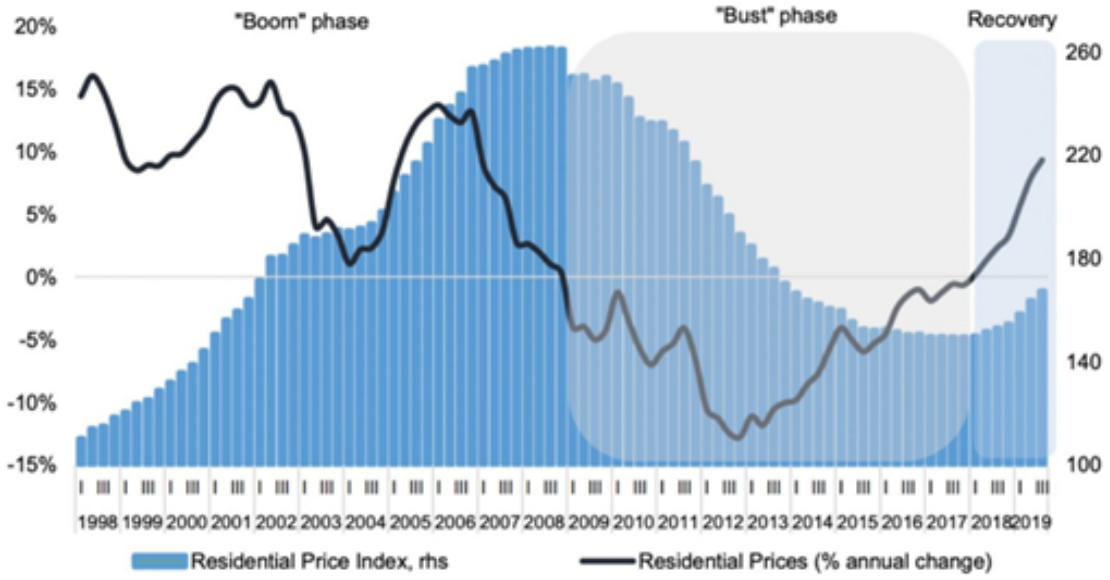


Figure 6: Residential property market 1996-2019, Bank of Greece

What has been labelled as welfare support for the impoverished, in fact sidesteps meaningful intervention in the housing sector and rent controls, thus reducing support to scant rent and heating subsidies, increasingly insufficient in view of the cost of living and skyrocketing rents. Even before the current boom in electricity and heating prices, 26% of households reported inability to afford adequate heating in winter, while 13.6% of households reported living in homes with leaking roofs, damp walls, floors, foundations or rotten window frames or rotting floors.

[42] Smith, N (1979) Toward a theory of gentrification: A back to the city movement by capital, not people. Journal of the American Planning Association 45(4), pp 538–548 & Christophers, B (2022) Mind the rent gap: Blackstone, housing investment and the reordering of urban rent surfaces, Urban Studies, 59 (4), pp. 698–716. For a discussion of the rent-gap in the Greek context see Vrantsis, N. (2022), supra.

[43] AlphaBank Economic Research (2020), The rise, fall and revival of the residential property market in Greece: Bringing new drivers of house price fluctuations to the foreground, January 2020.

[44] The Golden Visa program gives a five-year residence permit to third-country nationals who invest in Greek real estate over €250,000. The program attracts the interest of foreign businessmen among others, in some reported cases buying for instance three properties at a price of €250,000 and then reselling each of them at the same price.

The corresponding rates for the poorest households in 2020 were 39.1% and 20.2% and for the population as a whole were 17.1% and 12.5%. Since 2012, a heating allowance has been granted to specific categories of consumers of internal combustion heating oil (the main heating source at the time), established due to increased energy costs. Since 2015, respectively, a housing allowance [45] has been introduced for certain categories of low-income tenants.[46] In addition, the Minimum Guaranteed Income [47] is also considered one of the key subsidies that can potentially cover housing needs.[48] Yet, the analogy between the level of subsidies for housing needs becomes less and less viable to cover the increasing costs, given the rate of rent increases. Moreover, it is important to note that vulnerable population groups such as recognised refugees access a very limited number of these welfare subsidies due to the eligibility criteria.[49]

And as debts and the corresponding properties change hands and foreclosures are accelerating, the policies implemented aim at converting the previous owners to tenants so that the loans can be serviced, the drops in property prices averted and the promise for an ever-perpetuating price increase sustained. Thus, the property is expropriated, but the former-owner-turned-tenant remains in the property, contributing to the conversion of the debt into a serviceable financial figure.

By 2019, the four systemic banks (Alpha Bank, Eurobank, National Bank of Greece and Piraeus Bank) had acquired a stock of roughly 250,000 assets from debt settlements and e-auctions [50] and have been developing new products to bring the repossessed assets back onto the market, by one-by-one sales or via compact diversified portfolios, securitizing debt from residential and commercial properties to offer a more attractive product to financial investors. Moreover, the securitization project Hercules, established by Law in 2019, provisioned the securitization of €30B of NPLs in banks' portfolios. As securitization is not geared towards clearance, but rather towards repayment, the Servicers aim at avoiding direct evictions so as to maintain equilibrium in the balance sheets of the banks and at developing strategies to persuade the debtors to consent to the servicing of the debt. For this purpose, the law 4738/2020, entitled 'Debt settlement and second chance and other provisions' [51] reserves article 218 for the Sale and Leaseback Organization, [52] a private entity to be selected by the State to purchase defaulted primary residences and lease it back to the debtors for 12 years.

[45] The allowance foresees support to single member and multi member households and persons who have free allocation or renting a part of the households primary residence. There are additional criteria related to movable and immovable assets as well as criteria of legal and permanent residence. Total income may not exceed the amount of 7,000 EUR for single member households, plus 3,500 per additional member while it cannot exceed 21,000 EUR regardless of household composition.
[46] The allowance foresees 70 EUR per single-households with 35 EUR per additional household member. The subsidy cannot surpass 210 EUR per month.
[47] The MGI consists of 200 EUR per month. For each additional adult in the household the MGI is increased by 100 EUR. The subsidy cannot surpass the monthly amount of 900 EUR. Access criteria consists of the following: single member and multi-member households and 'homeless'. There are income and asset based eligibility criteria (based on a calculation of movable and immovable assets) and the declared income may not exceed 5,400 EUR notwithstanding the number of household members.
[48] Note that we are not exhaustively covering all subsidies that could complement basic housing subsidies.
[49] For instance, recognised refugees cannot access the rent subsidy as there is a requirement of minimum years of residence in the country.
[50] Alexandri, G (2022), Financialization a la Griega, Geoforum 136, pp. 68-79

During the 12-year lease and until its expiration, the private entity will be obliged to resell the properties to their previous owners, provided that they have recovered financially and that they are punctual in paying the rent, whereas the State will provide a monthly allowance to the owners-made-tenants to help them remain in the property.

