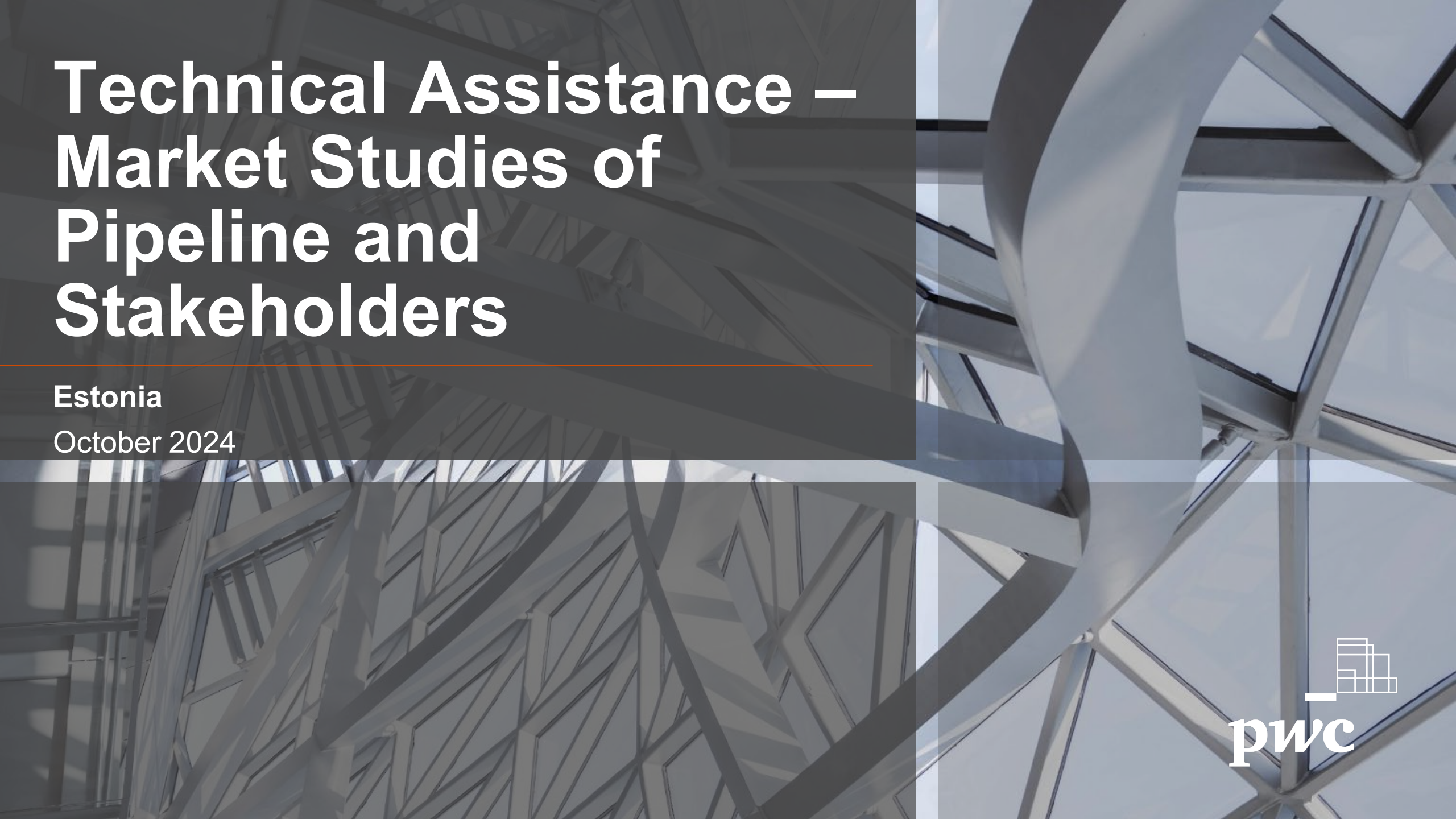
Technical Assistance – Market Studies of Pipeline and Stakeholders

Estonia

October 2024



Disclaimer

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A **comprehensive analysis of social infrastructure investment** in nine EU countries is a key objective of the project

Introduction – Project in focus

The project is initiated by the **Council of Europe Development Bank** who has hired **PricewaterhouseCoopers**, through the support of InvestEU Advisory hub, to identify market gaps and potential investment opportunities, with stakeholder engagement playing a crucial role in enriching the study's findings.

Project overview and goals

- The project, led by the **Council of Europe Development Bank (CEB)** and executed by **PricewaterhouseCoopers (PwC)**, is financed by the **European Commission under the InvestEU Advisory Hub**. This signifies a strong commitment from the EU to enhance social infrastructure.
- The aim is to **map the current state of social infrastructure investments** in nine EU countries, notably including France. This involves a comprehensive assessment of market conditions, funding availability, and potential investment opportunities.
- **The study aligns with InvestEU's broader goals to stimulate investment across the EU**, specifically targeting the development and enhancement of social infrastructure.

Methodology and phased approach

1. **Phase One - Desk Research**: In the initial phase, PwC conducts extensive desk research to collate and analyse existing market data and studies. This phase establishes a foundational understanding of the investment landscape in the targeted countries and identifies key stakeholders.
2. **Phase Two - Direct Market Interviews**: Following the desk research, the second phase involves conducting interviews to gather firsthand market insights from identified stakeholders. This step is crucial to enrich the analysis with real-world perspectives and data.
3. **Comprehensive Evaluation**: The combination of desk research and direct interviews ensures a thorough and multi-dimensional analysis, providing a detailed picture of the current market and identifying key areas for potential investment.

Stakeholder engagement

- **The CEB and PwC are actively engaging with principal stakeholders to gather insights and respond to specific inquiries**. This collaborative approach is essential for validating the study's initial findings and enriching the overall analysis with diverse perspectives.
- Through this engagement, the **CEB seeks to build a network of informed and interested parties**, fostering a collaborative environment for future projects and investments.
- Post-study, stakeholders will have opportunities to remain involved in ongoing dialogues and initiatives led by the CEB. This continued involvement is aimed at translating the study's findings into tangible investment actions and partnerships.

Limitations

The main project limitations consisted of reduced data availability, which was mitigated through involvement of local experts who provided estimates, and in some cases, additional data access. As well as, access to stakeholders for the phase 2 interviews, which resulted in some segments being covered by only one interview.

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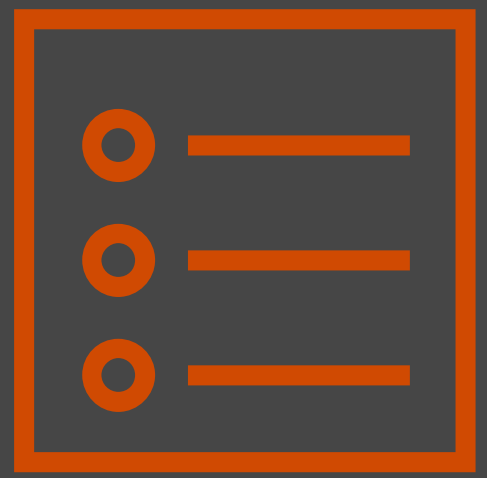


Introduction

Estonia’s Economy was growing exceptionally fast in the past years, where it surpassed the EU average CAGR by almost 86%

Introduction – Overview of the Estonian Economy

Estonia’s economic forecast

Between 2018 and 2022, Estonia's GDP experienced a CAGR of 8,68%, surpassing the EU-27's average GDP growth by ~3,1 percentage points, which stood at 4,67%. This growth trajectory persisted in the Q1 of 2023 (2,15%), although it slowed significantly in the Q2, down to 0,05%. According to official data from the World Bank, Estonia's GDP represents a modest 0,02% of the global economy.

According to the European Commission's projections for 2024, the Estonian economy is expected to strengthen as declining inflation and rising wages lead to increased real disposable incomes. Consumer price inflation is anticipated to remain elevated in 2023, at 9,2%, but is forecasted to decline to 2,8% in 2024. The government deficit is set to expand to 3,1% of GDP in 2023 before contracting to 2,7% in 2024.

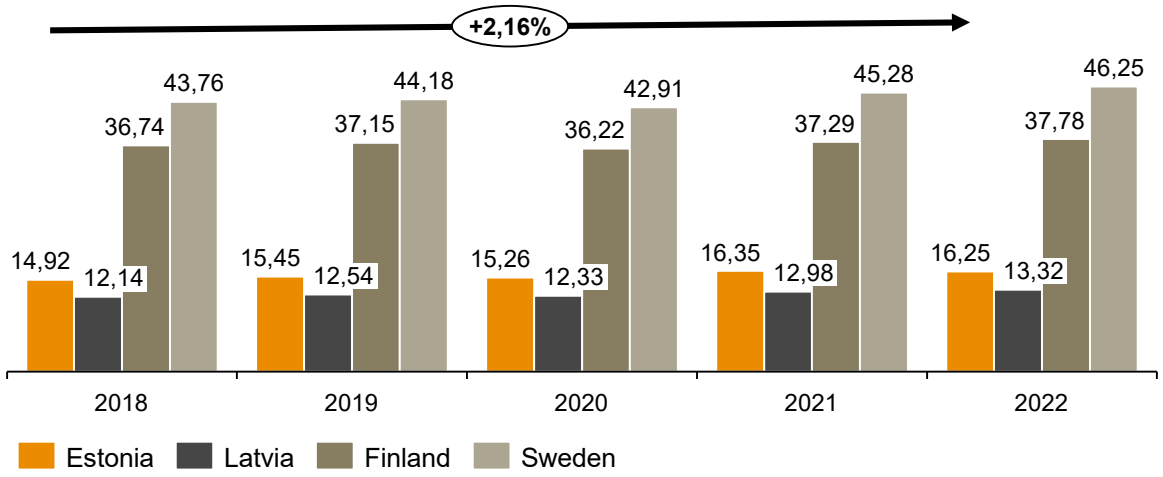
Estonia	2018	2019	2020	2021	2022	CAGR
Population (mil.):	1,32	1,32	1,33	1,33	1,33	**0,24%**
GDP bn (current EUR)	25,93	27,76	27,47	31,44	36,18	**8,68%**
GDP growth	3,8%	3,7%	-0,6%	8,0%	-1,3%	**n/a**
GDP per capita (EUR)	14.920	15.410	15.280	16.490	16.250	**2,16%**
Unemployment	5,4%	4,5%	6,9%	6,2%	5,6%	**n/a**
HICP (annual % change)	3,4%	2,3%	-0,6%	4,5%	19,4%	**n/a**

GDP per capita and inflation

Estonia has been on a track of steady economic growth in recent years. Estonia’s GDP per capita has been growing with a CAGR of 2,16% and has risen from EUR 14,92k in 2018 to EUR 16,25k in 2022.

In the first quarter of 2023, HICP inflation remained elevated at 17,3%, driven by persistent high prices in unprocessed food and other sectors. However, it is expected to gradually decrease as energy costs stabilize and food prices show signs of moderation. Projections indicate HICP inflation at 9,2% for 2023, with a significant drop to 2,8% in 2024 as energy effects wane and food prices stabilize further.

GDP per capita of Estonia and a basket of countries (EUR ths.) 2018–2022

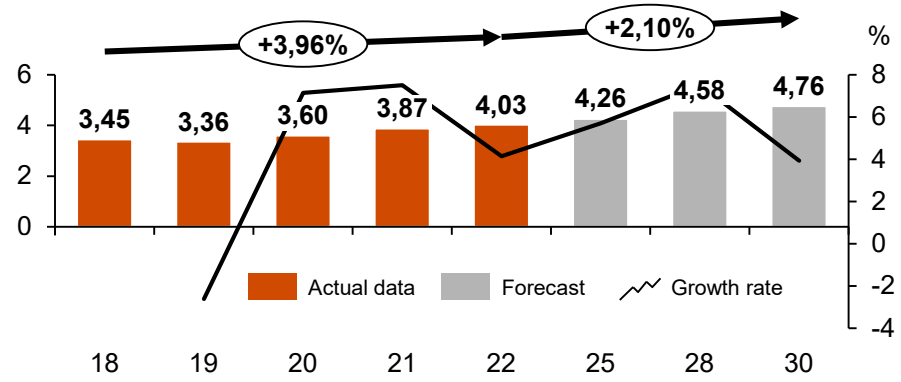


Sources: Eurostat, OECD, Eurostat, European Commission, PwC analysis

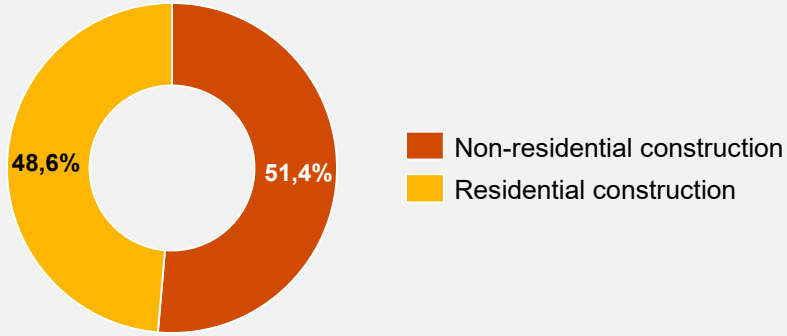
While the construction segment experienced a decline in 2019, the long-term outlook is positive for the segment

Introduction – Overview of the Construction Sector (excluding infrastructure)

Buildings construction industry value, in EUR bn



Construction works value share, by subsector, 2022



In the period of five years, since 2018, Estonian construction industry sector bottomed in its gross output in 2019, when it reached the value of ~3,4B. Since then, it has grown by EUR ~600M to EUR ~4B in 2022, translating to a CAGR of ~6,3%. For comparison, in the neighbouring country Latvia, which has around 0,5M higher population, the gross output of the construction industry in 2022 was ~2,6B (lowest value since 2003).

Projections of the buildings construction industry show a lower growth. Moreover, its gross output is projected to increase by around 800M until 2030, which would amount to CAGR ~2,1% of the gross output of the industry on a yearly basis.

Therefore, according to forecasts by Oxford Economics, construction of buildings in Estonia has a slightly positive outlook in the long run. As per our research, we estimate the growth to be mostly supported by government initiatives and EU funded projects (EUR 600M allocated funds from new EU financial perspective).

However, national statistics show that in the short-term construction of buildings has been largely affected by rising prices, high interest rates, and overall negative economic expectations across the EU. In the second quarter of 2023, there has been a decline in the demand for new dwellings, with 855 building permits issued, which represents around 41% less new building permits issued than the year prior.

Residential construction

The residential segment accounted for EUR 1,96B in 2022, equating to ~48,6% of the industry's value. In 2020, building permits were granted for the construction of 8.833 dwellings. The total number of dwellings completed in 2020 was 7.579, an increase of 8,1% from 2019 (7.014 dwellings).

Non-residential construction

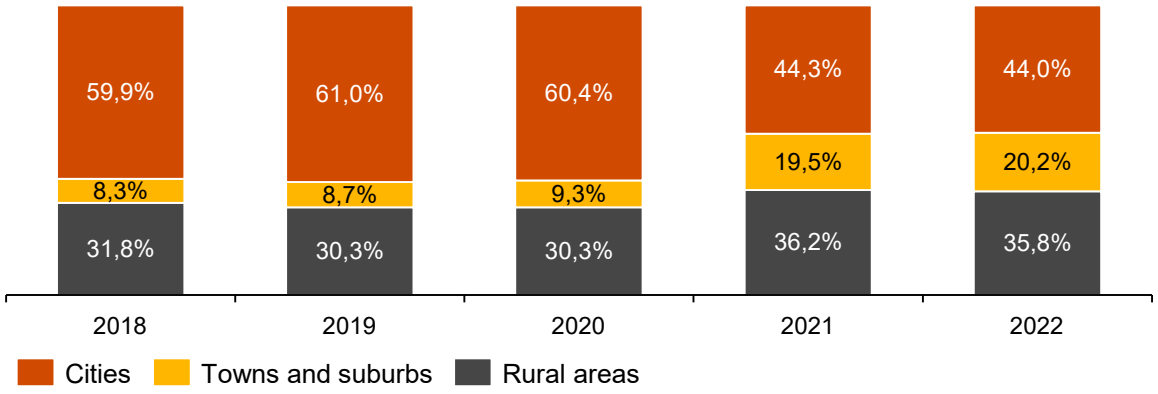
The non-residential segment was the industry's most lucrative segment in 2022, accounting for EUR ~2,07B, equivalent to 51,4% of the industry's overall value.

Sources: Eurostat, EMIS, European Commission, PwC analysis

Estonia's population is projected to slowly increase by 2025, with a sizeable share of the population living at risk of poverty

Introduction – Overview of the Estonian population

Share of population, by degree of urbanisation, in %

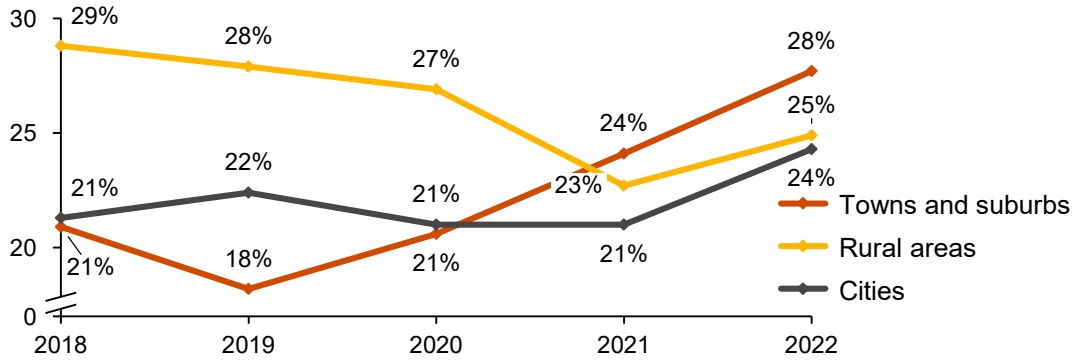


Estonia's current population stands at 1,33 million, projected to rise to 1,38 million by 2025 and then decline to 1,36 million by 2030. Among these, 44% (141k) reside in cities, while only 20,2% (74k) live in towns and suburbs. Notably, over the past four years, the percentage of people in towns and suburbs has grown at a rate of 24,9%, while the urban population has declined at a rate of 7,42%. Approximately 35% (118k) of the population resides in rural areas.

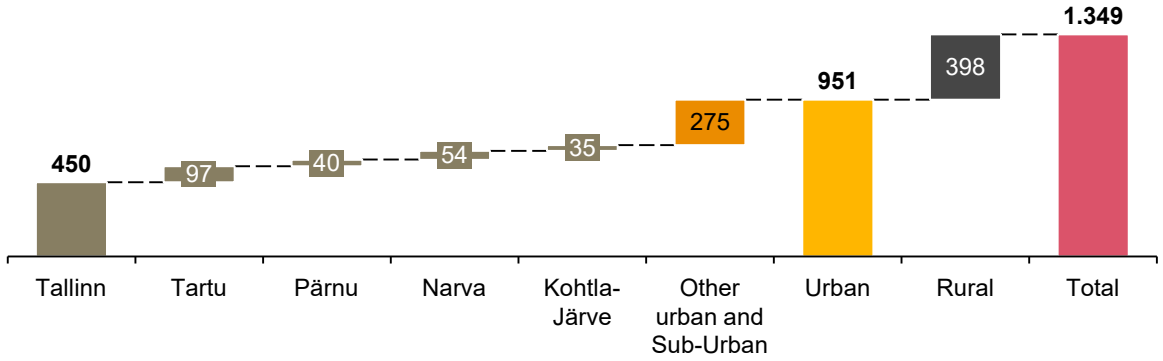
The combined population of the largest five cities amounts to 676k people or about half (50,8%) of the total population of Estonia– 1,33 million people.

