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JUSTIFYING LIMITATIONS OF LIBERTY: EVALUATION OF ARGUMENTS USED IN SAEIMA'S AND THE CABINET OF MINISTERS' COVID-19 VACCINE MANDATE DISCUSSIONS

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Date

03.04.2023.

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Abstract

The COVID-19 pandemic took the world by storm, and the common belief was that policymakers were not sufficiently prepared to deal with this global crisis. We attempt to explore this in our work – did Latvian politicians do a sufficient job of arguing for or against mandatory vaccination within the state? Such a policy is extremely intrusive onto personal rights; thus, politicians should express just reasoning for doing so. We approach the problem through document analysis of the Latvian Parliament's verbatim meetings and the Cabinet of Ministers' video meetings to collect arguments, following that with moral analysis to evaluate the arguments. We find that both sides of the debate used both strong and weak arguments to make their point. We outline the main arguments that were strong and explain how they could be used in other types of policy debates to ensure that the citizens' interests are well-represented.

1. Introduction

Often political decisions can impact us to a great extent. We would like to have a say in how our lives are dictated, but rarely can we – at least not directly. In a democratic state, such as Latvia, people get to have a say in the country's political decisions by casting a vote during the elections. It's not a perfect solution as there is no guarantee that the politicians that we elect will stay true to their word or be as competent as they claim to be. However, it is the situation we find ourselves in – given the incapacity of the public to vote on issues directly, politicians are expected to (and they promise to) act in the best interests of their voters, for example, by representing them with their voice and vote in the Latvian Parliament, Saeima.

Some decisions may dramatically impact the population. For example, a vaccination mandate, which requires a person to choose between giving up something meaningful for their lives and well-being like studies or work or getting vaccinated. Such freedom-altering policies should be passed only when the benefits of such a policy outweigh the disadvantages. Therefore, we believe that when debating on decisions to be made in Saeima, politicians ought to use sound and morally convincing arguments that correctly highlight the perceived benefits or costs. Sadly, we expect that many arguments made on important decisions will not be formulated properly, will be lacking soundness and moral strength, and may be emotional and fallacious.

This paper is interested in COVID-19 vaccine mandates. It is a recent phenomenon that has impacted many Latvian residents in one way or another, through restrictions on work, studies, leisure activities, and so on. These policies were hardly uncontroversial -

according to Pētījumu Centrs SKDS (2021a), at the end of 2021, only 55% of respondents stated that they support vaccination against COVID-19, meaning that nearly half of the population either do not support vaccination outright or are not completely sure. Given that these numbers represent support only for vaccination, one could expect the support for mandates to be even lower. Additionally, according to the same source, 35% of fully vaccinated respondents got vaccinated due to the vaccine mandates, rather than due to genuine support for this decision, and more than 80% of the people who are only planning to vaccinate will do so as a result of mandatory vaccination policies. It is visible that the vaccine mandates have had a large impact. What remains unclear is how exactly this decision was made. We want to find out whether the vaccine mandates that imposed restrictions on the freedom to work were based on strong arguments (as well as the arguments against them). In this study, we have defined two main research questions:

1. What were the arguments used by Saeima and Cabinet politicians in debates about COVID-19 vaccination mandates?
2. How strong were the arguments used (based on the premise, deductive/non-deductive reasoning, logic, validity, and persuasiveness)?

This type of coordinated global response has not been seen in previous pandemics and may not appear for the last time, which is what makes this topic even more necessary to study. COVID-19 is likely not the last pandemic we will face, in which case this debate will restart, and by that time we need to be ready to answer the most difficult questions about how ethical it is to mandate vaccination. Or, at the very least, we should know which arguments to avoid. We might not even need to wait for a new disease, as newly updated vaccines are in production now (Balch, 2022). The majority of the Latvian population is not planning to take these vaccines (TV3, 2022), which inescapably points to new debates, and possibly – vaccine mandates.

Although there is vast academic literature on vaccination and infectious disease ethics, we have not been able to find studies that evaluate arguments used by politicians on this topic, especially not in Latvia. However, we have drawn inspiration from similar studies that researched and assessed politicians' arguments used in Saeima and elsewhere about unrelated topics like same-sex marriage and civil unions (Baranova & Mežmale, 2021).

2. Literature review

To better frame our proposed research, we begin the literature review with a look at controversies surrounding vaccination, both historically and in the context of the COVID-19

pandemic. Next, we outline a framework for defining what counts as a vaccine mandate. We finish by providing academics' arguments on vaccine mandates, to get an understanding of what we might find when doing our analysis, as well as to be able to better perform it.

2.1. Vaccines: controversies and hesitancy

Vaccines are a means of protection against diseases. They create immunity against a certain disease before the person even comes in contact with it. A vaccine trains a person's immune system to create antibodies against the given disease much like in the way contracting the disease would, but this method is safer and causes little to no complications, with exceptions in the case of allergies or being immunocompromised (World Health Organization [WHO], 2021b). The contribution that vaccination has made to society as a whole is colossal – smallpox has been completely eradicated and many other diseases (e.g. polio, measles) are now extremely rare thanks to vaccines against them (Greenwood, 2014).

Despite the success that vaccines have shown so far, they remain controversial among the general public as they have been since their first appearance. It makes sense that in high-income countries, where vaccine-preventable diseases are no longer prominent, the concerns about vaccine risks will tend to be stronger than concerns about risks associated with the specific disease, simply because people have had no experience with those types of illnesses and cannot evaluate the possible severity of the outcome of infection (Dubé et al., 2015).

Before looking at specific vaccination policies and determining what the arguments are in the debate of those, we will first look at the reasons behind vaccine hesitancy and past controversies surrounding vaccination, as these may have set the tone for how people view them. Although the studies we look at research the general public's reasoning for vaccine hesitancy, we believe this translates into politicians' statements as well, since they are representatives of the public and may use the same or similar arguments. We draw information on vaccination controversies from global studies, as we were unable to find local ones, but we trust that these controversies may have appeared in Latvia as well. Additionally, we give a brief overview of the general attitude of Latvians on vaccination, which can give some insights into the issues that may arise when trying to convince people to vaccinate. It is important to note here that some of the controversies and/or reasons for vaccination refusal or hesitancy will be discussed in terms of parental decisions for child vaccination since that is the most prevalent debate as of late, and we believe that similar arguments against COVID-

19 vaccination may be used. Lastly, we give an overview of the development of the COVID-19 vaccines and some public opinions on these particular vaccines.

2.1.1. Global vaccine controversies

Despite smallpox being a potentially lethal disease that had haunted humanity for multiple centuries, the first ever vaccine created against this disease nonetheless faced resistance, even from the co-discoverer of natural selection, Alfred Russel Wallace. Promoting vaccination in the US during smallpox outbreaks in the late 19th century and making smallpox vaccination compulsory in the UK during approximately the same time both were faced with resistance. The public responded by creating anti-vaccination leagues in both countries, as well as releasing books and journals promoting anti-vaccination ideology (Dubé et al., 2015). We are mentioning this just to show that anti-vaccine opinions have existed for as long as two centuries, if not even longer, thus these types of movements are not something unique to our time.

It is alleged that controversies on the pertussis vaccine that began in the 1970s were the start of the vaccination controversies of our times. This specific controversy began in the UK when the Great Ormond Street Hospital for Sick Children in London published a report that supposedly found that thirty-six children had developed serious neurological disorders after having received the combined diphtheria, pertussis, and tetanus vaccine (DPT). In response, The Association of Parents of Vaccine Damaged Children was founded in 1974. The report and attention to the association caused concerns among many parents, which lead to actual decreases in child immunization rates. This in turn caused new major pertussis epidemics, and despite the efforts of the UK Joint Commission on Vaccination and Immunization to convince the public that, indeed, the vaccine had not caused any neurological issues by giving the results to a study that had looked at all of the hospitalised children with neurological diseases, the resistance against the vaccine persisted. These concerns and controversies traveled across borders to Europe, the Soviet Union, the USA, Japan, Australia, and perhaps others. In the 2000s came another controversy in the UK, where it was claimed that the MMR vaccine has a connection with autism in children, more specifically, that the vaccine causes it. Unsurprisingly, such public unease yet again led to decreased immunization rates, this time for measles, which caused new outbreaks of the disease and multiple deaths (Dubé et al., 2015).

The tipping point for the USA from a period of general vaccination acceptance to anti-vaccination movements was with the release of the documentary ‘DTP: Vaccination

Roulette' in 1982. The film stated that the pertussis portion of the combined DTP vaccine was causing brain damage, seizures, and mental deficiency. This began a wave of lawsuits against vaccine manufacturers, which resulted in fewer companies entering the market and more exiting it, as well as increased vaccine prices (Dubé et al., 2015; Insel, 2012).

The age of the internet has made it much simpler to share your ideas with an extremely large amount of people, and most of the time, there is little to no policing on what you say, especially on user-generated sites. What this means is your statements will not be fact-checked, and the reader cannot know whether it is true and must use their judgment to decide whether to trust the statement or not. Some studies have shown that parents will typically look for information about vaccination on the internet when trying to decide on vaccinating their children (Ekos Research Associates Inc., 2011; Stefanoff et al., 2010). One study on Danish parents' decisions to not vaccinate (partially or fully) has shown that refusal or hesitancy reasons are: the belief that providing the child with a healthy lifestyle will reduce the risk of getting ill; the immune system of a child is not sufficiently developed to handle vaccination; the risk of actually contracting or coming in contact with the disease is extremely low; vaccines are unsafe; it is healthier to gain immunity from disease by contracting it instead of vaccinating (Harmsen et al., 2013). Another study on parents in the US showed similar reasons for hesitancy, in addition to those mentioned, other arguments were about vaccines being ineffective in protecting against disease, vaccines being unnecessary for the health of a child, children receiving too many vaccines, and that getting multiple vaccines within short time intervals could overwhelm the child's immune system (Smith et al., 2011).

2.1.2. Vaccination opinions in Latvia

In a study conducted before the pandemic, Larson et al. (2018) found that Latvia was the second to last country from all 28 EU member states in terms of belief in vaccine safety with 68.2% of respondents agreeing to the statement that vaccines are safe, while the EU average stood at 82.1%, as well as 55.2% Latvians responding that they believe the seasonal influenza vaccine is safe and again ranking as the second to last under this question with an EU average of 67.8%, and Latvians had the lowest percentage of respondents indicating that vaccines are effective, 70.9%, while the EU average was 86.5%. This points to potential issues with vaccine hesitancy or refusal, which is what was observed during the COVID-19 pandemic.

Additionally, some research has shown that a person's level of trust in the government influences vaccine acceptance, namely, people who trust their government tend to be more likely to accept vaccines than their not so trusting counterparts (Lazarus et al., 2020; Lee et al., 2016; Trent et al., 2022). Data provided by OECD (n.d.) shows that in 2019, 23.9% of Latvians said they trust the government, in 2020 it was 30.7%, and in 2021 - 29.5%. Though the level of trust did rise during the pandemic (and then dropped off a bit), the level of trust nonetheless is low. A survey done by SKDS showed that the trust in official government information was 63% among 1,000 respondents in the spring of 2020 but had dropped down to 53% by the fall of the same year, with the proportion of respondents saying they don't trust government information rising from 28% to 37% from spring to fall (Zvirbulis, 2020). These statistics are another indicator pointing to Latvia having possible difficulties with vaccination uptake once the COVID-19 vaccines become available.

The COVID-19 vaccination uptake (in terms of the percent of the population having finished the primary course, according to each manufacturer) in Latvia lagged behind the EU/EEA country average by about 17 percentage points starting from the beginning of August 2021 up until about the beginning of October 2021, when the rates began to converge, and as of January 1, 2023, the portion of Latvian citizens who have finished the primary vaccination course against COVID-19 is 69% compared to a 73% average between EU/EEA countries (European Centre for Disease Prevention and Control [ECDC], n.d.).

A study on the Latvian anti-vaccination movement on Facebook during the COVID-19 pandemic by Eiduks & Ozola (2022) found that the main reasoning behind vaccine hesitancy or refusal was most often due to a lack of trust in government officials and healthcare practitioners, as well as perceived risks of vaccination outweighing the benefits due to the abundance of misinformation available. In our opinion, the reasoning for not trusting the government may not show up in politicians' arguments, but arguments based on misinformation likely will.

2.1.3. COVID-19 vaccine development

The COVID-19 vaccines were developed at an incredible speed – the first vaccines began rolling out about a year after the first case of the virus had been recorded. Given the sudden onset of the pandemic, the need for a solution was dire, which lead to increased cooperation efforts between vaccine developers to create an effective immunization tool against COVID-19 much quicker. Moreover, while typically vaccine testing goes through three phases, most

of the time one phase at once which can take 10 to 15 years on average, the need to stop the spread of this new disease meant that some phases were merged (typically phases 2 and 3, which are the phases for testing vaccine safety on people with health issues and for testing the efficacy of the vaccine in protecting against the disease, respectively) and some vaccines were even tested together. Additionally, for the development of COVID-19 vaccines, scientists had to collaborate and share research data among themselves because time was of the essence in this situation (Solis-Moreira, 2021; WHO, 2021a). Another determinant for the quick development tempo was that scientists had been studying other coronaviruses many years before the COVID-19 pandemic hit, meaning that there was already a considerable amount of data gathered on the specificities of these types of viruses. Of the first vaccines to become available, two were from the companies Moderna and Pfizer, both of which used a new technology called mRNA, which had also been researched in depth many years beforehand ("COVID-19 Vaccine Development: Behind the Scenes," n.d.; Solis-Moreira, 2021).

A survey by Byron (2020) across 27 countries with nearly 20,000 respondents found that the main reason for vaccine hesitancy towards COVID-19 vaccines was due to fear of side effects (56% of respondents), followed by disbelief in the vaccines' effectiveness (29%) and not being at risk of serious complications in case of infection with COVID-19 (19%).

2.2. Defining vaccination mandates and other policies

To better understand the policies imposed during the COVID-19 pandemic in Latvia and to define what we will understand as a vaccination mandate in this paper, we need to have some sort of framework to go by.

Giubilini (2019) provides an intervention ladder of vaccination policies with the assumption that the goal of such policies is achieving herd immunity. The ladder is built on the principle of least restrictive alternative (PLRA), developed by Childress et al. (2002), and defined by Saghai (2014) as follows: "if two interventions can both efficaciously and effectively address a public health or health policy issue and are equal in all other morally relevant respects, the intervention least restrictive of personal liberties ought to be preferred" (p. 350). We will be using this framework to determine what level of restriction was used in each of the policies introduced in Latvia during the COVID-19 pandemic. Giubilini (2019) argues that a combination of two criteria should be adopted for ethical guidance for public policies: "the maximin criterion for the distribution of the burdens of a certain policy,

constrained by a utilitarian calculus based on the consideration of the number of people who are burdened by a certain policy." (p. 77) Additionally, he mentions that according to these two criteria, the ranking of policies may differ across different contexts (Giubilini, 2019). The ladder refers to child vaccination policies mostly since their effectiveness has been researched more, but since it is the parents (adults) making the decision, we decide to infer that research on these policies can be applied to policies implemented on adults during the COVID-19 pandemic also. Additionally, since we are not examining whether the Latvian government took the right steps in the right order, we will present the ladder as it is presented by Giubilini (2019) since our objective is to simply identify what is to be considered a mandate and what is not.

The ladder goes as follows:

1. **Persuasion**: lowest level of restrictiveness/coercion. It is non-manipulative and preserves individual autonomy by using factual information to educate the public and give them reasons for participating in vaccination. An example would be health education campaigns.
2. **Nudging**: non-coercive and minimally restrictive. It takes advantage of natural decision biases and automatic cognitive processes humans have to encourage vaccination, i.e. it is manipulative. An example would be opt-out policies.
3. **Incentives**: more coercive and restrictive than the former. This type of policy comes in monetary form (known as conditional cash transfers). For the more financially vulnerable population, such incentives can appear irresistible, which is why this type of policy can be considered more coercive.
4. **Disincentives**: coercion through (usually) exploiting loss aversion and the endowment effect. The three types of disincentives mentioned (in growing order of restrictiveness) are:
    a. **Withholding of financial benefits**: examples examined here are withholding childcare benefits that would otherwise be paid but are not if the child is not vaccinated against certain diseases.
    b. **Tax**: a financial penalty imposed on people refusing vaccination that is proportionate to the infection risk of infection a person, who is not vaccinated, poses to others.
    c. **Mandatory vaccination**: an example here is denying enrolment in school and daycare if the child has not received certain vaccines (such as in the US and Italy). Here, parents continue being legally free in the

choice of whether to vaccinate their children, but it comes with the cost of having to home-school the children or send them to a private school, which may not be accessible to all parents. In some cases, non-medical exemptions are allowed on the basis of religious or philosophical beliefs against vaccines.

5. **Compulsion**: a policy that makes it illegal to refuse vaccination. This would mean legal penalties (anything from a fine to imprisonment) in the case of non-vaccination (Giubilini, 2019).

The mandatory vaccination that Giubilini (2019) discusses fits the criteria we logically and intuitively want to look at for the policies imposed in Latvia over the COVID-19 pandemic. It was also the case that some of the policies implemented by the Latvian government restricted certain activities for the unvaccinated population (work, visiting shops, meeting with friends and family, etc.). This is the definition of mandatory vaccination that we will stick to in this paper.

Importantly, although many policies that infringe on individual freedoms can be classified as vaccine mandates, for this paper we reduce our scope to only include vaccine mandates regarding work-related restrictions. This is done for two reasons. Firstly, a reduction in scope makes also reduces the vast amount of data to be covered and makes it more plausible for this type of study to be performed. Secondly, if we were to reduce scope, we find it more impactful to focus on the most severe policies above all. To our minds, restrictions to work have been the most impactful COVID-19 vaccine mandates as those are the social activities necessary to make a living now and/or build a better future for oneself.

2.3. Arguments on vaccination mandates

A vaccination policy needs to strike a balance between caring for public health and maintaining individual liberties. Vaccination mandates have possibly the most ethically controversial nature, and there is no lack of arguments on either side. We will look at the arguments provided by academics so that we can later compare them with the arguments posed by Latvian politicians in the discussions of vaccination mandates meant for stopping the spread of the COVID-19 disease. We would additionally like to mention that we believe arguments for or against vaccination may have been used in the discussion of vaccination mandates as well, thus a few of such arguments may be mentioned here as well.

2.3.1. Arguments for vaccination mandates

Vaccination benefits both the individual who is vaccinated and his community – one through direct immunity, and one through herd immunity. It is often argued that an unvaccinated person imposes risk or harm on others, as well as that each person has the right not to be harmed by others (Flanigan, 2014). This touches on John Stuart Mill's harm principle, that one's liberties are not unlimited if they cause harm to another, and restriction of liberty is allowed in such a case (Brink, 2022). The (no) harm principle is not sufficient as a standalone argument for restricting a person's liberties and it should be supplemented by other arguments.

