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The scalar arrangements of three European public health systems facing the COVID-19 pandemic: Comparing France, Germany, and Italy

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In France, Germany, and Italy, the management of the COVID-19 pandemic has required coordination on different territorial levels of a plurality of actors—some para-public, others non-profit, and others for-profit and private—and dealing with local differences in the impacts of the crisis, all of this under severe time constraints. The healthcare systems of the three countries represent complex institutional arrangements that have undergone far-reaching reforms, mostly involving economic liberalization, in the last four decades. In particular the funding and resources available for healthcare have been subjected to radical transformations and sometimes drastic cutbacks. In keeping with the general trend in social policy that has led to marketization and increasing emphasis on individual responsibility, this shift has influenced the coordination of a wide range of players active in diverse social and territorial spaces during the COVID-19 pandemic. In this article, we examine the social coordination of the French, German, and Italian healthcare systems facing the COVID-19 pandemic by focusing on two sets of issues. First, we analyze policy discourses and crisis management measures taken by these governments. Specifically, we examine the concept of solidarity expressed by government leaders when the initial lockdowns were put in place and legal measures and governance structures drawn on in managing the crisis. Second, we look at two key operational elements in the fight against the pandemic: introduction of test strategies and provision of intensive care beds. Both require the deployment of a specific concept of solidarity—or a deceptive version of the concept—as well as coordination of key actors. The results of our comparison lead to conclusions regarding more general changes in European welfare states.

Keywords: Healthcare systems, social policy coordination, territorial organization, test strategies and intensive care beds in the COVID-19-pandemic, French-German-Italian comparison

1. Organizing solidarity in complex, fragmented, and multilevel healthcare systems in France, Germany, and Italy

Combatting the spread of the Sars-Cov-2 and dealing with the health impacts of COVID-19, the disease it causes, has required coordinating the action of a great number of players in the health and social policy domains on various territorial levels and under severe time constraints (OECD, 2020, June 16). In most countries of the European Union, public healthcare is a fundamental part of the welfare-system. It contributes, together with social policies, to fostering and maintaining solidarity within society. Yet, the health and social policy domains in the European welfare systems are complex and fragmented with respect to funding and resource allocation, social needs and medical requirements, guaranteed access, and prevention of non-take-up. This is the case for the French, German, and Italian systems, albeit for each in a specific way. As a reflection of the historical configuration of the actors involved and more or less in line with either the Bismarckian or the Beveridgian welfare-state models, the organization of public health and social affairs in these three countries combines para-public as well as private not-for-profit and private for-profit organizations.

In addition to this horizontal dimension marked by the plurality of actors, the territorial regulation of social and healthcare systems in France, Germany, and Italy represents a key vertical structural dimension. The institutional organization of the centre-periphery and territorial organization of the French, German, and Italian health systems differ significantly. In spite of reforms aiming at decentralizing the administration of healthcare, France has maintained one of the most centralized health policy systems in Europe. In France, the level of public spending remains one of the highest among OECD member states. As a federal state, Germany appears to be clearly more decentralized than France. Even if the core principles of the health policy system (financing, standard rules, etc.) are defined at the federal level, the autonomy of policy players at the regional (*Land*) and local, that is, municipal or district level, is important. Public funding for healthcare in Germany is also high in a European comparative perspective. The Italian health system has been regionalized to a high degree, both regarding funding and organization. Regionalization of the financing of social schemes has been a significant issue in recent years.

As the governments of France, Germany, and Italy established their management of the COVID-19 crisis, they referred to the virtues of their respective national public health systems and the universal values of their welfare systems, in particular to solidarity. However, the healthcare systems of the three countries have undergone far-reaching reforms, mostly related to economic liberalization, in the last four decades. Their funding and resources have been subjected to radical transformations and sometimes drastic cutbacks. This evolution in the health policy domain is consistent with the general trend in social policy that has led to both marketization and an increasing emphasis on individual responsibility (Dörre, Lessenich & Rosa 2015; Gray 2009). The discrepancy between the rhetoric of appealing to national solidarity and what has become an institutionalized policy agenda of limiting public spending in the domains of health and social policies is striking and raises the question of whether the solidarity concept has undergone a deceptive conversion during the COVID-19 pandemic.

Against this backdrop, we focus, in this article, on the specific forms of social coordination implemented within the differentiated and fragmented health systems facing the COVID-19 pandemic. Our aim is to identify what standards and concepts have played a key role in shaping the interaction between various segments and scalar levels of healthcare and health policymaking by comparing crisis management in France, Germany, and Italy during the first wave of the COVID-19 pandemic from January 2020 to summer 2020. Within the interactions structured by institutional norms and territorial scales, the actors involved gauge their activities in multiple ways. They refer, for instance, to medical professionalism

or administrative procedures and hierarchies, to their knowledge about financing or economic resources, and to policy discourses that encourage or discourage specific forms of relations between actors. The multiple layers that pervade this social coordination in France, Germany, and Italy have posed a great challenge to the implementation of measures against the spread of COVID-19 in the complex and fragmented arrangements of public health.