These parallel trends that go hand in hand - on the one hand the invisibilisation of the homeless, the squeeze of owners, the precarisation of the defaulted and on the other the ongoing, state-aided speculation on a financialised real estate market and commodified built environment - in the absence of any (collective and institutional memory of) rent control & regulation and tenants organization, further destabilize access to affordable housing, whereas the climbing property prices of a housing market made artificially and actively scarce, reverberate to the entire housing domain, lead to spiraling rent increases and restructure the tenure status (figure 7).

2009	2010	2011	2012	2013	2014[2]	2015[2]	2016	2017	2018	2019	2020	
												Dwelling type
32.4	30.6	32.2	32.4	33.7	32.2	33.2	33.2	31.5	29.4	29.2	28.8	Detached house
8.8	8.9	9.6	10.5	9.9	8.7	9.3	9.3	8.7	9.3	9.6	7.8	Semi-detached or terraced house
58.7	59.9	57.7	56.4	55.6	59.1	57.4	57.4	59.8	61.3	61.2	63.3	Apartment or flat
0.1	0.7	0.5	0.7	0.9	0.0	0.1	0.0	0.1	0.0	0.0	0.0	Other
												Tenure status
60.8	58.8	60.5	61.2	61.4	62.7	63.9	63.1	63.9	63.8	64.8	67.0	Outright owner
11.9	11.7	12.4	12.4	12.2	12.1	12.5	11.4	10.0	9.5	8.3	7.5	Owner paying mortgage
6.3	6.1	6.2	6.8	7.7	7.2	6.3	7.1	7.3	7.1	7.8	8.1	Accommodation provided for free
20.9	23.4	20.9	19.6	18.7	18.0	17.3	18.4	18.8	19.6	19.1	17.4	Rented

Figure 7: Percentage distribution of households by dwelling type and tenure status, 2009-2020, Source: Population, Employment and Cost of Living Statistics, ELSTAT, 2021

Despite the fact that trends in Greece seem exceptional - since there seems to be little to no - or reverse - change in the share of tenant households between 2007 and 2020 and an increase in the share of strictly owner-occupier households.[53] We assume that this, read together with the increased rates of overcrowded households (figure 8) can be explained by the fact that segments of the population previously renting or exposed to debt, in view of the unaffordable cost of living and housing, resort to the family-provided homes (primary or secondary residences) and are being statistically counted as outright owners, despite them falling into the category of hidden homelessness.

HOUSING IN THE POST-COVID ERA

COVID-19 has not marked a reversal of this trend but rather an acceleration. In 2019, the Greek housing prices in urban areas recorded a strong increase of 9.3%, partly driven by expansionary measures. [54] According to the 2019 Survey on Income and Living Conditions (EU-SILC) persons at risk of poverty or social exclusion represented 30% of the total Greek population in 2019.

[51] http://www.keyd.gov.gr/wp-content/uploads/2020/11/%CE%A6%CE%95%CE%9A-207_27-10-2020.pdf

[52] http://www.keyd.gov.gr/wp-content/uploads/2021/06/%CE%A0%CE%B1%CF%81%CE%BF%CF%85%CF%83%CE%AF%CE%B1%CF%83%CE%B7-%CE%A6%CE%BF%CF%81%CE%AD%CE%B1-%CE%91%CF%80%CF%8C%CE%BA%CF%84%CE%B7%CF%83%CE%B7%CF%82_%CE%B1%CE%B3%CE%B3%CE%BB%CE%B9%CE%BA%CF%8C-%CE%BA%CE%B5%CE%AF%CE%BC%CE%B5%CE%BD%CE%BF.pdf

[53] Delclós, C (2022), Is property polarization giving way to diverging experiences of citizenship, Presentation in RC21 conference, Athens 2022

[54] https://www.stateofhousing.eu/The_State_of_Housing_in_the_EU_2021.pdf

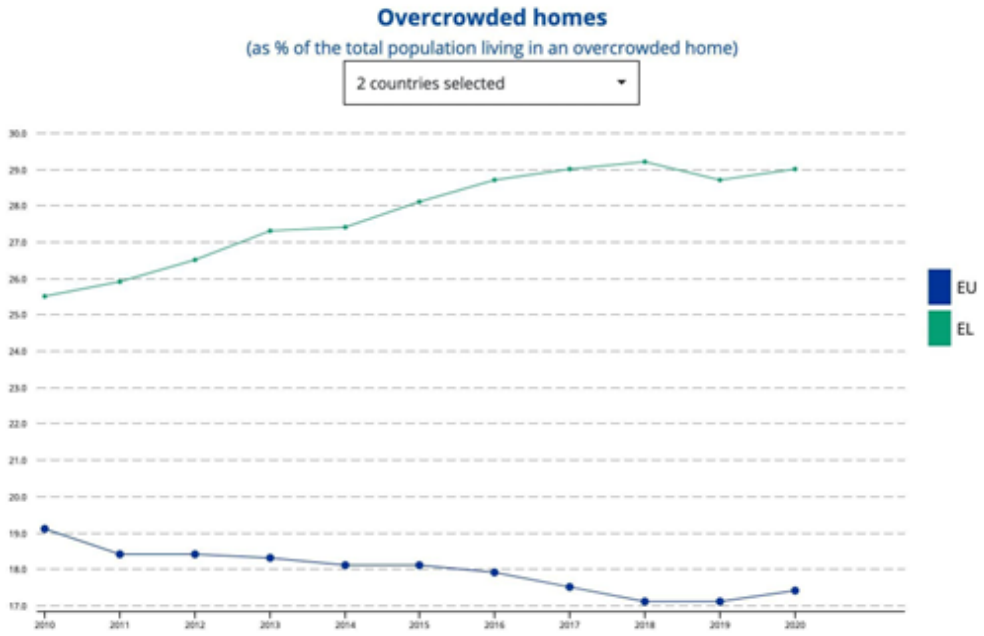


Figure 8
Source: Eurostat, 2020

Meanwhile, housing affordability is worsening in the context of the pandemic (Figure 9). The rate of overcrowding was 28.7% in 2019 and the severe housing deprivation rate stood at 6.0%. In addition, 36.2% of the population was overburdened by housing costs in 2019, a share which has more than doubled over ten years (up from 18.1% in 2010). Low-income tenants already faced strong problems over the past few years especially in the neighbourhoods close to urban centres [55]. This is reflected in data which show that a staggering 79.2% of tenants in Greece spent more than 40% of their income on housing in 2020 (Figure 10).

