

The COVID-19 in Estonia: Governance of the Health Care System, spread of the disease, regulations and impact on economy

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Abstract

The report examines principles of governance of the Estonian Health Care System and its adjustment to the COVID-19 treatment. The changes introduced in governance and their effectiveness in limiting spread of coronavirus are analyzed. The Government of Republic of Estonia introduced the emergency situation and reorganized the governance of the Health Care System, especially activities and role of the Health Board. During the first wave of the COVID-19, the amendments were introduced into several legal acts, which enable crisis management without introducing an emergency system, which brought about a very direct and visible limitation of people's freedom. The spread of virus and reaction of governance system during the first and second wave are compared. The article ends with estimates of economic impact on economy and concludes that during 2020, the economic impact in general was modest and only some services were heavily impaired. Financial support and public borrowing postponed negative effects of the crisis. The future economic impact of COVID-19 depends on longevity spread of the virus and capacity of the Health Care System to get it under control.

Key words: COVID-19, corona pandemic, governance of health care system, regulations, economic development

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1. Introduction

The report analyses Estonian example of governance of the COVID-19 pandemic and its economic impacts. The spread of coronavirus has been compared with the spread of other viruses. There are specific epistemological tools to estimate dynamics of spread of viruses. Application of these tools provides government institutions with information to work out measures for limiting the spread of the virus and information needed for estimation of necessary resources for that (Avery et al. 2020). The spread of the coronavirus created different responses in different countries and that information is important for designing policies for limiting the spread of the virus and tackle with its economic, social and political consequences.

The Estonian example demonstrates different governance approaches applied during the first and second wave of the coronavirus in spring and autumn of 2020 respectively. The measures to adjust the governance tools to coping with the spread of the COVID-19 are presented. The economic tools to deal with economic consequences of the spread of the coronavirus and the problems created by restrictive measures to limit the spread of the virus are described. The comparison of strengths and weaknesses of measures applied during the first and the second wave of the coronavirus is presented. The report ends with comparison of health care indicators and economic consequences of the COVID-19 on neighboring countries in the Baltic Sea region.

2. Governance of the Health Care System

2.1 The Health Care System

The Health Care System comprises all organizations, institutions and resources that produce actions whose primary purpose is to improve health (WHO 2000). The management and supervision of the Estonian Health Care System falls under scope of the Ministry of Social Affairs and its agencies.¹ In the Ministry of Social Affairs, the Health Department coordinates activities of the Health Board (Terviseamet) and the State Agency of Medicines (Ravimiamet), which together have a central role in managing health care issues. The Health Board's key tasks include the licensing of health care providers and the registration of health care, monitoring the quality of health care services. The agency is also responsible for occupational health, chemical safety and the safety of medical devices used in Estonia. The Agency of Medicines ensures that the medicines used in Estonia are effective and safe and used for intended purpose. The agency supervises also exports and imports of medicine, and fulfillment of regulations of clinical trials (Organization of Health Care System in Estonia 2020). The Estonian Health Insurance Fund (EHIF) (Haigekassa) pools the majority of public funds and organizes the purchase of health care services and medicine from providers of respective services or goods. Estonia has historically used wage-based contributions to finance its health insurance system (wage earners are paying part of social tax, 13% to EHIF for financing health care). In 2017, Estonia's government passed a reform to diversify the revenue base of the health insurance system by adding a government transfer on behalf of non-working pensioners (State of Health in the EU. Estonia 2019, p. 9). Hospitals in Estonia are mostly owned by the state, local governments or public legal bodies, while primary care centers, pharmacies and outpatient clinics are privately owned (if they are not part of a hospital). Estonia spent € 1,559 per person or 6.4% of GDP (substantially lower than EU average € 2,884, or 9.8% of GDP) in 2017. Three quarters of Estonia's health care spending came from the single payer (EHIF) health insurance system, while 25.3% of spending came from household out-of-pocket payments, mostly in the form of co-payments for medicines and dental care (State of Health in the EU. Estonia 2019, pp. 9-10).

2.2. Decision making during the emergency

The main problems related to the emergency concern the decision to establish the emergency, operative management, allocation of resources for fighting the reasons of emergency, decision-making about the use of existing health care resources for dealing with the cause of emergency. Important aspects concern also introduction of restrictive measures for public, regulation of activities of providers of various consumer goods and services, travelling and tourism-related restrictions. The public relations related to informing public about the health care situation, the purpose of the measures and consequences of these measures is also an important aspect of crisis management during the emergency.

¹ The Ministry of Social Affairs was established in 1993 by merger of the former Ministry of Health Care, Ministry of Social Welfare and Ministry of Labor. The Minister of Social Affairs is responsible for health care, social and labor market policies.

The Health Service Organization Act is the main legal document regulating the Health Care System in Estonia. The Act's §59 treats provision of health services upon preparation for emergency, risk of emergency and during emergency (The Health Service Organization Act 2009). The Act stipulates that the Health Board shall give specific tasks to health care providers for preparation for an emergency, shall prepare and submit once a year to the Minister of Social Affairs an overview of resources to be used in a case of emergency. The Minister establishes the levels of readiness and the content thereof in case of a risk of emergency and during an emergency. The Health Board has the right to appoint an emergency chief or chiefs, subordinate to the authorities in charge of resolving an emergency and who coordinates the activity of health care providers during resolving of a health care emergency.

Another option for dealing with the emergency is to use legal framework and opportunities provided by the Emergency Act (Emergency Act 2017). The Act provides for the legal bases for crisis management, including preparing for and resolving an emergency as well as ensuring the continuity of vital services. The Act stipulates that the Government of the Republic of Estonia declares an emergency situation in the entire country or in the territory of one or several counties or local governments (Emergency Law, §20). The emergency situation is declared by order of the Government of the Republic (Emergency Law, §21). The Government forms a permanent Crisis Management Committee, comprising several ministers. The Government appoints a minister responsible for the coordination of crisis management and he/she is subordinated and accountable to the Government of the Republic. The Emergency Act stipulates expropriation of items necessary for crisis management (Emergency Law, §29), prohibition on stay and other restrictions on freedom of movement (Emergency Law, §31), restrictions on holding public meetings and public events (Emergency Law, §32). The Act also allows involvement of Defense Forces and Defense League (Emergency Law, §34). The Emergency Act does not prescribe any role for Parliament of the Republic of Estonia (Riigikogu).

The crisis management in Estonia started under guidance of the Health Board. However, on 12 March, the Government declared a state of emergency. The emergency situation was declared to last in Estonia until 1 May 2020. The Government appointed the Prime Minister to lead the Government Committee tasked with resolving the situation caused by the coronavirus. Immediately after the Government meeting, the Prime Minister made a political statement in the Riigikogu (Political statement by Prime Minister Jüri Ratas in the Riigikogu on 12 March 2020). After that, the Crisis Management Committee held its first meeting. An important cause for Estonian Government's decision was the World Health Organization (WHO) declaring officially the outbreak of the COVID-19 pandemic on 11 March 2020 (Coronavirus pandemic, 2020). On 12 March, 16 people were known to have been infected in Estonia (Political statement by Prime Minister Jüri Ratas in the Riigikogu on 12 March 2020). The Government Committee on the Emergency established the Scientific Advisory Board for Combatting COVID-19 and appointed the members of that Board. All the members had medical background, either as professors of the University of Tartu or leading medical professionals. Irja Lutsar, professor at the Institute of Biomedicine and Translational Medicine, University of Tartu, was appointed the head of the Scientific Advisory Board for Combating COVID-19 (Scientific Advisory Board 2020).

On the same day, on 12 March, and as a reflection to the WHO's declaration of 11 March of the outbreak of the COVID-19 pandemic, the Health Board said in its statement that by their assessment, the risk of limited local spread of the virus is high in Estonia. The Health Board also informed that according to the information known then, the symptoms of the COVID-19 are similar to flu symptoms. The virus can cause cough, fever and breathing difficulties. According to the current date, 80% of the cases (including pneumonia) are mild, no different than the common cold. Approximately 14% experience severe disease and 6% were critically ill (High risk limited local spread 2020). The Health Board's risk assessment was clearly different from the Government's risk assessment. At the end of February, the Health Board did not prohibit the visit of the volleyball team of North Italy, Powervolley Milano to visit the island of Saaremaa and to meet in the Euro Cup Challenge series tournament Saaremaa's Volleyball Club in two matches on 4 and 5 of March. The first spread of the COVID-19 took place in Saaremaa in March and April and the full lockdown of the island established by the Crisis Management Committee of the Government followed².