In Estonian towns and suburbs, 28% of the population is at risk of poverty or social exclusion, a significant increase from the 18% recorded in 2019. Meanwhile, both rural areas and cities have approximately a quarter of their population facing poverty or social exclusion.

People at risk of poverty or social exclusion by degree of urbanisation, in %



Population split by largest 5 cities, in ths.



Sources: Eurostat, World Bank, PwC analysis

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Affordable social housing

A significant lack of social housing is coupled with a lack of policy coordination on a national level

Social and affordable housing

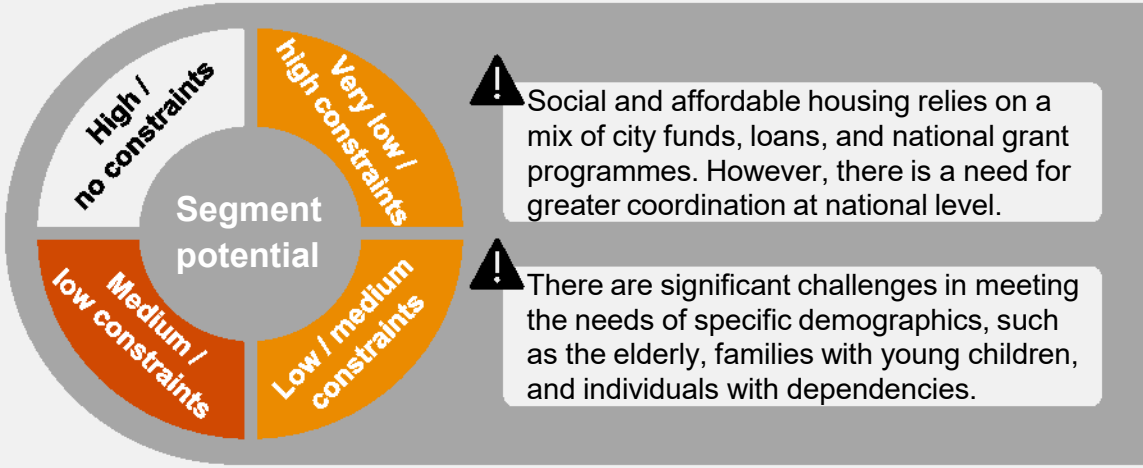
Key conclusions – Phase 1

- Public housing in Estonia is offered either in a form of municipal housing (affordable housing), or social housing (includes assistance with daily life).
- High property ownership rate in Estonia predominantly consists of mortgage-free ownership (~66%), with rental market seeing significant rent increases.
- Due to increases in interest rates and property prices, around 40% of households is not able to take a mortgage loan.
- A significant portion of the population (~32%, EU average stands at ~18%) resides below 60% of the median equivalised income (approximately EUR 17.500 per annum)

Key conclusions – Phase 2

- Estonian cities are moving towards sustainable social housing funding, reducing reliance on state support and creating opportunities for innovative financing, including private and international investments.
- Observed future projects indicate a greater emphasis on investments in housing with support to individuals with special needs or dependencies. However, some projects may not be executed due to uncertain economic outlook.
- Current investing patters showed a substantial reliance on local funding and a focus on renovating existing structures. The potential for external funding, including from foreign development banks, remains largely untapped.

PwC Assessment



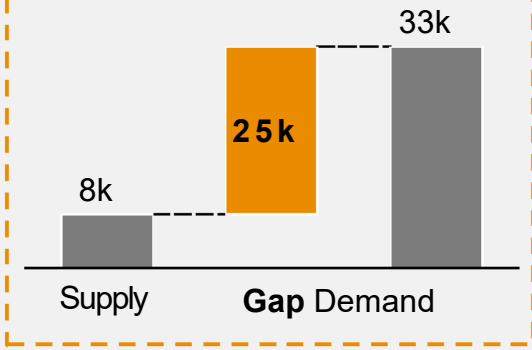
Social and affordable housing relies on a mix of city funds, loans, and national grant programmes. However, there is a need for greater coordination at national level.

There are significant challenges in meeting the needs of specific demographics, such as the elderly, families with young children, and individuals with dependencies.

Key Segment Data

1,1% of stock - social housing	**82%** share of home ownership	**2bn** est. financing needed
72% rented at reduced price/free	**23%** persons at risk of poverty	**20%** cannot afford housing

Gap analysis



Responsibilities for social and affordable housing are split among local authorities and the Ministry of Social Affairs

Social Housing – General Overview (1/2)

Social Housing definition and oversight

The social housing system in Estonia was established and is regulated through the Social Welfare Act of 1995 and is financed by municipalities through transfers from the central government or through grants provided by the Estonian Credit and Export Guarantee Fund (KredEx, a public limited company).

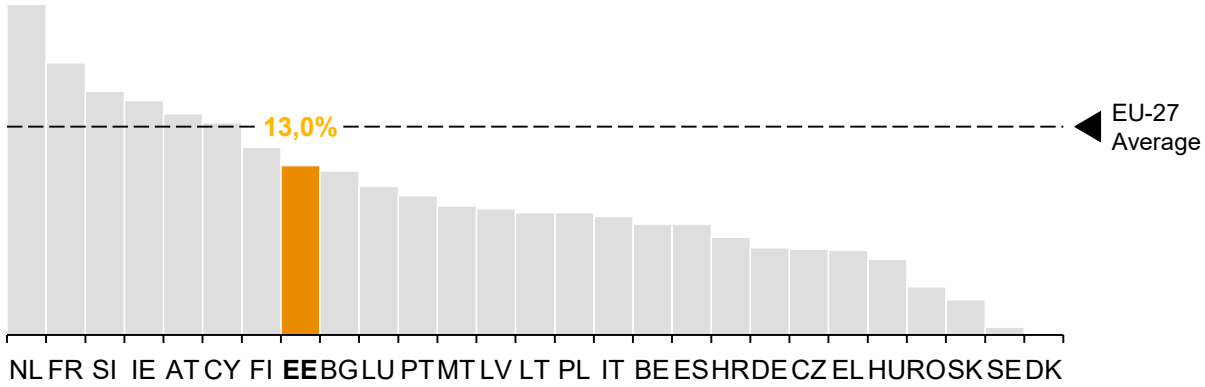
There are two types of housing. Municipal housing is intended for individuals or families unable to secure suitable housing that aligns with their needs or their family's requirements due to their socio-economic circumstances, as such to our understanding Municipal housing corresponds to other countries definition of affordable housing. Meanwhile, social housing caters to individuals and families requiring assistance in both housing and daily life, often provided through social services and benefits. Social housing can manifest as a subsidized apartment or a spot within a social housing unit.

The war in Ukraine has also influenced the Social housing segment, as there are currently 40k Ukrainian war refugees in Estonia. The state is bound to provide housing for refugees for a period of four months. Refugees are now increasingly moving from short-term accommodations organized by the state and municipalities to longer-term housing, relieving some of the social housing stock. However, they face problems as locals often do not want to rent to them or there is a shortage of affordable apartments. The government is trying to alleviate landlord‘s fears by giving refugees a monthly subsistence benefit that has this year alone been handed to more than 5,9k families or individuals. For the year of 2023 the government also allocated EUR 3,3 million for the renovation of 243 dwellings located in municipalities across Estonia.

Government spending on social housing in 2020 (housing allowances and social rental housing support), in % of GDP

Sources: Eurostat, OECD, Housing Europe

Tenants, rent with reduced prices or for free in Europe (2022, %)



Percentage for Estonia above (OECD statistics) considers both social and affordable housing.

Responsibility for social housing

The Ministry of Social Affairs is responsible for housing and social welfare policies in Estonia while Local Authorities (LAs) are responsible for providing appropriate housing based on eligibility criteria. There are two primary approaches to allocating dwellings. In many cases, dwellings are assigned based on a priority list, which prioritizes families affected by accidents, catastrophes, or demolition, as well as orphans, disabled individuals, and those relocated from their housing. Otherwise, applicants are evaluated individually using various criteria like the current housing situation and socioeconomic status.

Most social housing is owned and managed by LAs, with rent subsidies covering a significant portion of the housing costs. Rent amounts vary across LAs and are often tied to dwelling conditions, location, and tenant‘s socioeconomic status.

High ownership rate due to extensive privatisation in the 1990s and a relatively low share of social housing stock

Social Housing – General Overview (2/2)

In 2020 the Estonian government spent 0,08% of its GDP on social rental housing and additional 0,06% on housing allowances. Social rental housing stock represents only 1,1% of the total housing stock, a figure that falls short of the OECD average of 7,5%. This percentage has not changed since 2013.

Tenure Breakdown

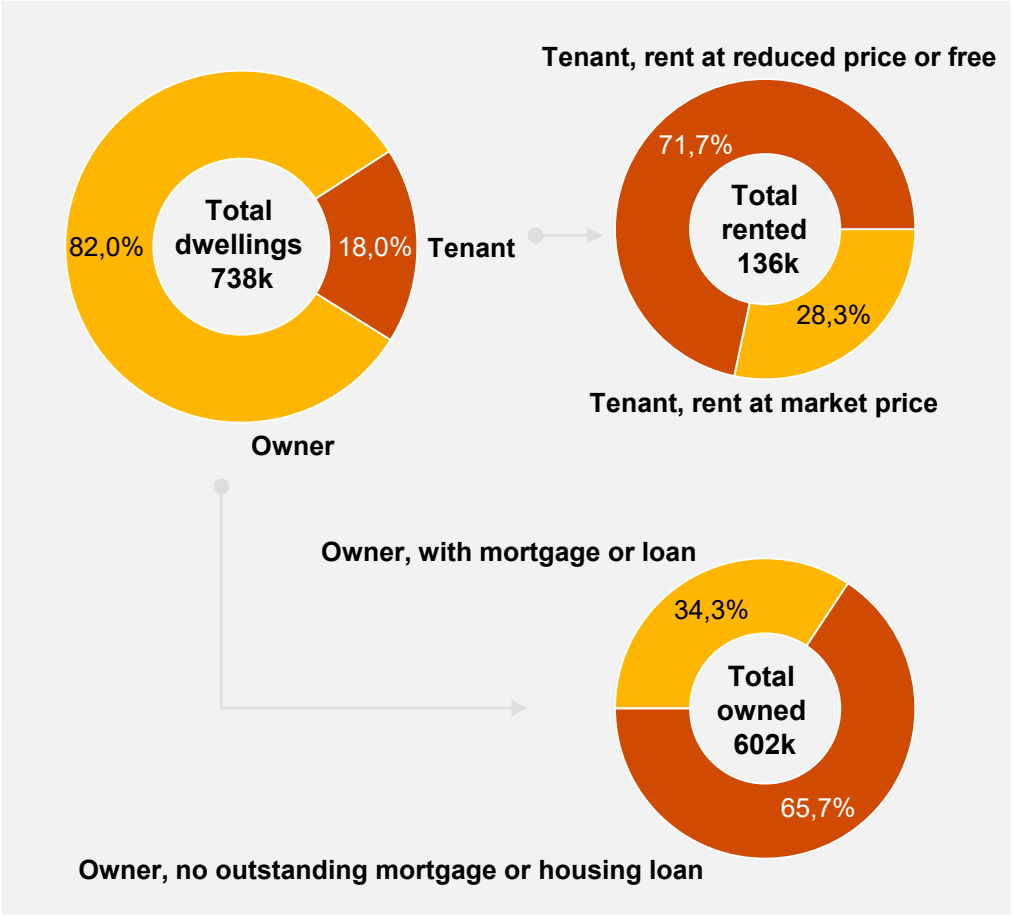
In 2023, Eurostat reported that 82% of Estonia's housing stock was privately owned (605k dwellings), a consequence of extensive privatizations during the early 1990s. Due to this significant home ownership, social housing projects have not occupied a prominent position on the local government's agenda. Among these owned properties, 26,8% were held with mortgages, while 55,2% were owned without mortgages. Additionally, 18% of the overall housing stock was rented, 5% of which at market rates and the remaining 13% at reduced or no cost.

The ownership rate experienced a minor decline in the beginning of the century, but since 2010, it has remained relatively stable. Since 2010 the lowest rate recorded was 81,1% in 2013. Conversely, the situation differs for rental properties. The proportion of housing stock dedicated to rentals expanded during the early years of the century but has since reached a point of stability around 18%.

Rental market

In the second quarter of 2022, the rental market experienced significant disruption due to Ukrainian war refugees, causing a 50% decrease in supply and an approximate 20% price increase. However, by the third quarter, the demand has decreased, resulting in an increase in available apartments.

The average price per square meter for apartments in the capital Tallinn saw a notable 22,1% surge in 2022. This marked a substantial increase compared to the 5% annual increase recorded in 2020. This trend is attributed to heightened demand, low interest rates, rising incomes, expectations of heightened inflation, and a surge in apartment purchases for investment purposes.



Sources: Eurostat, OECD, PwC analysis

Rental and housing prices have increased significantly, thus increasing the pressure on potential buyers and renters

Social Housing – Key Issues

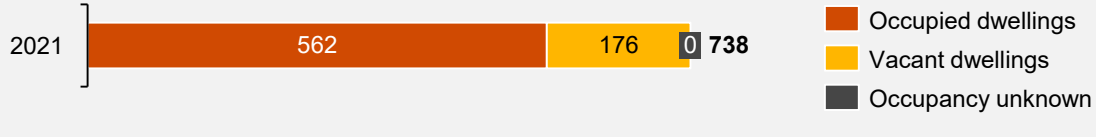
Rental and housing prices are growing higher than in the rest of EU

Estonia's total housing stock amounts to 737,8k dwellings, with 562,2k, or 76,2%, of them occupied in 2021, translating to an average of 2,4 inhabitants per dwelling. The number of dwellings has been steadily growing, it has grown by 11,4% since 2011. According to Eurostat 15,7% of the population resides in overcrowded dwellings, which falls below the EU average of 16,8%.

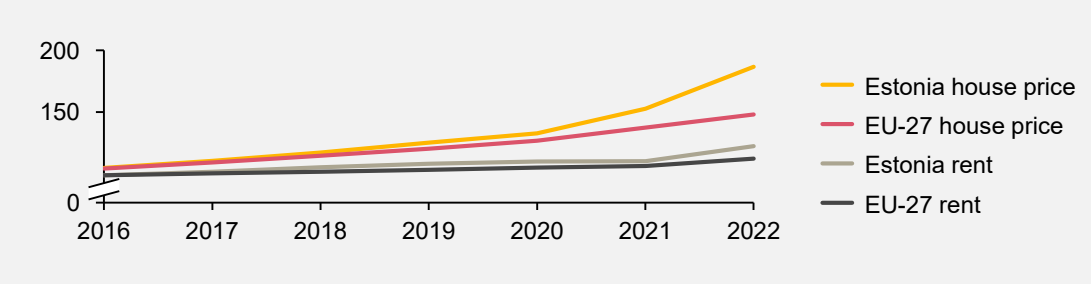
Nevertheless, the cost of housing is on the rise. Rent prices have surged by approximately 22,4% between 2015 and 2022, whereas the EU average increase stands at 10%. Estonia experienced the most pronounced housing price escalation across Europe in 2022, witnessing the index rising by 30,5% in 2021 (EU-27 average 19,9%) and 49,1% in 2022 (EU-27 average 23,2%). This dynamic has put pressure on the rental market as it led numerous families to explore more economical residential options. This trend is forecasted to continue, implying that the pressure on potential buyers will persist. Furthermore, this trend has significantly contributed to the relatively high share of population which is at risk of poverty. This indicator is higher than the EU average and is increasing for both owners and tenants (with the increase in the latter category being even more evident).

Social housing is concentrated in major cities, such as Tallinn, Tartu, and Pärnu. Tallinn alone offers 24 municipal houses and apartments, along with 17 social housing buildings. The current Tallinn budget allocates EUR 41 million for municipal property activities, emphasizing municipal and social housing developments, support for apartment associations, and energy-efficient city owned buildings. Tallinn also prioritizes housing for essential city employees, through the Second Housing Programme, designed for housing city-run agency workers like rescuers, police officers, doctors, and nurses; key contributors to city development. Notably, Tartu is taking proactive measures with the construction of two new municipal buildings, totalling 56 apartments in 2021 and 2022. This reflects the city's commitment to housing needs and improving resident's living conditions.

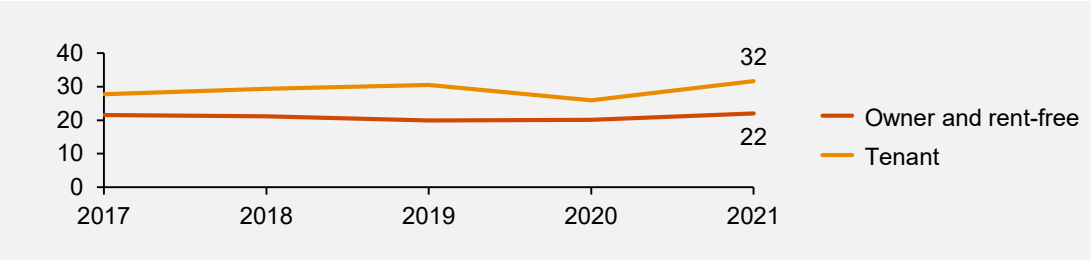
Number of dwellings and occupancy, in ths.



Annual average rate of change of house price index (index 2015=100)



At risk of poverty by tenure status, in %



Sources: Eurostat, Statistics Estonia

A high share of the population (40%) can't afford to buy a home, while a fifth can't afford to either rent or buy a property

Social Housing – Market Demand

The housing stock is relatively old and concentrated around the capital

Estonians have strong preference for home ownership, with more than 80% of housing stock being owned. Only 4,9% of households are overburdened by their housing cost, meaning that housing costs represent more than 40% of the total disposable household income. On average housing costs represented around 14,8% of disposable household income in 2022 (lower than the EU-27 average of 19,9%).

Building projects have been concentrated in regions experiencing population movement, with 88% of recently completed dwellings over the past decade situated in Harju or Tartu county. Although single-person households are prevalent in Estonia, the properties constructed in the past ten years are primarily inhabited by young families. Overall, a significant portion of the population (51,4%) resides in urban apartments, and the average person's dwelling is a few years older (48,7 years) than the average person in Estonia (41,9 years). Meaning, the housing stock in Estonia can be characterized by its relative age, with over 80% of conventional housing built prior to 1990, often without significant consideration for energy efficiency.