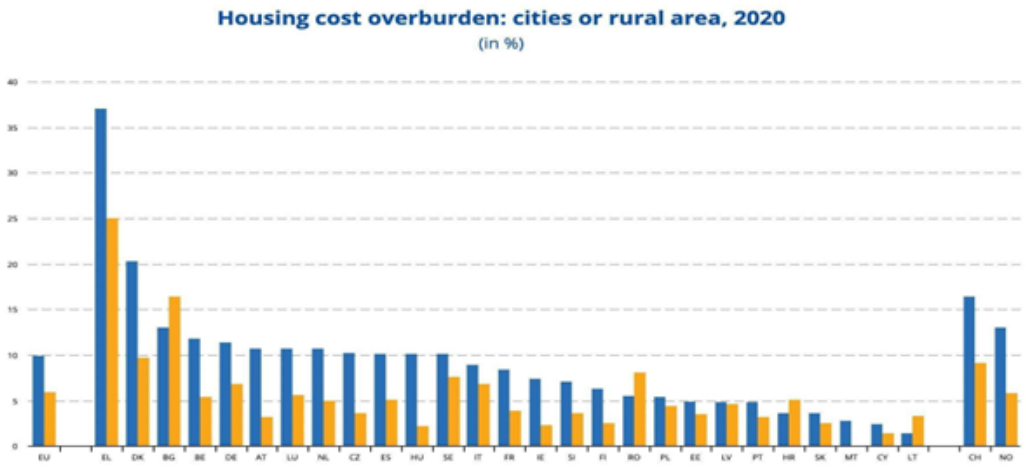


Figure 9,
Source: Eurostat, 2020

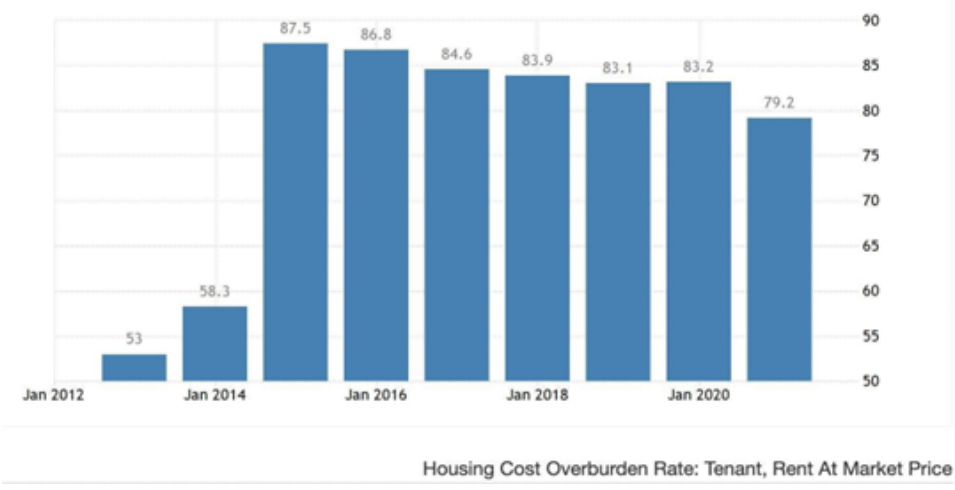


Figure 10,
Source: Eurostat, 2020

The large burden of Greeks on housing costs is expected to increase further due to inflationary pressures. A report by Piraeus Bank[56] showed that households with a monthly family income of 751 to 1,100 euros spend 27.1% and 13.6% of their income on food and energy, respectively. Rising prices and living cost, inter alia due to the war in Ukraine threaten to make the financial situation of poor households even more difficult.

The recent trend points to a gradual commodification of the built environment that distributes the gains to the asset owning class, ranging from bondholders and owners of property titles down to petty-property owners, at the expense of the defaulted households and tenants, who are squeezed by the unregulated increase of housing rents and the cost of living. These costs are interlinked with the increased scarcity of adequate and affordable housing, the rise of utility costs and inadequate institutional responses, given the lack of any considerable tenant organization. To illustrate this point and the heavy pressures on households, we will turn to the case of Thessaloniki.

THE SQUEEZE IN THESSALONIKI: COST OF LIVING, RENT LEVELS AND INSTITUTIONAL RESPONSES

According to a recent city-wide study conducted in Thessaloniki,[57] the second largest urban centre in Greece, due to the revival of the housing market sharp price increases can be observed in the Municipality of Thessaloniki (Figure 11).

According to the 2011 census, in the municipality of Thessaloniki, most of the total stock of 205,398 residences was built in the decades before 1990, when there was still no implementation of a framework setting strict energy and efficiency standards for new constructions. The number of residences with no insulation was 86,593 (42.16% of the total stock), whereas roughly one fifth of it was vacant (38.840).

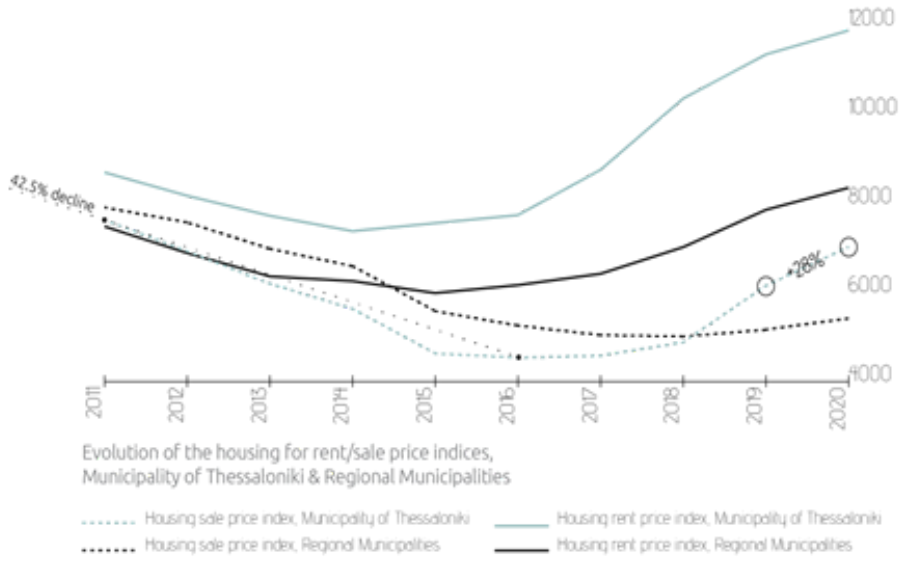


Figure 11 Source: P. Hatziprokopiou, M. Karagianni, M. Kapsali, (2021) Social and Affordable Housing in Thessaloniki. Extended Summary Report, AUTh, Major Development Agency of Thessaloniki S.A.