On 24 March, Arkadi Popov, head of the Emergency Medical Aid Department of the North Estonian Regional Hospital was appointed as the Emergency Situation's Medical Director of the Health Board. The initiative for that appointment clearly came from outside the Health Board. In its news, the Health Board announced: From 24 March, and for duration of the emergency situation, Mr. Popov has joined the Health

² During the same days, another critical event for the spread of virus took place in Saaremaa Spa hotel with visitors from abroad. Some infections could come also from that event.

Board's crisis team as a Medical Director. The Emergency Situation's Medical Director is placed under the Health Board and the main goal of the position is to coordinate the organization of work in the medical institutions across the country. The Medical Director has the right to give orders for rearranging the provision of health care services (Emergency Situation Medical Director 2020). The Emergency Medical Director had an important role in organizing events during emergency and stayed in that position until December 2020³.

In April 2020, the Government decided to support the amendment of the Medical Devices Act, which was introduced to the legislative proceeding of the Estonian Parliament, amending provisions of the Emergency Situation Act, the Act on Prevention and Control of Infectious Diseases, the Law on the Organization of Health Services and the Act on Health Insurance. The law introduced the notion of a novel dangerous communicable disease, under which the COVID-19 is classified, and the governance actions for dealing with that dangerous situation. Once the amendments have entered into force, the Government can give orders to the emergency management authority without establishing the emergency situation and the Emergency Medical Chief can give orders to medical institutions for temporary restructuring of their activities. Local government could establish quarantine on the proposal of the Health Board before the amendment was introduced, but once the amendment entered into force, the Health Board can make the decision to establish quarantine (The Government supports the draft law 2020).

At the beginning of COVID-19 infection, the country was not very well prepared for such kind of crises. There was a lack of some materials (masks, for example), the legal procedures were formally in place but in practice several problems emerged. To overcome these issues and to speed up treatment of crisis, the Government decided to declare the emergency. The direct control and management of events went to the Prime Minister's lead Crisis Management Committee. The Committee rendered a very important role to the Scientific Advisory Board. The Board's suggestions were not only very widely used in crisis management, but the Head of the Board became also a leading figure in the communication of disease prevention measures to the public. The Emergency Situation Medical Director had a central role in communication between the Government and first of all, Ministry of Social Affairs, and the Health Board and hospitals. The Director also participated actively in communication with the public. The Health Board had a central role in monitoring and recording the spread of the disease. The Board created a coronavirus spread data-base, ordered ICT tools for monitoring contacts between people connected with the infected patients. The HOIA application was worked out and uploaded by 230,000 people up to the end of 2020. The system recorded people with positive test results and informed others if they were close to or in contact with infected people⁴. The koroonaestimine.ee/en website provides information about testing based on a referral, testing when crossing the border, and also paid testing. Important information for physicians and employers can also be found on the website. Furthermore, anyone who has a doctor's referral can use the website to book a test. Certificate details, customer service contact numbers, and the addresses of test sites can also be found on the website. For institutional use, the Board implemented 24/7 crisis contact point and epidemiological consultation (COVID-19 blog 20 December 2020).

For individual treatment and consultation for people with symptoms of disease, the family physician was a person to contact. The testing capacity covered the Health Board, the main seven hospitals of Estonia and the private company Synlab. If the family physician suggested testing, the Health Insurance Fund covered the cost of testing regardless the testing was done by the public organization or the private company. Otherwise, the patient had to cover cost of testing. Initially only people with symptoms of the disease were tested. The decision of massive testing was adopted in the middle of April 2020 and relevant additional resources were provided for the Health Insurance Fund from the State budget.

³ Doctor Arkadi Popov has studied medicine at University of Tartu and psychology in St. Petersburg. Estonian Association of Media Enterprises (ELM) named the Health Board's Chief of Emergency 2020's Friend of Media. Leading editors from ELM said that Popov has brought a clear message to the country as a whole, in both Estonian and Russian languages, throughout the pandemic, but particularly early on, when statements made by the Government often conflicted with those issued by the Health Board (Friend of the Media 2020). At the Citizens Day recognition event, the Minister of Culture of Republic of Estonia, named Arkadi Popov Citizen of the Year 2020 (Citizen of the Year, 2020). Doctor Arkadi Popov was appointed Head of West Tallinn Central Hospital from 5 December 2020 (Doctor Popov was appointed Board's Chair 2020).

⁴ The HOIA mobile app from Google Play or App Store informed people, who uploaded it, if they have come into close contact with an individual who has coronavirus. The app also allows people anonymously notify other users if the person has fallen ill himself or herself. Codes are exchanged anonymously between the phones of people who use the app, while the government, the app's developer, and the manufacturer of phone will not be notified of those with whom the user of app have come into close contact. Information is available: www.hoia.me/en.

The Prime Minister's leading role in crisis management meant that he had at his disposal the very first source of information on material and financial needs of crisis management and supportive measures for industries. The Government made necessary decisions very rapidly and effectively. A problematic side of that choice of crisis management was that very little attention was paid to other issues⁵.

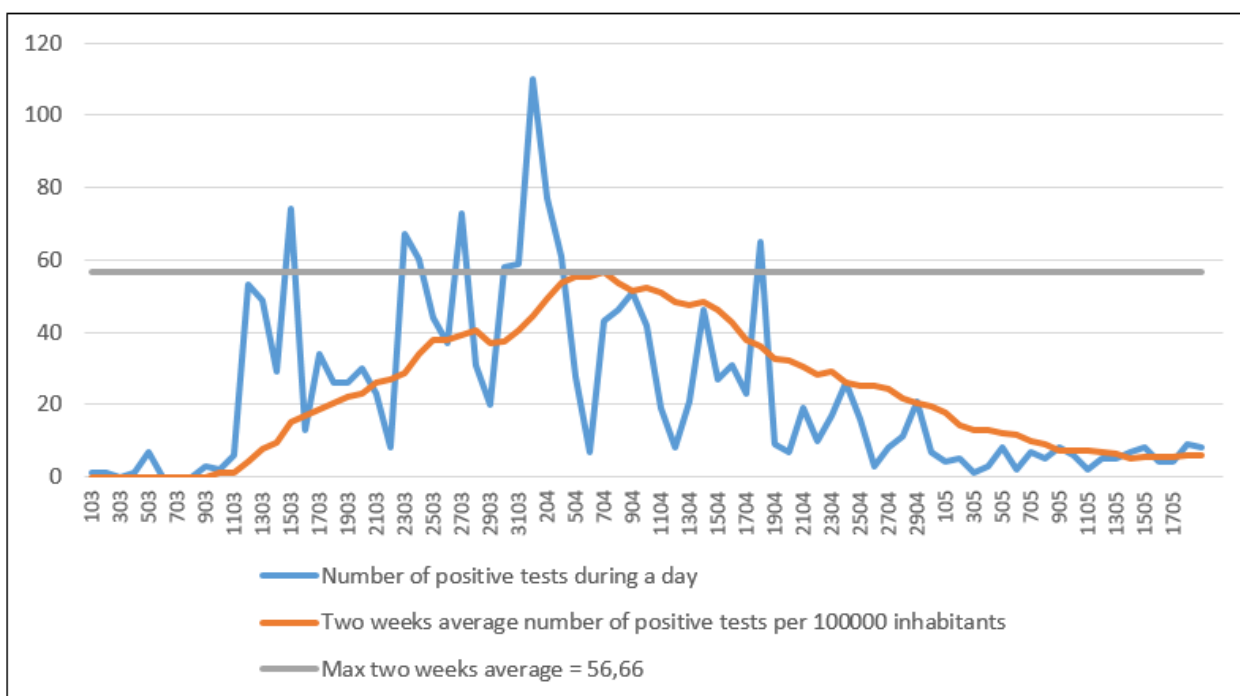
A state of emergency gave the Government wide possibilities for closing borders of the country and some regions (Estonian islands). That made possible to introduce lockdowns and to limit and control movement of people using the Police and the Defense League forces. At the same time, that was a very direct and visible limitation of people's freedom. It is possible to see that later, during the second wave of the COVID-19 in autumn 2020, the Government was more careful introducing the restrictive measures. The Government avoided the declaration of emergency until the end of 2020, though the infection figures were much higher than during the peak of infection during the first wave of COVID-19 in winter and spring of 2020. The Government and the health care system were better prepared for crisis during the second wave of COVID-19.