When looking at mandates from an ethical perspective, one can argue that they are supported by utilitarianism. The expected outcome of mandatory vaccination is reaching herd immunity, which results in a positive net benefit after reducing the cost of getting the vaccine, which is small since the vaccine is free of charge and the chance of serious side effects is minimal. Herd immunity, however, results in more lives saved, less stress on healthcare systems (which, in turn, leads to fewer elective procedures being canceled), better well-being, and higher economic growth because of fewer restrictions (Gandjour, 2022). Additionally, an argument can be made that not imposing vaccine mandates can lead to deaths and uncertainty, which in turn – to radical ideas and conspiracies. In other words, not playing into conspiracy theorists by seemingly appearing less tyrannical (not mandating vaccination) can in turn result in more conspiracy theories (Lewandowsky et al., 2022).

It can also be said that vaccination mandates are justified by deontology. If a person does not vaccinate, they are imposing harm on another person, and in deontology, this means that they are restricting the autonomy of the other person, which goes against the ethical theory (Gandjour, 2022). There are separate arguments to be made for the vaccination of healthcare professionals, as they have the duty to act in ways benefitting public health, i.e. leading by example. Non-vaccination of healthcare professionals could undermine the public belief in vaccines, which in turn could cause harm to individuals that decide not to vaccinate, ultimately going against the aforementioned duty of these professionals (Fumadó et al., 2021).

2.3.2. Arguments against vaccination mandates

When talking in particular about the mandates introduced during the COVID-19 pandemic, some argue that they also cause social polarization, and perhaps the implementation of such a

policy is even driven by the desire to reinforce discrimination and stigmatization. Additionally, it can be argued from a behavioral psychology perspective that such a policy can create resistance instead of submission if distrust in authorities is already present. Moreover, it can create not only resistance to COVID-19 vaccination but may cause reluctance in getting vaccinations against other diseases in the future and non-compliance with other public health initiatives (Bardosh et al., 2022).

There are consequentialist arguments for vaccination mandates since they are expected to save lives. However, this is an equation with two sides. A potential negative to take into account is how the overall well-being and utility of unvaccinated people are diminished due to "reduced individual autonomy and infringement of bodily integrity" (Gandjour, 2022, p. 11). The harm done by forcing people to vaccinate could potentially outweigh the benefits of a vaccinated populace.

Additionally, from a deontological perspective, while COVID-19 vaccines are touted as safe with small chances of side effects, they are not zero – although a rarity, potential side effects include anaphylactic and other allergic reactions, thrombosis, Guillain-Barré Syndrome, myocarditis and pericarditis, and others (Centers for Disease Control and Prevention [CDC], 2022a). Some individuals might prefer their choice to not vaccinate. According to Hughes et al. (2021), mandating vaccination could build distrust between the public and the healthcare system that has relied on paternalistic policies before.

According to United Nations International Children's Emergency Fund (2021), an undeniably large share of people believe that vaccines are a global conspiracy to boost pharmaceutical profits. At least a part of this theory is not untrue, as there has been evidence of undeniable profit to be reaped for pharmaceutical companies. For example, Pfizer doubled its profitability in 2021 (Allen, 2022). According to Deruelle (2022), there is evidence of ill profit-and-power-driven intentions from government officials in mandating COVID-19 vaccination.

3. Methodology

This section describes our chosen methods for answering our research questions. The next subsection will contain information about how we collected data using document analysis. Next, we describe our shift from document analysis to moral analysis when we begin reformulating the arguments we've gathered. Next, we explain our approach to argument evaluation. This section ends with an overview of the limitations of our research.

3.1. Data collection

3.1.1. Data sources

The methodology for this paper can be split into two distinct parts: document analysis for finding, identifying, and compiling arguments and the logical and normative evaluation of such compiled arguments. Bowen (2009) defines document analysis as a "systematic procedure for reviewing or evaluating documents" (p.27). Documents used in different analyses may vary – in our case, these are expected to be mainly comprised of debate transcripts from the Latvian Parliament and our own transcriptions from video recordings of meetings of the Cabinet of Ministers. Written documents are one of the key methods of qualitative research. As it is qualitative research, the data ought to be compiled and structured according to themes or patterns, in our case – political argument types (Labuschagne, 2003).

The politicians' arguments will be drawn from publicly available documents. As the main data sources, the Parliament of the Republic of Latvia was selected (further, "Saeima") and the Cabinet of Ministers (further, "Cabinet"). Creating legislation stands as one of the main functions of Saeima (Saeima, n.d.). Therefore, given its legislative power, Saeima's politicians have an impact on the public, making it an appropriate target for this type of analysis. Additionally, Latvian law allowed the Cabinet to fulfill legislative duties during state emergencies, but during the COVID-19 pandemic, a new law was passed that they reserve this right regarding COVID-19 restrictions even outside of emergencies (Saeima, 2020), which required us to look at the arguments made during the Cabinet's meetings.

Since we are analyzing the argumentative force of arguments mobilized by politicians, we will focus on the debate section of Saeima politicians' meetings. The debate transcripts of Saeima's meetings are publicly available at saeima.lv. We looked at Saeima meetings starting from January 2021 (Latvia got their first vaccine delivery on December 26th of 2020 (Kinca et al., 2020)) to December 2022, which was a total of 247 meetings. Of these 247 meetings, we ended up with a total of 150 meetings to look through for arguments by looking at the contents of the meeting and seeing whether COVID-19-related issues are discussed. This is likely due in part to the fact that vaccines were being slowly rolled out at the start of 2021 and at first, they were only available to medical staff (Kinca, 2020). We ended up compiling arguments only from 41 meetings, as the rest did not contain relevant arguments. Out of those 41 meetings, we gathered 566 unique arguments.

The approach to the Cabinet's meetings is a bit different since they are in video format publicly available on the platform YouTube and not all of the discussion is relevant to

our research. Meeting agendas are publicly available on mk.gov.lv, where one can see the questions discussed in each meeting. We looked through all 150 meeting agendas starting January 2021 to December 2022 to determine which ones include discussion of COVID-19-related issues, from which we found a total of 71 meetings potentially relevant to us, totaling up to approximately 249 hours of streaming time. Of those 71 meetings, only 23 ended up containing arguments relevant to our study. To create a set of data we could use for grouping and reformulating the arguments, we transcribed the arguments ourselves, and ended up with a total of 132 unique arguments from the Cabinet's meetings.

3.1.2. Analysing transcripts

There are advanced methods for debate transcript analysis that usually include creating models that capture sentiment from speech (Abercrombie & Batista-Navarro, 2018; Bhavan et al., 2019; Bhavan et al., 2020). However, our technical abilities are limited, and in our case, it is important not only to understand whether an argument is for or against a mandate but also to understand the argument itself on a deep enough level to be able to deconstruct it and reformulate it – something that could not be done with a simple model. Therefore, we resort to manually reading through the 150 meeting transcripts one by one. The workload is reduced by the transcript structure, as the Saeima debate transcripts include an introduction to topics to be covered, which will ease our use, as we will be able to skip unnecessary parts. Similarly, we also manually watched all 249 hours of the Cabinet's streamed meetings but were able to skip over certain parts where we were able to discern that COVID-19-related issues are not being discussed thanks to the meeting agendas, which have the questions ordered in the same way as they are discussed in the meeting and also note which Ministers or advisors have spoken in the discussion of a specific question.

When reading the transcripts and watching the videos, we will be using document analysis. According to Bowen (2009), document analysis is the combination of elements from content analysis and thematic analysis. Content analysis means organizing and eliciting "meaning from the data collected … to draw realistic conclusions from it" (Bengtsson, 2016, p. 10), whereas thematic analysis is "a method for analyzing qualitative data that entails searching across a data set to identify, analyze, and report repeated patterns" (Kiger & Varpio, 2020, p. 2). Bowen (2009) describes document analysis as having three parts: "skimming (superficial examination), reading (thorough examination), and interpretation" (p. 32).

3.1.3. Grouping arguments

The arguments used by both Saeima and Cabinet politicians were often produced in a manner that made it unclear what kind of vaccine mandate the argument is about – travel, education, work, finances, or leisure. When possible, we excluded arguments that clearly targeted non-work-related mandates, as well as arguments that tackled specific policy aspects that fell out of our scope, such as the question of whether vaccine mandates should also be placed on Ukrainian refugees and/or people with sufficient levels of antibodies. These questions were excluded, as they do not wrestle with the ethics of vaccine mandates themselves, but rather the specifics of their application.

The collected arguments are initially grouped by whether they are for or against the mandates. Later, we join them in rather narrow groups, which we chose to do jointly for both Saeima's and the Cabinet's arguments due to both bodies having a similar influence on the population, as well as the existing overlap between the arguments used. If arguments have essentially the same meaning with different wording, they are taken as one. For example, these artificial arguments "Since herd immunity protects a population from disease, and it can be achieved through mass vaccination, and a vaccine mandate will enhance mass vaccination, there should be a vaccine mandate" and "Since a population that has the vast majority of vaccinated people is more likely to be the solution for a pandemic, and a vaccine mandate would enhance the percentage of the population that is vaccinated, there should be a vaccine mandate" would be classified as one, since they both play on the same idea of herd immunity, but with different wordings. We initially distinguished 23 groups of arguments in favor of mandatory vaccination and 51 groups against mandatory vaccination. Those were further narrowed down, some were joined together as one group, and some were excluded entirely.

The combining of different argument groups was performed according to:

1. Argument groups having similar origins/meaning (e.g. "COVID-19 is not dangerous enough to warrant strict mandates" and "Healthy people that have good immune systems should not be restricted, as they are likely not going to face severe COVID-19 symptoms").
2. Some argument groups being more specific subsets of other argument groups (e.g. "There should be a vaccine mandate for school teachers, as it is crucial for the youth to study on-site and receive high-quality education come Autumn" is a

subset of "Some professions warrant a vaccine mandate, as these professions are crucial for the on-going of key processes in our society").

3. Some argument groups work only as premises that build stronger arguments when combined with other argument groups. (For instance, "Vaccine mandates are needed to motivate the unvaccinated to vaccinate" does not work separately, as it lacks reasoning behind why the unvaccinated should be vaccinated in the first place. However, when combined with, for example, the argument "Increasing the share of the vaccinated populace would reduce the number of deaths and critical health statuses due to COVID-19, as the vast majority of people in hospitals and lethal cases are unvaccinated", a stronger, more coherent argument is created.)
4. The final argument groups used in the analysis can be seen in Section 4 of this paper. In total, 8 (and 5 implicit premises) pro-vaccine mandate groups and 13 anti-vaccine mandate groups were created.

3.2. Reformulating arguments

There are two key issues in collecting data that we battle with our methodology. Firstly, multiple arguments can have the same intrinsic meaning but can be worded differently. Collecting them as separate arguments isn't worthwhile. Secondly, and more importantly, due to the setting of the debates, the arguments may not be "perfect". In a political debate, politicians have little time to make a coherent argument in front of their peers in a highly stressful setting. Politicians may use calls-to-emotion and casual oversimplification (or other various fallacies) to make their point, either because of the lack of time or because fallacious arguments might do a better job at convincing people. However, we consider that when arguments are incomplete, it is because of a lack of time – we assume the best intentions. We want to avoid judging arguments that are flawed because of wording, and we want to avoid examining arguments without addressing their main points in their strongest form – which would constitute a straw man fallacy – misrepresentation, deliberate manipulation of an argument in order to make it weaker (Damer, 2009; Swatridge, 2014).

Taking the previous example of herd immunity, under a great deal of stress and shortened timeframe to make an argument, a politician might have worded the argument like this: "Since herd immunity is good, there should be a vaccine mandate". This example shows hasty argument construction, as "good" isn't the clearest way to define herd immunity, and some argumentation steps are missing (the link between the vaccine mandate and herd

immunity). However, judging the argumentation skills of politicians wouldn't be as useful as the arguments themselves. Additionally, there might appear moral arguments in which implicit moral premises are missing – and they need to be made explicit to be reasoned with (Damer, 2009). However, the missing parts of arguments cannot be made explicit if they are not carefully reformulated.

We intend to fix these two issues by reformulating the arguments in the strongest possible manner (opposite to straw-manning), based on the available literature on healthcare ethics. By reformulating arguments, instead of multiple similarly worded arguments, we would obtain one argument that encompasses the intrinsic meanings of the other arguments. And in recreating these arguments in the strongest possible manner, we would be able to further analyze the arguments themselves, not just the argumentation errors made by politicians.

3.3. Evaluation of arguments

Arguments typically are based on some premises, which can be either true or untrue, and in some cases, plausible or implausible if the truth cannot be known, and the premises lead to a conclusion, which can be either valid or invalid. The conclusion is valid if it logically follows from the premises, and vice versa. Combining the trueness of premises and the validity of conclusions, we can then determine the soundness of the argument. An argument is sound if both conditions stand: the premises are true, and the conclusion is valid. Logically, if either condition is not present, then the argument is unsound (Gula, 2002). Arguments can also include fallacies. Fallacies can be formal or informal. If a fallacy is formal, then there is an issue with the way the argument is structured. If it is informal, conclusions have been drawn due to incorrect inferences or there is a premise present that is untrue or weak, and this aspect has gone unnoticed (Gula, 2002).

The next sections focus on the argument evaluation process. Important to note – as there are many different types of vaccine mandates, all arguments will be evaluated by assuming a work-related mandate context, meaning, we will exclude arguments that aren't relevant to vaccination mandates for work (e.g. arguments on travel mandates). To our minds, this is also prudent, as it creates a higher burden of proof for pro-vaccine mandate arguments because this type of mandate diminishes the liberty of the unvaccinated populace the most. Similarly, weak anti-vaccine mandate arguments will likely remain weak in other contexts. On the contrary, perhaps some further discussion may be had if there are weak pro-vaccine mandate and strong anti-vaccine mandate arguments, as the strength dynamics might be

affected by less strict contexts (e.g. passing vaccination mandates as a way of rewarding the obedience of the vaccinated populace might be a stronger argument when talking about less strict mandates like access to leisure activities rather than restricting the income of the unvaccinated).

3.3.1. Evaluation of soundness

The evaluation of the newly reformulated arguments happens in two steps. Firstly, the evaluation of argument soundness. A sound argument is one in which the conclusion can be derived logically from the premises, and the premises themselves are factually true. The first part refers to the validity of an argument. For example, an invalid argument would be as follows, "If it is raining, the streets are wet. The streets are wet. Therefore, it is raining". In this case, the premises are factually plausible, but the conclusion cannot be drawn from the premises, for example, it could have already stopped raining, but the streets can still be wet, they may have recently been washed by municipal services, or there may have been snow that has melted. The second part is intuitive as well, as it refers to the use of false premises, e.g. "COVID-19 is not an infectious disease". As for factuality, we intend to base our research on the latest available literature and information at the time of research. We wouldn't consider a premise factual if it is disproven now but was backed by the literature or believed at the point in time when the argument was made. There may be arguments that were sound at the time of making them but do not hold up now.

3.3.2. Evaluation of moral strength

Secondly, the evaluation of moral strength/convincingness. This part only follows for arguments that are both valid and factual, as it doesn't make sense to further evaluate arguments that can be refuted outright. Knowledge of basic ethical theories like consequentialism, deontology, and virtue ethics (see next section) will be useful in orienting in the "grey area" of arguments. We choose consequentialism, deontology, and virtue ethics mostly due to our limited knowledge in the ethics field, and due to these three being the main ethical theories. This evaluation is a necessary step, as there could be multiple sound arguments, but they still need to be compared to one another. We have identified grounds for discussion that may appear in arguments – e.g. the utility of herd immunity, individual rights (both the right to choose not to vaccinate and the right to a safe environment, which are at odds with one another), the riskiness of hastily developed vaccines, and so on. This part will

appear in our Discussion section. While the first part of (soundness) evaluation may be useful in showing outright flawed arguments, the second part will potentially decipher between weak, strong, and strongest arguments, and, together with part one, may provide insight into how successfully each political aisle made strong arguments for their propositions.

3.3.3. Ethical theories

Two main ethical theories will help in the classification and evaluation of arguments – consequentialism and deontology. It is important to distinguish between the theories, as the theories have significant differences (LaFollette, 1997).

To generalize, consequentialist arguments only care about the consequences – the end result – no matter the way of obtaining it. While there may be arguments about whether and to what extent immoral actions impact the utility of the result, the society we live in, trust, etc., that sort of analysis still is consequentialist, as it tries to calculate the end result and from it derives the rightness of the action itself. Deontological arguments are more focused on the action itself, the rules and principles that are followed or violated; it is not as concerned with the outcome (LaFollette, 1997). For example, deontologists will acknowledge the duties of special relationships we have with our loved ones – the fact that we are often required to do more for our loved ones than for people we do not know. Some constraints do not allow us to harm people for the outcome we desire – a key difference between consequentialism, which only looks at the end result. And lastly, virtue ethics is involved in assessing what kinds of virtues are associated with actions, e.g. courage, charitableness, and kindness (LaFollette, 1997). This short section is by no means an exhaustive explanation of ethical theories, but it helps to show how different ethical theories may be, and where the differences in arguments may lie. These theories will be revisited and broken down further under the inspection of specific arguments.

3.4. Limitations

We have noted some limitations to our approach. There may be some issues with data availability. We are not concerned with obtaining the main parts of our analysis, e.g. the Saeima debate transcripts because they are publicly available. However, we are unable to obtain data from Saeima commissions' meetings, since not all commissions have websites with publicly available information, and some have audio recordings of meetings, and some do not. There is no uniform process for meeting documentation, which would complicate our

research even further. With our abilities and time available we concluded that it is not feasible to include the Saeima commissions' meeting data, which may result in a gap in our research. However, we believe that looking at the two main government bodies – Saeima and the Cabinet – provides great insights, nonetheless. Another gap in our research remains since the Cabinet's meetings have closed sections – parts of meetings that are held "behind closed doors" and not streamed to the public. We can see what questions they've discussed in these sections, but there is no information or data on what is being said. Unfortunately, this is a gap that cannot be improved upon.

We expect that some arguments may be worded so poorly that they cannot be properly reformulated and have to be discarded.

Once we have compiled and reformulated the available arguments, we may run into the issue of empirical disagreements between health expert opinions. For soundness evaluation, the factuality of the premises is checked. However, in the case of contradicting reports by health experts and scientists, it is difficult to comment on the soundness of the argument. This limitation will be minimized by utilizing the most recently available information.

Our research may not be as thorough as it possibly can be due to our limited knowledge in the ethics field. With the time available to us (and the amount of data we have to work with) it is not feasible to study niche ethical theories and concepts unknown to us, as we recognize their complexity and depth. This can be improved upon in further studies on the Latvian government's arguments on vaccination mandates with a stronger focus on and a more detailed analysis of the morality aspect.

4. Analysis of Results

Following our methodology, larger argument groups were formed for both pro- and anti-vaccine mandates. It is important to note that some anti-vaccine mandate argument groups were outright discarded due to them being too weak or speculative to be used in further analysis (see Table 1).

Similarly, we discarded legal arguments both for and against vaccination mandates. There were two key reasons for this. Firstly, the legal arguments had many different variants which could not be grouped under one legal argument (e.g. separate sections for anti-constitutional argument and employment laws argument, and all the other legal arguments).

