EU COVID-19 Certificates: A Critical Analysis

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On 17 March 2021, the European Commission put forward its Proposal for a Regulation on Digital Green Certificates, which would facilitate European Union (EU) cross-border movement during the COVID-19 pandemic. This article examines what the Commission highlights as the main declared goals of its Proposal – the first being that Digital Green Certificates facilitate safe cross-border movement, the second being that they preclude more restrictive national measures, the third being that they prevent discrimination and the fourth being that they coordinate Member States' actions. In so doing, it highlights the main benefits and weaknesses of the Commission's Proposal, but it also goes beyond the Proposal by tackling broader questions of EU law that will be of relevance even once the pandemic is over. In this respect, the paper highlights the importance of science in assessing the proportionality of pandemic-related measures and of choosing the least restrictive and the most individualised options when restricting free movement due to public health reasons. It also identifies the effects EU certificates will have on Member States' regulation of national COVID-19 certificates, notably those designed for other purposes than cross-border travel, and it shows that there is a thin line between the EU's and national competences in this area.

I. Introduction

On 17 March 2021, the European Commission put forward its Proposal for a Regulation on Digital Green Certificates, which would facilitate European Union (EU) cross-border movement during the COVID-19 pandemic.[1] The proposed certificates include three categories of EU citizens, their family members and third-country nationals legally staying or residing in the EU: those who have been vaccinated against COVID-19,

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[1] Proposal for a Regulation of the European Parliament and of the Council on a framework for the issuance, verification and acceptance of interoperable certificates on vaccination, testing and recovery to facilitate free movement during the COVID-19 pandemic (Digital Green Certificate), COM/2021/130 final, 17 March 2021. A parallel Proposal covers third-country nationals legally staying or residing in the EU: Proposal for a Regulation of the European Parliament and of the Council on a framework for the issuance, verification and acceptance of interoperable certificates on vaccination, testing and recovery to third-country nationals legally staying or legally residing in the territories of Member States during the COVID-19 pandemic (Digital Green Certificate).

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those who have recovered from COVID-19 and those who can produce a negative test result. Considering the length of the EU decision-making process and the technical work that will need to be done, the Digital Green Certificates will not be ready for use before late June or July this year.

EU Member States' reactions to this initiative have been diverse. While some Member States (particularly those dependent on tourism, such as Austria, Cyprus, Greece, Italy, Portugal and Spain) support the initiative, others (such as Belgium, France, Germany and the Netherlands) express concerns.[2] In the meantime, both Greece and Cyprus have reached agreements with Israel that should enable their citizens who have been vaccinated to travel between these two EU Member States and Israel without the need to quarantine.[3]

On 14 April 2021, the Council agreed its negotiating mandate on Digital Green Certificates for the negotiations with the European Parliament,[4] followed by the European Parliament's negotiating position adopted on 29 April.[5] The European Parliament requests that future EU certificates are called "EU COVID-19 certificates" instead of Digital Green Certificates. Most importantly, the European Parliament insists that the EU certificates should not allow Member States to impose additional travel restrictions, as proposed in the Commission's Proposal, and that Member States ensure universal, accessible, timely and free-of-charge testing.[6] The following steps are the interinstitutional negotiations and the setting up of national infrastructures.

This article examines what the Commission highlights as the main declared goals of its Proposal – the first being that Digital Green Certificates facilitate safe cross-border movement, the second being that they preclude more restrictive national measures,