A significant portion of the population (32%) resides below 60% of the median equivalised income (approximately EUR 17.500). When taking into account the EU average, where only 18% live below the 60% threshold of the median wage (around EUR 26.200), the results for both figures in Estonia are worse. In addition, this situation contributes to a higher risk of poverty, with 22,8% (22% of homeowners and 32% of tenants) of the population facing this challenge, surpassing the EU average of 16,5%.

A notable proportion of less privileged individuals are, in fact, homeowners of their dwellings. They reside in condominiums structured as housing associations. Nearly 60% of Estonia's overall population is part of such associations. The Estonian Union of Cooperative Housing Associations (EKYL) plays a pivotal role in supporting these associations. EKYL and its members have a significant role in upgrading and improving low-quality housing.

Almost a fifth of households cannot afford to either buy or rent a home

The average price per square meter for older construction residences is EUR 1.800, which translates to a cost of EUR 90.000 for a 50 m^2 flat. With a 15% down-payment mandated by the Lumina bank's commercial conditions, the loan amount stands at 76.500 EUR, coupled with a 6,16% APR, leading to monthly instalments of EUR 545, for a 20-year period. This analysis underscores that the prospect of homeownership is unattainable for the first four deciles of Estonian households, encompassing a substantial 232.000 households out of the total of 582.000 households.
Furthermore, when assessing the possibility of renting an apartment with the above-described characteristics for rent of EUR 420 per month (confirmed through market research), only 20% of the population can't afford to either rent or buy an apartment.

Average total income per household (2021, deciles)

Decile	EUR	40% HH income, EUR
D 1	486,4	194,6
D 2	686,6	274,6
D 3	1.052,8	421,1
D 4	1.305,6	522,2
D 5	1.557,2	622,9
D 6	1.797,5	719,0
D 7	2.071,7	828,7
D 8	2.331,8	932,7
D 9	2.810,3	1.124,1
D 10	4.517,9	1.807,1

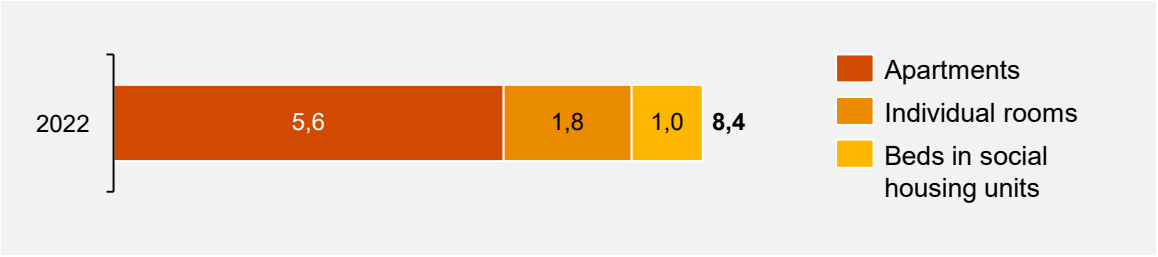
Sources: World Bank, Statistics Estonia, Lumina Bank

Rent Buy

Social housing stock represents a low share (1,1%) of the total housing stock when compared with the EU average (7,5%)

Social Housing – Market Supply

Social housing units maintained by municipalities, in ths.



Access to social housing

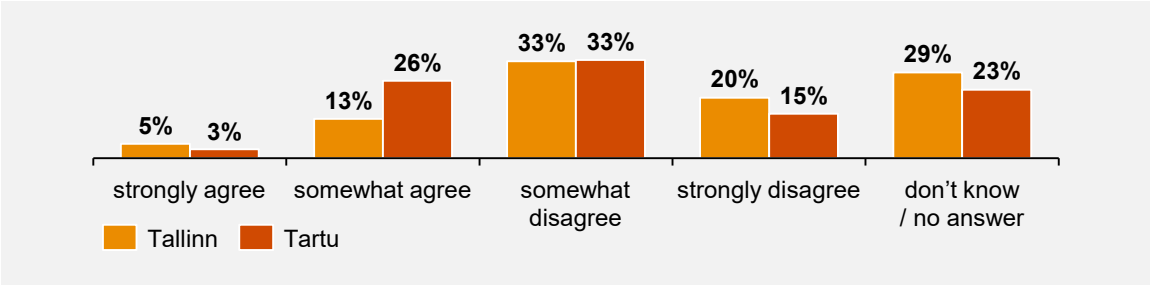
Social housing represents only 1,1% of the total housing stock in Estonia (around 8k dwellings), which is below the EU average of 7,5%. This percentage in Estonia would translate into 55k social housing units. As local authorities are responsible for providing social housing, the entire social housing stock is managed by municipal authorities and none by limited-profit providers and/or cooperatives or for-profit and individual providers.

Expenditure on housing allowances at the national level represents a modest portion of the country's GDP, approximately 0,06%. In 2021, the government allocated approximately 8,7 million EUR for housing, reflecting a near doubling from previous years (4,7 million EUR in 2014).

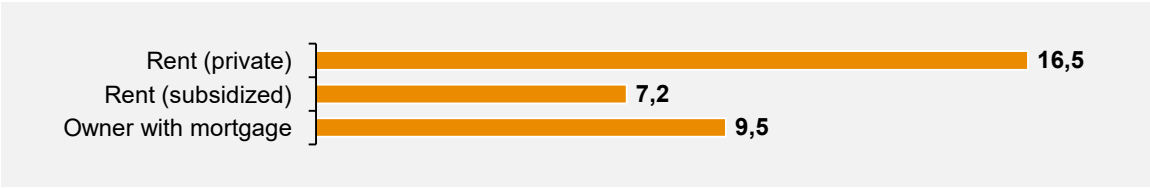
In Tallinn alone there are 24 municipal houses and single apartments in every part of the city, in total the city has 1.833 municipal apartments with all amenities. In addition, Tallinn has taken into use 19 residential buildings from the private sector in order to solve the housing problem of those in need. There are additional 17 social housing units located in the city.

Sources: Eurostat, OECD, Housing Europe

Share of respondents who agree/disagree that good housing can be found at a reasonable price, in %



Share of population that spends more than 40% of disposable income on mortgage and rent in 2020, in %



Eurostat conducted a survey in 2020 about the satisfaction with the housing market in European cities. For Estonia, Tallinn and Tartu were surveyed. The results show that the majority of inhabitants of two of the largest cities disagree about the fact that housing can be found at a reasonable price. This problem is further underlined by the fact that 16,5% of the population spent more than 40% of their disposable income on rent, 7,2% on subsidised rent, and 9,5% on mortgages.

3

Student housing

Estimated gap remains high, however, research showed students are satisfied with housing situation in the country

Student housing

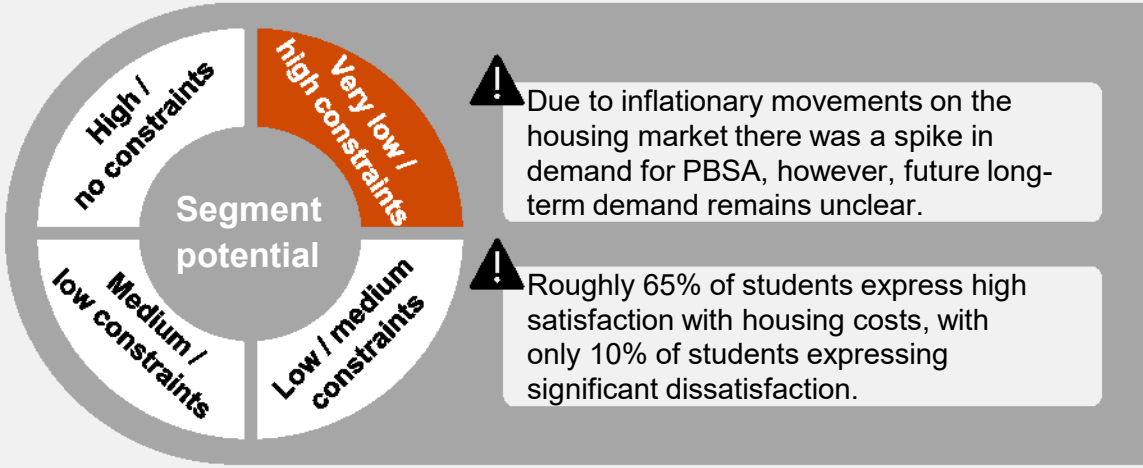
Key conclusions – Phase 1

- In Estonia there are about 10k beds available in PBSA, out of which 71% are owned by universities, and the rest are owned by private operators.
- Rental prices of public dormitories are significantly cheaper than of the private ones (up to 3x cheaper), however, private PBSA remain cheaper than renting from a private rental housing market.
- Due to rising rental prices, an increasing share of students are opting for public housing options, therefore dormitories are experiencing an increase in demand.
- Housing constitutes an average of 32% of the living expenses of students, whereas 73% of housing costs are covered by the students themselves, indicating a limited reliance on external financial support.

Key conclusions – Phase 2 (Student housing)

This segment has not been shortlisted for phase 2.

PwC Assessment

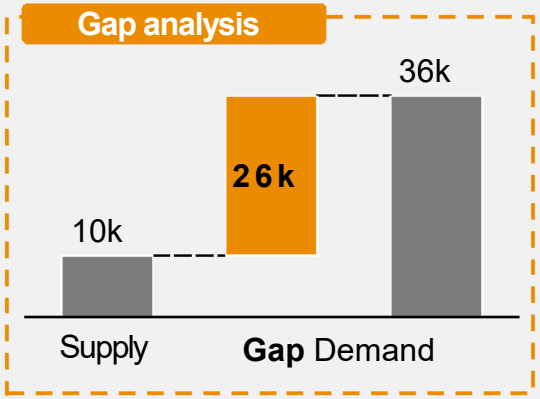


Due to inflationary movements on the housing market there was a spike in demand for PBSA, however, future long-term demand remains unclear.

Roughly 65% of students express high satisfaction with housing costs, with only 10% of students expressing significant dissatisfaction.

Key Segment Data

22% students living in dorms	**16%** are living in university PBSA	**59%** renting at commercial terms
11% share of foreign students	**-1%** CAGR - foreign students	**19%** students leaving in the first year



The majority of students live in a private flat or at home, while more than 20% live in dorms or other types of student housing

Student Housing – General Overview

Student housing options

There are several housing options in Estonia: About 22% of the Estonia's student population lives in dedicated student accommodation (9,9k students):

1 **Accommodation provided by universities** themselves. Universities such as TalTech, Tartu, Estonian University of Life Sciences, Estonian Entrepreneurship University of Applied Sciences, Tallinn University, Estonian Academy of Music and Academy of Theatre offer student accommodation. The average monthly fee for such accommodations is 215 EUR/month and the average deposit is around 240 EUR. The housing stock, provided by universities is usually not campus-based, but spread across the city, with prices reflecting location and distance to the university. Universities offer around 6,7 to 7k beds.

2 **Organisations specializing in offering accommodation to students**
They offer both less expensive options and more expensive options in comparison to accommodations provided by universities. Universities have also started cooperation with hotels and other accommodation providers – Pärnu College of the University of Tartu offers housing in cooperation with the private sector.

Private providers of accommodation

3 **Private rooms or flats**

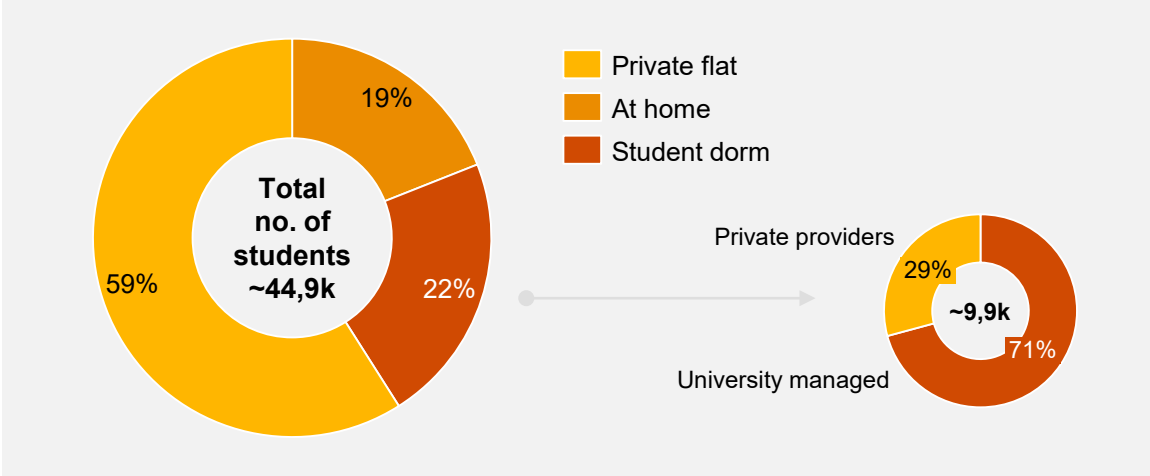
In Tallin, the cost of studio flats usually averages around 600 EUR per month, whilst the price of a shared room is usually more affordable averaging around 250 EUR per person and that of a single one is between 450 and 500 EUR per month.

4 **Living at home and commuting**

Around 19% of students (8,5k) live with their parents and commute to school.

Median monthly student income including transfers in kind, 2021 in ths. In EUR

Split of students per type of accommodation, (2021, %)



Sources: Eurostudent, Tallinn university website

Due to the increasing rental prices, an increasing number of students are choosing to live in dormitories instead of flats

Student Housing – Key Drivers

State of student housing is less than ideal, but not critical

Around 22% of students, or approximately 9,9k individuals, currently reside in student accommodation. Notably, public dormitories address 71% of this demand (7k places in public student accommodation), whilst the rest is covered by private providers (3k places).

According to Eesti Üliõpilaskondade Liit (EÜL or the Federation of Estonian Student Unions), the housing situation is not a primary area of concern at present. Although there is a need for more dormitory spaces, the situation is not critical.

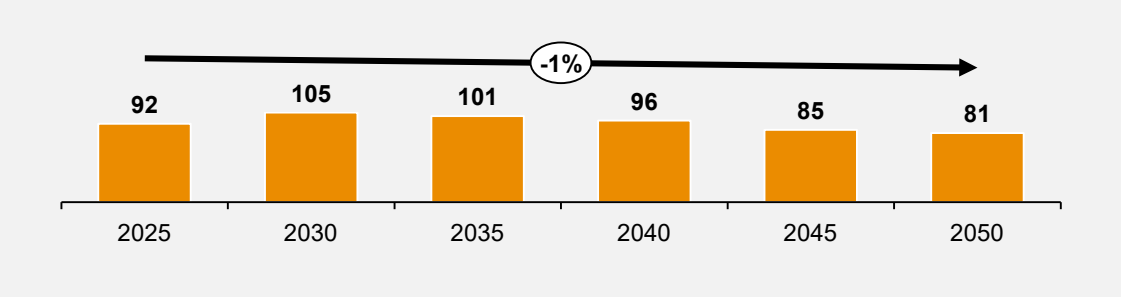
A growing number of students are choosing public housing due to rising rental and utility fees prices. In Tartu private flats, that were priced at 450 EUR/month in 2021, currently costs 580 EUR/month, therefore dormitories managed by the University of Tartu experienced an increase in demand. However, due to the rise of energy prices they too increased their prices by 12%. Most higher education institutions offer dormitory spaces in various price ranges near campuses. These accommodations also cater to families and students with special needs.

Student representatives play a role in the decision-making bodies, ensuring student friendly pricing and conditions. The National Union of Students advocates for affordable housing for all students. It emphasizes the importance of student dorms being accessible to everyone. However, there are no specific programs or projects focused on this topic. Housing concerns are handled through local student unions.

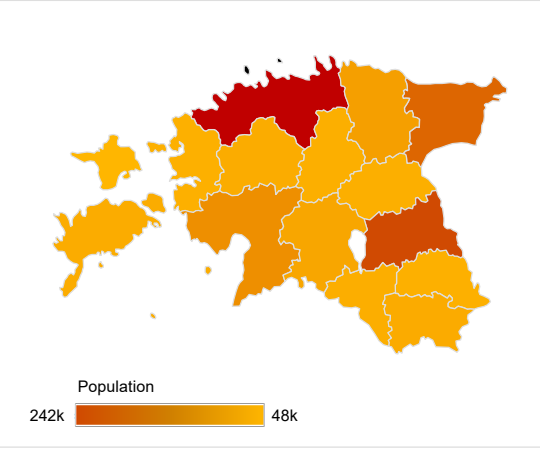
Developing rental units, including student housing projects, has historically been less attractive to private developers, compared to selling real estate due to high risks, such as low liquidity of the market as a consequence of its small size and low real estate rental yields compared to sales yields. However, recent years have seen a shift, with more privately funded rental developments emerging in the market. Additionally, universities are now partnering with hotels and accommodation providers. For instance, the University of Tartu's Pärnu College collaborates with the private sector to offer housing.

Sources: Eurostudent, HaridusSilm, Statistics Estonia

Predicted population, 18–24-year-old, in ths.



Population with a higher education degree, by region (2023)



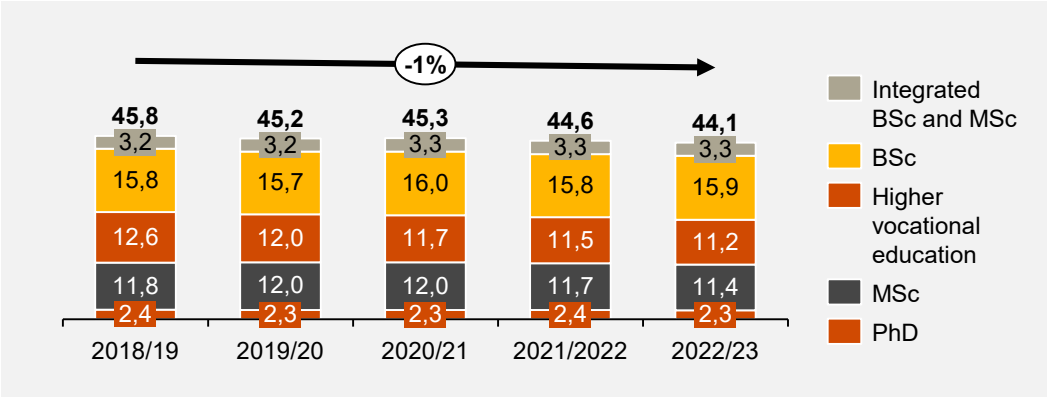
For better visualisation Harju County was coloured separately

Region	Population with a higher degree
Harju County	241.939
Hiiu County	2.036
Ida-Viru County	39.439
Jõgeva County	5.636
Järva County	5.763
Lääne County	4.842
Lääne-Viru County	12.849
Põlva County	5.061
Pärnu County	20.299
Rapla County	6.982
Saare County	7.115
Tartu County	52.505
Valga County	6.061
Viljandi County	9.911
Võru County	7.227

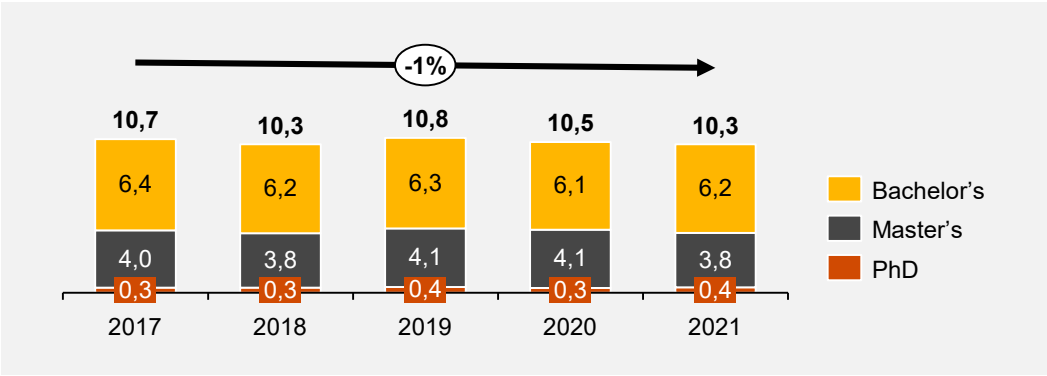
The number of students, new entrants, and foreign students has been slowly decreasing in the past years

Student Housing – Market Demand

Number of tertiary education students, in ths.