Secondly, and more importantly, we, as students of business and economics, reasoned that evaluating legal arguments fell outside of our zone of competency. We have not studied law, and we feel the obligation to only include arguments that we are capable of successfully evaluating. Thus, all legal arguments were excluded from our analysis.

The pro-vaccine mandate argument groups that were created in the research process (these arguments will be further reformulated and evaluated in the following sections) can be found in Table 2.

The anti-vaccine mandate argument groups that were created in the research process (these arguments will be further reformulated and evaluated in the following sections) can be found in Table 3.

Argument	Description	Reason for exclusion
Collectivization	Vaccine mandates are like collectivization tactics used in the USSR. The comparison is made between people having to potentially change their workplace or be left without a job in case of vaccine hesitancy and people being exiled to Siberia in case they did not want to work in collective farms.	This is a weak argument due to it being a fallacy of association, i.e. since forced collectivization could be considered unethical, so can vaccine mandates. However, further proof is not provided for this generalization. Moreover, this argument is immoral, as it fails to respect the historical meaning of Collectivization.
Totalitarianism	Vaccine mandates are like totalitarianism. The comparison is made due to vaccine mandates causing fear in the unvaccinated society, similar to how totalitarian governments would strike fear in their populace to rule with power over them.	Weak argument due to a fallacy of association, i.e. since totalitarianism could be considered unethical, so can vaccine mandates. However, no proof is provided for this generalization. Moreover, this argument is immoral, as it fails to respect the historical meaning of Collectivization.
Government Conspiracy	Vaccine mandates are part of a larger political, social, and economic conspiracy that is based on vaccine profiteering and forceful segregation, and the destruction of the liberty of citizens.	The soundness of this argument cannot be determined, as it is purely speculative.
Genocide	Vaccine mandates are like genocide (often a more specific comparison is made with the Holocaust).	This is a weak argument due to it being a fallacy of association, i.e. since genocide could be considered unethical, so can vaccine mandates. However, further proof is not provided for this generalization. Moreover, this argument is immoral, as it fails to respect the historical meaning of Genocide.
Foreign Examples	Latvia should follow other countries' examples. Other countries (our Baltic neighbours – Estonia and Lithuania) have not passed such strict regulations, and it is unclear why Latvia has.	"Appeal to common opinion" fallacy where it is assumed that a given claim is more truthful due to its popularity. However, the truthfulness of a claim does not necessarily follow from its popularity (Damer, 2009). The merits of vaccination mandates would have to be challenged, rather than the popularity of their implementation.

Table 1. Excluded arguments. Created by the authors.

Argument	Description
Vaccine effectiveness*	COVID-19 vaccines are effective at reducing the risk of getting vaccinated, the severity of the symptoms, and the probability of death. Being vaccinated significantly increases protection from infection and severe symptoms, compared to being unvaccinated. Thus, vaccines are an effective tool to use in reducing infection rates, hospitalisations, and fatalities from COVID-19.
Motivation*	Vaccination mandates for work will leave the people (at least those targeted by the mandate) with the decision either to vaccinate or leave work. Since work is an essential aspect of people's lives, these mandates will be effective at motivating people that have not yet gotten vaccinated and/or do not wish to get vaccinated, to get vaccinated.
Non-discriminatory/fair*	Since unvaccinated people expose themselves and others to significantly more harm than vaccinated people, as well as the fact that the COVID-19 pandemic is dangerous to society and its functions, there is a legitimate reason to discriminate against unvaccinated people in creating vaccination mandates.
Testing ineffectiveness*	Given that tests are more expensive than vaccines, but, more importantly, tests are not effective as a determinant of health status and do not protect from infection, they are an ineffective measure to use instead of vaccines.
Legitimacy of freedom-reducing policies*	The government has a duty to protect its people. Given that a pandemic like COVID-19 poses a significant threat to society, the government can pursue freedom-reducing policies if they are more effective at mitigating the risks of such a health crisis.
The right not to be harmed	When living in a society, every individual has the right not to be harmed. This is especially true when talking about people/professions that interact with vulnerable groups (e.g. ill people, the elderly) regularly. Not vaccinating causes harm to others, as non-vaccinated are more likely to transmit the disease further, as well as take up space in hospitals that could be used by other people in need.
Economic recovery	COVID-19 has significantly harmed Latvia's economy. One vehicle for this harm is the halting of the work of some industries. Vaccination mandates are crucial for the economic recovery of the country, as well as protecting the economy against further economic downturns (due to lockdowns), as some industries would be able to start working, and as further regulations given a vaccinated populace would not be needed.
Easing, not restricting	Instead of restrictions, vaccine mandates should be viewed as easing the restrictions currently in place. There are industries in which nobody (vaccinated and unvaccinated both) can work. Due to vaccination mandates, these industries can experience a lift in restrictions. Thus, vaccination mandates should be seen as an easing of restrictions, rather than as an additional restriction.
Achieving herd immunity safely	Herd immunity from vaccination is the only way out of the COVID-19 pandemic and its restrictions. Reaching herd immunity from mass infections is dangerous, and should be avoided. To reach herd immunity safely (relative to natural herd immunity), unvaccinated people must be motivated to get vaccinated by using various sticks and carrots.
High-risk professions	Some specific individuals working in certain industries need to be protected by vaccine mandates due to the extra risk of interacting with many people in closed spaces regularly (e.g. healthcare, hairdressers).
Critical professions	Some specific individuals working in certain industries need to be protected by vaccine mandates due to critical service to society provided by said industry (e.g. healthcare, education).
Vaccine safety	A popular argument used by people opposing vaccine mandates is that vaccines are unsafe. However, no cases of adverse side effects have been recorded in Latvia. Many such claims are purely works of disinformation, not science. Getting vaccinated is relatively less dangerous than contracting COVID-19.
Reciprocity towards the vaccinated	There should be an easing of restrictions for vaccinated people because they have followed the government's suggestions/regulations.

Table 2. Descriptions of arguments for vaccination mandates. Created by the authors.

**this is an implicit premise, see Section 5.1.*

Argument	Description
Wrongful discrimination	Vaccine mandates wrongfully discriminate against people that do not want to get vaccinated. Such vaccination mandates use cruel, unethical, and unjustified measures (e.g. restricting income, destroying livelihood) in achieving their goal. Therefore, vaccination mandates are ethically wrong.
Social Capital	Passing vaccine mandates will cause tension among the population, as well as general displeasure and distrust towards the government, which in turn may cause increased resistance towards getting vaccinated, making this policy potentially unsuccessful at increasing vaccination uptake.
Free choice/personal autonomy	Vaccine mandates effectively force people to choose between having a job (a crucial aspect of surviving and life itself) and getting vaccinated. Vaccination mandates disrespect each person's right to choose to get vaccinated or not. Moreover, free choice is a key aspect of a democratic state; such mandates would be anti-democratic. Vaccinating should be a free choice, thus, vaccination mandates are unethical.
Vaccine ineffectiveness	Vaccines are ineffective as a policy tool, as either they outright do not limit transmission and/or do not limit symptoms and hospitalisations from COVID-19, or they are not effective enough to stop the spread. Additionally, such mandates might cause an unjustified sense of security to rise among the vaccinated population which will put them at more undue risk.
Anti-paternalistic view	Unvaccinated people only expose themselves and other unvaccinated people (who have also made the decision not to vaccinate) to harm. The government should allow people to make free choices (even if they are harmful to themselves).
Less restrictive options	There are other, less intrusive methods of fighting the spread of COVID-19. For example, allowing people to be tested and improving the healthcare system, as well as infection-limiting infrastructure in buildings like better ventilation systems. Other examples are hybrid regulations that would allow unvaccinated people to work, however, they would have to undergo stricter epidemiological regulations (e.g. wearing face masks).
Vaccine safety	These mandates are based on vaccines that have not completed their testing phase, increasing the uncertainty of potential side effects. In case of negative side effects, none of the involved parties (doctors, pharmaceutical companies, the government) are willing to take responsibility in case of adverse effects after receiving the vaccine. Additionally, there may be some people with contraindications to vaccination. It is unethical to force people to vaccinate given the increased risks from these vaccines.
Government failure	Some time ago, the Cabinet politicians that are now in favour of vaccine mandates, explicitly stated that vaccination will not be mandatory. Politicians should not go against their word in passing policies they said they would not. In fact, the government has failed at raising the vaccination uptake due to undue spending, low-quality campaigns, botched vaccination logistics, and other reasons. The government is trying to pass its own failures as responsibility onto the people with mandatory vaccination. The government should take accountability for its failures.
Slippery slope	These mandates are only the start of a slippery slope that will lead to stricter mandates and further segregation of the unvaccinated populace.
Unfair targeting of protected population	Such mandates are not justified, as COVID-19 does not pose large health risks, especially to young and healthy people, who are also targeted by these policies.
Unintended consequences	Vaccination mandates will lead to unintended consequences, such as purposeful infection.
Unemployment effects	Limiting working opportunities for the unvaccinated will raise unemployment, which will harm the economy and the ongoing of specific institutions (education, healthcare), as fewer people will work and consumption will be lower. Further, this could worsen emigration, which has been a constant issue for Latvia.
Employer ethical dilemma	Such vaccination mandates put employers into inappropriate ethical dilemmas by forcing them to decide whether to take care of their employees and their livelihoods or save money.

Table 3. Descriptions of arguments against vaccination mandates. Created by the authors.

5. Discussion

Vaccination mandates may or may not be justified, the discussion on vaccine mandates involves ethical deliberation on the interplay between the necessity to vaccinate, the proportionality in harm generated, as well as the extent to which individual freedoms are infringed upon (O'Sullivan, 2022). These next Sections involve our reformulations and evaluations of the arguments expressed by Saeima and Minister Cabinet politicians. Out of a total of 698 unique arguments, we ended up with 21 specific arguments. There were far more arguments in opposition to vaccine mandates, which also explains why the specific groups we ended up with are 8 in favor and 13 against.

5.1 Main Premises Used in Arguments For Vaccination Mandates

For more effective argument evaluation, five main arguments will resurface in various combinations as implicit premises in all the arguments in favour of mandatory vaccination. In the arguments we reviewed, they were often not stated, but it was clear that they are implied as premises for the conclusion. For example, when a politician claims that vaccine mandates should be introduced to reduce critical cases and hospitalisations, there is an implicit premise pointing towards the effectiveness of vaccines in reducing critical cases and hospitalisations. Since these specific premises would reappear so often, we believe it would be less redundant to evaluate these premises at the very beginning, since if these were to be found untrue or unfounded, some argument groups could be outright determined to be false or unfounded as well. These arguments are as follows:

- Vaccines against Covid-19 are effective at reducing infection spread and, in case of infection, the risk of severe symptoms.
- Vaccination mandates are effective at increasing vaccination uptake.
- Vaccination mandates are not discriminatory.
- Testing mandates are not an effective tool to use instead of vaccination mandates.
- The government can pursue the use of freedom-reducing policies in crisis situations.

We will evaluate each argument separately by setting the context, then providing our reformulation, followed by challenging views and facts to test the factual and moral strength of the argument.

5.1.1 Vaccine Effectiveness

Initial studies in the first half of 2021 in Israel on the effectiveness of COVID-19 vaccines found that they significantly prevented infections and hospitalisations, as well as lethal outcomes, and overall decreased rates of infection in the country upon increased vaccination uptake, all suggesting that the vaccines could be a successful tool in the fight against the COVID-19 pandemic (Haas et al., 2021; Leshem & Wilder-Smith, 2021). In the same period, there was also a Harvard professor, Galit Alter, who stated that despite new variants appearing, the vaccines will still protect against the disease due to vaccines activating our immune systems in multiple ways (Powell, 2021). Additionally, there were studies conducted also in 2021 on the effect vaccination has had on the COVID-19 pandemic in the U.S. and found that it significantly reduced the number of infection cases and prevented many hospitalisations (Chen et al., 2022; Christie et al., 2021; Scobie et al., 2021). Equal outcomes from increased vaccination uptake were found in a study conducted in EEA countries also in 2021 (Sikora & Rzymski, 2022). An April 2022 study that modelled infection outcomes in different unvaccinated-vaccinated people mixing scenarios showed that vaccinated people are more protected from infection, however, the level of unvaccinated people mixing with vaccinated people impacts the safety of vaccinated people at a level "disproportionate to the fraction of unvaccinated people in the population" – a key takeaway for further sections (Fisman, Amoako, & Tuite, 2022). A newer study from January 2023 also shows that vaccines are effective at protecting against symptomatic infection with COVID-19, though the study is conducted on individuals who have also received a booster dose and it is in particular about the Omicron variant of the virus (Link-Gelles et al., 2023). Besides that, there were many more studies essentially proving the same thing since the vaccines were first developed up to this day (e.g. Eyre et al., 2022; Hause et al., 2022; Link-Gelles et al., 2022; Mohammed et al., 2022; and others), but to mention them all and each of their findings would be repetitive.

Overall evidence pointed to vaccines being an effective tool for preventing infection with COVID-19 and extreme cases of the disease in the case of infection despite vaccination. This argument was implicitly stated in all arguments in favour of vaccination mandates, as it wouldn't make sense to impose such a policy unless the vaccine itself is effective at doing what it promises to. Thus, we arrive at our reformulated argument:

Premise 1: COVID-19 vaccines are effective at reducing the risk of infection for the vaccinated (Mohammed et al., 2022).

Premise 2: COVID-19 vaccines are effective at reducing the risk of transmission from the vaccinated (Eyre et al., 2022).

Premise 3: COVID-19 vaccines are effective at reducing the severity of infection (Mohammed et al., 2022).

Conclusion: Vaccines are an effective tool for combating the COVID-19 pandemic.

Despite all the questioning evidence about the longevity of the vaccines' effectiveness and resistance against newer variants (expanded on in Section 5.3.4.), it does not disprove the fact that vaccines were, in fact, effective against infection, transmission, and severity of disease, thus not disproving any of the premises.

The conclusion does logically follow from the premises. All of the premises are independent from one another, yet each one supports the conclusion. Overall, this argument is sound. While the effectiveness of vaccines depletes against newer variants and after an increased time period since vaccination, this alone does not disprove the relative effectiveness of vaccination versus being unvaccinated. Thus, we find this argument to be strong. However, this is only an implicit premise for pro-vaccine-mandate arguments, not an argument for vaccination mandates in and by itself.

5.1.2 Motivation

During the COVID-19 pandemic, the Latvian government introduced vaccination mandates for certain professions (more on the specifics of this in sections 5.2.5. and 5.2.6.) with a prohibition to work unless being fully vaccinated from COVID-19 or infected and recovered. For other professions, it was up to the employer to decide whether and which employees needed to be protected from COVID-19 to fulfil their job duties, giving them the right to fire an employee in case he did not comply. The government wished to use this type of policy to motivate more people to get vaccinated due to previously discussed slow vaccination rates and low uptake when compared to other EU/EEA countries and the EU/EEA average (see Section 2.1.2.).

Yet, a survey of 6838 Latvian educational institution employees in July 2021 revealed that more than a third are unwilling to vaccinate against COVID-19 despite the newer policies at the time (becoming effective as of September 2021) stating that you must be

vaccinated to work in this field (Kuzmina, 2021). However, surveys may not be entirely reliable, since it is possible to simply state that you are willing to leave your job, but following through is far more difficult than just saying it. According to LETA (2021a), in December 2021, there were more than 600 pedagogues who had left their jobs due to the requirement to vaccinate, which, according to the newest available data from 2019 on the total number of pedagogues in Latvia (Valsts Izglītības Informācijas Sistēma, 2019), is around 14%, not more than a third, as it was found in the survey.

According to data from Nodarbinātības Valsts Aģentūra (2021), the number of unemployed persons decreased from the beginning of 2021 to the end, while the number of COVID-19 vaccine doses administered grew from around 2,260 in January to 2.55 million in December (Trading Economics, 2022). According to Oficiālās statistikas portāls (2022), the unemployment rate in Latvia in the final quarter of 2021 (during mandates) was 0.8pp smaller than in the first quarter of 2021 (before mandates). Though it is not concrete proof of people's lack of willingness to leave their jobs instead of vaccinating, this is the closest inference we can get on people's inclination to remain employed, even if it implies getting vaccinated. With this, we arrive at our reformulated argument:

> **Premise 1:** Vaccination mandates for work in Latvia do not allow some professions to work unless vaccinated (Saeima, 2020).
> **Premise 2:** Vaccination mandates for work in Latvia give employers (in professions where a vaccination certificate is not outright demanded) the possibility to determine the necessity for a COVID-19 certificate (Saeima, 2020).
> **Premise 3:** A significant number of people in Latvia would choose to get vaccinated instead of leaving work.
> **Conclusion:** Vaccination mandates are effective at increasing vaccination uptake.

Challenging the truthfulness of premise 3 is difficult, as it is hard to prove and disprove due to a lack of available data. However, some arguments are provided in Section 5.3.2 – the impact on vaccination uptake might be limited due to generated distrust. Some opposition is provided under section 5.3.12. Unemployment Effects, where Premise 1 is the exact opposite – "a substantial amount of people would rather lose their job or move country than get vaccinated", although it does not provide strong empirical evidence or statistics to back up this claim. While these arguments oppose each other, they aren't necessarily

mutually exclusive, as neither of them claims that the amount of vaccinated or amount unemployed will be larger than the other, but simply that it will be a substantial amount.

Premises 1 and 2 are factual claims, and we simply know them to be true due to the regulations that were in place. We cannot provide evidence to challenge Premise 3, and we do see some indication of it being true due to the lack of increase in unemployment, as well as an increase in vaccinations over the relevant time period. We find that the conclusion follows logically from the premises, as well as that the overall argument is strong. This argument is also just an implicit premise for arguments in favor of vaccination mandates and not a standalone argument.

5.1.3 Non-Discriminatory/Fair

Discrimination means treating some people differently than others. Vaccination mandates are discriminatory (different levels of freedom for different people based on their vaccination status). However, not all discrimination is wrongful discrimination. For example, the necessity for two-year-olds to sit in a special car seat can be looked at as discriminatory. Smokers having to smoke in designated places is also discriminatory. What differs here is that the reason to discriminate is legitimate.

According to King & Ferraz (2021), "any interferences with basic human rights by state and non-state actors must at a minimum be in accordance with the legal principle of proportionality." (para. 32) While the principles described by the authors are primarily focused on limiting human rights, we argue that by extension they can be used to also justify differential treatment of people or discrimination.

The first test is whether the discrimination is prescribed by law. In other words, whether "it is based on clear legal authority under primary or secondary legislation, and the guidance given under the law is reasonably clear, foreseeable, and accessible to the subjects of that law." (King & Ferraz, 2021, para. 33). Vaccination mandates in Latvia were to be passed by the Minister Cabinet (secondary legislation), and to our understanding, the law was publicly available to all in the manner as described by King and Ferraz (2021).

The second test is whether the discrimination has a legitimate aim. King & Ferraz (2021) describe this in two ways – the harm unvaccinated people expose others to, and the harm unvaccinated people expose themselves to. The first option is the public health argument. A higher vaccination uptake would reduce transmissions (and possibly lead to herd immunity – Section 5.2.4)), and reduce hospitalisations (Section 5.2.1), which frees up more

resources for everybody to use, as well as protects services that are critical for the ongoing of society (Section 5.2.6). An additional argument can be made for the easing of restrictions elsewhere (a similar point is made in Section 5.2.3) due to higher vaccination uptake (King & Ferraz, 2021).