[2] For the supporting Member States, see: "Cyprus plans to open borders in march for travellers vaccinated for COVID-19" (*Schengenvisainfo news*, 4 December 2021) <https://www.schengenvisainfo.com/news/cyprus-plans-to-open-borders-in-march-for-travellers-vaccinated-for-covid-19/> (last accessed 15 May 2021); "Greece urges EU to create 'vaccination certificate' to facilitate travel" (*Schengenvisainfo news*, 13 January 2021) <https://www.schengenvisainfo.com/news/greece-urges-eu-to-create-vaccination-certificate-to-facilitate-travel/> (last accessed 15 May 2021); "Italian tourism federation urges government to create 'COVID-19 vaccination certificate'" (*Schengenvisainfo news*, 20 January 2021) <https://www.schengenvisainfo.com/news/italian-tourism-federation-urges-government-to-create-covid-19-vaccination-certificate/> (last accessed 20 January 2021); "Portuguese minister urges creation of vaccination certificate to end testing at EU borders" (*Schengenvisainfo news*, 22 January 2021) <https://www.schengenvisainfo.com/news/portuguese-minister-urges-creation-of-vaccination-certificate-to-end-testing-at-eu-borders/> (last accessed 15 May 2021); "Spain plans to establish 'vaccination certificate' to recover tourism sector" (*Schengenvisainfo news*, 19 January 2021) <https://www.schengenvisainfo.com/news/spain-plans-to-establish-vaccination-certificate-to-recover-tourism-sector/> (last accessed 15 May 2021). For the Member States that have expressed concerns, see: N Nielsen, "EU to propose Covid-free 'travel pass' ahead of summer" (*EUObserver*, 2 March 2021) <https://euobserver.com/coronavirus/151084?utm_source=euobs&utm_medium=email> (last accessed 15 May 2021); J Libeoreiro, "EU vaccine passports might not be ready by the summer. Here's why" (*Euronews*, 4 March 2021). <https://www.euronews.com/2021/03/03/eu-vaccine-passports-might-not-be-ready-by-the-summer-here-s-why> (last accessed 15 May 2021); "EU to propose 'green pass' vaccine certificate this month" (*Deutsche Welle*, 1 March 2021) <https://www.dw.com/en/eu-to-propose-green-pass-vaccine-certificate-this-month/a-56736273> (last accessed 15 May 2021).

[3] H Smith, "Post-Covid tourism hopes buoyed by deal between Greece, Cyprus and Israel" (*The Guardian*, 15 February 2021) <https://www.theguardian.com/world/2021/feb/15/post-covid-tourism-hopes-buoyed-by-deal-between-greece-cyprus-and-israel> (last accessed on 15 May 2021).

[4] Council mandate for negotiations with the European Parliament, 7796/21, 14 April 2021.

[5] Amendments adopted by the European Parliament on 29 April 2021 on the proposal for a regulation of the European Parliament and of the Council on a framework for the issuance, verification and acceptance of interoperable certificates on vaccination, testing and recovery to facilitate free movement during the COVID-19 pandemic (Digital Green Certificate) (COM(2021)0130 – C9-0104/2021 – 2021/0068(COD))(1), 29 April 2021.

[6] Arts 3(3)(c) and 15(2) of the European Parliament's Amendments.

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the third being that they prevent discrimination and the fourth being that they coordinate Member States' actions. In so doing, it highlights the main benefits and weaknesses of the Commission's Proposal, but it also goes beyond the Proposal by tackling broader questions of EU law that will be of relevance even once the pandemic is over and Digital Green Certificates cease to exist. In this respect, the paper points to the importance of a more individualised approach when restricting free movement due to public health reasons. It also highlights the value of scientific assessment in the application of the proportionality analysis of pandemic-related measures and opens up the question of whether it is acceptable to restrict free movement more than is necessary to individuals who can prove that they do not pose a health threat to the others out of concerns of solidarity towards those who cannot do so. Finally, the paper identifies the effects that EU certificates will have on Member States' regulations of national COVID-19 certificates, notably those designed for other purposes than cross-border travel, and it shows that there is a thin line between the EU's and national competences in this area.

II. Digital Green Certificates facilitate safe cross-border movement

The aim of Digital Green Certificates is to facilitate cross-border movement in the EU, while at the same time minimising the risk of transmission of coronavirus. This is highlighted in the Commission's Press Release on Digital Green Certificates, which states that the certificates are being created in order "to facilitate *safe* free movement inside the EU during the COVID-19 pandemic" (emphasis added).[7] The conviction that the EU certificates comply with the public health objectives is also visible in the Commission's Proposal, which provides, in its Explanatory Memorandum, that EU certificates "should allow EU citizens and their family members exercising their right to free movement to demonstrate that they fulfil public health requirements imposed, in compliance with EU law, by the Member State of destination". In other words, the adoption of Digital Green Certificates is based on the assumption that the mobile person does not represent a public health threat to their environment. This assumption is valid only if vaccination, a negative test and recovery from COVID-19 actually prevent or minimise the risk of transmission.