Number of newly enrolled student per year, in ths.



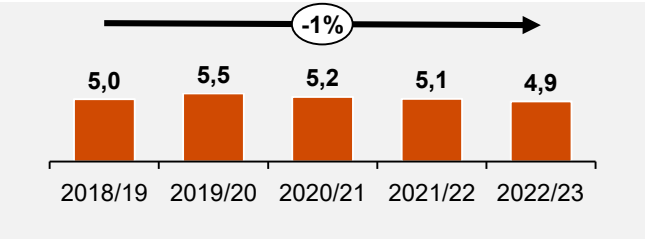
Slight decrease in both domestic and foreign demand

Between 2019 and 2020, the number of students in tertiary education went up by a slight 0,18%. This is a shift from the usual trend of decreasing student numbers. The increase is mainly due to more students pursuing integrated BSc and MSc and BSc degrees (2,61% and 1,57% increase from 2019 to 2020). This suggests that the need for student housing probably will not rise drastically in the next few years – it might level off or even go down.

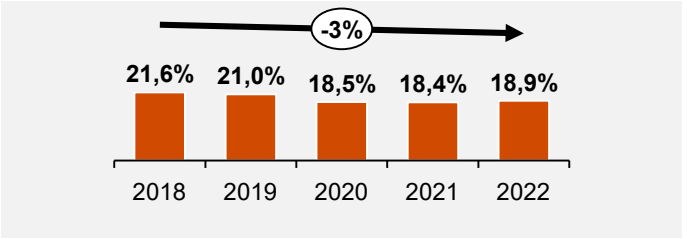
Likewise, a similar pattern is seen in the case of international students. Their numbers had been growing at a slower pace in the past few years. However, there was a slight decrease of 5,4% from 2020 to 2021. This could largely be accredited to the COVID-19 crisis. On the flip side, the number of Estonian students studying abroad has been growing, except for 2021, which is again linked to the pandemic.

Since the year 2020, there has been a noticeable upward trend in the count of students who opt to leave their education early. This trend of early leavers has been on the rise (0,5 percentage points from 2021 to 2022), signifying a shift from previous years. When taking into account all these factors collectively, it becomes evident that the prospect of a drastic increase in the demand for student housing appears quite unlikely in the foreseeable future.

Number of foreign students, in ths.



Percentage of students leaving in the first year of studies



Sources: Eurostat, Statistics Estonia, HaridusSilm, PwC analysis

Dormitory management is considered as effective, while the majority of students are also satisfied with the housing costs

Student Housing – Market Supply

Public market supply

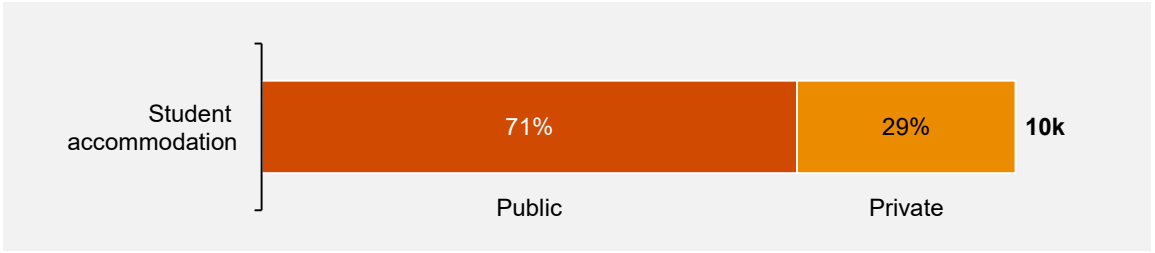
Presently, universities provide a total of 7,2k beds in public dormitories. The cost of these beds varies based on factors like location, accommodation quality, and the season, typically ranging from EUR 150 to EUR 250 in dormitories and EUR 300 to EUR 550 in private flats.

On average, the monthly fee, inclusive of utility expenses, for students residing in dormitories stands at approximately EUR 215. Housing constitutes around 32% of a student's overall living expenses, which is lower than the EU average of 35%. Notably, 73% of these housing costs are covered by the students themselves, indicating a limited reliance on external financial support.

A survey conducted by the European Students Union reveals that roughly 65% of students express high satisfaction with housing costs, while only around 10% express significant dissatisfaction.

Dormitory management is effective, especially considering that public dorms older than 20 years have mostly undergone renovation. Waiting times for accommodation vary, but they generally do not exceed a year and a half.

Public sector supply (2020), in ths.

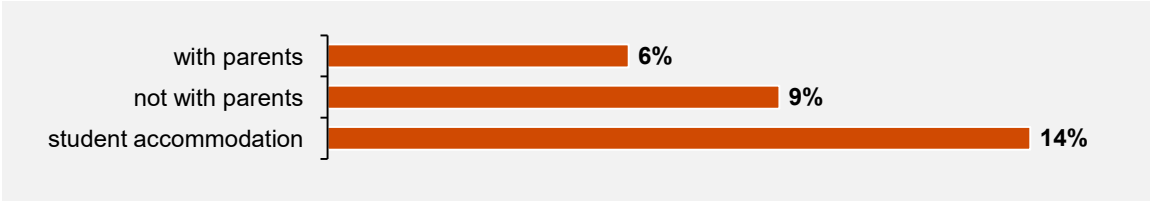


Price of student accommodation

Student housing type	Price / month
University accommodation	150–250
Private student housing	47–790
Rental market (rooms or flats)	300–550

Prices vary on location, and foreign students typically pay higher prices.

Share of students not satisfied with their housing conditions, split by housing options, in %



Average living and study-related costs as a share of student's total monthly expenses, in %

Sources: University websites

4

Universities and vocational training centres

Majority of students attend public higher education institutions, which have spare student capacities

Universities

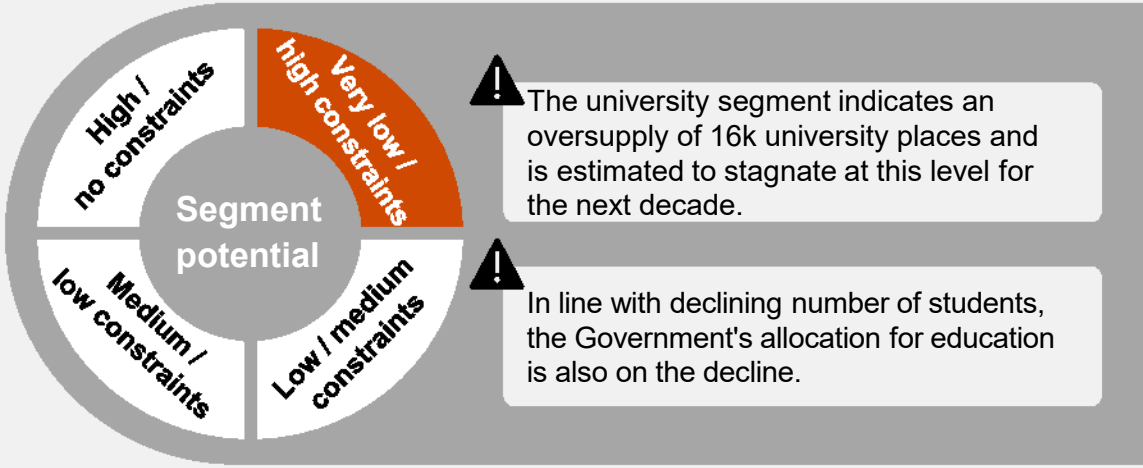
Key conclusions – Phase 1

- The higher education is mainly financed from the state budget, while universities also earn revenue from the provision of services related to the main activities, as well as from the research and development activities.
- The vast majority of students (93,4%) in Estonia are attending one of the 13 public higher education institutions. Only a small share (6,6%) of students attend one of the 5 private higher education institutions.
- In contrast to the trend observed in the EU, the number of tertiary students in Estonia has been slowly decreasing in recent years and is projected to further decrease in the following years.

Key conclusions – Phase 2

This segment has not been shortlisted for phase 2.

PwC Assessment



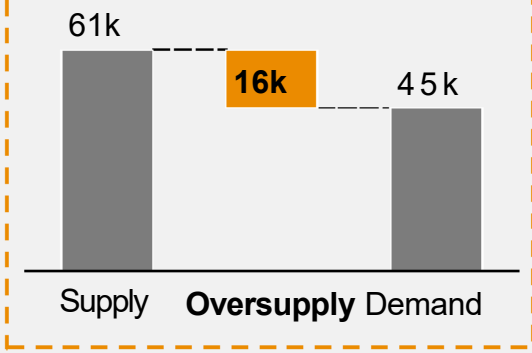
The university segment indicates an oversupply of 16k university places and is estimated to stagnate at this level for the next decade.

In line with declining number of students, the Government's allocation for education is also on the decline.

Key Segment Data

42k students in public institutions	**3k** students in private institutions	**18** number of tertiary institutions
-1% CAGR - foreign students	**-1%** CAGR – tertiary students	**-1%** CAGR - newly enrolled

Oversupply analysis



The tertiary education system operates on a three-level structure, with the majority of students attending public HEIs

Universities – General Overview

Organisation of tertiary education in Estonia

Since the academic year 2002/2003, the higher education system has operated on a three-level structure, adhering to the bachelor-master-PhD model established by the European Higher Education Area within universities. Institutions offering higher education programs are categorised based on ownership as public, state-owned, or private. The standard framework for studies is typically based on the 3+2 curriculum system. This entails a usual duration of three or four years for undergraduate or professional higher education studies, followed by two years of master's studies. Additionally, there is a five-year study program that seamlessly integrates both bachelor's and master's studies, designed for roles like class teachers. Upon completion of master's studies, individuals can embark on doctoral studies.

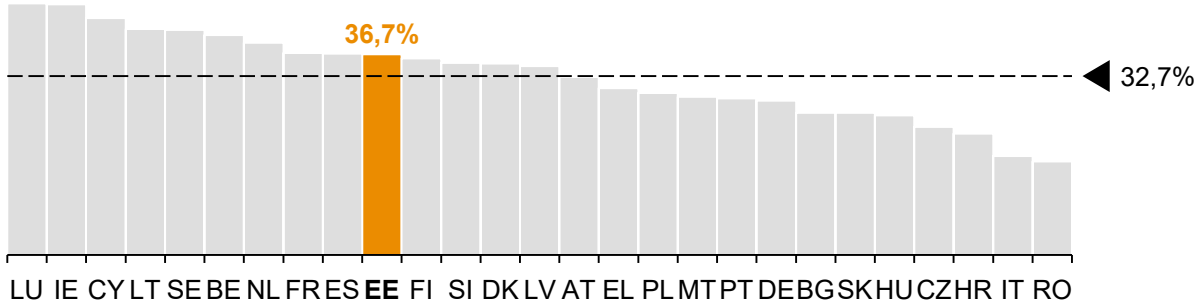
The higher education reform, which became effective in the autumn of the 2013/2014 academic year, brought about a harmonisation of opportunities for all applicants to access free higher education. Higher education became free of charge for those studying full-time and in Estonian. In support of the organisation of higher education studies, the government allocates operational funding to public universities and state institutions of professional higher education.

In 2021, there were 45k students in total in Estonia, 93,4% (42k) of which attended public institutions, and 6,6% (3k) attended private institutions. Overall, there are 18 universities offering higher education in Estonia (6 public universities, 1 privately owned research university, 7 state universities of applied sciences, 4 private universities of applied sciences, 2 state institutions of professional higher education).

The higher education is mainly financed from the state budget (covering study costs, administrative costs, investments, and targeted financing). Universities also earn revenue from the provision of services related to the main activities for a charge, as well as from the research and development activities. Institutions of professional higher education administered by the Ministry of Education and Research are financed from the state budget.

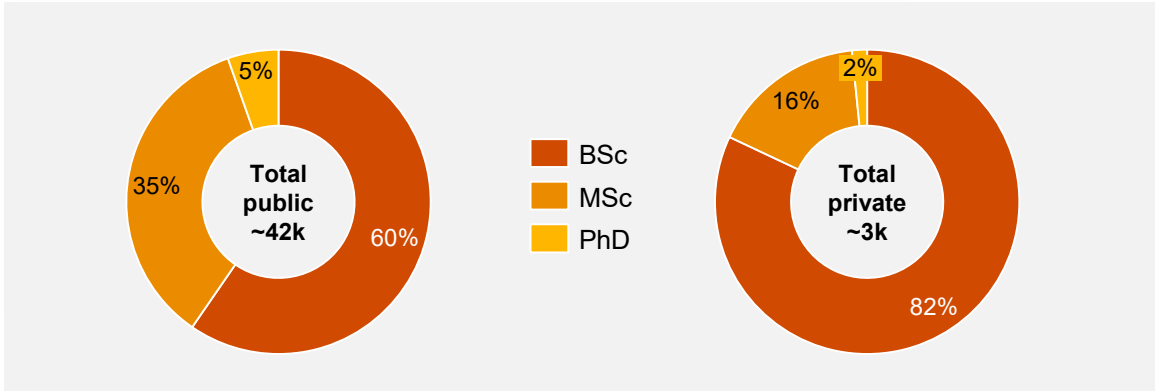
Sources: Eurostat, the Ministry of Education and Research website, HaridusSilm, PwC analysis

Share of population with university degree, 2022, in %



Split of students by public institutions, 2021

Split of students by private institutions, 2021



Sources: Eurostat, Statistics Estonia

The quality of the education system is perceived as high, while the employability of graduates is slightly lower than in the EU

Universities – Key Drivers

Number of students is predicted to decrease in the next 25 year

The age group of 18 to 24, which significantly impacts the potential demand for university students in Estonia, is projected to decrease steadily over the next 25 years, with an annual reduction of -1%. This trend is also noticeable in the slight decrease in the number of tertiary students over the past five years.

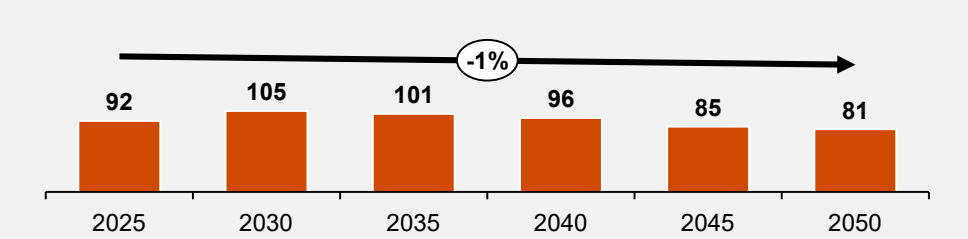
The count of foreign students studying in Estonia is gradually declining, with a -1% annual reduction. It is important to mention that only PhD studies have seen a small increase in the enrolment of foreign students, with a CAGR of 10%.

In terms of earnings, graduates from higher education institutions earn more than the average Estonian, with an average monthly income of 1548 EUR/month in 2021. In the same year, those with PhD degrees were the highest earners, while individuals with Bachelor's degrees earned less, though still above the average Estonian income. According to Eurostat 77,4% of graduates were employed within 3 years after finishing their studies.

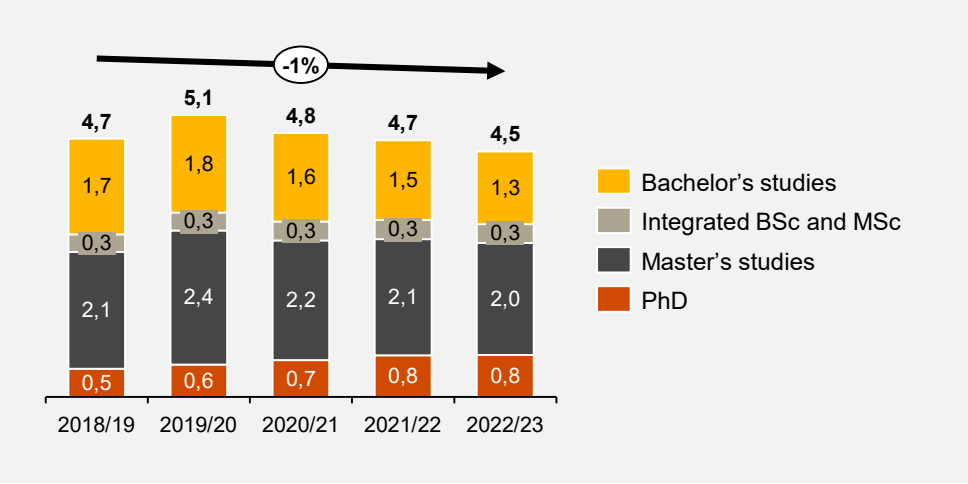
According to our calculations, the student-to-teacher ratio in 2021 was 10,2:1, compared to the EU average of 12,8:1. As this ratio has been found to be one of the strongest indicators of student success and engagement it reflects favourably on the Estonian education system.

Salary by highest earned education in 2021, in ths.

Predicted population, 18–24-year-old, in ths.



Number of foreign students, in ths.



Sources: Eurostat, Statistics Estonia, the Ministry of Education and Research website, HaridusSilm, PwC analysis

The overall numbers of students and the total government expenditure on tertiary education have been slowly decreasing

Universities – Demand

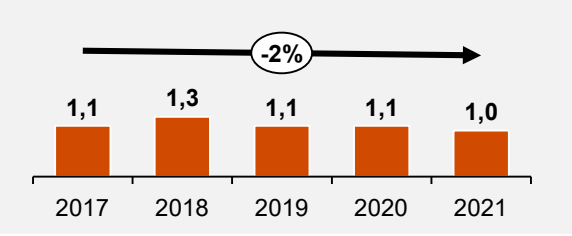
Minimal changes in both domestic and foreign demand

The student population in Estonia has been observing a yearly decline of 1%, leading to a total of 44,1k students registered in Bachelor's, Master's, and PhD programs in 2023. This marks a decrease of 0,5k compared to the previous year. This reduction contrasts with the European Union trend, which has witnessed a slight increase in student numbers, boasting a Compound Annual Growth Rate (CGAR) of 2% during the same period.