[55] Alexandri, G (2022), Χρηματιστικοποίηση της κατοικίας - Τι είναι και γιατί μας αφορά; [Financialisation of housing: what is it and why should it concern us?] Eteron

[56]https://www.piraeusholdings.gr/el/oikonomiki-analisi-ependitiki-stratigiki/oikonomiki-analisi-ellinikis-oikonomias-kladikes-meletes/analysis-category/2022/inflations-impact-on-households--disposable-income-and-corporate-profitability

[57] P. Hatziprokopiou, M. Karagianni, M. Kapsali, (2021) Social and Affordable Housing in Thessaloniki. Extended Summary Report, AUTh, Major Development Agency of Thessaloniki S.A.

The percentage of tenants in relation to that of owners is higher than that of the rest of the country, mirroring the large discrepancy in ownership between rural areas and urban centres. In particular, the percentage of tenants as a percentage of the total population, in average, in Greece amounts to 21.9%, whereas in Thessaloniki it is 32.9% (see figure 12).

The spikes on rents and pressures on the housing market (Figure 12), have a disproportionate impact on tenants and those precariously housed, supported by limited heating and housing allowances.[58] Since 2016 in Thessaloniki rental prices have exceeded pre-crisis levels by 38%. In addition, the available choices for households to rent at affordable prices [59] is extremely limited.

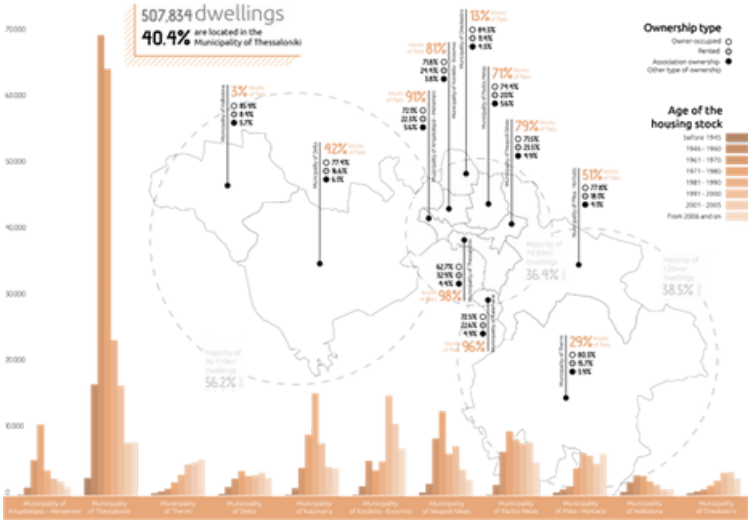


Figure 12:
Source: Hatziprokopoiou, 2021

Based on affordability scenarios,[60] the availability of affordable housing for a fictitious case of a family with working members on an average monthly wage would be limited to just 7 dwellings in the entire Municipality of Thessaloniki and 19 dwellings in adjacent municipalities covering the metropolitan area.[61] Moreover, as can be seen in Figure 13, the utility costs (electricity and heating) make up 50% of household expenditure.

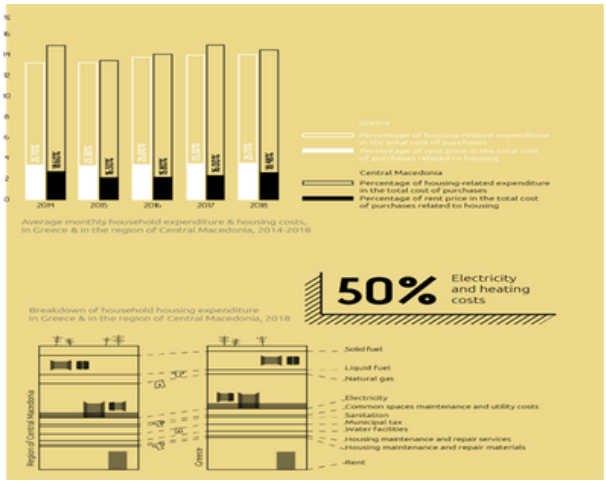


Figure 13:
Source: Hatziprokopiou, 2021

[58] According to 2020 data the number of beneficiaries of Minimum Guaranteed income in Thessaloniki were ar 32,840 individuals.

[59] The study looked at the available dwellings for rent based on affordability defined as housing costs not exceeding 40% of the household income.

[60] For a detailed picture of the scenarios see P. Hatziprokopiou, M. Karagianni, M. Kapsali, (2021) Social and Affordable Housing in Thessaloniki. Extended Summary Report, AUTh, Major Development Agency of Thessaloniki S.A, p. 33

[61] Ibid. p. 30.