3. COVID-19

3.1. First wave

The first case of COVID-19 was confirmed in Estonia on 26 February 2020. That was an Iranian citizen living permanently in Tallinn who returned from Iran after visiting his relatives (Health Board: Tallinn residents not at risk 2020). The Estonian tourists returning from Italy and France were the source of infection. During the first wave of the COVID-19, the Saare county (the Saare county includes the largest Estonian island Saaremaa, the Muhu island and some smaller islands) was center of the spread of the virus. During the following days, the spread of the virus expanded.

Figure 1. COVID-19 positive tests per day, 1.3-18.5.2020



Source: The Health Board, 2020.

⁵ Estonia had in spring 2020 a three party coalition government. The Prime Minister and the Minister of Social Affairs were from the Estonian Center Party (center left liberal party), the Minister of Defense and the Minister of Foreign Affairs were from Isamaa (the Fatherland, a conservative party) and the Minister of Finance and the Minister of Interior were from the Estonian Conservative People's Party (a nationalist party). The crisis management went quite smoothly between the partners, but the other issues emerged. For the Estonian Conservative National Party, the important issue was the referendum on definition of family, the proposed referendum question being "Do you agree that the family could be only between a man and a woman?" The Center Party did not like the referendum idea but the referendum was agreed in the coalition agreement between the three parties. There were legal problems due to definition of family in different regulatory acts and controversy with individual liberties. That discussion took some time of the Government.

Figure 1 describes the numbers of positive tests per day and the two weeks average number of positive tests per 100,000 inhabitants. The highest number of positive tests (110) were registered on 1 April and the highest two weeks average figure per 100,000 inhabitants 56.66 in the first wave of the COVID-19 was registered on 6 April. After that date, the average figure per 100,000 inhabitants came down and was 17.83 on 30 April and 6.02 on the last day of the emergency on 18 May. Throughout the summer, the average figure of positive tests per 100,000 inhabitants was less than 10 and the next increase of infection started at the end of August 2020. Testing strategy certainly influenced the figure. At the beginning of the spread of coronavirus, only people with clear symptoms were tested, average number of tests being around 500 per day and the proportion of positive tests was around 5%. The Health Board updated the testing strategy on 8 April. In case of reasonable doubt, the family physicians obtained the right to refer all people with coronavirus symptoms to testing regardless of their age or associated diseases (Change of testing strategy 2020). Due to additional resources, the number of tests increased from 500 per day in March to 1,000 per day in April and to 2,000 in May 2020. For comparison, during the second wave of corona virus in autumn 2020, 5,000-6,000 inhabitants were tested per day. During the first COVID-19 wave, the total number of deaths was 68 as of May 2020.

The number of hospitalized patients was highest on 13 April being 166 persons in hospital and 9 under supported ventilation. The total number of places of treatment of the COVID-19 patients in all Estonian hospitals were at that time around 250. 60% of the capacity of general wards and 17% of the intensive care resources was used on that day (Political statement in the Riigikogu on 18 May 2020) Some reserve of places still existed but the infection concentrated into Tallinn and Saaremaa and that created problems. In the Kuressaare hospital in Saaremaa, there was a critical shortage of places and the military mobile hospital was brought there in April. A problem was also the shortage of medical personnel, partly due to infection. At the beginning of April, the Kuressaare hospital announced that 41 members of staff had been tested positive since the outbreak of the coronavirus. On 8 April, a 53 year old healthcare worker died due to coronavirus in Kuressaare (Timeline how Saaremaa 2020). Transport of patients from the Kuressaare hospital to other hospitals in Estonia was organized and the medical helicopter was used for that purpose.

Critical places for infection were also care houses for elderly people. In total, there are 178 care houses with around 9,000 residents in Estonia. At the end of March 2020, 13 care houses had tested positive for the COVID-19. In four care houses (two in Saaremaa, one in Ida-Viru and one in the Tartu county) the infection rate was high. In one care house in Saaremaa with 40 patients, 25 residents and members of staff were tested positive for the COVID-19. The Health Board introduced new restrictions for residents of care houses. Already then, the visits to premises of care houses were prohibited. Now the residents were no longer allowed to leave the premises. If a resident leaved, they were not allowed to return.

Due to the emergency situation in Estonia, the Health Board prohibited visits to all social welfare institutions, hospitals and prisons until the preliminary date of 1 May 2020, unless otherwise decided by the government. To contain the further spread of the COVID-19 infection, the Health Board ordered the cessation of all regular, planned health care outside of the national network of hospitals. Private medical establishments and dental clinics could only provide emergency care. Regular treatments stopped to contain the spread of the virus and in the interest of using personal protective equipment more economically (Regular treatment stopped 2020).

When the Government declared emergency on 12 March 2020, all public gatherings were prohibited, schools were required to suspend classroom studies as of 16 March, hobby education was suspended, all performances, concerts, conferences, sport competitions were prohibited and museums and cinemas were closed until 1 May. Sanitary inspection was employed at border crossing points to detect the symptoms of the coronavirus in people (The Government declared an emergency 2020). The 2+2 rule applied when in public places: up to two people could be together and a distance of at least two meters was necessary from others.

Additional restrictions were introduced on 14 March due to the emergency situation in islands and covering leisure time. Only people who were permanent residents of the islands were allowed to travel there. The restriction did not apply to transport of goods and provision of vital services. In all Estonia, all sports halls, sports clubs, gyms, spas, swimming pools, water centers, day centers, children's play rooms and outdoor places were closed. Hotels and other accommodation providers, which were still open, had to close their gyms, swimming pools, saunas and spas. The government was at the same time working out economic measures to provide support, among others, to the tourism sector in difficulty (Additional restrictions 2020).

Border control was reintroduced on the whole border from 17 March. The requirement of a two-week quarantine for everyone entering the country was introduced. At an emergency session on 17 March, the Government granted the Ministry of the Interior permission to include the Defense League to help control the Estonian state border during the emergency situation. The Minister of Defense and the President of the Republic gave their consent to this. Up to 150 members of the Defense League per day could be involved for up to 30 days (Defense League helps Police and Border Guard 2020). Sale of alcohol in restaurants, pubs, bars and other catering establishments was permitted from 10 am to 10 pm since 18 March, during the same time-period as the shops were allowed to sell alcohol. It was prohibited to sell alcohol at night.

On 24 March, the Government Emergency Committee decided to close all shopping centers from 27 March, except grocery stores, pharmacies, telecommunication outlets, bank offices, parcel stations and stores, selling or renting technical aid and medical devices. The 2+2 rule for people, meaning that at least 2 meters distance should be kept between people and only 2 people could be together in public space, was introduced on 25 March (Additional measures to the emergency 2020).

The restrictive measure brought down the spread of the coronavirus down in Estonia in approximately 4 weeks. The two weeks average number of positive tests per 100,000 inhabitants dropped to 17.83 at the end of April.

Starting from 21 April 2020, the restrictions on scheduled treatment imposed on hospitals regarding the general medical care, special medical care and dental care, were gradually abolished. On 22 April, the Government Committee announced the crises exit strategy plan. The plan also contained key indicators of exit strategy. The Government sent the plan for discussion and consultations to the Parliament and the social partners. On 24 April, the Government extended the emergency situation in Estonia until 17 May. The Government Committee approved the crises exit strategy plan on 27 April. On that meeting, the Government Committee made a decision that no major public events would be held in Estonia until 31 August 2020 (The Government approved the COVID-19 crises exit strategy 2020). On the same day, the Government approved a long lists of draft regulations of ministries to provide support, aid and partial compensation for different businesses affected by the outbreak of the coronavirus (The Government approved the regulations necessary for the application of measures 2020). The regulations introduced details into use of resources provided by the supplementary budget, which was submitted by the Government to the Parliament on 2 April and adopted by the Parliament on 15 April 2020.