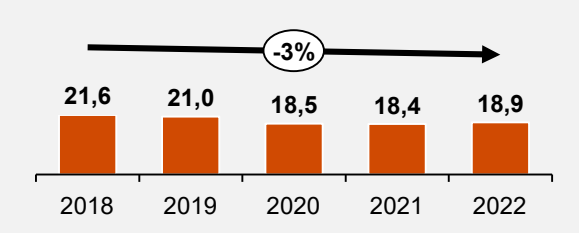
The majority of students are enrolled into Bachelor's studies (61,1%), followed by Master's (33,8%) and PhD students (5,1%). The enrolment figures for Bachelor's, Master's, and PhD programs are all experiencing a decline of about 1%. The declining trend is also reflected in the count of newly enrolled students, with the exception of PhD students. Enrolments in PhD programs have been consistently increasing at a yearly rate of 2%.

Corresponding with the decreasing number of students, the Government's allocation for education is also on the decline. Roughly 1% of the government's expenditures were directed towards tertiary education in 2021, and this percentage has experienced an annual drop of 2%.

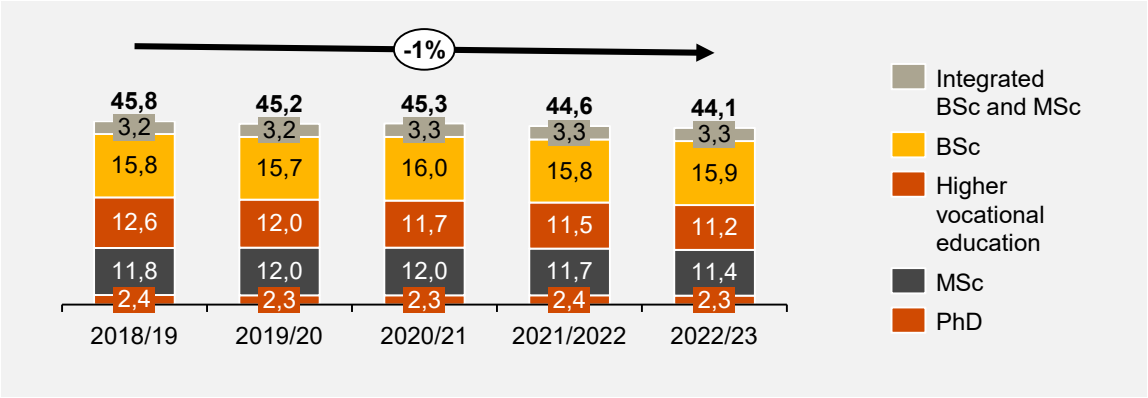
Total government expenditure on tertiary education, in %



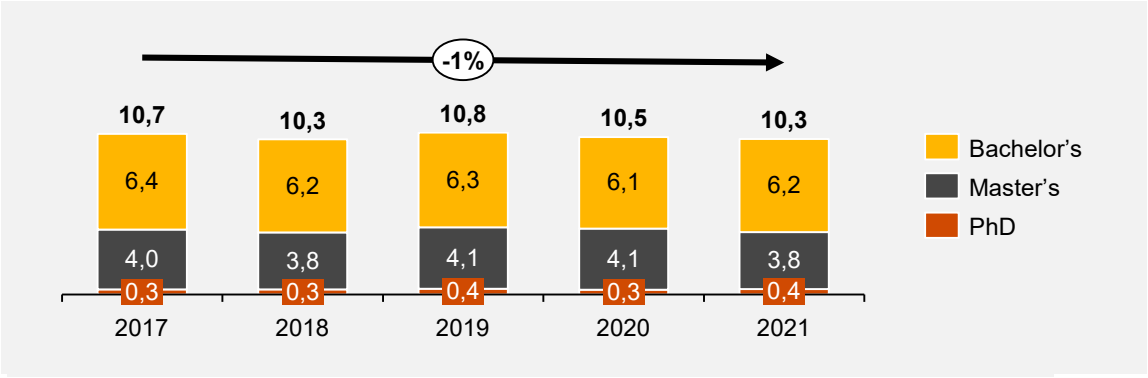
Percentage of students leaving in the first year of studies



Number of tertiary education students, in ths.



Number of newly enrolled student per year, in ths.

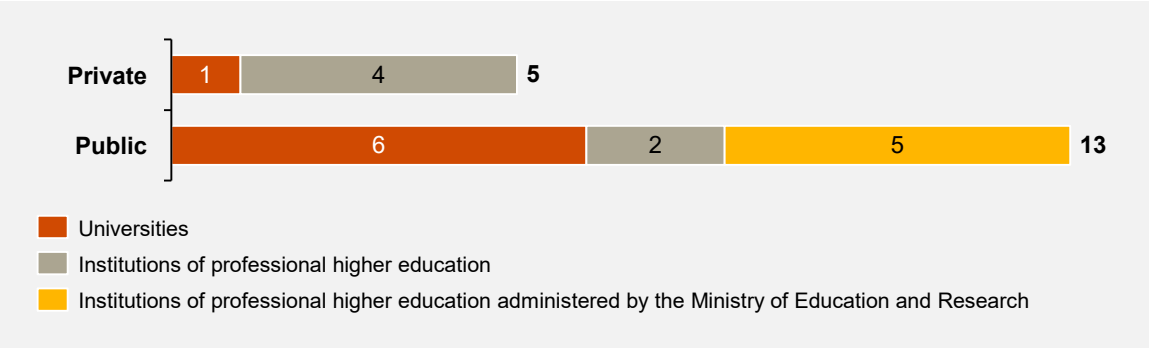


Sources: Eurostat, HaridusSilm, PwC analysis

The number of tertiary education institutions and the student-to-teacher ratio are decreasing in the recent years

Universities – Supply

Number of tertiary education institutions

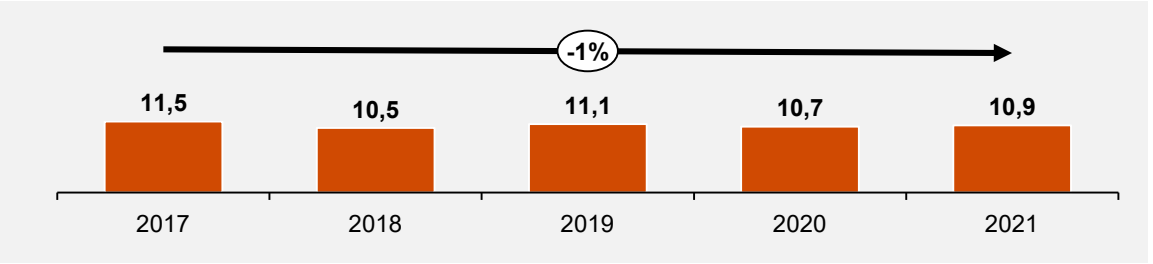


About 42k students are being educated at 13 public institutions – 6 universities, 7 universities of applied sciences. Meanwhile, 1 private universities, 4 private universities of applied sciences provide education to about ~3k students.

In the past five years, there has been a decline in the number of tertiary education institutions. However, the student-teacher ratio decreased from 11,5:1 to 10,5:1, compared to the EU average of 12,8:1. Despite the slight change in the student to teacher ratio, the underlying reason for the improvement is indicative of the reducing need for universities. This gradually decreasing ratio is indicating a positive trend in the universities segment. This decline could also be attributed to a slight decrease in the student population.

The higher education is mainly financed from the state budget (covering study costs, administrative costs, investments, and targeted financing). Universities also earn revenue from the provision of services related to the main activities for a charge and from the research and development activities. Institutions of professional higher education administered by the Ministry of Education and Research are financed from the state budget.

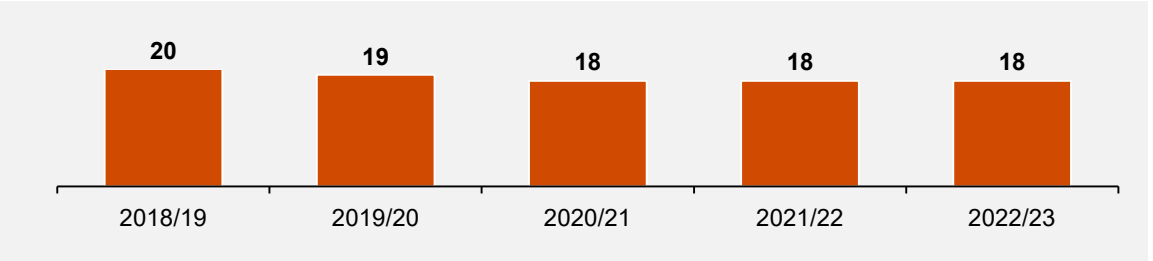
Student-teacher ratio (students per teacher)



Number of tertiary education institutions by type of ownership

Public universities	Private universities	Private institutions of applied higher education	Institutions of professional higher education administered by the Ministry of Education and Research*	State institutions of professional higher education*
6	1	4	5	2

Number of tertiary education institutions



* Can also be labelled as Public universities of applied sciences

Sources: Eurostat, Statistics Estonia, the Ministry of Education and Research website, HaridusSilm, PwC analysis

5

Pre-school facilities

Shortages have been observed, however, due to high public ownership financing opportunities might be limited

Pre-school facilities

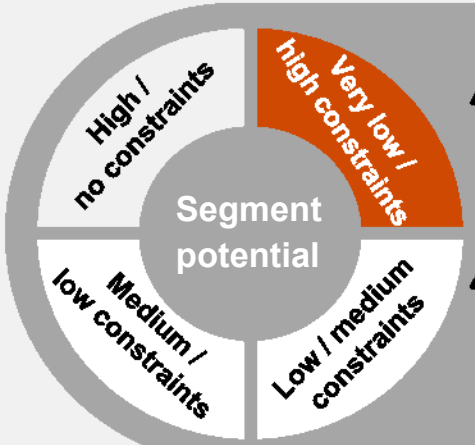
Key conclusions – Phase 1

- Pre-schools in Estonia are not mandatory, however a large majority of children aged 1-6 years attend pre-school with 79% of children aged 1-6 is already enrolled in the pre-school.
- It is the obligation of the Municipalities to provide a place in a pre-school for all children above the age of 1,5; resulting in majority public ownership. However, a failure to comply with this obligation by municipalities have been noted, causing waiting lists.
- The study suggest that in 44% (33 out of 79) of the municipalities there are identified shortages in pre-school places, indicating that the system currently operates at near full capacity.
- There is a notable impact of Ukrainian crisis, where additional 2,1k of children were registered for the enrolment, further increasing the shortages.

Key conclusions – Phase 2

This segment has not been shortlisted for phase 2.

PwC Assessment



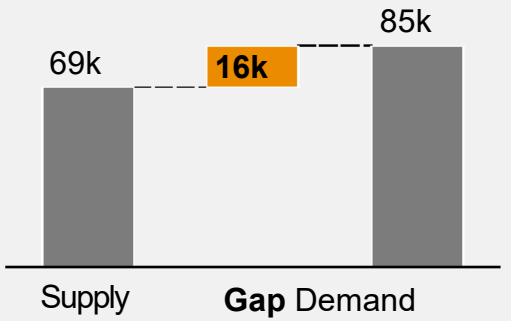
The shortages of places are persistent mainly in larger municipalities, and opportunities for funding are fragmented by municipalities with lower ticket sizes.

The population projections identify only a slight decline in demand for pre-schools (at 0,3% y-o-y) in the coming three decades.

Key Segment Data

49 children/ 1000 enroled	**61%** up to 3 y.o. enrolled	**90%** aged 2 – 6 enrolled
4% children in private institutions	**-3%** growth of new-born children	**71,5%** children residing in urban areas

Gap analysis



The pre-school segment is characterised with high public ownership, and high rates of enrolment in the ages 1–6

Pre-Schools – General Overview

Pre-school not mandatory but still widely utilised

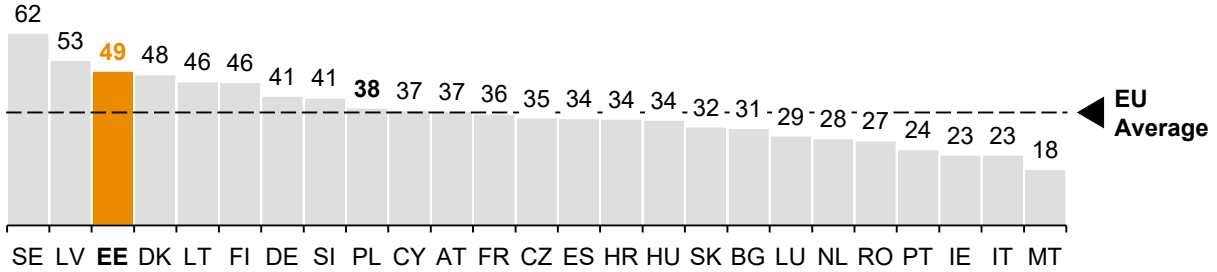
In Estonia, kindergarten attendance is not mandatory, however the vast majority of 79% (69k) of children aged 1–6 years are enrolled in one. Municipalities are obliged to guarantee a place in a pre-school of the child's residence for all children between 1,5 and 7 years of age. However, some predominantly urban municipalities are failing to comply resulting in waiting lists. Parents can freely choose the pre-school, they want to send their child to, provided there are places available. Parents can also choose the type of licensed pre-school childcare institution – private, state or municipal.

In 2021/22 the vast majority or 82% of pre-schools were municipally owned, 7% were state pre-schools, and 11% were private. The school's expenses are covered by its owner; the expenses of state schools are covered from the budget of the Ministry of Education and Research, those of municipal schools from the local municipality's budget, and private school's expenses are covered by the parents. Private pre-schools receive support from the municipalities at the amount determined by the municipality itself. Parents of children enrolled in state and municipal pre-schools are also required to cover a „place fee" and the cost of meals.

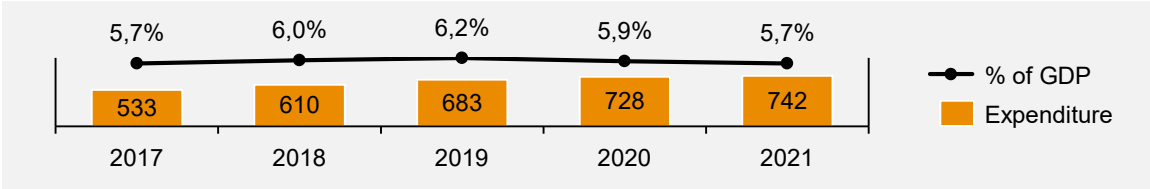
Attendance fees and the amounts paid to cover the cost of meals may differ depending on the child's age, the cost of managing the pre-schools or other factors, but they must not surpass 20% of the national minimum wage rate established by the Government of the Republic of Estonia.

On the national level, the Estonian Education Strategy 2021–35 plays a key role in guiding the development of the education system, including childcare. National standards, which include the curriculum for preschool childcare institutions, ensure that education meets quality benchmarks. State laws and regulations outline how education is funded, supervised, and evaluated for quality.

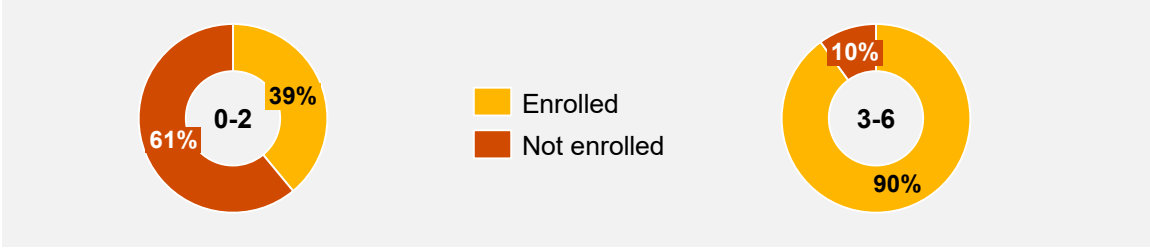
Number of children enrolled to pre-school facilities, per 1000 citizens



Government expenditure on pre-schools, % of GDP and in mln.



Share of children aged up to 2 and 3–6 enrolled in pre-schools, 2022



Sources: Eurostat, HaridusSilm

Obligation of the Municipalities to provide access to pre-school facilities is causing shortages in larger municipalities

Pre-Schools – Key Drivers

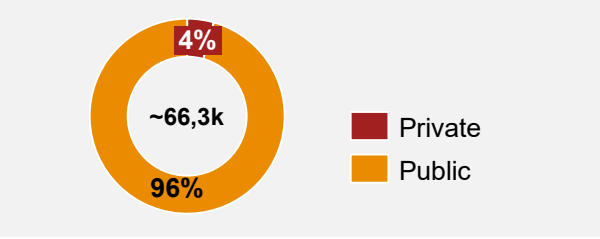
High enrolment rates in pre-schools

There are currently 586 pre-schools, enrolling approximately 69k children, with an average enrolment of 118 children per establishment. A vast majority of the children enrolled in a pre-school attend municipal childcare institutions (96%) that represented 82% of the total number of childcare institutions in the academic year 2021/22. Therefore, pre-school childcare institutions are mostly financed from the budget of the local governments.

Local municipalities may also financially support private pre-schools, if a municipality or a city does not have its own pre-school or there is a shortage of pre-school places. Regional disparities do exist, with rural areas having ample capacity and urban centres like Tallinn facing shortages of spaces. In an effort to reduce the long waiting lists, municipalities can now also offer places in day-care institutions. Local governments compensate for the use of day-care service up to the established upper limit. Compensation for the use of day-care services can be applied only in case the service is purchased from a service provider holding an activity license.

The number of new-born children has been falling at CAGR of 3% y-o-y since 2017. This suggests that the ongoing trend, which commenced in 2020, of a higher proportion of children aged 3 to 5 years compared to those below 3 years, is expected to persist in the upcoming years.

Split of children between public and private institutions, 2021

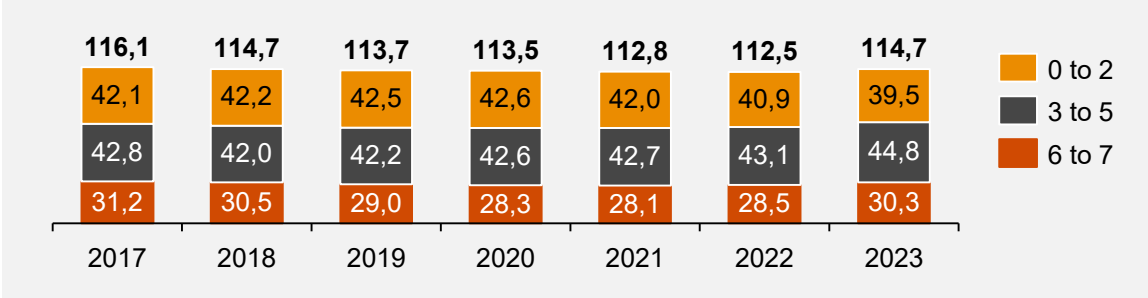


A strong presence and role of public institutions (state and municipal) is evident upon consideration of the split of children between public and private institutions – a ratio of 96% of children (~63k) in public and 4% (~1,6k) in private institutions.