THE LINK BETWEEN PROPERTY PRICE INCREASES AND RENOVATION: A SAMPLE CASE STUDY IN THESSALONIKI [62]

According to the results of a case study based on a sample selected from Thessaloniki[63] the price of dwellings for sale have not shown a considerable increase from the levels of the post-economic crisis period. In contrast, the increase in rents have been significant as can be seen in Figure 14:

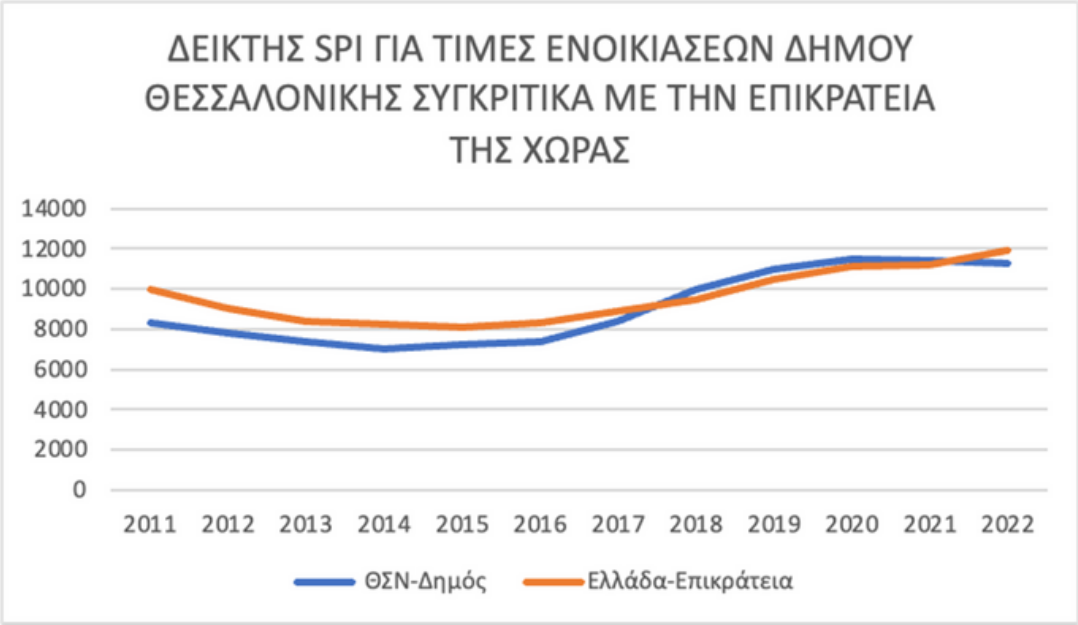


Figure 14:
Source: Spitogatos, Dempis, 2022.

If we are to compare the impact of renovation on sale prices, the impact of renovation is clearly manifest for properties for sale as can also be observed from Figure 15.

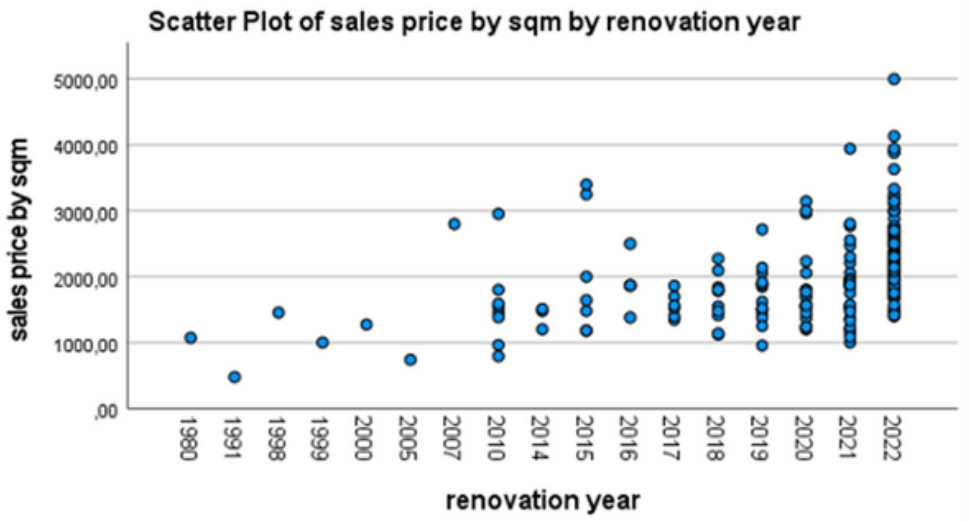
	Price per sq.m.	**N** (sample)	
Not renovated	1519,25	223	583,19
Renovated	2058,68	227	663,02
Total / average	1789,57	450	679,71

Figure 15: price per sq. m.

[62] The case study draws on work conducted by Dempis, Alexandros, 2022, The question of housing over time and its evolution in Greece: The accelerating housing crisis and affordable rental housing in Thessaloniki, MA Thesis, Aristotle University, Urban Planning Department. The same author for the purposes of this report has conducted further research with an extended and additional sample of housing units in October 2022.

[63] For the purposes of the research Thessaloniki was divided into 9 sub-areas. For each sub-area identified, a sample was selected from the online real estate sale and rental platform Spitogatos. The sample included price/sq.mt, renovated units, non-renovated units. The sample size used was 450 housing units which consists of 3,4% of the total (13.159). The sample selection was random.

In addition, for properties that are for sale, it is interesting to note that the year of renovation is dominated by renovations undertaken in the past 5 years which also reflects the impact of energy upgrading programmes on the extent of renovation of properties (Figure 16).



	Price per sq.m.	*N (sample)*	*Standard deviation*
Not renovated	*7,76*	*118*	*2,68*
Renovated	*7,73*	*107*	*2,28*
Total/average	*7,74*	*225*	*2,49*

Figure 16: Price per sq. m. for properties for rent, renovated and not renovated

A slightly different picture is observed for those properties that have been registered for rental. According to the analysis of the sample (Figure 16), there is no significant impact of renovation on the rental price per square meter.

In order to make sense of these findings which are contrary to intuition and expectations, one should couple these with two specific analytical dimensions. One is the steady increase of rents regardless of renovation interventions in Thessaloniki as can be seen in Figure 17 (below).

The figure clearly shows that on a yearly basis there is steady increase of prices in all areas of the Municipality of Thessaloniki. In the Municipality itself for the period between 2016-2021, a significant increase of 42,6% was observed.

Several observations can be made ensuing from the analysis of the sample and the findings which attempts to handle an analysis of the rental market together with the overall housing price market trends and considering sale prices for properties. The minimal impact renovation has had on rental prices in contrast to sale prices can in fact provide important indications that the renovation investment which exclusively targets private owners in fact benefits the sale market for real estate rather than the rental market. Therefore one could cautiously conclude that renovation investment may not be impacting the rental market through a direct causal link with increase of prices but may indirectly impact rents due to a shift of properties to “renovate to sell”.