However, the suitability of vaccination for minimising public health risks carries a number of open questions. The suitability test is the first step in the proportionality analysis of any EU and national measure. This test will be satisfied only provided vaccination protects public health, not only by creating immunity of the vaccinated individual, but also by preventing or significantly reducing the transmission of the virus to all those who have not been vaccinated. This is consistent with the central aim of public health, which is to protect and increase the health of the entire population, rather than focusing solely on individuals, which is the role of medicine.

Unfortunately, there are still no firm scientific data certifying that vaccination prevents or minimises the chances of transmission of coronavirus from vaccinated individuals to

[7] "Coronavirus: Commission proposes a Digital Green Certificate" (Commission's Press Release, 17 March 2021) <https://ec.europa.eu/commission/presscorner/detail/en/ip_21_1181> (last accessed 10 May 2021).

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those who have not been vaccinated, even though most recent findings are promising. In its interim position paper from 5 February 2021, the World Health Organization (WHO) opposes the idea of introducing the requirement of proof of COVID-19 vaccination as a condition for departures or entries into another country, "given that there are still critical unknowns regarding the efficacy of vaccination in reducing transmission", and it recommends that "people who are vaccinated should not be exempt from complying with other travel risk-reduction measures".[8] The Statement of the International Health Regulations (IHR) Emergency Committee regarding the COVID-19 pandemic from 19 April 2021 reflects this position by recommending to the IHR States Parties not to require proof of vaccination as a condition of entry "given the limited (although growing) evidence about the performance of vaccines in reducing transmission and the persistent inequity in the global vaccine distribution".[9]

This position calls into question the suitability of relying on proof of vaccination for the purpose of facilitating safe cross-border travel without any additional precautionary requirements.[10] Only once there are sound scientific data confirming that vaccinated individuals are at a significantly reduced risk of transmitting coronavirus to non-vaccinated individuals can vaccination be considered as reliable and suitable for preventing or reducing transmission. As long as the suitability of vaccination for the prevention of transmission is not scientifically confirmed, the satisfaction of the suitability test remains the weakest link of Digital Green Certificates. For this reason, scientific assessment stands out as crucial when establishing the proportionality of pandemic-related restrictions. Fortunately, most recent scientific findings are promising, as they are starting to point towards a "meaningful reduction" in transmission.[11]

The suitability of vaccination certificates is particularly problematic due to the emergence of new variants and due to the different efficacies of various vaccines used in the EU and worldwide. Scientific research will need to consider whether all of the different vaccines that are being used provide sufficient protection against the transmission of different coronavirus strains. This could be particularly difficult with regards to those vaccines that have been bought and used in some Member States without being approved by the European Medicines Agency (EMA), such as the Russian and Chinese vaccines. Articles 5(5) and 5(6) of the Commission's Proposal will oblige EU Member States to accept vaccination certificates for vaccines that have

[8] Interim position paper: considerations regarding proof of COVID-19 vaccination for international travellers (WHO, 5 February 2021) <https://www.who.int/news-room/articles-detail/interim-position-paper-considerations-regarding-proof-of-covid-19-vaccination-for-international-travellers> (last accessed 10 May 2021).

[9] Statement on the seventh meeting of the International Health Regulations (2005) Emergency Committee regarding the coronavirus disease (COVID-19) pandemic, 19 April 2021 <https://www.who.int/news/item/19-04-2021-statement-on-the-seventh-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-coronavirus-disease-(covid-19)-pandemic> (last accessed 10 May 2021).

[10] On the application of the precautionary principle during the pandemic, see I Goldner Lang, "'Laws of fear' in the EU: the precautionary principle and public health restrictions to free movement of persons in the time of COVID-19" (2021) European Journal of Risk Regulation. For the literature on precautionary principle in the EU, see, eg, A Alemanno, "The shaping of the precautionary principle by European courts: from scientific uncertainty to legal uncertainty" (2007) Bocconi Legal Studies Research Paper no. 1007404.

[11] H Kuchler, "Vaccine recipients wait to learn if they can still pass on Covid" (*Financial Times*, 11 March 2021) <https://www.ft.com/content/b5a40a72-1c85-46a1-a754-80ba0ef83851> (last accessed 10 May 2021).