The second option described by King & Ferraz (2021) is the "paternalistic" argument. We generally use Dworkin's (1972) definition of paternalism: "the interference with a person's liberty of action justified by reasons referring exclusively to the welfare, good, happiness, needs, interests or values of the person being coerced." (p. 65) Such a policy protects unvaccinated people that put themselves in harm's way by not vaccinating and being protected by vaccines (see Section 5.1.1, as well as the similar point made in 5.2.5).

The third and fourth tests are 1) necessity – whether a measure is applicable in achieving the aim of the policy (test two), and 2) fair balance – whether the penalty that unvaccinated people bear for not vaccinating is proportional to the necessity and aim of the policy. In other words, firstly, is there scientific backing justifying the mandate, and, secondly, is the scope of the mandate justified by the current situation (King & Ferraz, 2021). The points outlined in test two and its relevant sections outline the justification for scientific backing and the proportionality of the measure used (see relevant Sections).

King & Ferraz (2021) also outline that legal risks of wrongful discrimination can arise if vaccination itself isn't accessible and affordable. These risks are not present in Latvia, as people have had the ability to vaccinate (and still do) for free. Moreover, various services were provided for people who could not get to a vaccination centre for legitimate reasons, for example, vaccination buses that drove out to more remote regions with no vaccination centres nearby and limited opportunities for transport (Āboliņš, 2021).

Additionally, people that had a legitimate reason – a medical contraindication – not to get vaccinated, were exempt from this and all other vaccination mandates (Ministru Kabinets, 2021b). Thus, people who either couldn't afford to vaccinate, transport themselves to a vaccination centre, or vaccinate at all, weren't wrongfully discriminated against. We arrive at our reformulated argument:

Premise 1: COVID-19 is a dangerous disease (CDC, 2022b; Miller, 2023; O'Mahoney et al., 2023).

Premise 2: Unvaccinated people pose substantially more risk to themselves and others by not vaccinating (Fisman et al., 2022).

Premise 3: Vaccines have been available and free long enough for everybody to get vaccinated.

Premise 4: People that have a medical condition that provides a reasonable concern about the safety of vaccination are exempt from vaccination mandates (Ministru Kabinets, 2021b).

Conclusion 1: The level of risk of harm to others and themselves by unvaccinated people justifies differential treatment of people based on their vaccination status.

Conclusion 2: Vaccination mandates do not wrongfully discriminate against people that have a legitimate reason not to be vaccinated.

Conclusion 3: Given the risk danger posed by COVID-19, and vaccine availability, vaccination mandates are not illegitimately discriminatory.

While a direct challenge to this is provided in Sections 5.3.1 Wrongful Discrimination and 5.3.5 Anti-paternalistic View, a general challenge as to whether vaccination mandates for work pass the four tests by King & Ferraz (2021) are outlined in all of the Sections against vaccination mandates. Given that this argument incorporates the main arguments for vaccination mandates (some being independently strong arguments), we have to conclude that this is a strong argument (although, by the same logic, with a strong counterargument as well). To remind the reader, this is not a standalone argument, but rather an implicit premise for arguments used in favor of vaccination mandates.

5.1.4 Testing Ineffectiveness

Initially, the Latvian government allowed people to obtain the Digital Green Certificate (for certain activities) by being fully vaccinated against COVID-19, being infected with COVID-19 and recovering, or getting tested for COVID-19 and receiving a negative result, but the test had to be done through a laboratory, and at-home tests were not accepted for this purpose. At one point, arguments appeared in the Cabinet of Ministers about how tests are not an effective determinant of a person's health status, since the negative test provides a valid certificate for 48-72 hours, and the person may get tested and receive a negative result, while being already infected but not yet having any symptoms, and then become infectious to others during that time frame when the certificate is active (Nacionālais Veselības Dienests, 2021). Meaning, the test only gives insight into the person's health at one point in time. Additionally, the test only tells you whether a person is infected, but the person remains in no

way protected against infection due to a lack of immunity against the virus. Apart from this, politicians also argued about the costs between vaccines and tests, indicating that vaccines are less costly than tests for the government, thus making it more reasonable to continue providing free vaccination against COVID-19 as a means of trying to achieve herd immunity while discontinuing the offering of free COVID-19 laboratory tests due to vaccine availability to all. According to news articles, indeed on average one COVID-19 vaccine cost the Latvian government 22 euros (Žilde-Krēvica, 2021), whereas one COVID-19 laboratory test costs anywhere from 43 to 53 euros (LETA, 2021b). Through all of this, we arrive at our reformulated argument:

> **Premise 1:** Tests are more expensive than vaccines (LETA, 2021b; Žilde-Krēvica, 2021).
> **Premise 2:** Testing is not an effective determinant of health status.
> **Premise 3:** Testing does not protect a person from infection.
> **Conclusion:** Testing mandates are not an effective tool to use instead of vaccination mandates.

However, a common argument against this is that despite tests being more expensive than vaccines, both expenses come from the government's budget, which gets its money from taxpayers. And, as we know, every working citizen is a taxpayer (or at least should be), regardless of vaccination status. Thus, there is a level of unfairness against the unvaccinated – if a person is strongly set on not vaccinating, then they have to pay for laboratory testing out of their own pocket[1], while persons who are willing to vaccinate incur no direct costs for the vaccine, yet the unvaccinated persons have in part paid for it through taxes.

Another refutation to this argument is that vaccination status is also not an effective determinant of health status, since the vaccine is not 100% effective against infection, and arguably, it is even more dangerous to lift restrictions for the vaccinated and not require them to test at all, because they can more often get infected and transmit the virus without experiencing symptoms.

We were unable to find studies that test the link between mandatory vaccination and infection rates or rates of severe disease cases, however, one study by Mills and Rüttenauer

[1] This is in reference to a period during the COVID-19 pandemic in Latvia when it was still possible to obtain a Digital Green Certificate through testing, but those who did no longer had the costs of the test paid for by the government, instead they had to pay out of their own pocket.

(2022) found that introducing mandatory vaccination increased vaccination uptake in countries that had a below-average uptake before the introduction of such a policy (which is the case of Latvia, see Section 2.1.2.). A different study by Huang et al. (2022) found that higher vaccination coverage had an inverse relationship with infection and hospitalisation rates. Accordingly, we can infer that in the case of Latvia, vaccination mandates were a more appropriate policy than less restrictive measures. Thus, this argument is strong. However, this is only an implicit premise for arguments pro-vaccine mandates, not an argument for vaccination mandates in and by itself.

5.1.5 Legitimacy of Freedom-Reducing Policies

According to a WHO/Europe report, "The concept of health as a public good is widely accepted, as is the fundamental duty of government to promote and protect the health of the population." (Chichevalieva, 2011, p. 11). Moreover, the government's duty to protect the health of its population is baked into the Latvian Constitution since 1998 (Satversmes Sapulce, 1998). Thus, we argue that since a disease outbreak like COVID-19 threatens public and individual health, the government has a duty to protect it.

The degree and use of individual freedom-reducing policies have been a debated topic in healthcare ethics for some time now. For one, there is a framework for evaluating human rights restricting policies laid out in Section 5.1.3 by King & Ferraz (2021). There are both consequentialist and deontological arguments for it (as will be discussed in further sections). J.S. Mill in his in his classic work argues that the prevention of harm to others is the sole reason that power (in our case, such policies) can be used (Mill, 1859) – exactly this line of reasoning is provided in Section 5.2.1. In his 2021 work, Vaccination Ethics, Giubilini stated: "Arguably, it is an individual's, a parent's, and a state's responsibility to take reasonable steps to prevent individuals from posing serious risks of harm to others." (Giubilini, 2021, p. 9), furthering the case for restriction of harm. Moreover, such measures are preferred over less restrictive ones, like testing, due to their inability to sufficiently protect public health (see Section 5.1.4). Giubilini (2021) also argues that the use of policies that are slightly more restrictive than absolutely necessary can be beneficial, as it provides more predictable and better results in terms of vaccination uptake. Thus, we arrive at our reformulated argument:

Premise 1: COVID-19 is a dangerous disease that can cause high rates of infection, hospitalisation, and death (CDC, 2023a; CDC, 2022b; Fisman et al., 2022; Miller, 2023; O'Mahoney et al., 2023; SPKC, 2022).

Premise 2: The government should protect its people from disease outbreaks (Chichevalieva, 2011; Satversmes Sapulce, 1998).

Premise 3: Given increased risk levels (health crisis), policies that reduce individual freedoms are a legitimate tool in battling pandemics.

Conclusion 1: The government has a duty in protecting people from the COVID-19 pandemic.

Conclusion 2: In trying to mitigate the increased risk levels of pandemics, the government can opt to pursue freedom-reducing policies.

The main question here is to what extent can freedom-limiting policies be used so that they are indeed preferable over other, less-restrictive options (an argument is made for such options in 5.3.6). While testing does not provide the same benefits as a vaccine, it is also less restrictive. Verweij and Dawson (2004) argue that when evaluating such a policy, the burden-benefit ratio needs to be evaluated for all options. However, we cannot prepare a cost-benefit analysis, as the authors argue for.

Moreover, there are both deontological and consequential arguments to be made against such restrictive policies. There is a Kantian argument to be made about not using people as a means to an end (see Section 5.3.3), as well as an argument against the effectiveness of such policies due to the negative impact on trust in society (section 5.3.2).

There isn't one distinctive answer as to what extent government can pursue freedom-reducing policies, that is an ethical topic of the debate itself. Thus, we conclude that this argument is strong (but with a strong counterargument as well).

5.2 Arguments for vaccination mandates

Arguments in favor of vaccination mandates mainly came from the Cabinet of Ministers. There were a total of 131 arguments in favor of mandatory vaccination, which we narrowed down to eight specific argument groups. We shall outline each one by providing context, and our reformulation, followed by a challenge to the argument to test its strength (both factually and morally). One thing to note, these arguments also incorporate additional premises from

5.1., which will not be explicitly stated and remain implicit to not make the arguments even bulkier. For example, 5.2.1. could incorporate all five of the 5.1. premises.

5.2.1 The Right Not to Be Harmed

Like what will be done in Section 5.3.3, but at the very same time to achieve opposite ends, deontological constraints can be used in arguments regarding vaccination mandates. Deontological constraints exist as a barrier to what a person can do, and a generally accepted concept in deontological thought is the duty to do no harm or at least minimize the harm done to others (LaFollette, 1997). In this case, an argument is made that being unvaccinated is significantly harmful to other people by virtue of not vaccinating.

To grasp the harm done to others, the extent of the potential damage caused by COVID-19 needs to be understood. While the context and importance of COVID-19 have been laid out throughout this paper, we can further structure this analysis by evaluating the key points that Verweij & Dawson (2004) lay out for the evaluation of the seriousness of the disease (both for the individual and society). Firstly, can COVID-19 result in serious implications for the individual? And secondly, does COVID-19 pose a public health problem? Most evidence shows that the answer to the former question is yes. Although certain factors make it more likely to experience severe outcomes from infection with COVID-19, it can happen to anyone, and everyone is at risk of getting infected (CDC, 2022d). Additionally, many are affected by symptoms that continue long after recovering (CDC, 2022b). As for the latter question, the answer is also yes, because COVID-19 has been declared a worldwide pandemic (WHO, n.d.) Thus, we conclude that COVID-19 is indeed a serious disease that poses a risk to society at large.

Unvaccinated people are at an increased risk of infection and serious disease. While vaccines are not perfect, they are an effective tool for mitigating the impacts caused by COVID-19 (see Section 5.1.1).

An April 2022 study, already described in Section 5.1.1, showed that when mathematically modelling various mixing between vaccinated and unvaccinated populations, vaccinated people were exposed to disproportionately higher levels of risk (Fisman et al., 2022). This outlines the direct harm unvaccinated people inflict on others. An analogy can be drawn to a hypothetical situation in which a bottle of bleach ought to be removed from a toddler so that unintentional harm to others cannot take place (Bambery et al., 2013).

Insights from Section 5.1.1 also outline the indirect risk caused by unvaccinated people, as they are exposed to a higher risk of severe illness and hospitalisations (see Section 5.1.1). Given their lack of vaccination status, they put undue stress on the healthcare sector. Skelton & Forsberg (2020) argue that since, one, unvaccinated people expose others to harm, and, two, the cost of vaccinating is negligible, vaccination mandates are justified. A similar point is expressed by Giubilini (2019) – "If non-vaccination harms or risks harming others, then failing to vaccinate is as bad as positively doing something that harms or risks harming others" (p. 36).

In addition to increasing vaccination uptake (see Section 5.1.2), such vaccination mandates would also limit interactions between vaccinated and unvaccinated people at work, both effects protecting the right not to be harmed. Thus, we arrive at our reformulated argument:

> **Premise 1:** Each person has the right to live without being unnecessarily harmed by others.
> **Premise 2:** Being unvaccinated is significantly harmful to other people due to infection risk relative to that of being vaccinated due to the direct effect of infection and the indirect effect of undue stress inflicted on the healthcare sector.
> **Premise 3:** The government should protect the right not to be harmed of its people.
> **Conclusion:** The government should protect people's right to life by imposing vaccination mandates.

Premise 2 is empirical and cannot easily be challenged. The main challenge in this argument originates from the question of to what extent can people's right not to be harmed infringe on other people's right to individual autonomy. Giubilini (2021) agrees that this argument is weaker for autonomous individuals who can vaccinate to protect themselves. Argumentation for this is provided in Section 5.3.3. Literature in healthcare ethics tends to agree that both rights are not absolute, and some trade-off needs to be evaluated based on the specific situation and its variables like the infection rates, the dangerousness of the variant, and so on. The argument for the right not to be harmed would be weaker with an Omicron-like variant that may be more infectious, but also less dangerous, and the infection rates tend to become more similar for the vaccinated and unvaccinated people (Curley, 2022). An additional argument is made by Saeima politicians that the lack of vaccine safety also infringes on people's right not to be harmed (expressed in Section 5.3.7). For example, J.

Stepaņenko – "If we talk about human rights, here, of course, Article 116 of the Constitution is very widely applied, which limits a certain set of human rights, which, unfortunately, honorable colleagues, honorable authors of the bill, are not the human right to life and the human right to health. Because in this case, we're talking about vaccines that have been granted provisional approval, and we're talking about vaccines for which every patient signs an informed consent and a waiver of any claims in bad cases." (Stepaņenko, 2021)

Overall, we conclude that this is a strong argument, but so is the counterargument. Continuous evaluation of the pandemic – infection rates, mortality rates, stress on the healthcare system, the safety of the vaccine, etc. – needs to happen to ultimately arrive at a clearer picture of which of these two conflicting principles takes precedence.

5.2.2 Economic Recovery

During COVID-19 spikes in Latvia, the work of some industries like beauty care, hairdressers, and shops, had to be halted or severely affected (Ministru Kabinets, 2020a). According to the International Monetary Fund [IMF] (2020), lockdowns, like were introduced during COVID-19, are "powerful instruments to reduce infections" (p. 76), but also produce significant negative effects on the economy (the study shows a negative effect on pre-pandemic forecasts of GDP relative to the measures imposed). Moreover, it is found that voluntary social distancing that comes with high infection rates also produces a negative effect on the economy.

Bauer et al. (2021) modelled restriction relaxing scenarios under different vaccination uptakes and found that the rate at which it is optimal to lift restrictions is constrained to the level of vaccination uptake. Moreover, the authors claim that for evading a wave entirely, a high vaccination uptake is crucial. Arbel and Pliskin (2022) find that vaccination campaigns are much more cost-effective in preventing deaths than lockdowns.

These studies show that, firstly, vaccination campaigns are much cheaper than lockdowns in terms of lives saved, and, secondly, given that these campaigns work (see Section 5.1.2), they may evade costly lockdowns that have significant negative impacts on the economy altogether. Thus, we arrive at our reformulated argument:

> **Premise 1:** Given a spike in infections, some industries would have to be halted (e.g. shops, hairdressers).

Premise 2: Halting the ongoing of whole industries has a negative effect on the economy (IMF, 2020).

Premise 3: High vaccination uptake could prevent an infection spike from occurring (Chen et al., 2022; Christie et al., 2021; Scobie et al., 2021).

Conclusion: Vaccination mandates should be introduced as a means to prevent unnecessary economic contractions.

Note that all the premises of this argument need to be true in order to make this argument sound. Premise 1 reflects what actually was observed in Latvia (Ministru Kabinets, 2020a), but the question of whether the freezing of industries is significantly beneficial to fighting the pandemic remains to be answered. For one, there is some evidence that lockdowns aren't effective at fighting the COVID-19 outbreak (Herby, Jonung, Hanke, 2022; Spiliopoulos, 2022) and the cost of lockdowns is higher than the benefits incurred from them (Yanovskiy & Socol, 2022). Thus, while Premise 2 is true, if Premise 1 is untrue, the whole argument falls apart.

The trueness of Premise 3 can also come into question, as it isn't clear how effective high vaccination uptakes are at preventing infection spikes. Some studies in countries with high vaccination uptake show that breakthrough infections at quite high rates are possible (e.g. Feng et al., 2022). Once again, if Premise 3 is untrue, the argument is not sound.

Moreover, since this is a consequential argument, some consequential opposition is provided by Section 5.3.12, which argues that the vaccination mandates will increase unemployment levels that, in turn, would hurt the economy (however, we found little evidence for the unemployment increase).

We conclude that this argument is unsound due to limited evidence for the necessity of lockdowns and the effectiveness of high vaccination uptake in containing COVID-19 outbreaks.

5.2.3 Easing, not Restricting

To restate what was touched upon in the previous argument, during COVID-19 spikes in Latvia, the work of some industries like beauty care, hairdressers, and shops, had to be halted or severely affected (Ministru Kabinets, 2020a). The proposed vaccination mandates would allow these people to work, given that they are vaccinated (Saeima, 2020).

This constitutes something resembling a Pareto improvement – "if each individual prefers x to y, then x is socially better than y" (Kornhauser, 2022). Of course, this is not a perfect Pareto improvement due to unvaccinated individuals being unhappy due to the unequal distribution of benefits (see Section 5.3.11). However, from a purely technical aspect, this is a Pareto improvement, as the total number of working people would increase with minimal risks due to the specifics of vaccine effectiveness (Section 5.1.1).

Therefore, we can look at vaccination mandates as an easing mechanism, instead of further restrictions, as these restrictions had already taken place. Thus, we arrive at our reformulated argument:

> **Premise 1:** For many professions (both vaccinated and unvaccinated), work has been halted due to COVID-19.
> **Premise 2:** By introducing vaccination mandates for work, the vaccinated populace will be able to work.
> **Conclusion 1:** Vaccination mandates aren't a restriction, but rather an easing mechanism.
> **Conclusion 2:** Where it is possible to do so without generating disproportional risk, easing some restrictions are better than keeping all restrictions.
> **Conclusion 3:** Vaccination mandates should be introduced.