Figure 17: Average rent (EURO/sq.m.) for districts of Thessaloniki							
District	*2016*	*2017*	*2018*	*2020*	*2021*	*2016-2021*	*Δ%*
Municipality of Thessaloniki	*5,40*		*6*	*6,30*	*7,70*	*2,30*	*42,6%*
Historical center	*7*	*7,50*	*7,50*	*7,90*	*8,10*	*1,10*	*15,7%*
Upper Town	*4,40*	*4,50*	*5,10*	*5,90*	*6,30*	*1,90*	*43,2%*
Old Coastal area	*13*	*13*	*14*	*14*	*14*	*1,00*	*7,7%*
New coastal area	*7,40*	*8,20*	*8,80*	*8,60*	*8,60*	*1,20*	*16,2%*
Saranta Ekklisies	*5,80*	*5,80*	*6*	*6,70*	*7,30*	*1,50*	*25,9%*
Triandria	*5,60*	*5,60*	*6*	*6*	*6,90*	*1,30*	*23,2%*
Toumpa	*4,60*	*5*	*6*	*6,20*	*6,60*	*2,00*	*43,5%*
Harilaou	*3,90*	*4,30*	*5,20*	*6*	*6,50*	*2,60*	*66,7%*
Faliro	*4,70*	*5*	*5,20*	*6*	*6,60*	*1,90*	*40,4*
Depot	*5,20*	*5,30*	*6,10*	*6,40*	*6,40*	*1,20*	*23,1*

Figure 17: Source REMAX, Dempis, 2022

3. RENOVATION IN GREECE: THE NATIONAL POLICY FRAMEWORK AND INSTRUMENTS

THE POLICY FRAMEWORK

The key national strategy for the renovation of the built environment is the Greek National Energy and Climate Plan (2019).[64] The plan provides the strategic underpinning which frames the green transition interventions under the RRF. In addition to the energy efficiency dimension of the plan and the objectives on the reduction of final energy consumption, the plan sets out to **establish a central quantitative objective for the renovation and replacement of residential buildings** with new nearly zero-energy buildings, which could in aggregate amount to 12-15% of all residential buildings by 2030. **The annual objective is to have an average of 60 000 buildings or building units upgraded in terms of energy and/or replaced with new more energy-efficient ones.**

According to the plan and data as of 2019, about 23% of the total population are reportedly unable to heat their homes, while this percentage was 41% in 2017 among the low-income households. The plan sets out the quantitative objective is to reduce by at least 50% the relevant energy poverty footprint by 2025, as well as to reduce it by 75% compared to 2016 and to bring it to levels well below the EU average by 2030 (NECP, 2019). The plan is complemented by the Action Plan on Combating Energy Poverty adopted in 2021 with an overall goal of reduction of energy poverty by 75% as of 2030.[65] Finally, the National plan for increasing the number of nearly zero-energy buildings (2017) foresees, among a number of measures, the promotion of energy upgrade subsidization programmes and the renovation of multi-owner buildings rather than individual apartments and renovation of building complexes among others.[66] One of the common features in the aforementioned strategy is that, despite due attention to those most affected by energy poverty, **interventions and their monitoring frameworks do not adequately distinguish between privately owned and rental properties and consequently also do not adopt a holistic consideration of interventions to prevent potential social risks associated with increase in prices for sales and rent levels after renovation.**

"The key priority of planning with regard to the improvement of the energy efficiency of the building stock in the country is to generate significant macro-economic benefits for the country. The energy upgrade of 15% of Greek homes in the decade 2021-2030 as well as the improvement of the energy efficiency of the building stock by means of interventions in the building envelope, are expected to lead to an increase of more than EUR 8 billion in domestic added value and to the creation and maintenance of more than 22 thousand new full-time jobs annually throughout the year. The increase in the income of involved employees is expected to reach approximately EUR 3.4 billion"

National Energy and Climate Plan of Greece, 2019

[64] https://ec.europa.eu/energy/sites/ener/files/el_final_necp_main_en.pdf

[65] The action plan foresees three axes of intervention: 1) awareness raising and training, 2) consumer protection which foresees reduced tariffs in energy bills for vulnerable households, issuance of 'energy cards', 3) development measures including energy upscaling of 120,000 households with 1,8 billion EUR, promoting the development of energy communities https://ypen.gov.gr/wp-content/uploads/2021/08/ΣΔΕΕ_03.08.2021.pdf

[66] https://ec.europa.eu/energy/sites/ener/files/documents/greece_en_version_2017.pdf

The NECP considers social impact in terms of labour market, emphasizing the number of employment opportunities expected to be created - referring to 22.000 full time employment opportunities every year[67] - and neglects the reverse impact on the reproductive sphere, linked to the highly probable increases on rent and living costs, in the absence of any regulation. The dubious positive impacts on the sphere of work are neutralized or entirely reversed by the negative impacts on the sphere of living.

It is telling that in the strategic documents that tackle climate change adaptation and the energy efficiency of the building stock namely the National Energy and Climate Plan of Greece and the National plan for increasing the number of nearly zero-energy buildings , the consideration of housing outcomes of energy performance policies is blatantly absent. These planning documents envision the impact on the built environment in investment and labour market terms (notwithstanding the environmental impact dimension), evident inter alia in how responses to the 'split-incentive' problem are framed:

"One additional barrier to be considered is the fact that in most cases the individual who decides (and bears the cost) for the level of energy upgrade of a building does not coincide with the individual who bears the benefits of the reduced cost of energy in the same building. A characteristic case is rented buildings, where the cost burden of energy upgrading is born by the landowner whereas the benefit from energy savings is attributed to the tenant...This barrier can be corrected[68] by the transfer of the costs of renovation to the tenant, through the integration of the cost to the level of the rent as a return for the reduced cost of energy use."[69]

FUNDING INSTRUMENTS
THE ENERGY UPGRADE OF BUILDINGS PROGRAMMES

The main facility adopted to counter the challenges of energy poverty and the goals of reducing energy consumption at the level of residential buildings is the 'Energy upgrade of buildings' programme (currently *Exoikonomo*, heretofore Save). It is the continuation of the 'Energy Savings at Home' programme focused on energy poor households. The 'Energy Savings at Home' programme started in 2011, providing financial incentives to households, including low-income households, so as to replace the window frames and install shading systems, to install thermal insulation in the building envelope, including the flat roof/roof and 'pilotis' and to upgrade the heating and hot water system.

The financial aid consists of non repayable grants and low interest loans including the subsidy of the interest rate and the coverage of the energy inspections' cost.