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received EU marketing authorisation, no matter whether one has been vaccinated in the EU or in a third country, whereas each Member State will be able to extend this to EU travellers who have received other vaccines not authorised by the EU.[12]

Finally, science will need to establish the duration of immunity and protection from transmission of the vaccinated individual. Once this is established, the EU, its Member States and/or the WHO will need to establish reliable procedures for the renewal of vaccination documents.

III. Digital Green Certificates preclude more restrictive national measures

Another aim of the Proposed Regulation is to enable the lifting of more restrictive national measures that have been in place before the entry into force of the EU Digital Green Certificates, such as complete exit/entry bans, quarantines, self-isolation and/or testing requirements for everybody.[13]

Three points need to be made here. First, Digital Green Certificates will be an EU measure restricting free movement of EU citizens, as they will limit what is supposed to be free cross-border travel. From this perspective, EU certificates need to satisfy the second step in the proportionality analysis – the test of necessity – by making sure that there is no less restrictive alternative that achieves the same aim equally successfully. However, when considering whether there is a less restrictive method of enabling free movement while preserving the same level of public health protection, one should acknowledge that, in the COVID-19 world, the alternative to Digital Green Certificates is not unrestricted free movement, but even more restrictions. EU certificates should be evaluated against more restrictive alternatives, such as quarantines, self-isolation and/or testing requirements for everybody, or even against complete entry bans. From this perspective, EU certificates will enable a more individualised risk assessment than the adoption of more general, systematic and restrictive national measures.[14] While it is evident that entry bans, quarantines and self-isolation are more restrictive than Digital Green Certificates, requiring polymerase chain reaction (PCR) tests from everybody would also be a more restrictive alternative for those who have been vaccinated. It would set unnecessary requirements on those who have been vaccinated (provided vaccination minimises the risk of transmission) and could thus be viewed as a "race to the bottom". In this light, Digital Green Certificates will be the least restrictive option for safe cross-border movement, provided they minimise the risk of transmission.

Second, whereas EU free movement law should accept all evidence of non-infection for the purpose of cross-border travel, there are certain situations – which could be within the scope of EU law, provided there is a cross-border element – where more restrictive

[12] For the list of vaccines that have been authorised by the European Medicines Agency, see <https://www.ema.europa.eu/en/human-regulatory/overview/public-health-threats/coronavirus-disease-covid-19/treatments-vaccines/vaccines-covid-19/covid-19-vaccines-authorised#authorised-covid-19-vaccines-section> (last accessed 10 May 2021).

[13] Recitals 21 and 31 of the Preamble to the Commission's Proposal.

[14] For the problem of the application of the individualised approach to public health restrictions, see Goldner Lang, supra, note 10.

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measures would be justified. In these instances, it would be both legitimate and ethical to demand proof of vaccination as the only acceptable condition, without alternatives or exceptions, even though this would represent an outright discrimination between vaccinated and non-vaccinated individuals. This would primarily apply to employment in certain high-risk jobs, such as those in hospitals and nursing homes. In these instances, it would be legitimate to require proof of vaccination as one of the requirements for getting employed, even in cases where an individual could not get vaccinated due to objective reasons, just like it is legitimate to require proof of excellent eyesight from pilots and air traffic controllers. More restrictive measures and discrimination against non-vaccinated individuals would be justified in these high-risk jobs by three facts, the first being that no less restrictive alternative would protect public health equally successfully, the second being that public health benefits outweigh limiting individual rights in these situations and the third being that this type of discrimination would be generally perceived as ethical by society and would improve public trust in hospitals and nursing homes.