There are some key issues with this line of logic. Firstly, as is stated in the argument itself, this is not a Pareto improvement, as the damage to the social capital from the use of discriminatory policies needs to be taken into account (see Sections 5.3.1 and 5.3.2). Many unvaccinated people were completely opposed to mandatory vaccination (Pētījumu Centrs SKDS, 2021b).

By the logic of this argument, a case can be made for a reduction in restrictions across the table, as some studies have found that lockdowns aren't an effective way of managing the COVID-19 pandemic (Yanovskiy & Socol, 2022; Spiliopoulos, 2022). Bavli, Sutton, & Galea (2020) state that such lockdowns can produce significant harm to society – even fatalities from such an economic contraction, as well as negative effects on mental health, health issues due to delayed treatments, etc. Thus, by lifting restrictions on work, everybody would at least be better off due to the ineffectiveness and harmfulness of lockdowns.

But most importantly, Conclusion 1 is not supported by its Premises due to a couple of facts. Firstly, even though work was halted for many industries, they still had a working

contract and received pay (Ministru Kabinets, 2020b). Now, due to this policy change, people will, in fact, lose their jobs and their salaries. This argument only takes into account the self-actualising aspect of working, but completely disregards the fact that unvaccinated people will not be able to receive a working wage. Furthermore, the new policy also allows employers the right to fire employees who are not vaccinated (Saeima, 2020) – this point stands for industries that could work during lockdowns as well. Thus, the idea of the policy working as an easing mechanism rather than a restriction is factually flawed, and the whole argument, therefore, is unsound.

5.2.4 Achieving Herd Immunity Safely

When herd immunity is achieved within a society, it remains protected against the disease because the possible spread of it is limited due to most high immunization, thus making it a public good. Moreover, it protects people that cannot get vaccinated due to contraindications (Verweij, 2022). Each of those persons has gained their immunity from the disease in one of two ways – through vaccination or infection (also known as natural immunity). As mentioned previously, vaccination carries few risks with it, however, infection can lead to unforeseen outcomes (which is discussed in more detail in Section 5.3.11) such as severe disease at the time of infection and prolonged health issues after recovery. Additionally, a study by Cavanaugh et al. (2021) found that persons with natural immunity from COVID-19 were over two times more likely to get reinfected when compared to fully vaccinated persons' chances of infection.

Vaccination refusal can be seen as freeriding, as the benefits of herd immunity would be shared among all members of society (Verweij, 2022; van den Hoven, 2012), hence one could argue that in order to arrive at a just distribution of costs and benefits, as described by Verweij & Dawson (2004), vaccination mandates that cover a substantial amount of population (if not all) are justifiable. Giubilini (2019; 2021) and Giubilini, Douglas, and Savulescu (2018) argue that collective vaccination programs are justifiable on the grounds of fairness, as the costs of achieving said herd immunity should be distributed fairly. Giubilini et al. (2018) also argue that even if the marginal effect of each vaccination may be imperceivable, unvaccinated people are still morally obligated to add to the social benefit of herd immunity. In other words, imposing collective action may be justifiable due to collective benefit.

This argument was used rather often in the meetings of the Cabinet of Ministers. The reformulated argument is as follows:

Premise 1: Herd immunity protects a society from high infection and death rates (Desai & Majumder, 2020).
Premise 2: High vaccination uptake is one way of achieving herd immunity from COVID-19 (Mayo Clinic Staff, n.d.-a).
Premise 3: The other way - through natural immunity (getting sick) – is dangerous due to unpredictable outcomes (Mayo Clinic Staff, n.d.-a).
Conclusion: The government should impose vaccination mandates, as it is the only safe way to achieve herd immunity.

There is empirical evidence of waning vaccine effectiveness (Feikin et al., 2022; Ferdinands et al., 2022), thus Premise 2 can be questioned. Additionally, there is also empirical evidence from countries with high vaccination uptake (that should, in theory, have achieved herd immunity), like Israel, still experiencing high infection rates and outbreaks (Feng et al., 2022), although this can be interpreted as questioning Premise 1, this is more so an additional argument against Premise 2. According to Morens, Flokers, and Fauci (2022), the traditional idea of herd immunity might not apply to COVID-19 due to mutations and new variants, the lack of long-term immunity, and the occurrence of transmission without symptoms. If the premises were true, there is still the argument from Section 5.3.2, which questions whether such policies do increase vaccination uptake (although we do not find evidence for this), and deontological arguments, e.g. Section 5.3.3 that would insist that people should not be sacrificed for the greater good of society.

Additionally, Bradley and Navin (2021) insist that, as people who opt not to vaccinate generally don't do so with the intention of benefiting from herd immunity without contributing to it, but rather due to their lack of belief in the vaccines themselves; therefore going unvaccinated should not be treated as freeriding from herd immunity. While Verweij (2022) agrees that not vaccinating is a form of freeriding, the author also claims that it does not constitute unfairness as described by, for example, Giubilini (2019), because the people who experience the costs of vaccinating also enjoy the individual benefits of vaccinating. In other words, while herd immunity is a public good, it is not strictly a private good due to individual benefits.

While there may be ethical arguments for herd immunity, we conclude that there isn't sufficient evidence for the viability of achieving long-lasting herd immunity from vaccination in the case of COVID-19, thus, this argument is weak.

5.2.5 High-Risk Professions

COVID-19, as an infectious disease, is highly contagious (Slimību Profilakses un Kontroles Centrs [SPKC], 2022). People, who work in jobs that necessitate increased interactions with people in general (especially infected people, like in hospitals; especially indoors), are more exposed to the risk of infection (Hengel et al., 2022). A study done by Lu (2020) found that the most at-risk professions are typically in the healthcare, education, retail, social work, beauty care, and restaurant industries. This is reflected in the ensuing vaccination policies developed by the Latvian government – professions that reflect the aforementioned characteristics could only be filled by people with a vaccination certificate.

This argument has two sides to it – the paternalistic argument (people in these professions should vaccinate to protect themselves, as they are put under increased risk), and the right not to be harmed (people in these professions should vaccinate to protect the people they engage with). Regarding the latter, Section 5.2.1 provides an argument for the right not to be harmed, so additional repetition is not necessary, however, an additional point needs to be mentioned. This argument is especially strong for healthcare workers, and slightly weaker for other professions due to the fact that people, as clients of these services, can decide not to receive these services, thus, protecting themselves, with the clear exception of healthcare services. Latvian Prime Minister Krišjānis Kariņš made this point during a Cabinet of Ministers' meeting on April 8th, 2021 – "a person can choose to do or not do a lot of things - he can go outside the house, or not, but if a person happens to get sick, there [isn't] actually [a] choice to go to a medical institution. And that is perhaps one quite important difference here, which speaks of those contacts, forced contacts, contacts that the patient cannot avoid." (Ministru Kabinets, 2021a).

There are arguments to be made for the paternalistic aspect as well. People may not know what is best for them, so providing them with a nudge may be beneficial – this is the idea of libertarian paternalism (Dworkin, 2020). In our case, vaccination is not compulsory, as people still have a choice not to vaccinate (however disincentivised it may be). Another case can be made on consequentialist grounds, that if more good than harm is produced by coercing people, then that is morally good, as consequentialism only concerns itself with the results of

decisions, not how these decisions are made (LaFollette, 1997; Dworkin, 2020). Given the vaccine effectiveness discussed in 5.1.1, there is an empirical claim that vaccinating produces better outcomes for the individual (as well as for society). Thus, we arrive at our reformulated argument:

> **Premise 1:** There are professions (e.g. healthcare workers) that are more prone to become infected due to higher frequency of interactions with infected people (e.g. in hospitals), working in close proximity to other people indoors (e.g. hairdresser), and/or interacting with a high number of people for whom their health status is unknown (e.g. retail) (Hengel et al., 2022; Lu, 2020).
> **Premise 2:** Being unvaccinated increases the vulnerability of the people working in these professions (Johnson et al., 2023).
> **Premise 3:** Being unvaccinated exposes other people to more danger (Fisman et al., 2022).
> **Premise 4:** People working in high-risk professions should be protected.
> **Premise 5:** Clients of people working in high-risk professions should be protected.
> **Conclusion:** Vaccination mandates should be introduced for specific professions at a higher risk of infection.

We find that Premises 1, 2, and 3 are factual premises and all are true. Additionally, all people have the right to not be harmed (as we explore in Section 5.2.1), therefore we accept Premise 4 is weak due to it having strictly paternalistic grounds. The main challenge to paternalistic vaccination mandate policies is provided in Section 5.3.5. Although the Anti-paternalistic View argument itself isn't strong against all vaccination mandates, it provides very strong argumentation against paternalistic policies, as reflected in Premise 4. However, this argument still remains strong due to Premise 5 – the argument for why vaccination mandates should be implemented for high-risk professions is strong if justified by the harm done to clients/colleagues, but not the person himself. We conclude that the argument is strong with a clarification that Premise 4 is weak.

5.2.6 Critical Professions

This argument plays on a similar, but slightly different notion than the one in the previous section. Some professions provide services that are essential for society at large. These are

professions that cannot afford not to work, as the services they provide are either an irreplaceable part of our day-to-day lives, and/or the removal of these services would produce significant harm to society even in the short run. An example of the former aspect would be supermarket workers, as it would not be prudent to assume that people keep a large stock of food and other consumables at home to last a quarantine. As for the latter, think of critical services, such as firemen, policemen, healthcare workers, and so on. Examples of some essential professions/industries are provided by European Institute for Gender Equality (n.d.) and McNicholas & Poydock (2020).

As discussed previously (e.g. Section 5.2.1), being unvaccinated poses an additional risk for the people working in these professions (Hengel et al., 2022; Johnson et al., 2023; Lu, 2020). This can be treated as an extension of "The Right Not to Be Harmed" argument, but rather specified for essential workers, due to the harm to society generated from underprovision of essential services that would arise in case of an outbreak in these industries. Thus, these professions must be protected, but not necessarily for their own good (as was discussed in the previous section). Thus, we arrive at our reformulated argument:

> **Premise 1:** Some professions provide services that are essential for society at large, e.g. healthcare workers, supermarket cashiers, teachers, and others (European Institute for Gender Equality, n.d.; McNicholas & Poydock, 2020).
> **Premise 2:** Being unvaccinated poses an additional risk for the people working in these professions (Johnson et al., 2023).
> **Premise 3:** A high number of infections within these professions could cause severe consequences, e.g. a high number of infected healthcare workers could lead to many critical patients being untreated simply due to a staff shortage.
> **Conclusion:** Vaccination mandates should be introduced for professions providing essential services for society at large.

There may be some probability that introducing vaccination mandates in these industries would cause additional unemployment, which the industries are already struggling with. For example, the education system has been struggling with a shortage of teachers for multiple years already, with some school directors stating that some classes simply won't be taught to the students due to a shortage of teachers (Dēvica, 2021; Zvērs, 2022). The picture is similar in the healthcare industry, with all regional hospitals feeling the effects of a lack of a skilled workforce to some extent (Feldmanis, 2021c). Increased unemployment in these

industries would also affect their ability to continue providing the services needed by society. As we discuss in Section 5.3.6, it is possible to use less restrictive measures to protect these professions as well, but logically, if all less-restrictive options are exhausted and the infection trend does not improve, then mandatory vaccination does become the only feasible way of protecting these critical professions from shutting down. Additionally, it seems unlikely to us that a significant amount of people would truly be willing to lose their jobs instead of getting vaccinated (which we've explored further in Sections 5.1.2, 5.3.11, and 5.3.12), therefore the stress caused by a handful of people leaving their job in these critical industries would be incomparable to that of high infection rates within one given critical industry.

We accept all premises to be true, and we cannot refute them. The conclusion logically follows from the premises. Therefore, the argument is sound and strong.

5.2.7 Vaccine Safety

This argument was mainly used to refute other politicians' arguments about the lack of safety in COVID-19 vaccines (which we discuss in Section 5.3.7). However, most data shows that COVID-19 vaccines are safe, and adverse reactions are uncommon. More specifically, adverse reactions include thrombosis with thrombocytopenia syndrome (TTS for short), which causes large blood clots and a low platelet count in the blood, platelets being the blood cells that help form clots, Guillain-Barré Syndrome, which makes the "body's immune system damage nerve cells, causing muscle weakness and sometimes paralysis." (CDC, 2023b, para. 11), and myocarditis and pericarditis, which are both different types of inflammation in the heart. However, incidences of all of these complications are 5 or fewer cases per one million doses administered (CDC, 2023b). It is worth mentioning that many individuals experience some form of reaction soon after receiving the vaccine, yet this is a normal immune response and these symptoms (fever, headache, pain or swelling at the injection site, fatigue) relieve after a few days (CDC, 2022c). Given the rarity of serious health complications caused by vaccination, and the various risks associated with contracting COVID-19 (described in more detail in Section 5.3.11), as well as the high rate of hospitalisations and death in Latvia related to COVID-19 infection, which, if we transform it to be more comparable to the data on vaccination, would be 2,300 hospitalisations per one million inhabitants and 281 deaths per one million inhabitants (SPKC, 2022), one can say that on average it is safer for an individual to vaccinate than get infected. Thus, we arrive at our reformulated argument:

Premise 1: There is a lack of evidence about the prevalence of health risks and severe side effects that vaccines may produce (CDC, 2023b).

Premise 2: On the other hand, science shows that contracting COVID-19 may produce severe health risks (CDC, 2022b; Miller, 2023; O'Mahoney et al., 2023).

Premise 3: Contracting COVID-19 produces more fatalities and severe symptoms than vaccination (CDC, 2023b; SPKC, 2022).

Conclusion 1: The probability of contracting COVID-19 and experiencing severe symptoms/death is significantly larger than the probability of experiencing severe symptoms/death after vaccination.

Conclusion 2: Vaccination mandates should be introduced.

We are unable to refute Premise 1 due to the findings described above. It is true that severe health risks associated with COVID-19 vaccination are extremely rare, thus we accept this premise to be true. The same goes for Premises 2 and 3, we also accept them as being true. Thus, we can accept Conclusion 1, since it follows logically from the three premises.

However, Conclusion 2 is more complicated. Verweij and Dawson (2004) outline seven principles of collective vaccination programs, the second one describing how vaccines should be held to high standards of safety because they are being administered to "healthy individuals as a measure to prevent possible future harm" (p. 3123). The basis for this is that it would be unlikely for a healthy individual to become seriously ill from the disease that the government is trying to immunize its population from. Therefore, the burden of justifying vaccine mandates is higher. However, as we describe under Section 5.3.10, even healthy individuals are at risk of severe complications after infection with COVID-19 (Cunningham et al., 2020; Office for National Statistics, 2023). The question is where does the right to individual autonomy take precedence (Section 5.3.3) over the expected utility (comparable safety) of vaccinating versus not vaccinating. What is more, since this argument argues purely from a paternalistic standpoint – that vaccination mandates ought to be introduced in order to protect the person to be vaccinated, a strong counterargument is provided in Section 5.3.5 Anti-paternalistic View, which does not admit that the government can mandate vaccination for autonomous adults with only a paternalistic justification. Thus, we conclude that this argument is weak, although sound.

5.2.8 Necessity for Reciprocal Policies

The Latvian government, more specifically, the Ministry of Health had recommended getting vaccinated quite some time before the mandatory vaccination policy took place (e.g. Veselības ministrija, 2021a; Veselības ministrija, 2021b). A portion of society did indeed get vaccinated already in the summer of 2021 when vaccines had become available for everybody that wanted to get one (Anstrate, 2021a). Whether or not they did it because of the government's specific recommendation or out of their own desire, it is impossible to know, however, we can say that they at least acted per what the government had recommended them to do – they were compliant.

Rewarding good behaviour – being reciprocal – may be beneficial in generating necessary outcomes, as "a sizeable proportion of economic actors act on considerations of reciprocity" (Fehr & Gächter, 2000, p. 178). Given this, one could argue that compliance ought to be rewarded in order to generate more compliance – it could prove valuable in having a society that follows government regulations, especially during a pandemic. In our case, the reward – the reciprocal mechanism – is allowing people to go to work, as many people were not able to go to work due to restricted industries (see Section 5.2.3). Thus, we arrive at our reformulated argument:

> **Premise 1:** Some part of the population obediently follows the government's regulations and suggestions for stopping the pandemic by getting vaccinated.
> **Premise 2:** Reciprocal policies can be useful in promoting compliance with government regulations.
> **Premise 3:** Vaccination mandates will benefit vaccinated people, as they will be able to return to work.
> **Conclusion:** Vaccination mandates should be introduced as a reciprocal mechanism towards the people that follow the government's recommendations.

From the consequentialist perspective, this could in fact lead to decreased compliance from unvaccinated people (see Section 5.3.2).

From the deontological perspective, the right to individual freedoms and autonomy would have to be prioritised over reciprocal relationships. It is expressed in Kantian theory, which expresses the necessity to not treat people as a means to an end (LaFollette, 1997). In this government-person relationship, the government is taking away some people's freedom

in order to be reciprocal towards a different group of people. This is unjustifiable and goes against the principle of not doing harm (LaFollette, 1997).

Moreover, expressing this viewpoint diminishes and damages the reason why people should vaccinate in the first place – to protect themselves and others. Arguably, this builds a perverse notion that the reason people should vaccinate is to benefit from governmental policy. This claim damages the way people look at vaccination, as was expressed by some Saeima members, e.g. R. Petraviča – "Vaccination must be purely voluntary. And it must not be turned into a bribery campaign by offering gifts, or money, or by implementing any threat campaigns. First, it is unethical. It's like setting a rich table and expecting a vegetarian to grab a piece of meat just because it looks tempting or because it's free." (Petraviča, 2021) We conclude that this argument is weak due to strong deontological counterarguments.

5.3 Arguments against vaccination mandates

In the following sections, we introduce our reformulated arguments against vaccine mandates, which are evaluated exactly the same way as in Sections 5.1 and 5.2. We evaluate 13 specific argument groups against mandatory vaccination, which came from 567 unique arguments that we had collected.

5.3.1 Wrongful Discrimination

As discussed throughout this paper, vaccination mandates prohibit unvaccinated people from participating in activities that were available to them in a non-pandemic context, while allowing those same activities to vaccinated people. In our case, we are specifically interested in mandates that may prohibit an individual from working due to a lack of vaccination.

For this argument, the same framework by King & Ferraz (2021) can be used, as described in Section 5.1.3, to argue that the discriminatory freedom-reducing policies developed for unvaccinated people did not possess a legitimate reason for such discrimination. Similarly to Section 5.1.3, this argument will encompass different arguments used throughout this paper to build a case for the lack of legitimate reason, and so the strength of this argument will also depend on the evaluation of the individual arguments supporting it.

One could argue against the notion that there is a legitimate reason on three grounds – the second, third, and fourth tests described by King & Ferraz (2021), as described in Section 5.1.3. First, the aim – stop unvaccinated people from harming others and themselves. One

could argue that unvaccinated people predominantly harm themselves and other unvaccinated people, making it a paternalistic policy instead. Section 5.3.5 expands on this logic and argues against such policies.