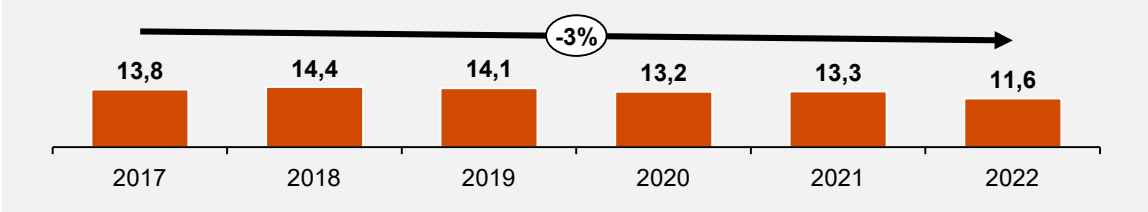
Shortage of pre-school places

The shortage of pre-school places is most notable in the rapidly developing municipalities surrounding Tallinn. A total of 2,5k children in Harju County is currently on a waiting list. It is also noted that parents place their children on the list before they are old enough to start school, as is the example of Rae Municipality, mainly to ensure a spot on the waiting list. Due to this shortage, some children were placed in pre-schools in other municipalities, and some in private pre-schools, for which parents have to pay 80 EUR/month, equalling the municipality's own monthly pre-school fee.

Number of children aged 0–7, in ths.



Number of new-born children, in ths.



Sources: Eurostat, Statistics Estonia, European Commission, Local news outlets, PwC analysis

Demand for pre-schools is mostly concentrated around larger cities, and is expected to remain similar in the coming years

Pre-Schools – Demand

Pre-school demand varies between regions

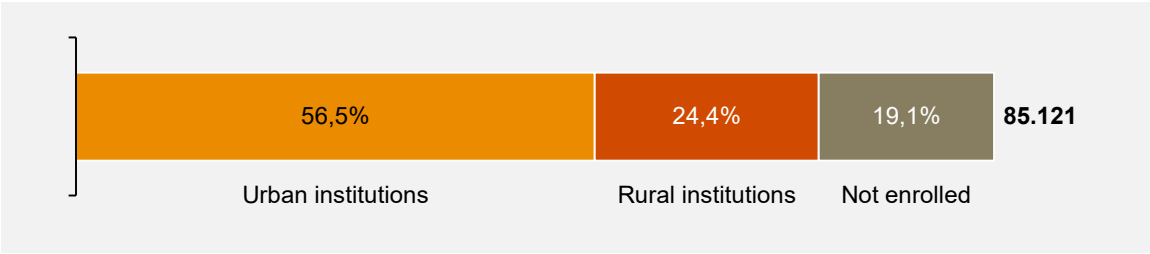
The pre-school enrolment is concentrated in the Põhja region, where the capital is located. Around half (47,9%) of the children enrolled in pre-schools are enrolled in this region. Less developed Kirde region represents the lowest concentration of enrolled children (7,7%). Overall, the majority of children (56,5%) are enrolled in urban pre-schools.

According to Eurostat projections, the Estonian population aged between 1 and 6 is expected to fall in the next three decades, at CAGR of 0,3% y-o-y, which might impact the future demand for places in pre-schools.

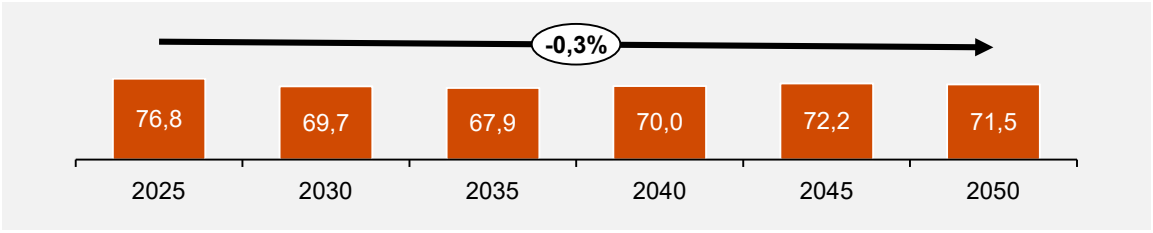
A survey conducted in 2020 found that 2.141 children in 33 municipalities and cities faced delays or were denied enrolment in pre-school. Remarkably, this number is now surpassed by the number of children currently on waiting lists in Harju County alone, which stands at 2,5k children, showing a large increase in demand in just three years. Unfortunately, countrywide data was not available.

As a consequence of the Ukrainian crisis, an additional 2,1k preschool-aged children were formally registered in the Estonian education information system, leading to an increased need for available pre-school places.

Enrolment of children aged 1–6 split by rural and urban institutions, 2022

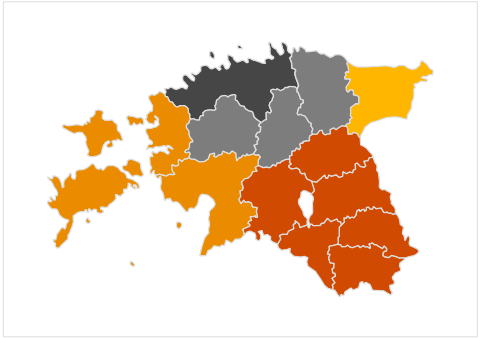


Population projections of 1–6-year-olds, in ths.



Number of children aged 1–6 split by place of residence, 2021

Number of children enrolled in pre-school by region, 2023



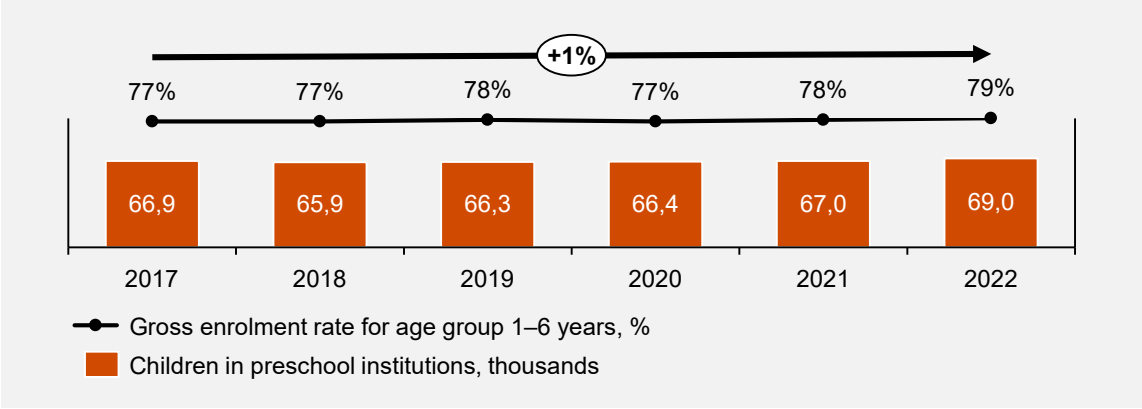
Region	No. of enrolled children	% of national enrolment
Põhja	33.032	47,9
Lõuna	16.838	24,4
Lääne	7.402	10,7
Kesk	6.380	9,2
Kirde	5.331	7,7

Sources: Eurostat, Statistics Estonia, PwC analysis

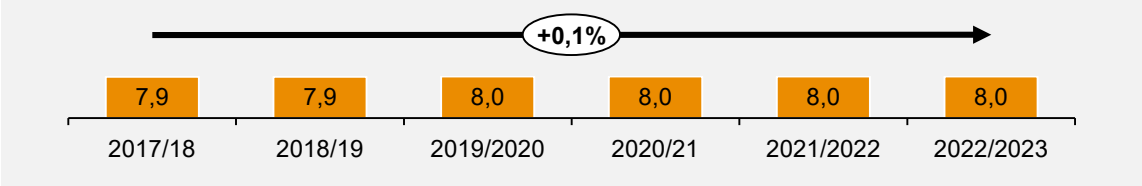
Supply gaps persist despite Estonia allocating substantial funding to development of pre-school facilities

Pre-Schools – Supply

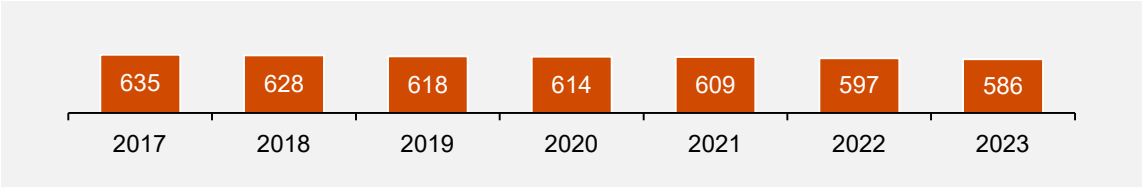
Number of enrolled children (in ths.), and gross enrolment rate (in %)



Number of pre-school teachers, in ths.



Number of pre-schools



Sources: Eurostat, Statistics Estonia, PwC analysis

PwC

Governmental efforts to close the supply gap

Besides Estonia, only seven countries in Europe guarantee pre-school placement for every child right from birth. This policy, outlined in the Estonian Lifelong Learning Strategy 2020, was established in 2014 as a response to a shortage of pre-school places, especially in cities like Tallinn and Tartu. This scarcity led to lengthy waiting lists and reduced accessibility, particularly for low-income families.

To address this issue, Estonia allocated a substantial amount of funding, totalling EUR 47 million, between 2014 and 2020, with support from the European Social Fund (ESF) and the European Regional Development Fund (ERDF). This investment aimed to help local governments create approximately 3,2k new Early Childhood Education and Care (ECEC) places. Since 2016, around 1k new pre-school and childcare places have been established in urban areas such as Tallinn, Tartu, and Pärnu. However, the supply-demand gap persists, as waiting lists continue to be a challenge. Therefore, there is potential for a more significant impact if financing efforts could be coordinated across multiple municipalities.

Although the number of pre-schools has been declining, the number of teachers has shown a slight increase at a CAGR of 0,1% y-o-y. This trend reflects efforts by the country to align teacher salaries more closely with the demands of the profession. The trend in enrolment also appears to run counter to the declining number of preschool-aged children. This suggests that an increasing number of parents or guardians are choosing to enrol their children in pre-school facilities.

Furthermore, it's worth noting that the government's investment in pre-primary and primary education in Estonia is approximately 5,7% of GDP, which is nearly double the EU average. This substantial investment underscores Estonia's commitment to ensuring quality early education and care for its young population.

6

Hospitals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TERAPIA NEONATAL

Significant lack of funding has been observed, however, the development process is seen as rather long

Hospitals

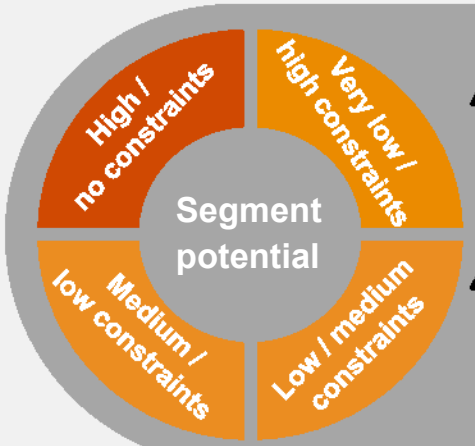
Key conclusions — Phase 1

- One of the key issues identified is the lack of doctors and nurses, a problem that will most likely persist in the future due to insufficient number of graduates in this segment.
- Estonia has a relatively high levels of reported unmet needs, mainly revolving around waiting lists and the cost of examinations.
- Strong primary care segment has helped lower the demand for tertiary care in Estonia, mainly by reducing the avoidable admissions in recent years. This trend is expected to continue in the future.

Key conclusions — Phase 2

- Hospitals in Estonia indicated a lack of funding, some of them indicated a lack of infrastructure funding in addition to personnel funding.
- There are significant doubts about the efficiency of planning of Hospital Development Plans in Estonia, as all hospitals expressed concerns about the plan not being yet implementing.
- Hospital receive support from the European Regional Development funds for major projects, as sourcing funding of healthcare-related infrastructure solely from internal resources is not financially viable for hospitals.
- The process from idea to development is rather long, as it takes about 5-10 years to obtain operating permits.

PwC Assessment



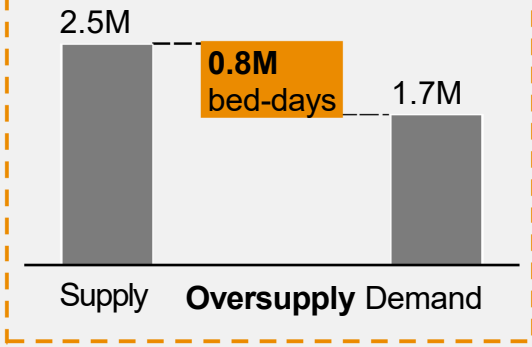
Major gaps in funding have been identified, mostly in the area of development of new capacities.

The Government has prepared specific hospital development plans, including setting up aggregators.

Key Segment Data

50 number of hospitals	**6,7k** number of hospital beds	**38%** share of private hospitals
6,7% of hospital beds are private	**5,7** average length of stay days	**68%** utilisation rate of beds

Oversupply analysis



Majority of the hospitals are in public ownership, while also holding a large majority of beds

Hospitals – General overview

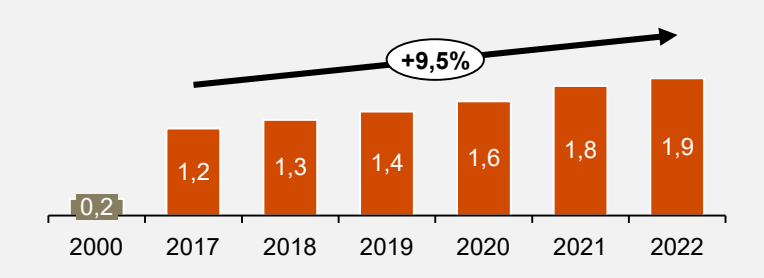
Definition of the segment and ownership

The Ministry of Social Affairs is supervising Estonia's healthcare system and is responsible for overseeing the healthcare system serving Estonia's current population of 1,3 million. Operating independently, the Estonian Health Insurance Fund (EHIF) functions as a public organization tasked with the administration of the statutory health insurance (SHI) system. Health insurance can also be covered by private providers, such as Confido and Qvalitas, if someone is not covered by EHIF or does not have an existing health insurance policy. Over the course of the early 1990s, Estonia's healthcare system has undergone a process of gradual centralization, culminating in EHIF's responsibility for procuring health services for the entire population.

The national health insurance scheme provides coverage to approximately 95% of the population. Nevertheless, individuals in temporary or unstable employment situations may find themselves without insurance, contributing to Estonia's status as a nation with one of the lowest national health insurance coverage rates.

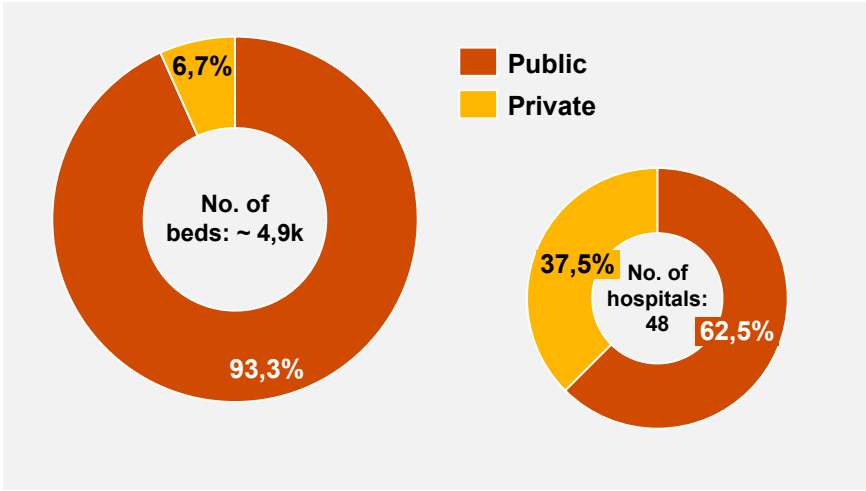
The primary source of funding for the Estonian health system is payroll taxes through the Estonian Health Insurance Fund. EHIF operates as a semi-autonomous public entity, consolidating most of the public funding allocated for healthcare and managing the procurement of healthcare services. Most hospitals are either limited liability companies owned by local governments or foundations established by the state, municipalities or other public agencies (30 or 62,5% of all hospitals). The remaining few (18 or 37,5%) are privately owned.

Expenditure on healthcare, EUR per capita, in ths.

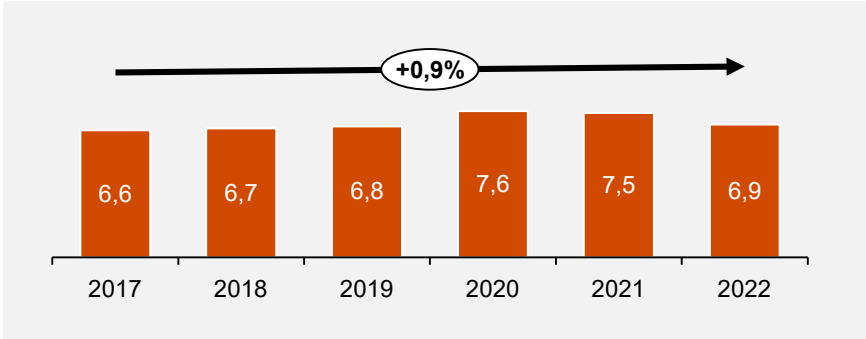


Estonia has substantially raised its health expenditure per capita, going from under EUR 300 per person at the turn of the 21st century to EUR 1.879,5 per person in 2022. However, when viewed as a percentage of GDP, as shown on the chart to the right, the growth in health spending does not exhibit the same level of intensity. Nevertheless, in comparison to the EU-27 average total health expenditure of EUR 3,2k, Estonia's healthcare spending remains approximately 2,8 times lower.