Finally, the Commission's Proposal indirectly allows Member States to go beyond the three conditions for cross-border movement (vaccination, testing or recovery) during the pandemic and to adopt more restrictive measures. Article 10 of the Proposal provides that a Member State that sets more restrictive conditions for holders of Digital Green Certificates has to notify other Member States and the Commission before the introduction of such measures and specify the reasons, scope and duration of the measure. The likely reason behind this provision was the discontent with the idea of Digital Green Certificates expressed by some Member States and the Commission's attempt to compromise and increase the likelihood of the adoption of the proposed Regulation. However, in its negotiating position, the European Parliament insists that the EU certificates should not allow Member States to impose additional travel restrictions, so it is still uncertain whether the final version of the Regulation will contain this option. In case the Commission's Proposal remains unchanged in the interinstitutional negotiations, there is no guarantee that Member States will not go beyond the requirements set by the Proposal. However, whereas the imposition of the three requirements set by the Proposal will not have to be justified by Member States during the pandemic, the adoption of additional, more restrictive measures will be subject to general EU rules on free movement and will require justification and a proportionality analysis of the adopted measure.

IV. Digital Green Certificates do not discriminate

The third advantage proclaimed for Digital Green Certificates is that they will prevent discrimination against persons who are not vaccinated by allowing alternatives to vaccination certificates – in the form of a negative COVID-19 tests and proof of recovery from COVID-19 – for the purpose of cross-border movement.

There is no doubt that reserving free cross-border travel only for those who have been vaccinated against COVID-19 would have a discriminatory effect by dividing individuals into two groups: the privileged, vaccinated ones and the ones who cannot or do not want

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to get vaccinated due to the shortage of vaccines (in the current stage of vaccination) or due to their decision or belonging to a certain category of individuals (in the later stage, once vaccination becomes widely available in the EU). For example, it is still not clear whether COVID-19 vaccines are safe and/or effective for children, pregnant women and people with weakened immune systems and autoimmune conditions. On top of this, certain EU Member States have managed to vaccinate a higher percentage of their citizens than others. This means that reserving free cross-border movement for vaccinated EU citizens and completely banning such travel to non-vaccinated individuals or allowing them to travel only by fulfilling additional requirements, such as quarantines or self-isolation, would have a discriminatory effect on all those who have not been vaccinated. They would also discriminate based on nationality, due to the fact that some Member States are progressing faster with vaccination than others. By contrast, once vaccines become widely available, vaccination certificates would continue to discriminate based on age, gender and vulnerability, as certain categories of individuals could still not get vaccinated. Consequently, the EU-level regulation of vaccination certificates as the only means of cross-border travel during the pandemic would have a disproportionately discriminatory impact on everybody who is not vaccinated due to their all-or-nothing approach, which would not allow an alternative.

EU Digital Green Certificates will prevent such an exclusive approach by regulating the free movement not only of those who have been vaccinated, but also of those with a negative COVID-19 test and those who have recovered from COVID-19. In this way, EU certificates will promote individualised risk assessment when relying on public health justifications instead of more generalised and systematic restrictions, such as entry bans, quarantines or PCR tests for everybody.[15] Even though non-vaccinated individuals will not be in an entirely equal position – as they will have to get a negative test or a proof of recovery, whereas vaccinated individuals will not have to do that – provided non-vaccinated individuals make this extra effort, they will be able to travel cross-border without depending on the host Member State's restrictions, such as quarantines or even complete entry bans. Consequently, Digital Green Certificates will not create second-class citizenry, as they will offer acceptable alternative requirements for those who cannot or do not want to get vaccinated, provided testing can be done in a speedy and cheap way.

The argument that it is better to treat everybody completely equally by tolerating only a negative test for travel purposes, no matter whether one has been vaccinated or not, instead of allowing a proof of vaccination as an alternative, cannot be upheld. Unnecessary restrictions to the free movement of those who can prove that they do not pose a health threat to the others out of concerns of solidarity towards those who cannot prove this would be contrary to EU free movement law and to the principle of proportionality. Additionally, such an absolute level playing field for vaccinated and non-vaccinated individuals would be neither fair nor economically and socially beneficial. Requiring a vaccinated person to get tested would be completely unnecessary, provided vaccination minimises the risk of transmission. Vaccinated

[15] For a discussion on the application of generalised and systematic restrictions to free movement during the pandemic, see Goldner Lang, supra, note 10.

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individuals would perceive this extra requirement as a pointless burden or even a punishment instead of being rewarded for the decision to get vaccinated by enabling smoother travel. On top of this, allowing several reliable options for cross-border travel would be economically and socially beneficial, as it would reduce the need for testing for vaccinated individuals, who would not have to invest time and, possibly, money (in case testing is not free) in order to take the tests. For this reason, accepting vaccination, and not only testing, as a requirement to cross intra-EU borders would facilitate free movement and promote tourism.