Second, arguments that are described in Sections 5.3.2, 5.3.4, and 5.3.12 question whether vaccination mandates are the tool to use in limiting harm, as vaccination mandates generate distrust that will lead to limited vaccination uptake increase and lack of compliance, and even if vaccination uptake were to increase, vaccines are ineffective at protecting people from COVID-19.

Finally, the test of proportionality. One could argue that the penalty put on unvaccinated people outweighs the benefit of increased vaccination uptake and limiting social interactions between unvaccinated people. The reasoning for such an argument is presented in numerous sections – Section 5.3.3 argues that the right to choose is both an intrinsic and democratic value; Section 5.3.6 points out that other less restrictive options could be used instead, and potentially grant a more justifiable proportionality between the restrictiveness and the benefit of a policy; Section 5.3.7 shows that there is a higher burden of justification for such policies, as vaccines have a level of unsafety to them; Section 5.3.8 argues that this policy undermines politicians' duties of consistency and responsibility; Section 5.3.10 points out that, arguably, is unjust in its distribution of burdens and benefits; and Section 5.3.12 argues from a consequentialist standpoint that the costs of increasing unemployment would make this policy more harmful than beneficial.

Thus, we finally arrive at our reformulated argument:

Premise 1: Vaccination mandates prohibit unvaccinated people from participating in activities that were available to them in a non-pandemic context while allowing those same activities to vaccinated people.
Premise 2: Doing so without a legitimate reason is wrongfully discriminatory.
Premise 3: The COVID-19 pandemic does not constitute a legitimate reason to discriminate against unvaccinated people.
Conclusion: Vaccination mandates wrongfully discriminate against people who decide not to vaccinate.

Once again, as this argument pivots around the idea of legitimate/illegitimate reason to discriminate (and infringe on freedoms), the counterargument is trying to prove that there, in fact, is a legitimate reason to discriminate. Section 5.1.3 provides a thorough argument for

this. Thus, the main argument hinges on whether Premise 3 is true or not, which itself is up to ethical debate. Thus, we conclude that this is a strong argument (with a strong counterargument as well).

5.3.2 Social Capital

As discussed throughout this paper, regardless of whether this discrimination is just or unjust (Section 5.1.3 versus Section 5.3.1), vaccination mandates discriminate against unvaccinated people by restricting their freedom.

From a consequentialist basis, an argument can be made that such discriminatory vaccination mandates will generate more harm than good, and thus should not be implemented. For this argument, we need to define social capital. We use the definition provided by Encyclopaedia Britannica writer Margarita Poteyeva – "Social capital revolves around three dimensions: interconnected networks of relationships between individuals and groups (social ties or social participation), levels of trust that characterize these ties, and resources or benefits that are both gained and transferred by virtue of social ties and social participation." (Poteyeva, 2018). Bardosh et al. (2022) provide a framework that outlines the harm that these policies might cause, like the generation of distrust in the government, increased inequality, and others. The authors state that "these policies are likely to entrench distrust and provoke reactance—a motivation to counter an unreasonable threat to one's freedom." (p.3). In this specific argument, the damage would be done to the social capital (trust aspect) of Latvia, which is already quite low (OECD, n.d.).

There are many negative externalities produced by low social capital, such as lower compliance with the law and higher economic insecurity (United Nations [UN], 2021). Additionally, this may result in a negative effect on vaccination uptake due to diminished compliance, which also plays out in individuals not partaking in activities that limit the spread of the infection (Sprengholz, Betsch, & Böhm, 2021; Sprengholz et al., 2022). This is a key takeaway, as an increase in vaccination uptake is one of the key results that this policy wishes to achieve. Porat et al. (2021) find that the introduction of vaccination passports (vaccination mandates) could impair the people's willingness to comply with the government's recommendations to vaccinate. Thus, we arrive at our reformulated argument:

> **Premise 1:** Vaccination mandates enforce different rules for the unvaccinated and vaccinated populations.

Premise 2: Vaccination mandates may negatively impact the social capital by creating a sense of division among the population that will result in lower trust in the government, and less compliance with regulations (Bardosh et al., 2022; UN, 2021).
Premise 3: The social capital in Latvia is already quite low (OECD, n.d.).
Conclusion 1: Vaccination mandates may fail to increase vaccination uptake (i.e. more people will resist instead of getting vaccinated due to low social capital).
Conclusion 2: This may result in the negative side effects on social capital being larger than the positive gains from the vaccination mandates due to large negative externalities and reduced vaccination uptake.
Conclusion 3: Vaccination mandates should not be introduced.

In this argument, Premises 1, 2 & 3 may be accepted, but Conclusion 1 still might fail to be accepted. In fact, there is some empirical evidence to the contrary of Conclusion 1. As we examined in Sections 5.1.2 and will in Section 5.3.12 when vaccination mandates for work were introduced, one could have expected that unemployment levels will go up, yet instead they increased, which we've used as a proxy for people's willingness to vaccinate under mandatory vaccination. Given the limited effect of avoiding vaccination, the other negative effect that needs to be evaluated is the damage done to the social capital in Latvia. Arguably, healthcare takes precedence over social capital, especially during pandemics like COVID-19. Thus, the potential damage to be done to social capital has arguably a more limited downside than what can be done onto healthcare.

The overall argument is a consequentialist one – the weighing of the benefits from a high vaccination uptake (which is challenged, but not strongly) with the downside of low social capital. With limited evidence for net negative effects on society, we conclude that this argument is weak.

5.3.3 Free Choice/Personal Autonomy

Politicians would also use the argument that one of the human rights that is protected by democracy is freedom of thought (UN, n.d.; UN, 1948). Although many arguments for vaccination mandates (see Section 5.2.4, for example) arise from the notion of social responsibility and benefits to society that arise from high vaccination uptake, a conflicting thought is that people have intrinsic rights that must be protected, i.e. people shouldn't be treated simply as parts of society, but also as individuals. Moreover, it is important to respect

individual autonomy and the right to choose (Verweij & Dawson, 2004). This is a deontological thought, as defined by LaFollette (1997) (definition of deontology) – "it denies that the rightness of an act depends solely on the amount of good produced" (p. 39). Moreover, vaccination mandates go against Kantian deontological perspectives – "Now I say that the human being and in general every rational being exists as an end in itself, not merely as a means to be used by this or that will at its discretion; instead he must in all his actions, whether directed to himself or also to other rational beings, always be regarded at the same time as an end" (Kant, 1998, p.37), as the act of forcing people to vaccinate would treat individuals as means toward a common end.

Although individuals still have the "right to choose", as our topic is mandatory, not compulsory vaccination, this right is at the very least severely impaired if not completely undermined due to the design of work mandates. Working is a significant aspect of people's lives, not only as a right of self-actualisation but more importantly, a way of covering physiological and safety needs, which are the primary needs that drive human motivation (Maslow, 1954). We argue that a threat to primary needs can be treated as a strong form of coercion.

One can argue that vaccination mandates undermine people's right to choose, and treat people as a means to an end, and, thus, are unethical (at least under Kantian deontological thought) and anti-democratic. With this, we arrive at our reformulated argument:

Premise 1: In democratic states, people have the freedom of thought (UN, n.d.; UN, 1948).

Premise 2: In addition, they have the right to make free decisions on what medical procedures to undertake (Abraham & Abraham, 2021; Saeima, 2009).

Premise 3: Undermining this right to choose (e.g. by using coercion) is immoral and unethical (Kant, 1998).

Premise 4: Vaccination mandates that prohibit working unless you are vaccinated can be perceived as coercion affecting the people's right to choose.

Conclusion 1: Vaccination mandates undermine people's right to choose.

Conclusion 2: Vaccination mandates are anti-democratic, immoral, and unethical.

The obvious challenge to this deontological claim is another deontological claim of the right not to be harmed by others (Section 5.2.1). Similarly, rules that prohibit drunk driving

reduce autonomy, but they also protect people from harm (both the drunk driver and other people engaging in traffic). This is a good example because it captures both the right not to be harmed by others and the value of paternalistic policies.

Although not a perfect alternative, Premise 4 can be addressed by saying that at least some people could transfer to other workplaces/professions that would allow them to work while unvaccinated, not affecting people's right to choose. However, we accept that in cases where a person has studied for years to become a doctor, this is a very weak counterargument.

As for the anti-democratic argument, there are numerous other coercive measures that democratic states use, e.g. compulsory education, seatbelt, and helmet laws, the aforementioned drunk driving laws, etc. Therefore, the claim that vaccination mandates are anti-democratic appears weak.

The interplay between the deontological arguments in this Section and Section 5.2.3 are subject to ethical debates. We conclude that this argument is strong (with some weak elements – anti-democratic argument), with a strong counterargument as well.

5.3.4 Vaccine Ineffectiveness

It was argued by politicians that introducing vaccination mandates that allow vaccinated people to live life close to the way they did before the pandemic will instil a false sense of security in the sense that they will believe they are safe and cannot become infected when that is not necessarily the case. A study published in March 2022 found significant decreases in the vaccine's protection against infection with COVID-19 after 6 months of vaccination, with a slight decline in protection against severe disease, also after 6 months (Feikin et al., 2022). A more recent study from October 2022 has found that COVID-19 vaccine effectiveness against critical disease begins to wane after approximately four months (both after receiving two and three doses), indicating that the effectiveness is rather short-lived (Ferdinands et al., 2022). Additionally, it was found that the vaccines were less effective against the newer COVID-19 variant – Omicron (Andrews et al., 2022). An even more recent study from March 2023 presents similar findings – vaccine effectiveness (after receiving two doses and a booster) against critical cases of infection significantly declines four months after receiving the booster vaccine (ECDC, 2023). Additionally, even COVID-19 vaccination is unable to protect every single individual from COVID-19-related death, with data from

February 2022 showing that 40% of COVID-19-related adult deaths in the U.S. were of vaccinated persons (Amin et al., 2022).

This was a particularly popular argument among the politicians who were opposed to mandatory vaccination. Our reformulation of their arguments is as follows:

Premise 1: Vaccination mandates will give vaccinated people a sense of security, as they will interact more with other people.
Premise 2: COVID-19 vaccination does not guarantee that the person cannot get infected or experience severe symptoms or fatal consequences (Amin et al., 2022; ECDC, 2023; Feikin et al., 2022; Ferdinands et al., 2022).
Premise 3: COVID-19 vaccines are less effective against the newer COVID-19 variants (Andrews et al., 2022).
Premise 4: Countries with high COVID-19 vaccination uptake still experience breakthrough COVID-19 infections (Feng et al., 2022).
Conclusion 1: COVID-19 vaccines are not effective at protecting people from infection and severe symptoms.
Conclusion 2: Vaccination mandates will give vaccinated people an unjustified sense of security.
Conclusion 3: Vaccination mandates do not serve the purpose of protecting people.

We accept Premises 2, 3, and 4 as being true due to the findings mentioned above. However, we cannot accept Conclusion 1. Despite COVID-19 vaccination showing decreased effectiveness against newer variants, this is in comparison with their effectiveness against the original variant, so it is not accurate to believe that they are completely ineffective against new mutations. Studies show that the vaccines do protect against infection with the newer variants when taken in comparison with unvaccinated individuals (Link-Gelles et al., 2023). Conclusion 2 seems sound to us since it is reasonable to assume that people will feel unfoundedly safe when restarting their social lives upon the introduction of vaccination mandates, while the risk of becoming infected still exists. Conclusion 3, however, we cannot accept. As we mentioned in Section 5.1.1, what actually poses a higher infection risk to vaccinated people is not increased interaction with other vaccinated people, but rather interaction with unvaccinated persons, who themselves have a higher risk of becoming infected and also transmitting the disease (Fisman et al., 2022). Therefore, mandatory vaccination would indeed serve the purpose of protecting people.

We find this argument to be unsound due to Conclusion 1 not arriving logically from the premises. The premises are focused on the flaws of current vaccines, but those flaws do not render the vaccines ineffective (as was stated in Section 5.1.1).

5.3.5 Anti-Paternalistic View

Vaccines are generally effective at protecting people from infection, severe symptoms, hospitalisations, and death (Section 5.1.1). Given this knowledge, it is fair to assume that unvaccinated people expose mostly themselves and other unvaccinated people (who have made the same decision not to vaccinate) to harm by not vaccinating. If the effects on the vaccinated people were substantial, this would call into question the vaccine effectiveness, and, by extension, the rationale for vaccination mandates. Therefore, this is (at least to some extent) a paternalistic policy and the question of whether a paternalistic policy is justified in this scenario arises.

Some people hold autonomy, in and by itself, as a value (Dworkin, 1976). Take Mill's (1859) statement as an example of this thought – "If a person possesses any tolerable amount of common sense and experience, his own mode of laying out his existence is the best, not because it is the best in itself, but because it is his own mode." (p. 121) Since autonomy can be held as a separate value, this potentially compromises the consequentialist argument for paternalistic vaccination mandates, especially when paired with questions about potential vaccine ineffectiveness (Section 5.3.4), limited benefit to healthy people (Section 5.3.10), and the damage done to the social capital (Section 5.3.2). From the deontological perspective, Kantian views also oppose paternalism, as it treats them as "means to their own good, rather than as ends in itself" (Dworkin, 2020). Skelton & Forsberg (2020) point out that although paternalistic policies could be acceptable for children, as they lack the capacity to make decisions, for independent adults such policies are generally unacceptable. Considering this, one could argue that a paternalistic policy is not justified in this scenario, and so we arrive at our reformulated argument:

> **Premise 1:** COVID-19 vaccines protect vaccinated people from infection and severe symptoms (Chen et al., 2022; Christie et al., 2021; Scobie et al., 2021; and others).
> **Premise 2:** Unvaccinated people only expose themselves and other unvaccinated people (who have also made the decision not to vaccinate) to harm.

Premise 3: People should have the right to make choices, even if those choices put them in harm's way (anti-paternalistic view).

Conclusion 1: Since vaccinated people are protected, unvaccinated people do not pose material harm to them.

Conclusion 2: Unvaccinated people should have the right to not vaccinate.

Conclusion 3: Vaccination mandates should not be imposed.

The main issue with this argument comes from the assumption that is outlined in Premise 2, which would essentially make this policy into a purely paternalistic one. However, this assumption is weak, as unvaccinated people do cause harm to vaccinated people as well. Firstly, a study has shown that vaccinated people have a higher chance of getting infected if the population has an increased mixing of unvaccinated and vaccinated people. This effect is said to be "disproportionate to the fraction of unvaccinated people in the population" (Fisman, Amoako, & Tuite, 2022, p. 579). Another indirect effect comes from the fact that unvaccinated people are more exposed to more serious symptoms from COVID-19 (Section 5.1.1), and so they would take up more resources in hospitals due to hospitalisations (Apollo.lv, 2021), and if they provide essential services to society, these services (and society) are exposed to harm (Section 5.2.6). Moreover, some people are unable to vaccinate due to medical contraindications (SPKC et al., 2022), and must remain unvaccinated, but not by choice. Unvaccinated people who do not vaccinate by choice impose harm on these people as well.

Although this argument provides logic for why vaccination mandates should not be accepted on paternalistic grounds, the policy itself is not just paternalistic – there is harm imposed on vaccinated people as well.

5.3.6 Less Restrictive Options

Politicians whose stance was against mandatory vaccination would often argue that less restrictive measures can be used for decreasing the spread of COVID-19 and overcoming the pandemic. Namely, they believed that testing more people more often would increase the transparency of the disease spread which would allow to keep things under control and then put the infected persons into self-isolation until they recover to prevent further spread or quarantine those who may have been exposed (CDC, n.d.-b; Philippe et al., 2023). Additionally, they thought that epidemiological safety measures, such as wearing masks in

public and keeping a two-meter distance in public places would help prevent the spread in case someone was infected but didn't know it yet (Mayo Clinic Staff, n.d.-b; Talic et al., 2021). These measures are considerably less restrictive in nature than mandatory vaccination. As we discussed beforehand, the PLRA should be applied by policymakers when thinking about vaccination, and if there exists an opportunity to use less intrusive measures for incentivizing vaccination (such as nudging or incentives) and still the pandemic can be maintained with the help of less intrusive measures like quarantine, isolation, masks, etc., then that should be the first option (Giubilini, 2019). Additionally, Verweij and Dawson (2004) argue that one significant pillar of collective vaccination programmes should be that the burden-to-benefits ratio for vaccination should be more favorable than the same ratio for other options. It may well be reasonable to imagine that in the case of the COVID-19 pandemic, the burdens of vaccination could outweigh the benefits, as we discuss in other sections, since the vaccines are new, and their 'benefits' are not entirely known at the beginning at least, and as it does turn out, their effectiveness is waning and does not provide long-lasting immunity (ECDC, 2023; Feikin et al., 2022; Ferdinands et al., 2022). Whereas other options described here are less intrusive and effective to some extent. Overall, it seems that there are measures other than mandatory vaccination that can be taken to prevent the spread of COVID-19, which are also less restrictive. Less restrictive options may not lead to such negative effects on political trust as described in Section 5.3.2. Dubov & Phung (2015) point out that potentially a better solution is using nudges rather than more coercive measures in achieving higher vaccination uptake. With this, we arrive at our reformulated argument:

Premise 1: Increased testing can be used as an effective safety measure (Philippe et al., 2023).

Premise 2: Isolating infected people can be used as an effective safety measure (CDC, n.d.-b).

Premise 3: Epidemiological safety measures (wearing masks, keeping distance, ventilating rooms, disinfection, screening) can be used as effective safety measures (Mayo Clinic Staff, n.d.-b; Talic et al., 2021).

Premise 4: The aforementioned tools aren't as strict in nature and quality-of-life diminishing as vaccination mandates.

Premise 5: In general, policymakers should apply the Principle of Least Restrictive Alternative (Giubilini, 2019).

Conclusion 1: There are other less strict, but effective alternatives to mandatory vaccination.

Conclusion 2: Such measures need to be implemented instead of vaccination mandates.

However, the Latvian government had already implemented less restrictive measures before starting to consider mandatory vaccination, thus they had applied the PLRA and were not violating it. For context, face masks, distancing, isolation, and quarantine were all introduced in 2020 (Veselības ministrija, 2022; SPKC, 2023). Unfortunately, all of the measures were not sufficient for controlling the spread of COVID-19, so, if we imagine that the government was following something similar to Giubilini's (2019) intervention ladder, the obvious next step was to introduce mandatory vaccination. Applying the PLRA in the context of herd immunity means pursuing the least restrictive policy with the constraint that it has to be effective in achieving herd immunity (Giubilini, 2021). Therefore, while Premises 1, 2, 3, 4, and 5 are true, and so is Conclusion 1, we cannot accept Conclusion 2 as being strong since the less restrictive measures had already been implemented. Thus, we conclude that this argument is weak.

5.3.7 Vaccine Safety

At the time, there wasn't as much evidence on the possible long-term effects of COVID-19 vaccination, yet this argument was still used. Now it is known that the J&J/Janssen vaccine can sometimes cause thrombosis with thrombocytopenia syndrome (TTS), as well as Guillain-Barré Syndrome; mRNA COVID-19 vaccines, however, can sometimes cause myocarditis and pericarditis (the specific nature of these health issues is described in more detail in Section 5.2.7).