To compare the diverse ways in which the health crisis caused by COVID-19 has been managed in the three countries, we proceed in three steps. First, we shed light on the institutional dynamics of health policies in France, Germany, and Italy. By looking more carefully at the tension between funding and social entitlements, we can provide a brief overview of the transformation of institutionalized solidarity in the domain of health policy.

Second, we consider two complementary aspects of governance in the COVID-19 crisis: political discourses and legal and administrative measures. By analyzing policy discourses as reflected in pronouncements by heads of state or government at the outbreak of the health crisis, we scrutinize, in a first step, governmental rationales for crisis management as well as the respective concepts of solidarity expressed as the first lockdowns were enforced in the three countries. In a second step, we will look at the legal measures and governance structures that have shaped the core choices of crisis management.

The third and last part of the article focusses on concrete hygiene measures to curb the pandemic, concentrating on two key elements of crisis management: massive testing, as a preventive tool recommended by the WHO, and mobilizing intensive care units (ICU) beds and staff as essential for the treatment of the most seriously affected patients. The massive mobilization of tests at an early stage of the pandemic has required the cooperation, on a large territorial scale, of various types of laboratories as well as other service providers and professions—operators of testing facilities, general practitioners, nurses, etc. The extent to which the various health systems have had reliable access to an adequate number of ICU beds in the context of the crisis has depended on earlier structural choices about how to develop and maintain a specific stationary healthcare infrastructure. This has had an impact on the more short-term capacity to mobilize beds in the various types of stationary institutions, public and private, within the most affected areas and beyond. Making tests available and ensuring that the results are obtained rapidly, organizing the personnel and infrastructure needed for contact tracing, and securing the availability of ICU beds and appropriate nursing staff calls for essential economic and educational resources and builds on long-term structures in public health systems. Both have been put under pressure by the marketization of public health and the focus on individual responsibility.

2. The institutional background of the French, German, and Italian healthcare systems

The systems of public healthcare in France, Germany, and Italy aim at establishing general access to healthcare, planning to meet health service needs and ensure the quality of healthcare, and budgeting the effective and efficient use of healthcare funds (Klinke, 2008, 63-64; Pfaff et al., 2018, 329). The following brief institutional-comparative analysis of the French, German, and Italian healthcare systems examines the different ways these three goals were addressed in the three countries and highlights the institutional backgrounds of COVID-19-pandemic management in France, Germany, and Italy.

Despite variations in their redistributive capacity, welfare systems in Europe were originally developed within the tradition of a concept of solidarity; the contribution of all members of the community to welfare systems was to protect them individually in the face of hardship. The idea of individual and collective safeguards against the detrimental power of the market has been progressively replaced by an emphasis on individual accountability. In the context of the decline of the industrial labour force and its clearly defined social rights and the rise of much more fragile employment in the service sector (Lengwiler, 2020;

Raphael, 2019), a vestigial form of welfare state that merely provides a minimal safety net has supplanted the notion of more comprehensive protection against market impacts.

2.1 France: disorganized centralization

The French welfare state is often presented as a Bismarckian system. Founded in its modern form after World War II, financed by payroll contributions, and governed by joint regulatory bodies that involved labour unions and employers' associations, the system preserves the stratification of income. Although the goal of offering social protection to the whole population was formulated at the end of World War II, concrete measures to this end were not realized until the late 1970s. The *Sécurité sociale* is a co-payment system. The bulk of the population also has healthcare coverage from non-profit insurance companies (*mutuelles*). The general insurance fund (*régime général*) today provides health insurance for 93 % of the population, but specific insurance funds also continue to exist for various professions—miners, agricultural workers, various types of civil servants, etc. Since the 1990's, the share of general income tax in the overall financing of the welfare state has increased significantly. In 2018, payroll contributions covered 54 % of the *régime général* for all insurance funds (Direction de la sécurité sociale, 2019). From the early 2000s and in a context of persistently high levels of unemployment and social exclusion, various reforms have aimed at guaranteeing basic health insurance coverage (PMU for *protection maladie universelle*) as well as complementary health insurance (*Complémentaire santé solidaire*) for every legal resident of France. Both are tax financed. Besides the increased share of tax funding, the governance of the *Sécurité sociale* has increasingly been transferred since the mid-1990s to political authorities (government administration and the national parliament).

Over the last few decades, the French authorities have decided to maintain coverage of secondary healthcare costs, such as treatments for cancer or most other serious conditions. However, coverage of primary medical costs has been constantly reduced. From 2000 to 2018, per capita private healthcare expenditure (voluntary insurance plus out-of-pocket payments) have increased by 48.7 % in France, according to OECD health statistics (see Table 1). A system of mostly self-employed general practitioners and private clinics provides the bulk of primary care. The health insurance system finances this care but is hardly able to control the system's cost dynamic. Public hospitals are torn between their responsibility to supply all kinds of healthcare and their role in fulfilling the most advanced technical and research-centred healthcare tasks. Their situation is exacerbated by the fact that, since the mid-1980s, public hospitals have been seen as accounting for the largest part of public healthcare expenditures. From global budgets to systems of fee-for-service pricing, there have been frequent radical changes in funding, with impacts on the organization of public hospitals, some of which have led to considerable disorganization (Domin, 2020). At the same time, the idea that these institutions offer an unlimited potential for cuts in public spending has become a sort of presupposition in health policy-making. Every annual budget for the healthcare system since the mid-1980s has imposed further funding restrictions.