However, this logic will apply only once vaccines become widely available across the EU. Up until then, Digital Green Certificates could create a disproportionate social disadvantage, which could be perceived as second-class citizenry by a major part of the EU population who could not yet get vaccinated but would like to do so (proportionality *stricto sensu*). Hopefully, this will change by the time the Commission's Proposal gets adopted.

V. Digital Green Certificates coordinate national actions

The importance of coordinating national restrictions to free movement is highlighted at a number of instances in the Commission's Proposal.[16] This is not surprising, since the past year has been marked with very divergent and sometimes inconsistent national mobility-related restrictions that were mostly imposed unilaterally, without being first agreed upon or coordinated at the EU level.[17] The only exception was the closure of external borders towards third countries, which was first agreed upon by the European Council and then implemented by each Member State separately.[18] Consequently, the pandemic has been the biggest ever challenge to the viability of the EU internal market and the right to free movement. In this light, Digital Green Certificates will significantly contribute to a more coordinated EU-wide approach to free movement, despite the fact that the Commission's Proposal leaves a loophole that enables the adoption of additional national restrictions.

Additionally, the coordinating effect of Digital Green Certificates will surpass their scope in two ways. First, the scope of the Commission's Proposal is limited to situations of EU cross-border movement. Nevertheless, Member States are not banned from applying EU certificates for other purposes, such as access to cultural, sporting and social events, no matter whether there is a cross-border element. Consequently,

[16] Eg, see Recitals 21 and 32 of the Preamble to the Proposal.

[17] For discussions on the importance of a coordinated approach towards COVID-19 and suggestions on how to improve it, see AM Pacces and M Weimer, "From diversity to coordination: a European approach to COVID-19" (2020) 11(2) European Journal of Risk Regulation 283–96; A Renda and R Catro, "Towards stronger EU governance of health threats after the COVID-19 pandemic" (2020) 11(2) European Journal of Risk Regulation 273–82.

[18] On 16 March 2020, the Commission adopted its Communication on the temporary restriction on non-essential travel to the EU (Communication from the Commission to the European Parliament, the European Council and the Council: COVID-19: Temporary Restriction on Non-Essential Travel to the EU, COM/2020/115 final, 16.3.2020). In this document, the Commission recommended the European Council to adopt a coordinated decision on the closure of external borders. The agreement was reached by the European Council the following day (Conclusions by the President of the European Council following the video conference with members of the European Council on COVID-19, 164/20, 17/03/2020). A number of other soft law measures followed. Nevertheless, the fact that all EU measures were adopted as soft law instruments does not necessarily imply their ineffectiveness (eg the EU's "traffic light system", which was adopted as a Council Recommendation).

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there is a possibility that Member States, and even private companies, could choose to use EU Digital Green Certificates – once they enter into force – for other purposes apart from cross-border movement. However, they have to regulate this by national law and, when doing so, they have to comply with the EU fundamental rights standards and its free movement law, which includes the principles of non-discrimination and proportionality.

Second, EU certificates will coordinate national COVID-19 certificates that have been/will have been put in place for travel and other purposes before the coming into force of the EU certificates. For example, Denmark has started using a national "coronapas", which enables its owners to access a number of cultural, sporting and social events and locations in Denmark, such as closed bars, restaurants, museums, art galleries, gyms, hairdressers, conferences and various social events.[19] France has launched a COVID-19 digital pass for travel to its overseas territories,[20] whereas Sweden and Poland have expressed their intention to implement national COVID-19 certificates as well.[21] All of these national initiatives will have to comply with the EU law standards and be interoperable with the EU system of Digital Green Certificates. Consequently, the EU Digital Green Certificates coordinate and harmonise national initiatives, no matter whether national activities have been initiated before the coming into force of the EU certificates or whether they have evolved from them. However, due to the division of competences between the EU and its Member States, the EU Digital Green Certificates and national initiatives, which go beyond the scope of the EU certificates, will have different legal bases. EU certificates will be based on EU free movement law,[22] whereas national COVID-19 certificates used for other purposes will be based on national rules aimed at public health protection. Due to the fact that the certificates used for national purposes will entirely correspond to the EU certificates, one could view this process as a projection of the EU's influence and its coordinating role in issues that are seemingly outside the scope of EU law, as they are based on national public health rules and might have no cross-border element.[23] The need for the compliance of national COVID-19 certificates with the EU certificates is also supported by the principle of loyalty, contained in Article 4(3) TEU.