However, at the time a different twist was used to persuade others about the lack of vaccine safety – the fact that they had been developed quickly and hadn't finished all phases of testing. Typically, a vaccine requires 10-15 years of laboratory research, followed by testing in animals, and only then it proceeds to clinical trials, which have four phases. The first phase is testing the safety of the vaccine in people, i.e. side effects and whether it produces immunity, within a small group of up to 100 people, the second tests on more people, up to 300, and they are typically with a certain set of characteristics (such as age and physical health), the third phase includes up to 3,000 people to confirm the efficacy of the

vaccine and determine any additional side effects, as well as support the basis that the vaccine is safe. After phase 3, the vaccine typically receives approval (from FDA in the U.S. and EMA in Europe), which then allows phase 4 to begin, where the vaccine's efficacy and safety are monitored over a prolonged period on larger populations (CDC, n.d.-a). Thus, multiple people (including politicians) felt stressed due to seeing a COVID-19 vaccine rolled out to the market only a year after the first case of infection was discovered while holding the knowledge of the typical time it takes to create a vaccine. This argument was then extended to a lack of knowledge by the researchers creating this vaccine in terms of what are the longer-term side effects. Additionally, they argued that despite all vaccines (besides the COVID-19 vaccine) available to the public being safe for use, they can still sometimes result in unforeseen and serious side effects (The College of Physicians of Philadelphia, n.d.).

In Europe, COVID-19 vaccines received what is known as conditional marketing authorisation. Essentially, this means that the European Medicines Agency [EMA] approved the vaccines for usage while they were able to provide less data than is typically required (as well as non-clinical data, which typically wouldn't be accepted). This authorisation was valid for one year for all COVID-19 vaccines (EMA, n.d.-a; EMA, n.d.-b). On this account, arguments from politicians at times included mention of the Nuremberg Code, especially the first point, which is about a human subject in a medical experiment absolutely having to voluntarily consent to what is being done (Nuremberg Code, n.d.). The COVID-19 vaccines with conditional marketing authorisation were thus compared to medical experiments, and it was said that mandatory vaccination violates the Nuremberg code's first point. With this, we arrive at our reformulated argument:

Premise 1: There seems to still be a lot of uncertainty about potential COVID-19 vaccine side effects, especially in the long term.

Premise 2: However rare it may be, vaccination can result in potentially severe side effects (CDC, 2023b).

Premise 3: Medical manipulations with increased risk or uncertainty should be treated with more caution.

Conclusion 1: Forcing people to risk their health through mandatory vaccination is immoral and unethical.

Conclusion 2: Vaccination mandates are immoral and unethical.

The common belief behind this argument was that COVID-19 vaccines took a year to develop when that in fact was not the case. A detailed description of the COVID-19 vaccine development process can be found in section 2.1.3, but in short, the quick speed of development can be attributed to information sharing and cooperation between researchers and manufacturers, as well as due to the fact that COVID-19 belongs to a group of viruses which have been continuously researched for more than 50 years now, meaning that scientists had a decent set of information on these types of viruses (Solis-Moreira, 2021). Moreover, most would agree that COVID-19 vaccines and mandatory policies for them do not violate the Nuremberg code, as the vaccines are not experimental and have been since authorised in the EU, more specifically, the Moderna vaccine was authorised on October 3, 2022; Pfizer on October 10, 2022; Janssen on January 10, 2023, thus refuting this belief (EMA, n.d.-c; Najera, 2021; Sween, Ekeoduru, Mann, 2022).

Additionally, though the COVID-19 vaccines may indeed cause some longer-term health issues, the chance of that happening is extremely rare. More specifically, the incidence of TTS is 4 cases per one million administered doses, for Guillain-Barré Syndrome it is less than 2 cases per one million doses, and for myocarditis and pericarditis, it is approximately 5 cases per one million doses (though the rate is higher for young men, among the age group 12-24 the incidence was on average 71 cases per one million doses administered, but this is still an extremely low rate). (Abara et al., 2023; CDC, 2023b; Oster et al., 2022)

Premise 2 cannot be refuted, since COVID-19 vaccines just like almost any other vaccine carry with them some risk of both short- and long-term side effects. Similarly, Premise 3 cannot be refuted, as it is true that higher-risk and higher-uncertainty medical procedures need to be treated with caution, especially by medical practitioners.

Other people's right not to be harmed (Section 5.2.1) compromises this argument as well. Overall, we find this argument to be strong, but with strong counterarguments as well.

5.3.8 Government Failure

The Cabinet of Ministers made it known in their regulations in December 2020 that mandatory vaccination will not take place, and unvaccinated people will not undergo any exclusive restrictions (Ministru Kabinets, 2021c). This is not in line with the topic of this paper – vaccination mandates that place additional restrictions on unvaccinated people.

By introducing vaccination mandates, Cabinet of Ministers' politicians would be breaking their promise. Breaking promises by politicians is one vector that will lead to

political distrust (Bertsou, 2019). As we discussed in Section 2.1.2, the level of trust in the government is incredibly low in Latvia, even pre-pandemic (OECD, n.d.), and low political trust is associated with lower vaccine acceptance (Lazarus et al., 2020; Lee et al., 2016; Trent et al., 2022). The study by Bertsou (2019) also finds that low levels of trust in the government are related to lower compliance with the law, which is problematic in a pandemic situation.

Additionally, the Minister of Health at the time, Daniels Pavļuts, created a Vaccination Office in January of 2021, which was a separate structure under the Ministry of Health intended for the management and planning of vaccination against COVID-19 in Latvia (Sondare, 2021). The office had little success in achieving its goals (which were increasing vaccination uptake and reaching herd immunity) but rather ran into a plethora of issues – the ability to sign up for vaccination via a phone call was nearly impossible, questionable spending fell into the eyes of the public, as well as problems with the vaccine supply chain and incapability to get vaccines delivered on time (Anstrate, 2021b; Feldmanis, 2021a; Zvirbulis, 2021). Much of Latvian society perceived the office to be a cover-up for the government's past and possible future mistakes, as it would give the people an easy target to identify and attack when something (such as mandatory vaccination) happening in the country seems inappropriate to them. Though the specifics of the Vaccination Office's operational choices are not known, many were angered by the large sums of money spent on different things that were meant to increase vaccination uptake but subsequently failed to achieve that, as well as the sky-high salaries intended for the people working in the structure. One example of such spending was for the creation of an informative newspaper, called the "Vaccination Newspaper" meant to increase society's knowledgeability about COVID-19 vaccination so that more people would get vaccinated, but many saw the sums spent for this purpose as inexplicably high, accusing the Minister of Health of misspending government funds (Feldmanis, 2021a). The negative opinions of Latvian society resulted in a restructuring of the office and becoming instead a structure under the National Health Service (Feldmanis, 2021b).

One can imagine that the actions taken by the Vaccination Office damaged society's trust in the government even further, which may have potentially been one of the factors influencing low vaccination uptake in Latvia. Since the government was responsible for decreasing public trust, and, in turn, reducing their willingness to vaccinate, they should not be placing the burden to fix the consequences of their mistakes onto the people by forcing them to vaccinate so that they can be able to continue working and making a living, or

otherwise punishing them by not allowing them to work if they don't vaccinate. With this we've come to our reformulated argument:

Premise 1: The Cabinet politicians made promises that COVID-19 vaccination will not be mandatory (Ministru Kabinets, 2021c).

Premise 2: Politicians should not break their promises, as breaking promises leads to political distrust (Bertsou, E., 2019).

Premise 3: The Cabinet failed its original COVID-19 vaccination campaign (Feldmanis, 2021b).

Premise 4: Politicians should take responsibility for their failures.

Conclusion 1: The Cabinet politicians responsible for COVID-19 vaccination mandates are not consistent with their promises.

Conclusion 2: The Cabinet politicians are not taking responsibility for their failed COVID-19 vaccination campaign.

Conclusion 3: COVID-19 vaccination mandates should not be implemented.

Premise 1 is a factual premise, and it is true as we described above. As for Premise 2, it can be argued from a consequentialist perspective that since trust in the government was already low beforehand, breaking the promise of not introducing mandatory vaccination for COVID-19 could be acceptable since the benefits of such a policy (increased vaccination uptake, see Section 5.1.2) would outweigh the further damage done to political trust (similar counterargument in for Section 5.3.2). Moreover, it can also easily be argued that politicians are taking on responsibility for their failures by implementing policies that, to their mind, would benefit society the most – in this case, vaccination mandates (at least from their perspective). Not doing anything could instead be interpreted as an admission of failure and giving up (rejection of responsibility to fix the situation). In this case, since the failures of the Vaccination Office are already sunk costs, it would not make sense to integrate these failures into further analysis. We conclude that this argument is weak (with potentially unfounded Conclusion 2).

5.3.9 Slippery Slope

Wilkenfield & Johnson (2022) present an idea that COVID-19 vaccination mandates might give grounds for a slippery slope argument. The authors state that passing such a mandate –

even if it is justified – could lead to further policies that would not be justified. While the authors point out that the right response is "a mechanism in place that pulls the brakes right at the juncture between the justified and the unjustified. The way to prevent unjustified behaviour is not to ban justified behaviour, but rather to be vigilant regarding when one might cross the relevant boundary" (Wilkenfield & Johnson, 2022, p. 32), it is not clear whether such a mechanism is in place. Some Western countries like Germany and Austria had implemented mandatory vaccination for all (Mumcuoglu et al., 2021), so it is not so clear, whether Latvian politicians would stop at this measure. The same logic can be derived from the opposition used for the argument in Section 5.3.6 – in short, less restrictive measures were tried and were subsequently traded for more restrictive measures. Logically, if this policy does not generate the needed results, the next step would be to implement an even more stringent vaccination mandate.

The main issue with this is that the arguments used for why vaccination mandates for work are unjustifiable (see all sections in 5.3) would be even stronger for a more restrictive policy like mandatory vaccination for all. This new policy would have to pass an even more demanding burden of proof to be morally right. As the topic of discussion in this thesis is vaccination mandates for work, we cannot say whether such a burden of proof would be passed – but what we can assume is that, overall, the arguments in Section 5.2 would be weaker than it is now, and, overall, the arguments in Section 5.3 – stronger than it is now. Since the arguments in Section 5.3 argue that vaccination mandates for work are unethical, for this argument we can also argue that, logically, vaccination mandates for work are also unethical. Thus, we arrive at our reformulated argument:

Premise 1: Vaccination mandates in a few sectors present the risk of initiating a slippery slope that will lead to vaccination mandates in all employment sectors.
Premise 2: In turn, vaccination mandates in all employment sectors will ultimately lead to mandatory vaccination for all parts of society (i.e. outside of the employed population).
Premise 3: People have the right to choose and decline the medical manipulations they receive.
Conclusion 1: Vaccination mandates will lead to mandatory vaccination for all.
Conclusion 2: Mandatory vaccination for all is immoral and unethical.
Conclusion 3: Vaccination mandates should not be passed.

The slippery slope argument is a common fallacy that may be true at times but needs to be proven (see Glossary for definition). The proof entails showing why the movement from vaccination mandates for work as they were implemented in Latvia would necessarily lead to vaccination mandates for all employed people, why the movement to such a policy necessitates a movement to mandatory vaccination for all, and, ultimately, why mandatory vaccination for all is unethical. Starting with the latter, the argument itself points out the changes in the perceived strengths of each side of the argument – however, it is also still unclear whether this can be accepted. This is because, logically, the ethicality of vaccination mandates is very much affected by the level of danger imposed by the disease itself. So, one could argue that just because vaccination mandates have a higher burden of proof or necessitate a higher level of danger, that does not make them unethical. Since our paper revolves around the evaluation of the strengths/weaknesses of separate arguments used by Latvian politicians, and not to answer the question posed here – are vaccine mandates ethical – we cannot evaluate the truthfulness of Conclusion 2.

Regarding the slippery slope itself, although the argument mentions examples from some Western countries taking these extra measures, they were not imposed by the Latvian government, implying that the slippery slope argument did not fulfil its promise (Mumcuoglu et al., 2021).

We conclude that this argument is weak due to a lack of evidence that vaccination mandates for all are unethical, as well as a lack of concrete evidence for the slippery slope itself.

5.3.10 Unfair Targeting of Protected Population

One argument also often used by politicians was that it is unreasonable to ask those, who are not at risk from COVID-19, to vaccinate. The rationale behind this firstly comes from the belief that COVID-19 is not dangerous to people who are young and maintain a healthy and active lifestyle. COVID-19 most often targets people who are aged 65 and up, namely, more than 80% of deaths related to COVID-19 happen in this age group. Additionally, multiple medical conditions can increase a person's chances of becoming severely ill after becoming infected, these infections include (but are not limited to) cancer, chronic illnesses, diabetes, neurological conditions, disabilities, heart conditions, weakened immune system, or immunodeficiency. What is more, being overweight or obese and living a rather sedentary life also increases your risk for severe disease (CDC, 2023a).

It then logically follows, that since the goal of a mandatory vaccination policy is to achieve herd immunity, this will work to protect the aforementioned vulnerable groups. Comparatively, the vulnerable groups will experience (not perhaps directly, but more in a utility sense) a larger reduction in the risks than young and active people will. While it is true that both groups receive some benefit from herd immunity, this benefit is not equal for all groups, yet the burden (getting vaccinated) to both groups is the same. Verweij & Dawson (2004) argue that in collective immunization programmes, the distribution of benefits and burdens should be as equal as possible since the outcome is a public good, but not everyone receives the same benefits and, in a sense, not everyone experiences the same burden, even if the same activity is being performed. With that in mind, we come to our reformulated argument:

Premise 1: COVID-19 is not as dangerous to young, healthy, and active people as it is to older and less healthy people (CDC, 2023a).
Premise 2: The benefits of a mandatory vaccination programme are mostly captured by the elderly, immunocompromised, and chronically ill.
Premise 3: There should be a just distribution of costs and benefits in a mandatory vaccination policy (Verweij & Dawson, 2004).
Conclusion 1: Vaccination mandates against COVID-19 target people that aren't affected by COVID-19.
Conclusion 2: Vaccination mandates are useless for these people.
Conclusion 3: Vaccination mandates should not be implemented.

As discussed in Section 5.2.1, unvaccinated persons pose harm both to other individuals, as well as to the healthcare system. Also in Section 5.2.1, we've outlined the right of each individual to not be harmed by others. This clashes with Conclusion 3, not exactly disproving it, but providing an argument against it.

Additionally, Premise 1 does hold true, yet it is also true that young people nonetheless face risks upon infection with COVID-19, even if it is less common than for older individuals. One study on young adults (aged 18 to 34) who had been hospitalized found worrying results – 21% needed intensive care, 10% had to be put on ventilators, and nearly 3% died (Cunningham et al., 2020). Recent data from the Office for National Statistics (2023) shows that in the U.K. from the age group 17-24, about 1.5% reported experiencing long COVID symptoms, in the age group 25-34 this increased to 2.6%, and of people aged

35-49 about 4.2% were affected (as percentages of people living in private households). This shows that there can be unfavourable outcomes for young people as well, and infection with COVID-19 should not be taken lightly. Additionally, this disproves Conclusion 1.

While Conclusions 1 and 2 are flawed, there is some backing for Premise 3. This is a question of whether it is right for the government to impose a policy with imperfect distributions of costs and benefits. Although this may seem like an extreme case, such policies aren't rare. For example, any progressive tax rate policy (which are widely implemented across the world (Hinders, 2023)) would have to be considered unethical on these grounds as well. Section 5.2.1 and 5.2.6 provides strong reasoning for why it may be acceptable – due to the fact that by not vaccinating, the costs are passed onto other people and society at large. Thus, we conclude that this argument is weak.

5.3.11 Unintended Consequences

As mentioned in previous sections, Latvian citizens were able to acquire a Digital Green Certificate for use in various public activities either through being fully vaccinated against COVID-19 (at one point, this meant two doses, later it was three) or infected and recovered from COVID-19 (similarly, the rules for infected and recovered persons changed over time, with some form of vaccination on top of natural immunity being required). (Nacionālais Veselības Dienests, 2021) Though there is a lack of concrete evidence on this, there was certainly some portion of the unvaccinated Latvian population that viewed infection with COVID-19 as less dangerous than vaccination and were fully willing to purposefully become infected in hopes of receiving the Certificate and not losing their jobs. There were some news articles documenting this, such as a 53-year-old teacher from Bauska working in multiple educational institutions in Riga had written a public advertisement in Bauska's local newspaper stating that she is looking for a person who could infect her with COVID-19. Upon posting this ad, she received multiple calls from people willing to assist her in her quest, with some asking for 100 euros for such a deal, yet she tells the news media that she would be willing to pay much more than that if needed. What is more, she also stated in an interview that she is not alone and is in fact in a group of other teachers also looking for the same kind of 'service' and that all have agreed upon sharing their contacts if they find some (TVNET/LETA, 2021; Zvirbulis, 2021). There have been other anecdotal examples, such as a Latvian University student, Raimonds Upmalis, posting on Facebook stating that he is looking for infected people in order to continue his studies. Comments were mostly trying to

discourage him from such a plan, thus he answered also in the comments with a statement about multiple people messaging him that they are also looking for the same thing (Raimonds Upmalis, 2021). Though none of this is concrete evidence, we can be almost certain that there were people looking to get purposefully infected in order to comply with the government's regulations.

A study that analysed research for a 20-year period, found that people generally did not accept the idea of mandatory vaccination for work and that it may cause purposeful infection (Drury et al., 2021). Though there is no mention of this in any type of Latvian media and no direct proof of it occurring, it may be reasonable to believe that another form of purposeful infection with COVID-19 took place in Latvia, which is known as a "COVID party". A "COVID party" is a gathering where people meet up with the purpose of getting infected with COVID-19 to gain immunity. There is some speculation that this idea may have come from chicken pox parties, where parents would throw a party for their children when one got infected with chicken pox as a way of getting them infected early for them to have lifetime immunity at a time when a vaccine for it was not yet widely available (Healy, 2022; Johnson, 2021). In Italy, where there were regulations similar to those in Latvia (a Certificate requirement for the ability to work amongst other activities), it was widely known that "COVID parties" took place as a means of receiving the certificate of recovery. For multiple people, this ended with hospitalisation and the need for respirators, and one 55-year-old man, who was an attendee at one of the parties, unfortunately, died after becoming infected (van Brugen, 2021; Nadeau, 2021). This showcases the unintended consequences that can accompany a mandatory vaccination policy.

Besides the risks associated with infection itself (in Latvia, a hospitalisation rate of 230 per 100,000 inhabitants and a death rate of 28,1 per 100,000 inhabitants as per the most recent data by SPKC (2022)), there recently have been more people reporting long COVID (see Glossary for definition). A systematic review of multiple studies conducted mostly in Europe and Asia found that around 45% of people who recovered from COVID-19 infection experienced some long COVID symptoms after 4 months after recovery (O'Mahoney et al., 2023). The most common symptoms are fatigue, fever, various respiratory and heart symptoms, neurological symptoms (such as brain fog), as well as digestive symptoms, among others (CDC, 2022b; Miller, 2023).