The emergency on Estonian islands was first eased and then abolished from 2 May. From 8 May, people could travel freely between the islands and the mainland Estonia. That decision was partly brought up by public protest actions in Saaremaa and also in mainland Estonia. The health statistics demonstrated that practically no new infections were recorded in Saaremaa at the end of April.

Open-air museums opened and outdoor sport events were allowed from 2 May. On 5 May, the emergency situation restrictions were eased for shopping centers. As of 10 May, religious services were allowed to be carried out under special circumstances. People had to follow the 2+2 rule and disinfectants had to be available. The museums and exhibition hall opened on 11 May. As of 15 May, regular education activities were allowed to continue in schools under special conditions. During the time of emergency, educational events were allowed in groups with not more than 10 members. Protective masks are not mandatory but strongly suggested (Special announcement: The Government eases restrictions in the field of education, culture and sports 2020). As of 11 May, the shopping centers reopened sales and services areas and catering facilities (Special announcement: emerging situation restrictions will be eased in shopping centers, 2020).

The Estonian border regulations with Finland and treatment of citizens of Estonia and Finland by regulations in neighboring countries have been complicated but important due to pooling together of two countries' labor markets. That was especially important for Estonia, because around 50,000 Estonians worked full time or part time in Finland. Very often, their families were located in Estonia and travelling opportunities were important. From 14 May, the easing of border crossing regulations came into force from the Estonian side (The government specified the border crossing between Estonia and Finland 2020). The Prime Ministers of the Baltic States agree on open the borders of the three countries on 15 May.

On 18 May, the Prime Minister Jüri Ratas made a political statement in the Riigikogu declaring the end of emergency situation. After the end of the emergency situation, the health care emergency remained

in force in Estonia. The restrictions were gradually eased. The most important restriction, the 2+2 rule, remained in force until 17 June, after that the rule was replaced with a requirement for people to disperse. Other restrictions, which continued to be in force, were maximum occupancy of 50% and up to 10 people for indoor events and up to 100 for outdoor events. These limits increased to 500 people participating in indoor and 1000 in outdoor events from 1 July 2020.

On 17 May, on the last day of emergency, the two weeks average number of positive tests per 100,000 inhabitants was 6.02 and at the end of May it was 6.55. On 17 May 2020, 43 patients still required hospitalization due to the coronavirus, 289 persons were discharged from hospitals. No deaths due to the COVID-19 were registered during the last 24 hours on 17 May, but in total the coronavirus had caused death of 63 persons in Estonia up to that date (COVID-19 blog, 17 May: 4 new positive test results 2020).

The two weeks average number of positive tests per 100,000 inhabitants was less than 10 throughout June, being only 1.05 on the last day of June. The figure started to increase again in August and rose to the level of 10 positive tests per 100,000 inhabitants on 25 August 2020.

In June, the reshuffle of the Health Board followed. At the beginning of May, the Prime Minister refused to answer the question of a journalist whether the General Director of the Health Board should step down (Prime Minister criticizes Health Board's handling of pandemic 2020). During the second half of May, the Minister of Social Affairs criticized several times the General Director in public. The critical negative information leaked out from the Health Board that the Health Board hired a Public Relations manager paying her higher salary than the Emergency Situation's Medical Director received (New Health Board PR employees paid more than crises chief Popov 2020). On 18 June, the resignation of the General Director of the Health Board on her own volition was announced (Health Board Chief Merike Jürilo resigns 2020). The Health Board's former Emergency Chief Martin Kadai also resigned in solidarity with the General Director. Later he commented in the media and was critical about the activities of the Government. He said that the difference of opinion between the government and the Health Board arose quite early in the crisis management. The declaration of emergency situation, which ran from mid-March until mid-May, was opposed by the Health Board on the grounds of human rights considerations. The Health Board's former risk manager preferred the approach, which was closer to Sweden's handling of the COVID-19 crisis (Former Health Board official: Government halted the COVID-19 crisis information 2020). The director of the Estonian Forensic Science Institute took over the leadership of the Health Board from 1 October and the head of department fulfilled the role of acting director of the Health Board from July until October (Kiik names new head of Estonian Health Board 2020).

The difference in risk assessment between the Board and the Ministry of Social Affairs and the Government was visible from the beginning of COVID-19 crisis and the Government created a Scientific Advisory Board without representatives of the Health Board. The Emergency Situation's Medical Director of the Health Board was appointed and came outside of the Health Board. At the same time, the Health Board had technical capacity and knowledge to deal with very different regular functions in the Health Care system. The takeover of strategic decision making by the Government and the Government Committee on the Emergency formed by the Government and the important role of the Scientific Advisory Board in designing the strategic decisions in combat with the COVID-19 made the management of the Health Board difficult. On the other hand, it is not clear, how effective could have been the mobilization of very different resources (also outside of Health Care System), if the Health Board had a central role in making the strategic decisions. Sometimes the Government seemed to follow the logic of marching ahead with a slogan, "*Less discussion, longer step*", but it was quite effective in the management of the first wave of the COVID-19 crisis.

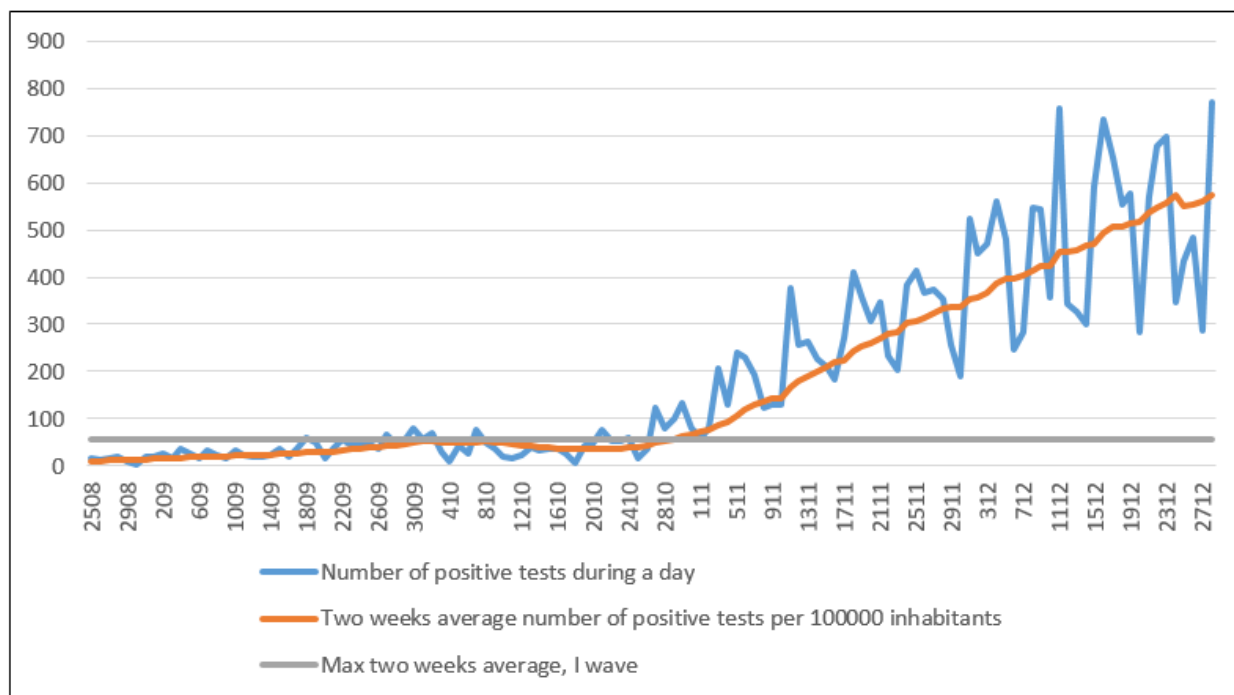
3.2. Second wave

The spread of COVID-19 infection was limited practically throughout the whole summer. Only in the second half of August 2020, the two weeks average positive tests figure per 100,000 inhabitants started to grow. The figure was 4.36 on 1 August and the 25 of August was the first day when the figure was above 10. The total number of infected people from the beginning of the COVID-19 outbreak at the end of February until the end of August 2020 was 2,396. In September, there were slightly more than 1,000 new cases, the total number of positive tests since the beginning of the spread of coronavirus was 3,452 and the two weeks average number of positive tests per 100,000 inhabitants was 50.57 on 30 September 2020. The number of people in hospitals due to COVID-19 was 36.