Healthcare ownership, 2021



Expenditure on healthcare, % of GDP

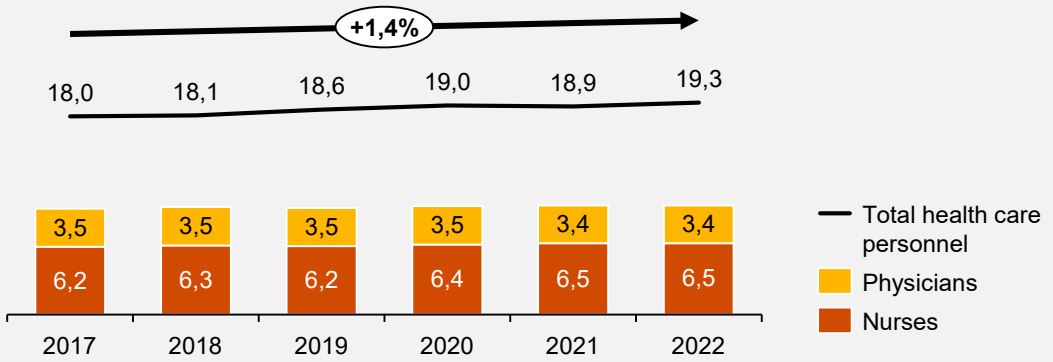


Sources: Eurostat, PwC analysis

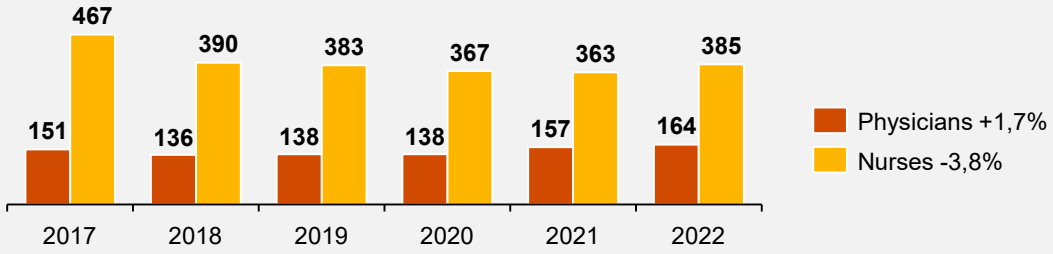
Lack of hospital staff is identified as a key issue for Estonia, which is evident both with physicians as well as nurses

Hospitals – Key Issues (1/2)

Number of healthcare professionals per 1000 inhabitants



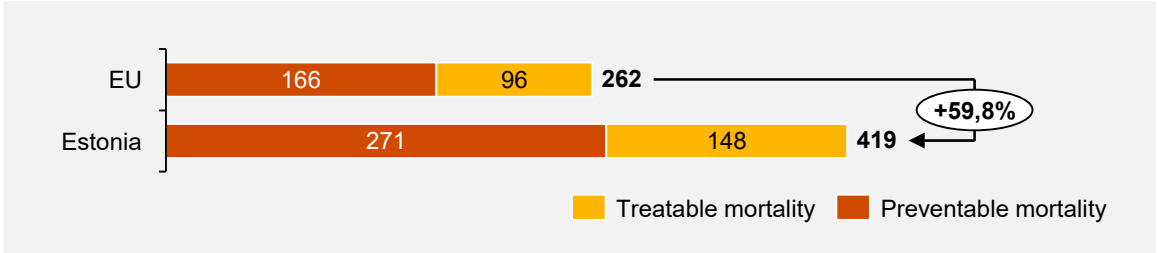
Number of healthcare graduates



While the ratio of healthcare professionals per 1.000 inhabitants has been increasing by 1,4% y-o-y since 2017, Estonia still faces a notable shortage of healthcare workers. In 2022, Estonia had fewer physicians (3,4 per 1.000 population) and nurses (6,5 per 1.000 population) compared to the EU averages of 6,2 physicians and 11,3 nurses per 1.000 population. This challenge is expected to persist due to an insufficient number of graduating doctors and nurses. Although the number of graduating physicians is growing at a compound annual growth rate (CAGR) of 1,7% y-o-y, the number of graduating nurses is declining by 3,8%. This substantial workforce gap poses a significant challenge to the resilience of the Estonian healthcare system. Additionally, the scarcity of nurses and other health professionals, such as nutritionists and physiotherapists, limits the potential for task-shifting within Estonia's healthcare system.

In 2020, Estonia's mortality rate was nearly double that of the EU average, with a rate of 419 compared to 262 in the EU. Notably, the treatable mortality rate in 2020 stood at 271, while the preventable mortality rate reached 148. Both of these figures significantly exceeded the EU average.

Mortality rate compared to EU average, 2020



Sources: Eurostat, PwC analysis

Estonia shows high level of unmet needs mainly in the category of waiting lists and the cost of the examination

Hospitals – Key Issues (2/2)

High levels of reported unmet needs

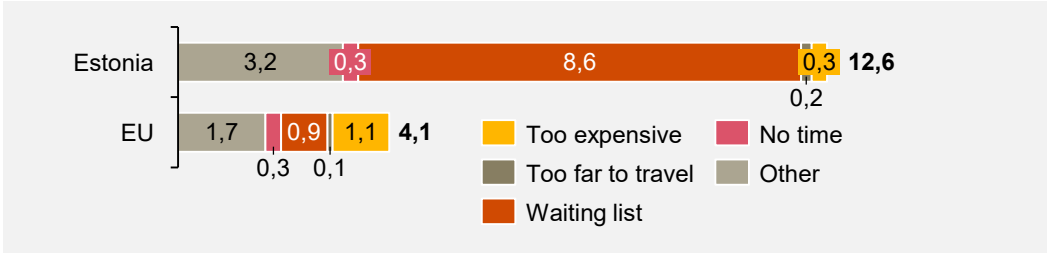
Estonia faces a significant challenge in meeting the medical care needs of its population. This issue is primarily attributed to long waiting times for healthcare services. In 2022, more Estonians reported unmet medical needs compared to any other EU country, with a staggering 12,6% reporting that their needs were unmet, whereas the EU average stood at 4,1%. Excessive waiting lists are the primary culprits behind this concerning trend, with over 8,6% of the population reporting unmet medical needs due to prolonged waiting times—far surpassing the EU average of 0,9%. It is important to note that waiting times affect lower income Estonians slightly more, compared to the rest of population, although this problem is widespread and not solely tied to income levels.

Unmet medical needs due to costs have however decreased from 1,1% in 2016 to 0,3% in 2022, although it still predominantly impacts the first income quintile. Nevertheless, the share of out-of-pocket payments in Estonia, accounting for 22% of health expenditure in 2021, still exceeds the EU average of 15,4%.

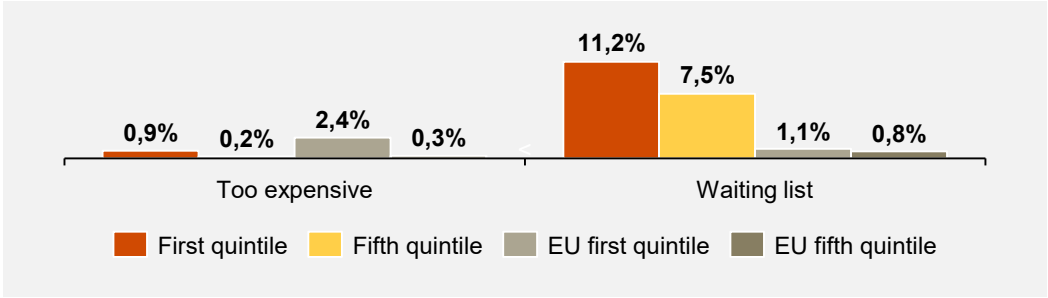
A noteworthy observation is the disparity in reported health status between different income groups. A significantly higher percentage of Estonians in the first income quintile report their health as bad or very bad (27%) compared to the EU average (14%), a gap of 13 percentage points. Conversely, individuals in the highest earning fifth quintile report a lower percentage of bad health (3%) in comparison to the EU average (4%) but still fall slightly below the average for good to very good health (78% in Estonia, compared to the EU average of 58%).

During the COVID-19 pandemic, 19% of the Estonian population reported unmet medical needs, which was slightly below the EU average of 21%. This discrepancy may be attributed to Estonia's increased utilization of digital technologies, including digital consultations for specialist services, which were not widely available before the pandemic. During this challenging period, a substantial 46% of Estonians reported having had a teleconsultation, surpassing the EU average of 39%. These digital healthcare solutions might have contributed to a more efficient response to healthcare needs during the pandemic.

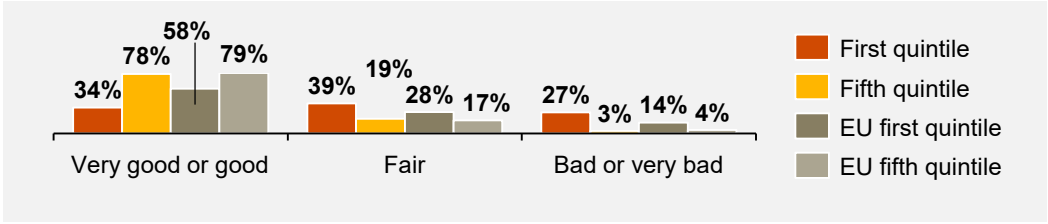
Self-reported unmet needs for medical examination, 2022



Self-reported unmet needs for medical by income quintile, 2022



Self-perceived health by income quintile

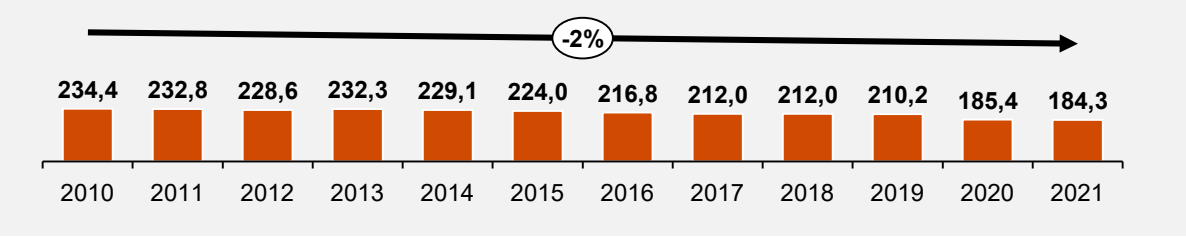


Sources: Eurostat, Institute for Health Metrics and Evaluation, PwC analysis

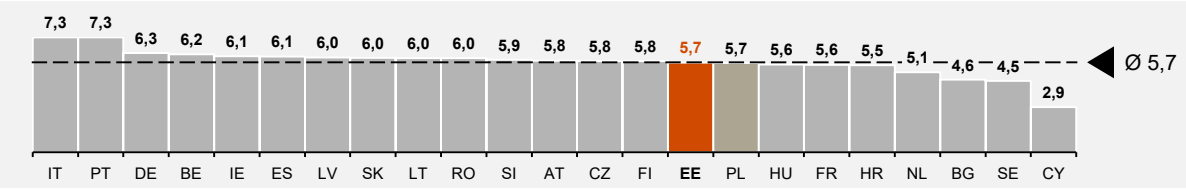
The demand is steadily dropping over last years due to strong primary care segment helping reduce avoidable admissions

Hospitals – Market Demand

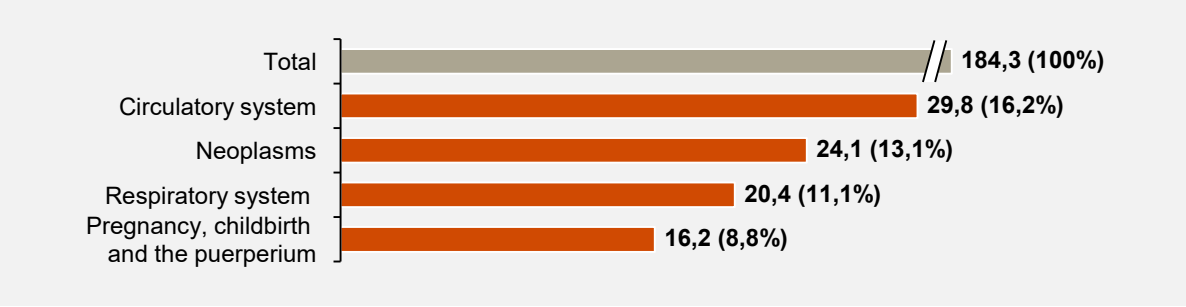
Number of hospitalisations in Estonia in ths.



Average in-patient length of stay across EU in days in 2021 (curative care)



Hospitalisations of in-patients, per main causes (2021), in ths.



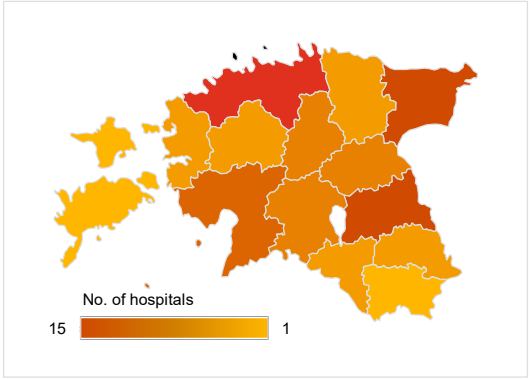
Sources: Eurostat, PwC analysis

Hospitalizations in Estonia have significantly dropped, corresponding to a decline in avoidable admissions in recent years. Compared to most EU countries, Estonia has lower hospitalization rates for conditions that could be managed outside hospitals. Between 2014 and 2018, diabetes and congestive heart failure admissions decreased by 25% and 18%.

234k hospitalizations, recorded in 2010 were reduced to 184k by 2021, a 2% yearly decrease. Low hospitalization levels may not signify lower health needs, as unmet healthcare needs remain high. One of the primary reasons for the decrease in number of hospitalizations is a strong primary care sector, which helps reduce the avoidable admissions to hospitals. This topic is covered in the following slide in more details.

On average, Estonians spend about 5,7 days in the hospital, aligning with the EU average. Primary reasons for hospitalization include cardiovascular, oncological, respiratory, and gynaecological conditions.

Number of hospitals, 2021



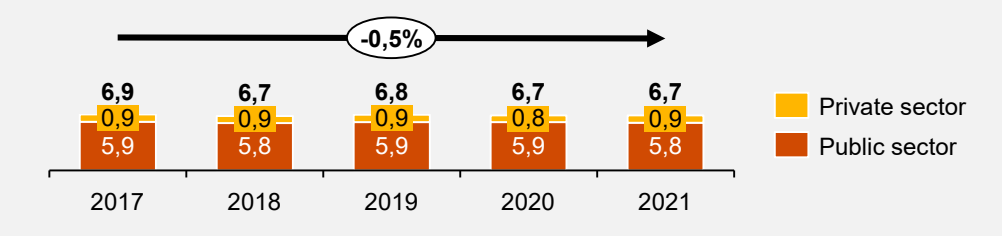
For better visualisation Harju County was coloured separately

Region	No. of hospitals
Harju County	15
Hiiu County	1
Ida-Viru County	5
Jõgeva County	3
Järva County	2
Lääne County	2
Lääne-Viru County	2
Põlva County	2
Pärnu County	4
Rapla County	2
Saare County	1
Tartu County	5
Valga County	2
Viljandi County	3
Võru County	1

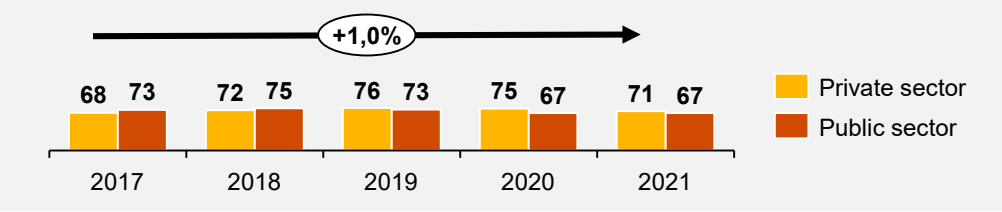
The supply can be assessed as adequate mainly due to the existence of spare bed capacity

Hospitals – Market Supply

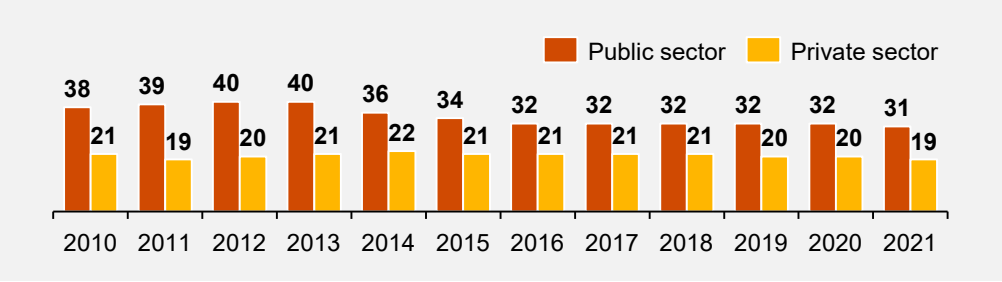
Number of hospital beds in ths.



Utilisation of current bed capacity



Number of hospitals



Sources: Eurostat, PwC analysis, Health Statistics and Health Research Database, OECD

Estonia's healthcare landscape currently consists of 48 hospitals; 30 public and 18 private. Over the past two decades, there has been a notable restructuring of the healthcare sector, resulting in a decrease from 59 hospitals in 2010 to the current count of 48 in 2022. This decrease mainly involved the consolidation, closure, or repurposing of smaller healthcare institutions, with many transitioning into nursing homes managed by local municipalities, primarily catering to the needs of the elderly population.

This significant shift in healthcare infrastructure can be traced back to structural reforms initiated in the 1990s. During this period, family physicians assumed a central role in the healthcare delivery system in Estonia. Today, a well-established primary care network, predominantly composed of private family doctors, serves as the initial point of contact for individuals seeking healthcare services. Simultaneously, secondary healthcare services are readily accessible through hospitals and outpatient care clinics.

The geographical distribution of hospitals is closely aligned with population density. Harju County, being the most densely populated region, hosts the majority of hospitals (15). In contrast, Saare County and Võru County each have a single hospital. The strategic placement of these hospitals ensures convenient access to healthcare services for residents, with the vast majority located within an hour's drive. The government actively promotes collaboration between regional and general hospitals, often offering financial incentives to enhance access to specialist care and streamline care coordination.

Notably, Estonia's two largest hospitals, located in Tallinn and Tartu, play a pivotal role in the country's healthcare system. Together, they provide approximately half of the specialist services offered nationwide and receive nearly 50% of the total budget allocated to specialized medical care.

In recent years, the number of hospital beds in Estonia has stabilized, with only a slight 0,5% annual decrease, primarily affecting the public sector. While only 7% of beds are privately owned, they exhibit a notably higher utilization rate, reaching 71% in 2021, compared to the publicly owned beds, which achieved a utilization rate of 67% during the same period. This is to be expected as the number of privately owned beds is 6 times smaller and thus easier to fill. Despite the decline in the number of beds, the total bed utilisation has remained mostly stable, growing by 1% y-o-y since 2017. It is worth noting that Estonia effectively managed its healthcare resources during the challenging COVID-19 pandemic, avoiding significant shortages of hospital beds.