[67] A figure that is contested , given the volatile labor market as well as the plethora of low paid, insecure, middle term jobs connected to the construction industry

[68] 'Correcting' this barrier is more challenging than just reducing energy costs if we consider that housing cost overburden in Greece for low income households is 93% according to EU-SILC data. Combined with number of persons at extreme poverty level (15% in 2015) and those at the poverty threshold (28.9% of the total population or 3,043,869 persons in 2020) and 42% of households facing energy expenses higher than 10% of their income according to 2017 data (highest rate of energy poverty in the EU), energy efficiency cannot alleviate the burden caused by risk of poverty and housing costs especially for low income tenants.

[69]Long-term strategy report on the mobilization of investment for the renovation of commercial and residential private, public and national stock, (2014), Ministry of Energy and Environment, P. 99.

The measure has continued until 2021, via the "Exoikonomo-Autonomo" programme after continuous improvements enabling the implementation of the most cost-effective interventions to improve the energy efficiency of the residential buildings.

The new phase of the *Exoikonomo* (Save) Programme is continued through funds from the Recovery and Resilience Fund aiming at the reduction of primary energy costs by 30% per household and their energy upscaling by 3 grades. The programme aims to cover the renovation and upscaling of 105,000 households by 2025.[70] The RRF for the years to come is set to be the main funding instrument for energy efficiency and combating energy poverty in Greece. By 2025 it is expected that the Green Transition pillar of the RRF is to provide investments of up to 3.1 billion EUR for the energy upscaling of residential buildings in Greece with 1,6 billion EUR share to be provided through subsidies.[71]

The difficulty to identify and support the energy poor households living in rented residences constitutes the main challenge for the implementation of the energy saving programmes.[72] The programme provides a fluctuating subsidy level depending on the level of income ranging from 75% for low-income households to 40% for high income households.

Although the subsidy seems generous for low income households, their participation in the programme depends on their ability to generate a significant amount vis a vis their income to cover initial costs as well as co-financing.[73] When seen through the prism of social and income conditions in Greece, one should not forget that what is seemingly a frivolous cost in relation to the overall renovation subsidy, the initial and co-financing contribution required still present a major challenge for low income households.[74] This is one of the major reasons for which the programme has been criticized for exacerbating social inequalities.

There are a number of concerns and risks to be considered associated with the Save programme in Greece:

- Tenants are not included as a distinct target group with tailored measures in renovation programmes
- While privately rented apartments are eligible, the programme does not foresee measures to protect the tenants.[75] There is an overall absence in the operational framework of the programmes of any binding clause that would force the landowner to reduce or maintain the rent after intervention without significant detriment to the same tenant.

[70] From 2011 to date the total number of beneficiaries of the programme are set at 227,295.
[71] For Greece's National Recovery and Resilience Plan "Greece 2.0": https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility/greeces-recovery-and-resilience-plan_en
[72] Vatavali & Hatzikonstantinou, 2018, supra.
[73] https://eteron.org/energeiaki-ftocheia-stegasi-kai-ergaleia-politikis-anaparagontas-tis-anisotites/
[74] For details see ibid. Also note that the programme to date provides a maximum threshold of renovation investment at 28,000 EUR per applicant regardless of the number of dwellings. According to data of the last evaluation of applicants of the Save programme in Thessaloniki, the average renovation investment per dwelling is at 12,310 EUR for low income groups (average from 1533 applicants) and for middle and higher income categories is around 11,000 EUR (average from 9623 applicants).
[75] Participation in the programme by tenant-occupied dwellings require a solemn declaration of acceptance by the tenant to participate without any guarantees to avoid renoviction.

- The instruments do not reach the most vulnerable homeowners: according to an Athens based study[76], none of the individuals in the case study received funding from the energy upscaling instruments, either because they were not eligible or because they were reluctant to apply for a loan through banks. This is also confirmed by studies conducted across EU Member States which show that households cannot finance 10% and even 5% of the co-financing required.[77]
- There is likelihood that the inability of renovation programmes to introduce viable protections for the most vulnerable will have disproportionate effects on specific social groups such as migrants[78] and recognised refugees due to existing welfare criteria and tenure status.[79]
- The interventions were mainly made by property owners who could afford to make them, mainly to improve their living conditions, while tenants were under-represented. According to our interviews with specialized engineers working with the multiple cycles of the programme[80], while vulnerability is included as an evaluation criterion that influences the percentage of subsidy coverage, the initial cost for applications,[81] as well as the necessity to pay upfront, with ex-post reimbursement or through zero-interest loans, works as a disincentive for the most vulnerable and precarious homeowners. Thus we have interventions that exacerbate the inequality between owners and tenants who remain in poorer quality housing.
- The programme risks benefitting a consumer audience with the income to pay the enhanced housing costs, inter alia as tenants through short-term rental platforms, golden visas, and repatriated workers. [82]

[76] Vatavali & Hatzikonstantinou, 2018, supra.

[77]Institute for European Energy and Climate Policy (IEECP) (2022), "Status of energy poverty and policies to address it in CEE/SEE countries."

[78] For instance, according to P. Haztiprokopiou et. al. (2021), a very large proportion of 82% migrants occupy rented accommodation which are typically smaller, older and without heating.

[79] Due to their partial access to already feeble welfare support schemes resulting from non-compliance with eligibility criteria for access.

[80] Interviews conducted with engineering offices specialized in delivering services in relation to the Save programme, 27 July 2022, 8 August 2022.

[81] In a fictitious scenario for a 100 meter sq. unit kick-starting the process to apply for energy upscaling subsidies the applicant would require approximately the following budget to be covered by own means:

a. 650 EUR for energy certificates

b. 450 EUR for the units' e-identity

c. Social security payments for works (300-500 EUR)

d. Co-financing of 25% for the lowest income categories to be covered by the applicant through own means or no interest loans

[82] Interviews conducted in the framework of this report with rental agencies confirm that in major urban areas and in particular in Athens the main clientele of renovated dwellings consist of the mentioned target groups (Interview with real estate agent from REMAX Athens, 28 July 2022 and interview with a freelance real estate agent affiliated with REMAX in Thessaloniki, 30 July 2022.

4. CONCLUSIONS

We find ourselves, not only in Greece but across the EU, in the midst of an interplay between an unprecedented energy crisis and housing crisis. As European institutions and national governments mobilize large amounts of funding for the achievement of climate change goals, primarily through the Recovery and Resilience Facility, an urgent concern is how this hefty investment will interact with overall rising housing costs and how the potentiality of energy investment deepening social inequalities, can be averted.