In October, the average number of positive tests per day were quite stable. In the middle of the month,

the figure came a little down and increased again in the last days of the month. The highest level of two weeks average positive tests per 100,000 inhabitants surpassed the highest level of the first stage of the coronavirus (56.66 on 6 April) on 29 October 2020. On the last day of October, the two weeks average figure was 68.17, the total number of positive tests 4,986 and in October, the number of positive tests increased by 1,534. Starting from the last days of October, the number of positive tests per day started to increase. The number of people in hospitals due to COVID-19 was 43 on the last day of October.

Figure 2. COVID-19 positive tests per day, 25.8-28.12.2020



Source: The Health Board, 2020.

In November, the rapid spread of the coronavirus started. 7,506 positive tests were recorded in November. The number surpassed the total of positive tests during the whole period of the coronavirus in Estonia so far, which was 4,968 at the end of October. The total figure of positive tests was 12,492 at the end of November. The two weeks average per day of positive tests per 100,000 inhabitants increased from 68.17 at the end of October to 335.82 at the end of November and to 550.35 on 25 December. The number of people in hospital at the end of November was 211. During 28 days of December (the last date of records of the current report was 28 December) the number of the new positive COVID-19 tests more than doubled increasing from 12,492 to 26,283. The number of patients in hospitals due to the COVID-19 was 410 on 28 December (The Health Board Data 2020).

The statistical comparison of figures for different months presents some problems. The analysis of the first wave of the coronavirus mentioned that the capacity of testing at the beginning of March was around 500 and the numbers of tests increased to approximately 2000 in May. The total proportion of positive tests was around 5% during the peak of spread of coronavirus. In autumn 2020, 5,000-6,000 tests were made per day and the proportion of positive tests increased to 10-11%, some days on the level of 14%. The increased number of testing increased the number of positive tests with other things remaining equal. The increasing proportion of positive tests together with increasing total number of tests demonstrated the really wide and growing spread of coronavirus in Estonia in autumn and especially in November and December 2020. At the same time, it is not possible to consider the results of testing as kind of statistical sample representing total population. The structure of that sample of tested persons has not been representative for the whole population due to differences in age structure of the sample and the whole population (not so many children were tested), and probably people with symptoms came to test et cetera. Definitely, these figures demonstrate that the number of people with infection might be much larger than the total number of positive tests.

Another specific feature of the second wave of the coronavirus was that a large number of the COVID-19 positive people did not have any or very few symptoms of the disease. One explanation for that was that relatively young people were infected and for them that disease was not as dangerous as for elderly people or for people with other diseases. The relatively small number of hospitalized persons until November seemed to confirm that hypothesis. The number of hospitalized persons started to grow rapidly during the second half of November and on 25 December 407 persons were hospitalized, 38 of them were in intensive care and 23 of them were given ventilation. According to the Health Board, the technical capacity of Estonian hospitals have been increased from 250 during the first wave of the coronavirus to 650 in autumn 2020. At the end of December, 60% of these places were filled as at the peak of the first wave of coronavirus, though during the second wave there was much more places in hospitals than during the first wave of the coronavirus (The Health Board 2020). The situations seemed to be quite dark at the end of 2020.

The policy response to the spread of coronavirus was quite different in autumn 2020 in comparison with the spring 2020. The easing of restrictions continued during the summer. Prime Minister Jüri Ratas stated on 18 August 2020 that after the emergency the state is ready to react flexibly and locally to the spread of the coronavirus in order not to close the whole society and the main challenge is to learn to live with a virus that threatens human health. That means responsible and healthy behavior for oneself and others (The Government is amending the restrictions 2020). The Government introduced exemptions to regulations on the number of participants in events and allowed in some cases more than 1,500 in indoor and more than 2,000 participants in outdoor events. The amendment of 50% occupancy limit concerned different types of schools before the school year, which starts in Estonia at the beginning of September. The World Championship Car Rally event, which several countries refused to organize, was organized in South Estonia in October 2020.

During the second half of August, a coronavirus outbreak took place in the Ida-Viru county (East Viru in English). A social event that took place in one bar in the Jõhvi town spread to the oil shale mines and companies in the county. The outbreak in the Ida-Viru county was the main concern of the Government and the spread of the coronavirus at last achieved critical measures in November and December. The Government reacted initially with restrictions on night-time sale of alcohol in the Ida-Viru county and initiated and financed a targeted monitoring study of the spread of the coronavirus in the Ida-Viru county executed by scientists of the University of Tartu.

Estonia wanted to keep borders with Latvia, Lithuania and Finland open to goods and labor, especially in the case of Finland, and raised the two weeks average positive tests figure per 100,000 inhabitants to 25, after which people arriving from those countries would be subjected to a self-quarantine. The regulation entered into force on 14 September and the average positive tests figure surpassed that limit already the next day, being 25.81 on 15 September and 50.97 on 30 September 2020. Latvia increased restrictions on its border with Estonia in mid-September, introducing the requirement of negative COVID-19 test and 14 days self-quarantine requirement for people entering Latvia.

The virus spread on and the Government introduced new restrictions step-by-step. The Government of Estonia imposed nationwide ban on late-night-alcohol sales from 12 am until 10 am starting on 25 September (The Government imposes nationwide ban, 2020). The Government limited audience capacity at public meetings, events and sports competitions from 24 September. Up to 750 people were allowed to visit indoor events and 50% occupancy requirement was necessary to follow from 29 September. On that day, the Government decided to extend the applicability of the quarantine requirement for patients diagnosed COVID-19 and to people in close contact with them until 31 December 2020.

To save free movement of people between the Baltic States and Finland, the Estonian Government increased the limit above which the people would stay in self-isolation, from 25 to 50 on 12 October 2020. Estonia's two weeks average positive tests figure per 100,000 inhabitants surpassed the limit of 50 on 28 October.

The Government announced new measures to stop the spread of the coronavirus on 10 November. The remote work was suggested to employers where possible, they were advised to prepare a remote working plan in case if someone becomes infected with the coronavirus at work. Masks were strongly advised in public space, carriers were asked to put notice on wearing masks on public transportation. The Government established again the 2+2 rule in public area from 16 November.

The Government approved the new restrictions on 24 November. It was interesting that the Government

considered necessary to admit that both the Health Board and the scientists advising the Government, supported the restrictions. Some restrictions were imposed all over Estonia: the obligation to wear masks in public indoor places, the 2+2 rule was extended to all indoor spaces and to public transport, the lower number of allowed participants in public events applied (up to 400 in indoor events).

As of 3 December, there were 218 COVID-19 patients requiring hospital treatment. The bed occupancy was critical in three hospitals at the end of November: in the Ida-Viru Central Hospital in Jõhvi and the Narva Hospital and in the Hospital of Lääne-Tallinn in the Harju county. The number of patients older than 60 was growing constantly, the average age of hospitalized people was 68.8 years and the share of hospitalized people aged over 60 years was 73%. The average length of stay in hospitals increased on account of the more severely ill. In the welfare system of the Ida-Viru county, more infected people came from the nursing home outbreaks (The Government adopted further restrictions 2020). On 4 December, the Prime Minister cancelled his visit to the Ida-Viru county due to being informed of having been in close contact with a COVID-19 positive person. The Prime Minister's test was negative.

The Government imposed new restrictions on 9 December 2020. In the Ida-Viru county, sports and other leisure activities were suspended, public events were prohibited and all entertainment facilities including cinemas, theatres, concert venues, museums were closed starting from 12 December initially for three weeks. All schools were closed from 12 December until 10 January all over Estonia. The churches and other religious establishments were allowed to continue daily work if the 50% occupancy requirement was fulfilled, the 2+2 rule and obligation to use masks were followed and disinfectants were available (The Government imposes additional restrictions 2020). On 23 December, the Government imposed restrictions similar to the Ida-Viru county also in the Harju county (including in the capital of Estonia Tallinn). From 28 December, a new set of restrictions was introduced in the Harju county and the Ida-Viru county. The provision of any entertainment services was prohibited. Accommodation establishments could continue to provide accommodation services, all catering establishments were closed to customers, all sports facilities were closed to visitors. Up to 10 people were allowed to take part in outdoor public events and meetings. Restrictions on educational activities remained in place all over Estonia, kindergartens and child care facilities remained open, religious establishment could continue to work, the requirement of 50% use of maximum capacity was established for them (Restrictions applicable to Harju County and Ida-Viru County 2020). The Government introduced also additional support measures for service provider's, which had to suspend their activities. On 15 December, the Government agreed the vaccination plan and the medical personnel was the first group to get the vaccination against the coronavirus.