7

Retirement / elderly / nursing homes

Development of capacities is expected mostly from private operators, who expressed challenges with financing

Retirement homes

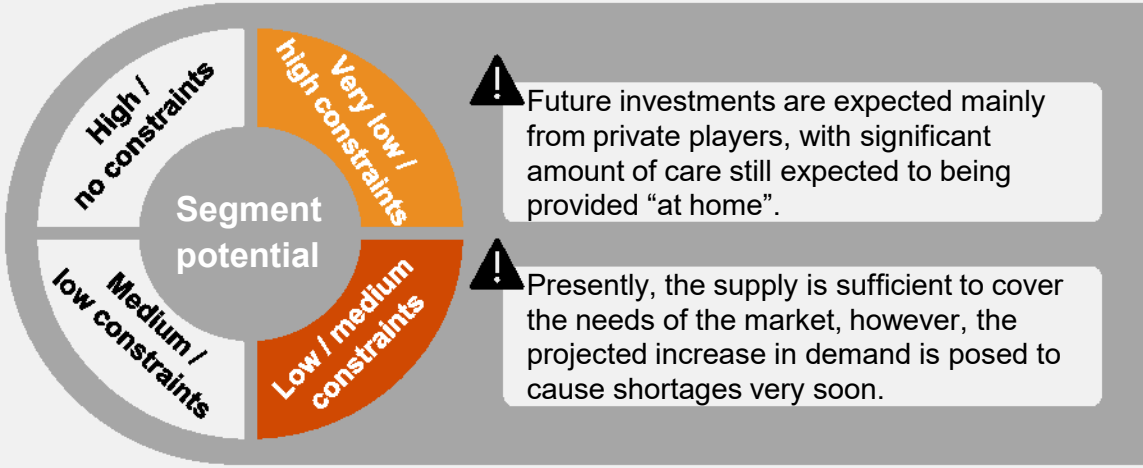
Key conclusions – Phase 1

- Estonia's elderly care services are governed and organised by local authorities, while the regulatory oversight falls under the Social Insurance Board.
- The financing of the segment is split, with nursing care services funded through health insurance, while long-term care services are funded through Municipalities.
- The key identified issue within the retirement home segment is cost overburden of the elderly, as the average nursing home cost is more than double the average monthly pension.

Key conclusions – Phase 2

- Municipalities do not have major plans to invest into the retirement home segment since they are aware of private players covering the segment, and do not want to compete with them. They support them with providing municipal land where needed.
- Stakeholders have indicated that retirement homes are not the first choice for elderly in Estonia, and they intend to stay at home as much as possible, opting for retirement home only when they cannot manage at home.
- One of the key issues for private LTC operators is access to funding and cost of capital, mainly to low understanding of local banks on the specifics of the segment.

PwC Assessment



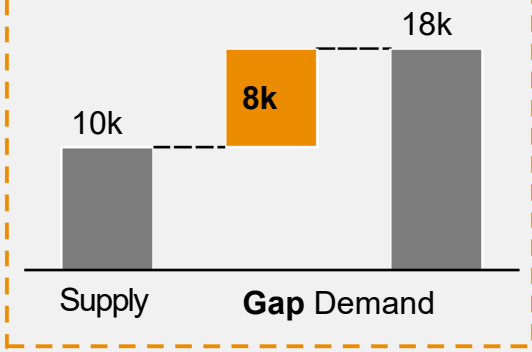
Future investments are expected mainly from private players, with significant amount of care still expected to being provided "at home".

Presently, the supply is sufficient to cover the needs of the market, however, the projected increase in demand is posed to cause shortages very soon.

Key Segment Data

162 number of residential homes	**11,2k** beds in residential homes	**38,9%** beds in public ownership
227k people aged 65+	**53%** elderly at risk of poverty or exclusion	**2x** increase in demand for services

Gap analysis



Elderly care is mainly governed and provided by local authorities, with strong presence of private sector players

Retirement Homes – General Overview (1/2)

Characteristics of the system

Estonia's elderly care services are governed by local authorities, with regulatory oversight falling under the purview of the Social Insurance Board. The system operates in compliance with the Social Welfare Act and the Health Services Organization Act.

While local governments are the primary providers of elderly care services, it has become customary to procure such services from the public and the private sector. There are many private retirement homes, such as Südamekodud, with 10 retirement homes across Estonia. Out of the total 10,4k of retirement home beds, currently available, 6k are private and 4,4k are private.

In terms of financing, care services in Estonia are delineated, with nursing care services funded through health insurance mechanisms. On the other hand, other long-term care services predominantly receive funding from local governments or from the individuals in need of care, along with their families. Co-payments are mainly associated with round-the-clock care services and are generally infrequent and nominal for community care services.

The financial burden for care is borne entirely by individuals who possess sufficient regular income, such as pensions or work ability allowances. In cases where individuals lack adequate income or financial support, local governments step in to partially subsidize the cost. In such situations, the individual's contribution is typically capped at around 85–95% of their regular income, subject to the terms established by the local government. In 2022 the local municipalities funded the retirement homes with EUR 23,9M. Another EUR 86,9M were paid through co-pay and EUR 1,4M came from other sources. This means that 27% of the financing came from local governments.

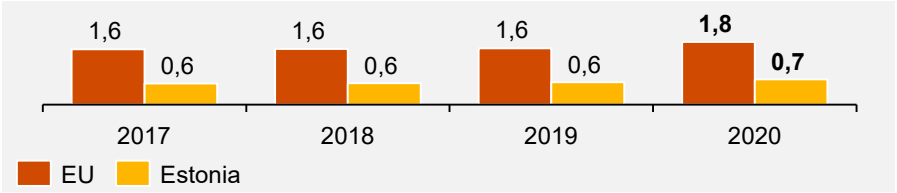
Estonia's public expenditure on long-term care or LTC (under which fall retirement homes) falls below the average levels seen in other EU member states, resulting in a significant reliance on out-of-pocket financing. In fact, Estonia allocates only 0,7% of its GDP to LTC. This limited public funding has implications for the availability and fairness of formal LTC services, offering minimal financial protection.

The nursing care reform

On July 1, 2023, the Nursing care act came into effect. It was designed to alleviate some of the cost burden of nursing homes, as it allocated additional state financial resources to local municipalities, making nursing home placements more affordable for service recipients. The cost of a place in a nursing home was divided between the person in need of the service and the local government. This was aimed to enhance the overall quality of care and improve the availability of home-based support services. In addition, due to the reform, the local municipalities are partially responsible to reimburse the accommodation and meal expenses of service recipients who have lower income and receive an average or below-average old-age pension. This aims to reintroduce an estimated 22% of the population to the labour marker, that have left their jobs in order to provide care.

With the care reform, the state will invest 40 million EUR in 2023 to improve the availability and quality of general care services, in 2024, nearly 57 million EUR will be provided to the local government's revenue base from the state budget, and by 2026, the funding will increase to 62 million EUR. The effectiveness of the reform is to be observed in the future months.

Long-term care expenditure, % of GDP



Sources: Eurostat, Statistics Estonia, PwC analysis

The provision of care services is mandated by local authorities where the provision has to be provided in 10 days of diagnosis

Retirement Homes – General Overview (2/2)

Characteristics of the system

In Estonia, the provision of general care services is mandated by local authorities. When an individual requires these services, the local government must ensure their provision within 10 working days. In cases where a suitable service location cannot be secured within this timeframe, alternative assistance measures, such as day care or home services with a personal care component, are offered to ensure individuals in need receive appropriate care and support.

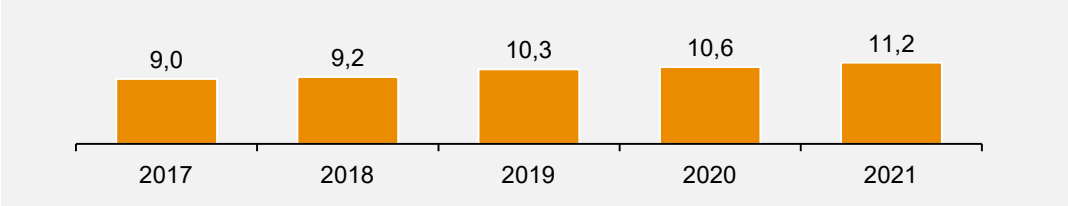
The demographic composition of nursing homes in Estonia reveals that the majority of residents are aged 65 and older, constituting about 90% of the population in these facilities.

Estonia's equalisation fund categorizes individuals over 65 into two age groups: 65–84 years old and 85 years and older. This categorisation acknowledges that the probability of entering a general care home varies between these age groups and is higher amongst the older group. Financially, local governments receive €93,6 from the state for every person aged 65–84 years and €85.449 for every resident aged 85 years and older.

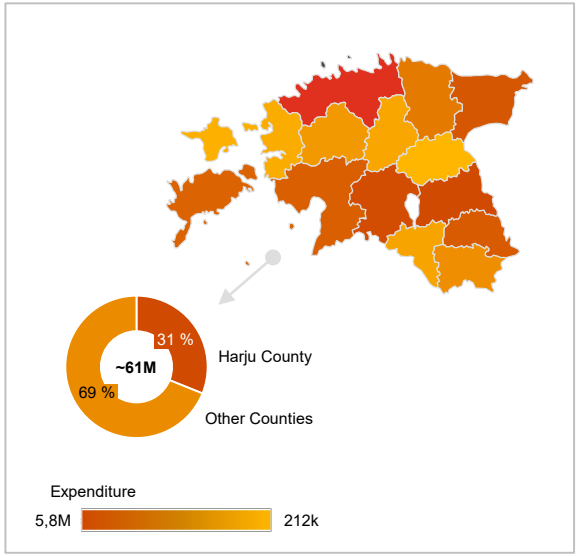
The cost of nursing homes in Estonia averages around €1.300 per month in 2023. Notably, one of the most affordable nursing homes, Nõo, offers a monthly place fee of €1.090.

Funds for elder care are distributed to local governments based on a general formula considering age groups (65–84 and 85+). However, the actual coverage of costs takes into account varying expenses, which can range from approximately €300 to €500 per person in different nursing homes. It's important to consider that not all recipients of the service are present for 12 months a year. Local governments are also expected to contribute around 20% of the total cost of the service, consistent with past practices.

Number of beds in retirement homes, in ths.



Municipal expenditure on nursing homes in 2022, in ths.



Region	Municipal expenditure on nursing homes, in ths.
Harju County	19130,50
Hiiu County	540,70
Ida-Viru County	5200,20
Jõgeva County	212,30
Järva County	1006,30
Lääne County	758,60
Lääne-Viru County	3389,20
Põlva County	5000,10
Pärnu County	4796,90
Rapla County	1825,50
Saare County	4572,60
Tartu County	5845,50
Valga County	1165,60
Viljandi County	5712,70
Võru County	2300,10

For better visualisation Harju County was coloured separately

Sources: Eurostat, Estonia statistics, OECD, Estonian Social Insurance Board

Cost overburden of a retirement home is identified as one of the key issues in this segment

Retirement Homes – Key Drivers

Ageing population is driving the demand

Estonian demographics are characterised by an ageing population, a high emigration rate, and a low life expectancy (72,7 years for men and 81,4 years for women) compared to the European average of 77,2 for men and 82,4 for women.

Life expectancy for men (15) and women (20) at age 65 is lower than the EU average (17 years for men and 20 years for women), however it is projected to rise from 14,5/19,6 years in 2021 to 20,9/24,9 years (EU-27: 22,4/25,6) in 2060.

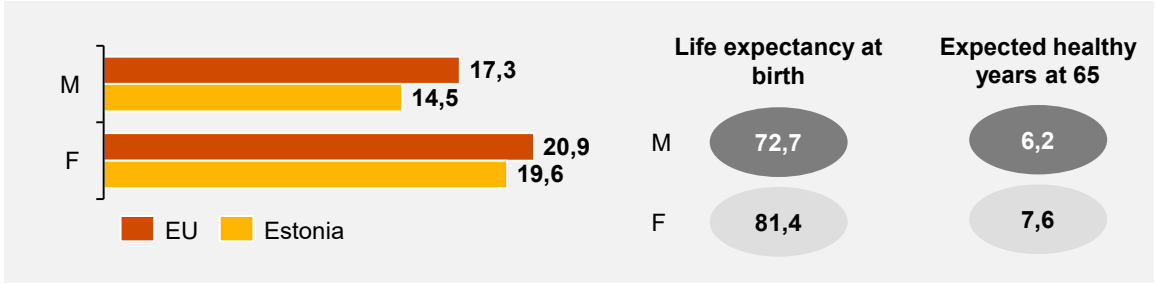
According to the Ministry of social affairs over the years, the burden of funding the nursing home service has fallen mainly on the recipients of the service and their legal guardians. Over the course of ten years (2011–2021), people's financial contribution to the nursing home increased 3,4 times and the contribution of local governments 1,6 times. The high cost of the service is one of the reasons for trying to cope with self-care within the family.

The elderly care reform aimed to alleviate the burden of elderly care costs. However, this year's projected average cost for nursing home services at approximately 1.300 euros per month, combined with an average old-age pension of around 700 euros, falls short of covering these expenses. This issue is also aggravated by the fact that Estonia has very large degree of population aged 65 and above who are at the risk of poverty (53% compared to 20% EU average). Consequently, the reliance on informal caregivers has increased significantly, imposing substantial economic and social costs.

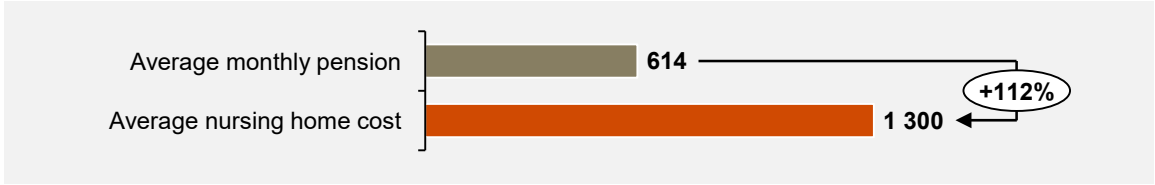
Estonia's Constitution (Art. 27) underscores the family's responsibility to provide care, affecting an estimated 35.100 women and 24.500 men who must offer assistance and cover care expenses. This care burden often forces individuals out of the labour market, leading to adverse economic effects and potential health issues for caregivers.

Sources: Eurostat, Statistics Estonia, PwC analysis, Estonian Social Insurance Board

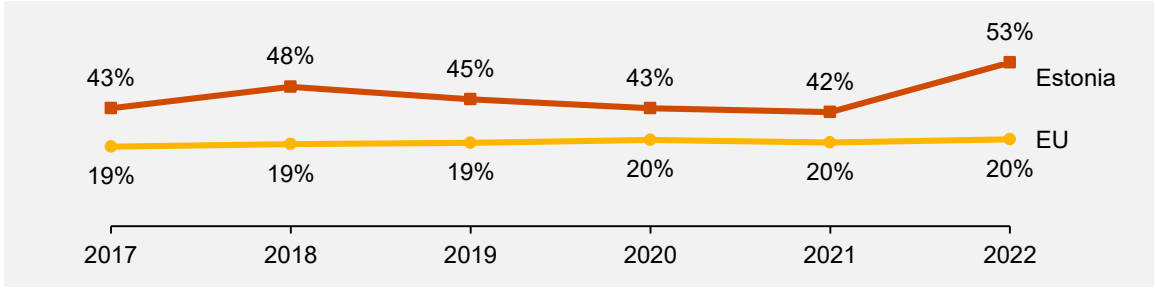
Average life expectancy at age 65, 2021



Pension and monthly fees for retirement homes, per month, in EUR



Population 65 and above at risk of poverty and social exclusion in %



The demand for retirement homes is expected to increase, with private players holding a good share of the supply

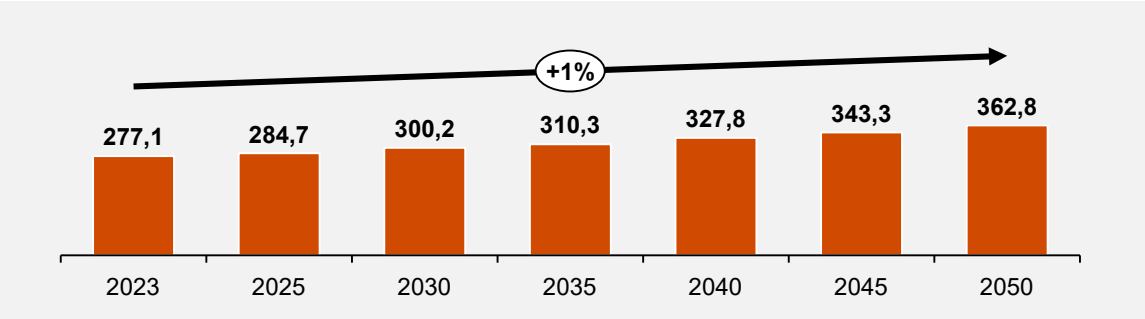
Retirement Homes – Demand & Supply

Demand

Estonia is experiencing a significant demographic shift, with a growing number of its citizens aged 65 and older. Currently, there are about 358,7k Estonians in this age group. However, projections indicate that this segment of the population will continue to expand. More specifically, between 2025 and 2050, it is expected that this age group will increase from 20,7% to 27,1% of the population. This aligns with trends in the European Union (EU), where the percentage of elderly citizens is estimated to be between 20% and 28,5% during the same period. The majority of this demographic change is expected to occur before 2035.

The Ministry of Social Affairs estimates that approximately 18k Estonians may require permanent round-the-clock general care services within the next year. This represents doubling of the approximately 9k individuals who are currently receiving such care. This projected increase in demand for care services highlights the evolving landscape of elderly care in Estonia.

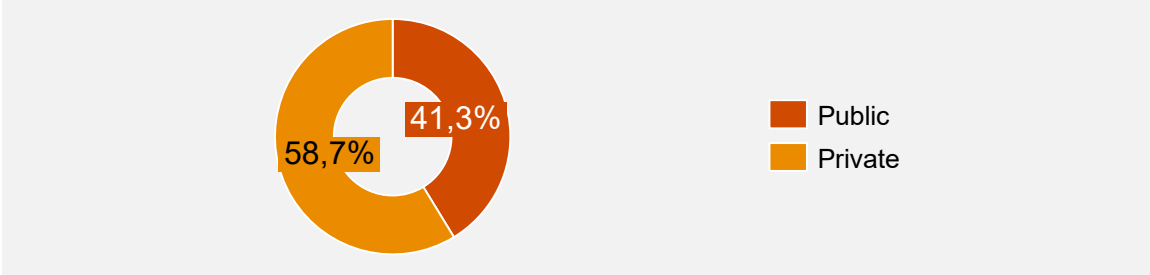
Population projections, +65



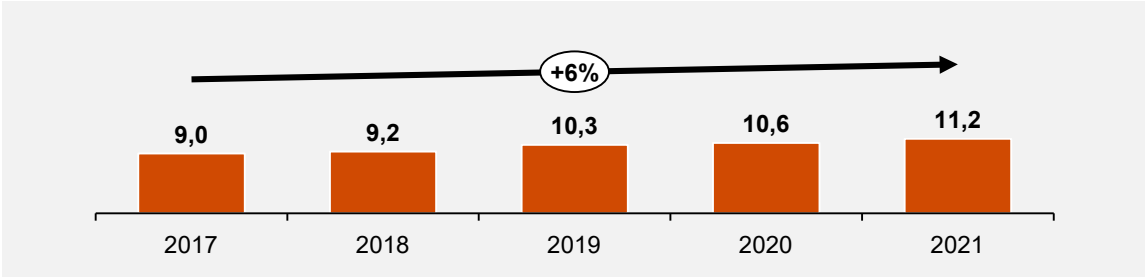
Supply

In 2022, 9.617 individuals received some form of care facility treatment across 162 registered care facilities (99 municipally owned and others privately held or run by non-profit organizations). The total available spots in these facilities amounted to 10.436, which results in 92,2% of occupancy of present capacities.

Share of retirement home beds, by ownership



Number of beds in retirement homes, in ths.



Sources: Eurostat, Statistics Estonia, PwC analysis, Estonian Social Insurance Board, Social Charter, Local News Outlets