These implications paint the picture of why it may be undesirable to implement mandatory vaccination, as some people may turn to purposeful infection which has unpredictable outcomes. With this, we arrive at our reformulated argument:

Premise 1: Certificates can be acquired through vaccination or infection with COVID-19 (Nacionālais Veselības Dienests, 2021).

Premise 2: Some people view COVID-19 as less dangerous than vaccination (Nadeau, 2021; Raimonds Upmalis, 2021; TVNET/LETA, 2021; van Brugen, 2021; Zvirbulis, 2021).

Premise 3: People will pick the option they perceive as less dangerous.

Premise 4: Although not perceived by some people this way, contracting COVID-19 is dangerous (CDC, 2022b; Miller, 2023; O'Mahoney et al., 2023; SPKC, 2022).

Conclusion 1: Some people will try to contract COVID-19 instead of vaccinating.

Conclusion 2: Vaccination mandates produce dangerous unintended side effects.

Conclusion 3: Vaccination mandates should not be implemented.

Despite the existence of such a risk that some people will purposefully put themselves in harm's way in case of a mandatory vaccination policy (i.e. we cannot refute Conclusions 1 and 2), there is no evidence that this portion of people is substantial. Namely, we assume that the majority of people are rational enough to reasonably weigh the benefits and disadvantages of both options (vaccination and infection) and come to the less harmful conclusion – to vaccinate. Apart from this, accepting Conclusions 1 and 2 and the remaining premises is not enough to support Conclusion 3. While vaccination mandates may incentivize some persons to purposefully infect themselves with COVID-19, the number of such people is likely to be small, and, oppositely, the number of people that will decide to get the certificate by vaccinating – large. On consequential grounds, we argue that the unintended negative side effects are considerably smaller than the benefits of such a mandate. Thus, we find this argument to be weak.

5.3.12 Unemployment Effects

As discussed in Sections 5.1.2 and 5.3.11, there was some level of resistance against mandatory vaccination policies from the Latvian workforce. If we assume that mandatory vaccination truly would lead to higher unemployment rates, then this in turn would lead to a lower GDP in Latvia (Simpson, 2022). Additionally, it may be the case that some individuals would rather choose to work abroad in the case of mandatory vaccination, and it has been

found that higher emigration rates in Latvia may lead to higher unemployment rates (Hazans, 2013), which, as mentioned previously, again leads to lower GDP.

Furthermore, many people leaving their jobs has the potential of causing some industries to collapse due to a lack of workers. There were instances of companies feeling desperate as the due date of receiving a vaccination certificate was approaching, and they could not afford to lose their employees with highly specific skills due to a lack of interchangeability and a qualified workforce (Smagare, 2021). Additionally, it is especially risky when it comes to the healthcare industry, as healthcare workers tend to be viewed as a valuable resource in a pandemic, and Latvia has been experiencing a shortage of healthcare workers year-on-year (Feldmanis, 2021c). Because of a higher risk of infection due to the nature of the job, hospitals tend to already be short-staffed, and the potential risk of losing more workers due to vaccination mandates and some individuals' strong stance against vaccination is simply unimaginable (Sween et al., 2022).

With the risk of some industries shutting down operations (indefinitely or for some time, both instances would leave an impact on the state's economy) and the risk of employees willingly leaving their jobs or homeland, it would create a risk for the Latvian economy in the near- and possibly long-term future. Thus, one can imagine that any sort of renewed economic activity resulting from the introduction of vaccination mandates would be offset by these risks if they come into effect. This was also an argument often used by Latvian politicians in opposition to vaccine mandates, which we have reformulated:

Premise 1: A substantial amount of people would rather lose their job or move country than get vaccinated.

Premise 2: Higher rates of unemployment and emigration are detrimental to the economy (Hazans, 2013; Simpson, 2022).

Premise 3: Understaffed industries affected by vaccination mandates (e.g. healthcare, social care, education) may face potential collapse due to operational risks under vaccination mandates (Dēvica, 2021; Feldmanis, 2021c; Smagare, 2021; Sween et al., 2022; Zvērs, 2022).

Premise 4: The boost to the economy given by the vaccination mandates will be limited due to decreased working capacity for industries affected by vaccination mandates.

Conclusion 1: Vaccination mandates will be detrimental to the economy.

Conclusion 2: Vaccination mandates will cause potential collapse for understaffed industries.

Conclusion 3: Vaccination mandates should not be implemented.

As we discussed in Section 5.1.2, Latvia actually saw a decrease in the number of unemployed people throughout 2021, even when vaccination mandates were in place. According to Centrālās statistikas portāls (2022), the unemployment rate in Latvia decreased during 2021, when there were no mandates at the beginning of the year and the year ended with mandates. Given that the most concerning is the employment level in the healthcare sector, we must note that already in September of 2021, more than 92% of healthcare workers had at least gotten one vaccination dose, indicating that a collapse of the healthcare sector due to unemployment from vaccination mandates as highly implausible (Veselības ministrija, 2021c). Moreover, Sween et al. (2022) argue that any increases in unemployment should also be netted against the reduction in infections in the respective industry.

Although according to The World Bank (2022), the net migration for Latvia in 2021 was indeed negative, that has been the case since 1988. Moreover, we see that net migration in 2021 was closer to zero than in the past thirty years (a net migration increasing trend can be observed since 1998, and 2021 was not an exception). Thus, we can say that Premise 1 lacks evidence. As it is the underlying premise on which the whole argument is based, due to lacking evidence we conclude that this argument is unsound.

Moreover, an opposing consequentialist argument can be made on the grounds that vaccinated people will now have better access to the employment market, mitigating some effects of the proposed increased unemployment. Additionally, while Premise 2 is factual, and even if we assume Premise 1 to be true (even though the substantiality of the number of people leaving work is arguably significant, see Section 5.1.2), we can expect a positive effect on the economy, as the Latvian government would not have to spend as much on welfare packages for people in some industries that could not work at all (similar argument made in Section 5.2.3). Thus, we conclude that this argument is weak.

5.3.13 Employer Ethical Dilemma

Many firms underwent financially turbulent times during the COVID-19 pandemic. For example, the restaurant industry was hard hit, with many experiencing losses in sales, and one chain in Latvia even being forced to close 42% of its restaurants due to decreased

demand and as a means of saving costs (Zvirbulis, 2020). Firing people would save money, especially for firms that already could not operate to the same degree as in pre-pandemic times or had to decrease their working hours (Eiropas Parlaments, 2020).

Under vaccination mandates (as they were proposed and later accepted), employers had the right to determine the necessity for a vaccination certificate (Saeima, 2020). Whether to vaccinate or not was a controversial decision in Latvia during these debates – one-third of the Latvian population aged 15 years and older did not plan on getting vaccinated, with another third being unsure at the time when vaccination was about to become available for all of society (Ozola-Balode, 2021). While it is safe to assume that a large share of unvaccinated people would end up vaccinating at the request of the employer (see Section 5.1.2), it is also correct to assume that there would be people that would rather lose their job (see Section 5.3.11).

Given that the latter case is acceptable, the employers effectively had a tool at their disposal of firing people and cutting wage costs. Such a tool could be even more important for firms that could not even operate at the time. Presenting employers with a tool that would help their financials during turbulent times at the expense of the employees' wellbeing creates an ethical dilemma for the employer who now has to decide whether to care more about the bottom line or the livelihood of their employees.

The government shouldn't introduce policies that pass down ethical dilemmas onto people and incentivise financial performance over people's wellbeing. Thus, vaccination mandates should not be implemented.

Premise 1: Due to vaccination mandates employers can cut costs by firing unvaccinated people.

Premise 2: Vaccination mandates place employers in an ethical dilemma of whether to care about their workers or fire them to save costs.

Conclusion 1: Vaccination mandates create ethical dilemmas.

Conclusion 2: Vaccination mandates should not be implemented.

This argument rests on the notion that demanding a vaccination certificate from employees points towards valuing financial gain over people's wellbeing. However, this argument does not address the perspective that many vaccinated people share – that vaccines are effective at protecting people from infection and severe symptoms in case of infection. Considering this, employers that demand vaccination certificates may do so because they do care about their employees' wellbeing (and by extension, depending on the level of physical

contact in the profession, the wellbeing of their suppliers and customers as well). This point makes Premise 2 unfounded.

Moreover, it is unclear why passing down ethical dilemmas ought to be avoided when creating policies. There are many ethical dilemmas that employers must face in reality, which aren't mitigated by policies, nor they should be. For example, there isn't a set amount that employers must spend on compensation and benefits (apart from minimum wage). Similarly, employers are free to reduce necessary working hours or increase work flexibility. These examples show that employers are faced with countless ethical dilemmas in balancing financial performance and employees' wellbeing – it isn't clear why the government should regulate these situations purely because they produce ethical dilemmas. We argue that Conclusion 2 does not logically follow Conclusion 1.

We find this argument to be unsound.

5.4 Results

A summary of the results was compiled in Tables 4 & 5. The arguments were graded either strong, weak, or unsound (as was discussed in Sections 5.1-5.3). The weak arguments (although at times with ethical backing) had deep underlying problems, while stronger arguments didn't reveal scathing issues. Note that even the strong arguments had strong counterarguments – in our analysis, we often found that the two conflicting ideas (e.g. the right not to be harmed and the right to individual autonomy; the existence of a legitimate reason to discriminate) have to coexist, as a balance between the two is found. To reiterate, the purpose of this thesis was not to determine this balance and conclude, whether such mandates had to be introduced, but rather to investigate, whether Latvian politicians did indeed use strong ethical justifications for their stance on vaccine mandates for work.

We find that there were unsound, weak, and strong arguments used on both sides. We note that all the implicit premises used in arguments for vaccination mandates were strong – they had to be strong in order for the underlying arguments to have a chance to be evaluated as strong as well (e.g. if vaccines truly were ineffective, then there would be no point in arguing about vaccine mandates).

We conclude that Latvian politicians used some strong arguments for vaccine mandates like the right not to be harmed, the need to vaccinate high-risk professions (extension of the right not to be harmed), and the need to vaccinate essential professions (also an extension of the right not to be harmed). These arguments can be used in further debates.

Additionally, we can say that the herd immunity argument has strong ethical backing, and, under different vaccines/infections, could also be used as a strong argument.

We also conclude that Latvian politicians used some strong arguments against vaccine mandates like the right to autonomy, concerns about vaccine safety (more specific to COVID-19 vaccines), and the fact that there wasn't a legitimate reason to discriminate (extension of both aforementioned arguments). We would also like to point out that although the anti-paternalistic argument isn't strong in and by itself, as vaccination policies aren't necessarily paternalistic, it does provide strong argumentation against potential paternalistic justification (thus, we would also advise not to justify mandating vaccination for autonomous adults based on paternalism). Given better empirical evidence, the argument of net negative effects from the effect on social capital (and, thus, vaccination uptake) and unemployment could become viable to use in debates. Similarly, if other less restrictive options proved to be more efficient, the argument for these options would also potentially be strong.

There were also some very weak (unsound) arguments for both sides – some arguments had to be removed from the sample due to lacking justification. Politicians should also, by all means, avoid using immoral fallacies of association in their argumentation.

6. Conclusion

We elect politicians to represent us and our best interests. They make decisions in our stead – often we cannot determine whether they are correct without the benefit of hindsight. But, at the very least, we expect those decisions to be justified. Especially so, when dealing with issues of the utmost significance. This was the case with vaccination mandates in Latvia. During COVID-19, Latvians dealt with verdicts that cost people their job and their livelihood. Oppositely, the months without the strict mandates potentially made some pass away unnecessarily.

In our research, we investigated the justifications made by Latvian politicians from The Saeima and The Minister Cabinet for these decisions made, as well as the opposing side. We concluded that there were many different diverse arguments used in this continuous debate. All in all, we collected 26 argument groups (31, if the implicit premises evaluated separately are counted). Some of the arguments had to be excluded due to them being too weak to justify a further analysis, implying poor argumentation skills.

There were unsound, weak, and strong arguments on both sides. The strongest debate found itself clashing the unvaccinated people's right to autonomy with the right not to be harmed by people that are, in fact, harmed by those who do not vaccinate. There are also some implications that can be drawn from the rare, but potentially severe health issues caused by the vaccines. Pitting these points against each other could show us where we stand on whether or not there was a legitimate reason to discriminate against unvaccinated people.

The findings of our thesis can be used by politicians to reevaluate the ethicality of their justifications, by people to see how morally convincing were the justifications for imposing (or not) the vaccine mandates, as well as provide some insights into what the strongest arguments for each side are.

Argument	Evaluation	Grade
Legal	Removed from analysis	Removed from analysis
Vaccine Effectiveness*	Backed by empirical claims that are challenged, but not disproven.	Strong
Motivation*	Backed by empirical claims that are challenged, but not disproven.	Strong
Non-discriminatory/Fair*	Backed by ethical literature (other arguments in this section). Strong counterargument (Wrongful Discrimination).	Strong
Testing Ineffectiveness*	Backed by empirical claims that are challenged, but not disproven.	Strong
Legitimacy of Freedom-reducing Policies*	Backed by ethical literature. Strong counterargument (Free Choice/ Personal Autonomy).	Strong
The Right Not to Be Harmed	Backed by ethical literature. Strong counterargument (Free Choice/ Personal Autonomy).	Strong
Economic Recovery	Limited evidence for the necessity of lockdowns and the effectiveness of high vaccination uptake in containing COVID-19 outbreaks.	Unsound
Easing, Not Restricting	The idea of the policy working as an easing mechanism rather than a restriction is factually flawed.	Unsound
Achieving Herd Immunity Safely	Strong ethical backing, but limited empirical evidence for the viability of herd immunity for COVID-19.	Weak
High-risk Professions	Strong due to ties with The Right Not to Be Harmed. The paternalistic premise is weak.	Strong
Critical Professions	Strong due to ties with The Right Not to Be Harmed.	Strong
Vaccine Safety	Sound but relies on paternalistic justification, which is refuted by Anti-paternalistic view.	Weak
Necessity For Reciprocal Policies	Refuted on deontological grounds.	Weak

Table 4. Summarised evaluation of arguments for vaccine mandates.

**implicit premise used in arguments for vaccination mandates.*

Argument	Evaluation	Grade
Legal	Removed from analysis due to limitations on authors' expertise.	Removed from analysis
Collectivization	Fallacy of association. Immoral argument.	Removed from analysis (unsound)
Totalitarianism	Fallacy of association. Immoral argument.	Removed from analysis (unsound)
Government Conspiracy	Cannot be evaluated.	Removed from analysis
Genocide	Fallacy of association. Immoral argument.	Removed from analysis (unsound)
Foreign Examples	Fallacy of appeal to common opinion.	Removed from analysis (unsound)
Wrongful Discrimination	Backed by ethical literature (other arguments in this section). Strong counterargument (Non-discriminatory/fair).	Strong
Social Capital	Limited evidence on net negative effects from vaccine mandates.	Weak
Free Choice/ Personal Autonomy	Strong ethical backing. Strong counterargument (Right Not to Be Harmed).	Strong
Vaccine Ineffectiveness	Unsound due to lack of justification for the conclusion.	Unsound
Anti-paternalistic View	Weak overall, but provides a strong argument against paternalistic mandates.	Weak
Less Restrictive Options	Less restrictive options already implemented without success.	Weak
Vaccine Safety	Strong ethical backing. Strong counterargument (Right Not to Be Harmed).	Strong
Government Failure	Weak (potentially unfounded) conclusion.	Weak
Slippery Slope	Lacks justification for unethicality of a slope. Lacks justification for the existence of the slope.	Weak
Unfair Targeting of Protected Population	Healthy people are affected by COVID-19. Thus, healthy people also benefit from vaccination. The Right Not to Be Harmed is a strong counterargument as well.	Weak
Unintended Consequences	Little evidence for net negative effects from unintended consequences.	Weak
Unemployment Effects	Limited empirical evidence.	Weak
Employer Ethical Dilemma	Lacks justification for existence of ethical dilemma and its negative connotations.	Unsound

Table 5. Summarised evaluation of arguments against vaccine mandates.

Glossary

Autonomy – "the control an individual has over his or her own evaluations and choices." (Hausman & Welch, 2010, p. 128)

Call-to-emotion fallacy – "Attempting to persuade others to accept a position by exploiting their emotions instead of presenting evidence for the position." (Damer, 2009, p. 111)

Casual oversimplification – "Oversimplifying the causal antecedents of an event by specifying causal factors that are insufficient to account for the event in question or by overemphasizing the role of one or more of those factors." (Damer, 2009, p. 178)

COVID-19 – "a mild to severe respiratory illness that is caused by a coronavirus (severe acute respiratory syndrome coronavirus 2 of the genus Betacoronavirus), is transmitted chiefly by contact with infectious material (such as respiratory droplets) or with objects or surfaces contaminated by the causative virus, and is characterized especially by fever, cough, and shortness of breath and may progress to pneumonia and respiratory failure." ("COVID-19," n.d., para. 1)

COVID-19 pandemic – a worldwide pandemic of COVID-19 that was declared on March 11th, 2020, and is still active as of December 31, 2022 (WHO, n.d.).

Fallacious argument – "one that either is deductively invalid or is inductively very weak or contains an unjustified premise or that ignores relevant evidence that is available and that should be known by the arguer." (Dowden, n.d., para. 16)

Formal fallacy – an issue with the structure of the argument. (Gula, 2002, p. 50)

Herd immunity – it "works to control the spread of disease within a population when a specific amount of that population (threshold) becomes immune to the disease through vaccination or infection and recovery." (Desai & Majumder, 2020, para. 8)

Long COVID - "…signs, symptoms, and conditions that continue or develop after initial COVID-19 or SARS-CoV-2 infection. The signs, symptoms, and conditions are present four

weeks or more after the initial phase of infection; may be multisystemic; and may present with a relapsing– remitting pattern and progression or worsening over time, with the possibility of severe and life-threatening events even months or years after infection. Long COVID is not one condition. It represents many potentially overlapping entities, likely with different biological causes and different sets of risk factors and outcomes." (Department of Health and Human Services, 2022, p. 14)

Pandemic – "an outbreak of a disease that occurs over a wide geographic area (such as multiple countries or continents) and typically affects a significant proportion of the population." ("Pandemic," n.d., para. 3)

Slippery slope fallacy – "assuming, without appropriate evidence, that a particular action or event is just one, usually the first, in a series of steps that will lead inevitably to a specific, usually undesirable, consequence." (Damer, 2009, p. 185)

Straw man fallacy – "When you take something your opponent has said, exaggerate or distort it, and then attack what you have exaggerated or distorted." (Gula, 2002, p. 86)

Trust in government – "the confidence of citizens and businesses in the actions of government to do what is right and perceived as fair" (OECD, 2013, p. 40)

Vaccine hesitancy – "delay in acceptance or refusal of vaccination despite availability of vaccination services." (MacDonald, The SAGE Working Group on Vaccine Hesitancy, 2015, p. 4163)

Vaccine refusal – complete refusal of all types of vaccinations ("Vaccine refusal", n.d.).

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