4. Comparison of governance of the first and the second wave of COVID-19

Comparison of developments, decisions and governance actions of the Estonian Government and other institutions demonstrate clearly that there were big differences. During the first wave, the Government's reaction was very resolute. The emergency was announced and the governance was concentrated into the hands of the Government and the Government Committee on the Emergency. The Government named members of the Scientific Advisory Board for Combatting COVID-19 and cooperated with that board very closely. The Health Board had in the beginning primarily an administrative role in preparing technical tasks related to the treatment of the coronavirus.

The explanation of that decisive role of the Government could be partly related to the new situation and a high uncertainty concerning the spread of the coronavirus. The Government saw the developments in other countries, which developed into a health care crisis and tried to avoid that situation. The announcement of the situation of global pandemic by the WHO also played its role. Another reason was mixed and soft reaction of the Health Board managers to the COVID-19 related risks.

One important general aspect of this reshuffle of the management of the Health Board was that the Board had not used to work in emergency and it seemed to be a rather typical bureaucratic organization, which fulfilled its regular function quite satisfactorily. The new Emergency Situation's medical director of the Health Board came from the real medical system, where dealing with emergency was an everyday activity. In Estonian administrative circles and among journalists, it is a quite popular opinion that the announcement of the state of emergency and dealing with Saaremaa was an over-reaction to the crisis. The protests in Saaremaa also evidenced that (Timeline: how Saaremaa 2020). The Government had problems with the enforcement of restrictions. For example, it was quite difficult to control how people obeyed the rules of self-isolation. Police patrols in Saaremaa were not a pleasant sight for everybody. At

the same time, if we look at the dynamics of positive tests of the COVID-19 and patients in hospitals, the approach of the Government seems to have worked quite well. The Government used the experience received from the crisis management for the introduction of new legal regulations and improvement of staff and resources of the Health Board.

The Government was quite soft during the second wave of the spread of coronavirus during the autumn of 2020. The Government introduced restrictions only gradually and only very high absolute and relative number of positive tests of the COVID-19 made the Government introduce restrictions comparable to those applied during the first wave of the coronavirus in the beginning of the crisis in March 2020. The two weeks average number of positive tests per 100,000 inhabitants in Estonia was approximately 10 times higher at the end of December in comparison with the highest value of the respective figure in April 2020. The information about the working vaccine and its availability during the first half of 2021 also played its role in postponing unpleasant restrictive measures.

Two waves of the crises demonstrated that sports events were critical for the spread of the coronavirus. Sports events were an important source of spread of the coronavirus was in Saaremaa and quite important in the Ida-Viru county. The care houses were very harmful due to close contacts between patients and care workers. The patients' age also made the care homes very vulnerable. The hospitals themselves became places for the coronavirus outbreaks. During the second wave of the spread of coronavirus, the hospitals were much better prepared for possible spread of the virus. People were better trained, the procedures were better prepared to avoid the spread of the virus, and sufficient quantities of masks and other protective aids were available in hospitals. The Viru Prison suffered had a very wide extensive outbreak of the coronavirus and it was not clear at the end of December how that would be solved.

The decision to close schools was heavily debated. Several schools had outbreaks of the coronavirus but that was not massive. In sense, schools have better ventilation and facilities than several other places. If the study process was well and strictly organized, it could have been possible to introduce various restrictions limiting the potential spread of the coronavirus. During the first wave of the COVID-19, the distance learning programs were used and that was an interesting technical experiment. At the same time, pupils and students were quite tired in May and when schools opened again, high school and university students and teachers and professors were happy. Difference in adapting to the study process revealed large differences in readiness of students to learn the material. During the second wave of the COVID-19, the schools were kept open until mid-December, but then the decision came to close school until 10 of January. The decision to close all schools and not take into account the spread of the coronavirus in different regions was especially criticized. The equal treatment of all schools and students was the answer of the Government.

One interesting topic is the regional aspect of the crises. It was quite easy to isolate Saaremaa and other West Estonia islands due to their geographical location and the Government's approach worked partly well for that reason. The geographical factor became an obstacle when the technical and human resource capacity at Saaremaa Hospital's were on the verge of exhaustion. The modern transport equipment helped to move patients to other hospitals and to provide additional resources to the Saaremaa Hospital in these conditions.

The situation was quite different in the Ida-Viru county. It would be much more complicated or even impossible to close the region to the extent done in Saaremaa. The region is much larger by population and it is not as homogeneous culturally and ethnically as Saaremaa. There is a long Russian border and tens of thousands Russian citizens and people with only Estonian living permit (so called grey passport). They used to visit Russia regularly and have relatives there. The Estonian Government was careful in introducing very forceful measures in the region. At the end of November, when situation in the Narva Hospital turned critical, the doctors of Narva asked from the Government stronger restrictive measures in the Ida-Viru county (Narva doctors warn 2020). At the same time, the crises demonstrated that the region was not very well prepared for that. There was a lack of medical personal and material resources. There was a big debate about what media room the Russian speaking population watches and how they react to the regulations and restrictions established by the Government. During the crisis, it became clear the information and requirements were accepted on the same level as in the other regions of Estonia. The police reported that 90% of the citizens of the Ida-Viru county wear masks, which was more than in capital city Tallinn in the Harju county (Police, 2020).

Developments during the second wave of the COVID-19 demonstrate that the Government took quite high risks applying restrictions late and more gradually than during the first wave of the crisis. We will

probably see during 2021 how expectations about the dynamics of the spread of the coronavirus and increasing availability of the resources and readiness of people to act responsibly match.

On 28 December 2020, the total number of tests made in Estonia was 616,702, 46% of population was tested. The total number of positive tests was 26,283 or 4.3%. Of those 26,283 tested positive, 16,965 have recovered from disease. There were still 9,097 persons under control, 410 of them in hospital. Total 221 persons have died due to the COVID-19 until 28 December 2020 (The Health Board 2020).

Table 1. COVID-19 positive tests and deaths by countries, cumulated to 29 December 2020

Country	Population, million, 1.1.2020	COVID-19 positive tests, cumulative, until 28.12. 2020		COVID-19 deaths, cumulative, until 28.12. 2020	
		Total number	Per 100,000 inhabitants	Total number	Per 100,000 inhabitants
Estonia	1.329	26,283	1977.6	221	16.6
Latvia	1.908	37,676	1974.6	603	31.6
Lithuania	2.795	134,285	4804.4	1,347	48.2
Finland	5.525	34,420	623.0	550	10.0
Sweden	10.328	428,533	4149.2	8,484	82.1

Source: Worldometers, 2020.

Table 1 presents the COVID-19 figures on Estonia and its neighbors and the main foreign trade partners of Estonia in the Baltic Sea region. The figures demonstrate that the cumulative number of positive tests per 100,000 inhabitants was highest in Lithuania and the country even surpasses Sweden by that number. Estonian and Latvian were practically equal and Finland had in relative terms three times less positive COVID-19 tests than Estonia or Latvia. By the cumulative number of deaths per 100,000 inhabitants due to the COVID-19, Sweden did worst and its figures are dark. Lithuanian figure was quite high but much lower than the Swedish figure. Estonian cumulative death rate per 100,000 was lower than the Lithuanians or the Latvians respective figures but still higher than the Finland's respective figure. Estonia did quite well in comparison with other neighboring countries, but Finland's relative cumulative number of the positive COVID-19 tests and the death rate due to that disease was lower better than that of the other countries in this comparison.