Through this report we tried to answer the questions, whether energy upscaling investment to date brought significant social and economic benefits to lower income and vulnerable households in Greece and the pitfalls if the investment is to continue as is through the RRF. We should not forget that the energy upgrading investment in Greece for residential units, operates primarily in the private residential housing sector as no social housing stock exists.

This provides viable concerns that, given the increasing interest in real estate in Greece through private investments, a share of these units will not be available to lower income households as private investment is unlikely to provide energy efficient housing to poor households, due to low return on investments. The intermediation of public institutions in energy upscaling, like in the case of Greece with the Save programme, may have positive effects on lower income homeowners due to the level of subsidy coverage, but nevertheless the retrofitted dwellings is still an upgrading of private housing stock in an unregulated housing market. In the absence of control of affordable housing outcomes for households as a result of renovations, energy poverty and housing prices combined demonstrate serious risks of eviction for populations already at risk of exclusion or suffering exclusion.

KEY OBSERVATIONS ON RENOVATION AND SOCIAL IMPACT

- Studies show causal links between retrofitting and energy upscaling and housing prices[83]
- Badly designed, welfare policies, depending on their design, may open ways for displacement mechanisms and encourage speculative investment
- Unless housing policies exist which duly factor tenants' rights and regulate the housing market, there are few mitigation measures engrained in renovation programmes to alleviate negative social impact
- There are inadequate mechanisms to effectively monitor social impact of renovation efforts built into green transition programmes and clear social conditions are not sufficiently embedded in energy upscaling programming at the EU or national levels

[83] See for instance some studies tackling this issue: Zancanella, P., Bertoldi, P., Boza-Kiss, B., Energy efficiency, the value of buildings and the payment default risk, EUR 29471 EN, Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92- 79-97751-0, doi:10.2760/267367, JRC113215; Grossman, K., 2019, Energy efficiency for whom? A conceptual view on retrofitting, residential segregation and the housing market, SOCIOLOGIA URBANA E RURALE, N 119. 2019. 78-95; M. Mangold, M. Österbring, H. Wallbaum, L. Thuvander, P. Femenias (2016), Socio-economic impact of renovation and energy retrofitting of the Gothenburg building stock, Energy and Buildings, 123: 41-49.

OBSERVATIONS FOR THE GREEK CASE

- To date, both programmes that have supported retrofitting and renovation efforts of households, as well as the overall architecture of the RRF, lack an integrated approach to housing, environmental, economic, and social welfare policy and planning
- Housing exclusion is not tackled at the policy level nor are there regulatory mechanisms. Combined with renovation investment and expected rises in house prices and rent levels, this presents risks of housing exclusion
- There is no strategic framework tackling housing exclusion and ensuring access to housing. Housing exclusion is primarily dealt with through subsidies. When considered in light of existing income levels and upward trends in house prices and rent, these subsidies are not adequate to systematically address exclusion
- Social impact of renovation programmes are largely ignored and if social impact is considered at all they are framed in terms of their energy (environmental impact), investment (economic impact) and labour market outcomes (social impact); without due consideration on the impacts on the sphere of living
- The existing instruments intervening in the built environment through renovation funds do not come with 'social pre-conditions' to ensure affordability of housing
- The tendency to "renovate to sell" with support from renovation investment may have an indirect negative impact on the rental market through proxy shrinkage of the housing stock available for rent, this primarily affecting disproportionately low income households who are in their majority tenants rather than owners
- Some of the potential social value of the programme are lost, as the lowest-income categories cannot always viably access funding opportunities for energy upscaling
- Interventions are primarily at the level of individual apartments and not buildings
- Interventions operate in an unregulated housing market and inadequately distinguish between the needs of outright owners and tenants. The expected increase in prices disproportionately effects tenants and those threatened by housing precarity
- The renovation investment risks intensification of the social divisions that already exist. The less energy poor tend to benefit more from energy efficiency outcomes through deeper renovation
- The absence of regulation, rent control and rent caps, renovations risk creating new divides among landowners and tenants among renovated buildings accessible to higher incomes and non-renovated ones reserved for low-income households

4. RECOMMENDATIONS

- Adopt a national housing strategy that is prepared following adequate consultation with multiple social and economic stakeholders. The strategy should adopt an integrated and holistic approach with horizontal measures across sectors and policy areas (regulation of rent, construction, taxation, environmental and energy policies, social policies among others) with green and social justice at its centre.
- Linked to the above, renovation programmes and RRF under the green transition pillar should commit a fair share of funds to provide due attention and weight to the renovation of private and public dwellings for the creation of a social housing stock.
- Adopt and commit to a strategy and regulatory measures to convert long-term unused and vacant housing stock for use by social housing providers.
- For the major energy upscaling programmes such as the Save Programme, foresee specific measures for tenant occupied dwellings with embedded protections.
- Ensure that there is 100% financing of energy efficiency investments for low income households and that energy efficiency programmes adequately isolate funds targeting specifically low income households.[84]
- Diversify the potential beneficiaries of Save and RRF. The creation of a regulatory framework that will include housing cooperatives and alternative housing providers as eligible for grants
- The Save programme should have a component exclusively addressing the needs of low- income households and tenants, whereas the total amount of the intervention should be deducted from the amount of the loan to be repaid in the case of mortgaged ownership or from the total rent in the case of tenancy.
- Loans should not be the only means by which co-financing requirements in renovation programmes are covered. For very vulnerable and low-income households 100% grant support for retrofitting should be considered.
- The monitoring framework for renovation programmes should include more robust and relevant indicators to monitor social impact, especially tailored to monitor housing outcomes for low to very low-income households, inter alia distinguishing between tenure status.
- Given the high percentage of the stock that was created before the 1990s, when construction standards were non-existent, combined with a disproportionately high number in renovation of single apartment units[85] compared to whole apartment buildings, funding instruments for energy efficiency should actively encourage deeper renovation of whole buildings and their static reinforcement. This is considered essential to counter the trend that intensifies the stratification of the tenure structure, excluding poor households and benefiting property owners who are able to afford the renovation costs of single apartments.

[84] This is also in line with recommendations developed following an overview of CEE and SEE energy and climate policies: Institute for European Energy and Climate Policy (IEECP) (2022). "Status of energy poverty and policies to address it in CEE/SEE countries."

[85] Note that the average cost of grants provided per renovation application (for single housing units in apartment blocks) for the latest programming year of the Save programme in Thessaloniki was 11,500 EUR per renovation grant for all income categories (note that the maximum amount of the grant is set at 28,000 EUR).

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