[19] For basic information on the functioning of the Danish coronapas, see the following four links: <https://www.sundhed.dk/borger/min-side/corona/covidpas/>; <https://www.sundhed.dk/borger/min-side/corona/vaccinationspas/>; <https://coronasmitte.dk/raad-og-regler/coronapas>; <https://covid19.ssi.dk/vaccination/coronapas> (last accessed 5 May 2021).

[20] "France launches COVID health pass for travel to its overseas territories" (*Euronews*, 12 May 2021) <https://www.euronews.com/travel/2021/04/20/france-launches-covid-pass-for-travel-to-its-overseas-territories> (last accessed 15 May 2021). See also J Henley, "France is the first EU Member State to start testing digital Covid travel certificates" (*The Guardian*, 20 April 2021) <https://www.theguardian.com/world/2021/apr/20/france-is-first-eu-member-state-to-start-testing-digital-covid-travel-certificate> (last accessed 15 May 2021).

[21] "Sweden is making plans for an online vaccination certificate" (*Kristinformation.se*, 4 February 2021) <https://www.krisinformation.se/en/news/2021/february/sweden-is-making-plans-for-an-online-vaccination-certificate> (last accessed 5 May 2021); A Brzozowski and A Wolska, "Vaccinated Poles to receive special 'passports'" (*Euractiv*, 14 January 2021) <https://www.euractiv.com/section/politics/short_news/vaccinated-poles-to-receive-special-passports/> (last accessed 5 May 2021).

[22] The Commission's Proposal is based on Art 21(1) TFEU, which confers on EU citizens the right to move and reside freely within the EU.

[23] For a discussion on the importance of the EU's regulatory coordination in the pandemic, see A Alemanno, "The European response to COVID-19: from regulatory emulation to regulatory coordination?" (2020) 11(2) European Journal of Risk Regulation 307–16.

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VI. Conclusion

Based on the Commission's Proposal, Digital Green Certificates will be suspended once the WHO has declared the end of the pandemic.[24] This could take place either once herd immunity is created or once an effective cure for COVID-19 is found, or, more likely, a combination of both scenarios. Considering the high rate of contagiousness and transmissibility of COVID-19 (R0), scientists have been raising their estimates up to 90% of population being vaccinated in order to achieve herd immunity.[25] The WHO's position has been that the percentage of the population that would need to be vaccinated to induce herd immunity is not yet known.[26] Consequently, due to the uncertain threshold needed for herd immunity, it is difficult to predict the date when the WHO will declare the end of the pandemic, leading to the suspension of Digital Green Certificates. EU citizens might have to get used to living with EU certificates for quite a while. In its negotiating position, the European Parliament requests the amendment of the Commission's Proposal by limiting the application of Digital Green Certificates to a maximum of twelve months.[27] Consequently, we will have to wait for the outcome of the interinstitutional negotiations to find out the likely lifespan of the Digital Green Certificates.

In any case, EU certificates have highlighted the importance of science in assessing the proportionality of pandemic-related measures and of choosing the least restrictive and the most individualised options when restricting free movement due to public health reasons. They have also, once again, shown the close interaction between the EU's and national competences, reinforced by the principle of loyalty and the need for coherence between the EU's and national actions.

[24] Art 15(2) of the Proposal.

[25] DG McNeil Jr, "How much herd immunity is enough?" (*New York Times*, 24 December 2021) <https://www.nytimes.com/2020/12/24/health/herd-immunity-covid-coronavirus.html> (last accessed 10 May 2021).

[26] WHO, "Coronavirus disease (COVID-19): herd immunity, lockdowns and COVID-19" (31 December 2021) <https://www.who.int/news-room/q-a-detail/herd-immunity-lockdowns-and-covid-19> (last accessed 10 May 2021).

[27] Art 15(2) of the European Parliament's Amendments.

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