5. Supporting measures

The Government prepared and presented to the Estonian Parliament the supplementary budget to support the economy on 2 April 2020. The Parliament issued on 15 April a press release that the Act on the supplementary budget has been passed. On the Cabinet meeting of the Government on 24 April 2020, the measures related to the state supplementary budget for 2020 were approved by members of the Government. The goal of the supplementary budget was the support Estonian workers and entrepreneurs, and alleviate the impact of the economic downturn caused by the coronavirus (Members of the Government approved the crises measures 2020). The nominal deficit in the general government sector in 2020 together with the support measures of the government, would be € -2.62 billion. That is -9.8% of forecasted for 2020 GDP, which would be approximately € 26.7 billion. The impact of the measures on the nominal budgetary position was €-1.15 billion. The supplementary budget reduced state budget revenues by € 1.63 billion and the impact of the supplementary budget measures on the expenditures of the state budget totaled € 513 million. The use of reserves was also envisaged (Member of the Government approved the crises measures 2020). The principles of funding provided for in the supplementary budget, the target groups, the scope of measures and more general procedures were discussed and proposed by the Government. The strategy of the current Government of Estonia was quite different from the strategy of previous governments during the last 15 years. Estonia has had

balanced state budget, the total loan burden of the government sector was € 2.37 billion or 8.4% of GDP at the end of 2019 (Statistics Estonia, 2020). The current government planned to increase the public debt substantially in the emergency.

The main changes related to the general tax policy were following: starting from 1 May until 31 August 2021, the state will suspend temporary its contribution payments made out of social tax (4% of gross remuneration) into the accounts of the funded second pension pillar. The sole proprietors and non-entrepreneur natural persons have the right to claim tax deduction on revenue from selling timber or the cutting right (forest revenue) up to € 5,000 a year. Value added tax on electronic publications was reduced to 9% (on the level of value added tax on printed publications). Excise duties for several types of fuel and electric power were reduced for 2 years, from 1 May 2020 to 30 April 2022. To ease the tax burden for employers, the minimum social tax requirement was suspended for three months, the Tax and Customs Board was not claiming interest on tax debts in March and April of 2020 and the interest rate payable on tax debts was reduced to 0.03% afterwards (Estonia: Parliament passes supplementary budget 2020). These methods decreased the revenue side of the budget.

On the cost side, substantial resources were distributed to several state owned and managed financial and business organizations. To support entrepreneurs and micro and small enterprises in tourism sector, the total amount of support was € 35 million and that was implemented through Enterprise Estonia⁶ in the form of grants. To the companies with significant economic impact on the state and the exporters paying the highest labor taxes, the support was € 300 million. The support was implemented by KredEx⁷ subsidiary SmartCap and the Government decided the beneficiary on a case-by-case basis. The form of support was a loan or acquisition of state ownership. A loan to shipping group Tallink was the first decision of the Government to use that tool⁸. The size of the loan was € 100 million, its terms were three years and the interest rate was 12-th month EURIBOR +2% per year, the contract fee was 0.1% of the loan limit amount (The Government approved the general terms of the loan to Tallink 2020).

Support for the rural economic sector was € 200 million and that was distributed by different measures. One financial tool of the Government in the area has been the Estonian Rural Development Foundation (MES)⁹. The housing sector got additionally € 105 million, which was distributed through KredEx. The telecommunication companies received € 15 million to build a sustainable communications network (the last mile projects). Local governments received € 30 million for the support of their income base, € 70 million investment support and € 30 million for repair of local roads. Religious associations received € 2 million to provide people with spiritual and social assistance (Members of the Government approved the crises measures 2020).

The Estonian Unemployment Insurance Fund finances unemployment benefits and other passive and active labor market tools. The Fund receives funds from the labor insurance tax and it functions as a typical insurance institutions having reserves and investing them. The Fund has reserved € 200 million for special crises measures and the Government supported its activities with additional € 36 million (The Government supported the extension of remuneration compensation 2020). The Government worked out the wage compensation measures for companies that suffered due to the coronavirus and due to the applied restrictive measures during the emergency. Initially, the wage compensation measure, which started in April 2020, lasted two months. The criteria for the compensation measure were the following: the turnover had fallen at least by 30%, the pay or workload of workers decreased at least by 30%. The compensation was on the level of 70% of the previous wage level but not more than € 1,000 per month. The employers own contribution was at least € 150. The second stage of compensation measure was applied in June and July 2020. The criteria for decrease of turnover or pay or working load was on the level at least 50%, the compensation rate was 50% and the upper limit € 800. The estimated cost of

⁶ Enterprise Estonia (EAS) is a national foundation that aims to develop Estonian economy through developing Estonian enterprises and boosting export capacity, increasing tourism revenues, bringing value-added foreign investments into Estonia (Enterprise Estonia, 2020).

⁷ KredEx is a financing institution helping Estonian enterprises develop quicker and expand more safely to foreign markets offering loans, credit insurance and guarantees with state guarantee (KredEx 2020).

⁸ The Finnish Government too supported Tallink with a loan of € 100 million.

⁹ The Foundation issues guarantees to banks for credits granted to farmers and other entrepreneurs in Estonian rural areas. The Foundation issues guarantees to banks for credits granted to farmers and other entrepreneurs in Estonian rural areas (Estonian Rural Development Foundation 2020).

the wage compensation measure for the second distribution was € 50-70 million and the Government provided from the state budget € 36 million, other part coming from reserves of the Unemployment Insurance Fund (The Government supported the extension of remuneration compensation 2020). The total cost of two waves of distribution of the wage compensation measures was estimated at the level of € 250 million. The total amount of direct crises support was around € 1 billion or 4% of GDP.

6. Impact on the economy

The impact of COVID-19 related disease and restrictive measures introduced in countries to limit the spread of the coronavirus on the economy was quite paradoxical and the forecasts for 2021 are very unclear. The events of 2020 demonstrated that the economies of different countries handled these problems quite well. There was some decrease of GDP during the first quarter of 2020 and a much deeper decline during the second quarter of the year. Then, in the third quarter of the year, the rapid recovery followed and the figures demonstrated rapid economic growth in comparison with the same quarter of the previous year. The reason for that was that in May 2020, the first wave of the COVID-19 declined and the economies of the countries were opened again for regular business activities. The supportive measures applied by practically all countries had also its positive impact on the recovery. The unemployment figures were also quite stable. There was a very limited increase of general unemployment.

Table 2. GDP growth, %, in comparison with the previous quarter

Country	2019	2020, I quarter	2020, II quarter	2020, III quarter
EU27	1.6	-3.3	-11.3	11.5
Estonia	5.0	-0.8	-5.3	3.3
Latvia	2.1	-2.3	-7.1	7.1
Lithuania	4.3	0.0	-5.9	3.8
Finland	1.1	-1.5	-3.9	3.2
Sweden	1.3	0.3	-8.0	4.0

Source: Eurostat, 2020.

The restrictions had deeper impact on some services and were more critical in countries where tourism was an important sector. The fourth quarter seems to be rather grim because the second wave of COVID-19 struck the countries and the numbers of positive tests of the COVID-19 are larger than during the first wave and again the countries applied restrictive measures during the fourth quarter of 2020. The development in 2021 depends on success of vaccination and the spread of COVID-19, speed of vaccinations and measures applied to prevent the spread of the disease.

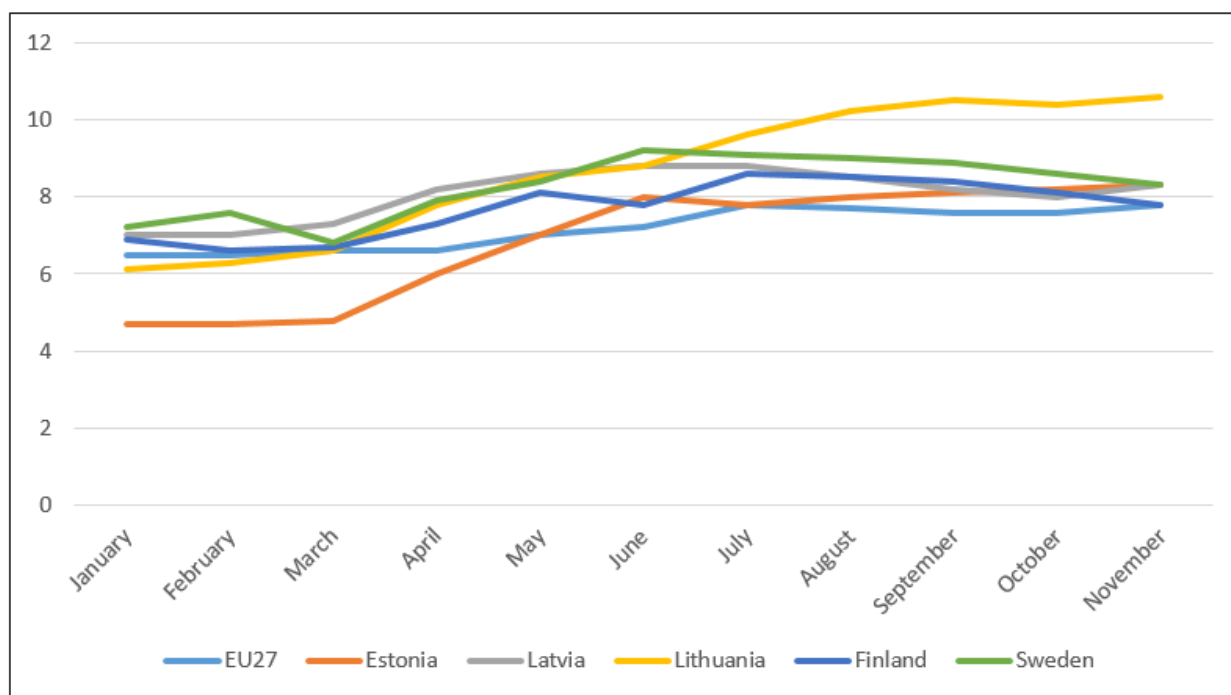
Table 3. Estonia's forecasts of GDP growth, inflation and unemployment rate, %, in comparison with the previous year

Indicator	2020	2021	2022
GDP real growth, Bank of Estonia, basic scenario	-3.8	0.2	5.4
Inflation, Bank of Estonia	-0.5	0.6	1.6
Unemployment rate, %, Bank of Estonia	7.6	10.2	9.1
GDP real growth, Ministry of Finance of Estonia	-5.5	4.5	3.5
IMF	-7.5	7.8

Source: Bank of Estonia, 2020.

The monthly unemployment numbers in Figure 3 show that the marginal increase of unemployment took place. The EU27 average share of unemployed people increased from 6.5% in January 2020 to 7.8% in November 2020. Finland, Sweden Latvia had very similar dynamics of unemployment rate compared EU27. Estonia had a very low unemployment rate in January 2020 (4.7%) and it increased to 8.3% in November. Estonia had the largest increase of unemployed people in relative terms in comparison with the other countries in Figure 3. Lithuania also had the quite big increase in unemployment indicator, from 6.1% in January to 10.6% in November. These unemployment figures reflect on the aggregate level a substantial unemployment increase in certain sectors, but this increase had until the end of 2020 quite a limited impact on the general unemployment level. That means that the labor market had adjusted quite well to restrictions and policy changes due to reaction to the COVID-19.

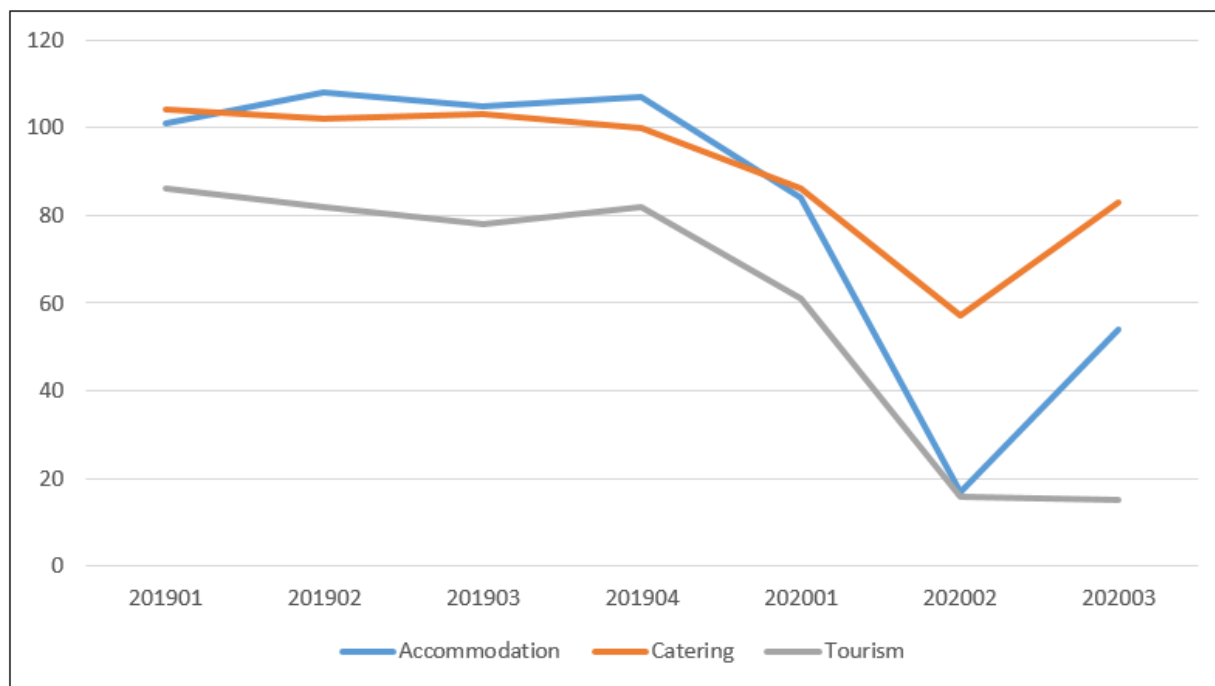
Figure 3. Unemployment rate, %, 2020, monthly figures



Source: Eurostat, 2020.

Figure 4 describes the dynamics of sales of accommodation, catering and tourism services during 2019 and 2020. The accommodation and catering services had a modest growth trend in 2019. The deep decline took place during the first and especially during the second quarter of 2020. The catering business recovered to the level of 83% of sales in comparison with the same quarter of the previous year. In accommodation and catering services, the domestic consumption was quite important and in 2020 partially substituted for the purchases of foreign tourists who did not visit Estonia very much in 2020. In catering, delivery services provided by Bolt and other transport companies to customers supported companies in this area. Tourism services practically disappeared because of the international transport restrictions. The companies in this field sold only 15% of services in second and third quarter of 2020 in comparison with the previous year. That is the reason why support measures of the Government were especially important for that sector. It is still unknown at the end of 2020 how long the decline will continue in these sectors. The support measures are for a limited period and these sectors have a difficult winter ahead.

Figure 4. Sale of accommodation, catering and tourism services, 2019 1 quarter to 2020 3 quarter, in comparison with the same quarter in previous year, %



Source. Statistics Estonia, 2020.

6. Conclusions

The coronavirus pandemic created a need for Governments to balance the restrictive measures for limiting the spread of the virus, the need to mobilize resources for health care to combat the disease and to take into account economic and social circumstances. Estonia presents here one example of that attempt. During the first wave of the COVID-19, the Government started with very decisive measures introducing the emergency situation. That worked well for limiting the spread of the coronavirus. At the same time, the governance of problems during that period demonstrated a need for a wide cooperation between different institutions. The new laws and regulations were adopted and the managerial capacity and resources of the Health Board were improved. The state provided support measures for companies and people to tackle the crises. The economic cost of these measures was high and created a substantial budget deficit for coming years. The policy change was necessary for treatment of impact of the COVID-19.

The approach applied by the Government was quite different during the second wave of the coronavirus. The main goal was to learn to live with the coronavirus. The population, business and public organizations were expected to follow necessary rules to limit the spread of the coronavirus and adjust their activities to these rules. The reliance on self-regulation was a main feature of that approach. The wide and fast spread of the coronavirus during the last two months of 2020 demonstrated that this approach had clear weaknesses and the new set of restrictive measures were adopted. In the beginning of 2021, it is not very clear how long that battle will last and how deep will be the economic decline and health care losses due to the spread of the coronavirus. Vaccination started during last days of 2020 and by autumn 2021, a large part of the population will be vaccinated and that will limit the spread of the coronavirus.

Comparison with neighboring countries, which are also Estonia's most important trading partners, demonstrates that Estonia managed to deal with the health care crises and economic problems during 2020 quite well. Only Finland was doing better in health care terms. The experience of various countries provided also some additional knowledge on the adjustment of the health care systems of these countries to the COVID-19 created problems. The stable economies in the region still continue with the small open economy model and rely their economic growth continuously on foreign trade and international cooperation. That is an important factor of economic growth and improvement of welfare for a small country like Estonia.

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