The institutionalization of the *Agences régionales de santé* (ARS or Regional Health Agencies) was supposed to regulate, at the regional level, both private and public as well as ambulatory and stationary inpatient forms of healthcare and to establish a more coherent governance of the French health system. However, the ARS are a very heterogeneous set of institutions, due to the fact that—on a local level (*préfets*) and especially in the realm of public health—they are subordinate to representatives of the central state. Moreover, their relations with regional authorities are poorly defined. The implementation of national health policy goals on a regional level via the instrument of specific regional planning goals such as "combatting unequal access to healthcare" appears rather contradictory.

The poor coordination between the social welfare and healthcare systems and the deficits in the public health system are two further key points. A succession of crises and scandals that have plagued the domain of public health at least since the mid-1980s (Gilbert & Henry, 2009) has led to a series of reforms that have created a complex and intricate governance of public health affairs. Besides the creation of various regulatory agencies (for drug oversight, quality control of various stationary institutions, public health, etc.), the national health ministry (*Ministère des solidarités et de la santé)* has maintained control over most key areas. In particular, the central department of the ministry (*Direction générale de la santé*) has retained oversight over most functions that were supposed to have been delegated to other government agencies. This is most notably the case with monitoring health services and security (*Sous-direction Veille et sécurité sanitaire* in the *Direction générale de la santé*).

2.2 The German case: economization of public health

The German healthcare system reflects, firstly, the fundamental goal of status preservation and, secondly, the corporatist nature of the welfare state in the Federal Republic of Germany since the 1950s (Kaufmann, 2015). Building on Bismarckian traditions, the three functions of the healthcare system—providing access to healthcare, ensuring its quality, and financing its cost—are primarily accomplished on the basis of compulsory insurance, which relies to almost 100 % on contributions to statutory insurance funds. Tax-financed access to public health, for example for recipients of social welfare benefits, has traditionally played a minor role in the German healthcare system (Rau, 2008). Mandatory contributions from social assistance recipients or long-term unemployed persons are, however, in most cases financed at the municipal level. As in France, the healthcare system in Germany reinforces the stratification of income and is specifically advantageous for higher income groups.

The architecture of health insurance in Germany is accompanied by the institutionalization of a territorially organized triangular relationship between three groups of actors, each representing one of the three functions of the public health system at the federal, *Länder* (regional), and municipal (county) levels. These three groups are the service providers (e.g. the German Hospital Federation as well as organizations of healthcare professionals), the financial backers (the local statutory schemes such as company health insurance funds, the craft guild health insurance schemes, etc.) and those who have statutory insurance (that is, pay contributions). The governance structures of the German statutory insurance system clearly offer advantages for the employers' side, which has representatives on the boards of directors of statutory insurance providers.

A joint committee representing providers of statutory insurance and of healthcare negotiate the conditions for access to public health services, health service needs and the quality of care, the cost rates for medical services and interventions, which health services must be paid for out-of-pocket and at what rates, etc. Full-cost coverage by insurance has been abandoned for more and more health services since the 1990s. From 2000 to 2018, per capita private healthcare expenditures have increased by 51.6 % in Germany (see Table 1), and a growing number of citizens with public as well as private insurance now have supplementary insurance for individual health services. This example demonstrates how the German healthcare system merges public, non-profit, and for-profit private actors and transforms them, based on the self-governance principal, into corporate stakeholders within an increasingly economized system. Public health is primarily in the hands of 400 health authorities (*Gesundheitsämter*) that are responsible for individual health advice, healthcare that is relevant for collective health service needs, and public preventive hygiene (e. g. in the case of epidemics). These agencies collaborate when necessary with

public assistance agencies and represent the only institutionalized link between healthcare and governmental social policy intervention.
The current self-governance structures are the result of a plethora of laws and decrees in the healthcare sector (Illig, 2017, 2) and reflect growing state regulation of the health system as part of attempts to control the costs of public healthcare in the last forty years (Lengwiler, 2020). Forced to agree to trade-offs with the *Länder* governments because of the bicameral legislative system, the federal government has enacted laws and administrative decrees that redefine the criteria for access to healthcare, the services provided and the quality of healthcare, and cost coverage. Whereas until about 1977 government actors subordinated budget problem and financing to the primacy of providing access to public healthcare and promoting public health, since then they have increasingly transformed the healthcare system into a specific sector of the market. Calls for supplying cost-effective care have become arguments in favour of more competition between the statutory insurance providers, increased co-payments and out-of-pocket payments, introduction of diagnosis-related group systems for inpatient services, the classification of certain medical services as optional, etc. (Klinke, 2008, 98-99; Hensen & Hensen, 2008; Lengwiler, 2020).
The discourse about the healthcare "cost explosion" has focused on the share of social contributions in salaries and wage costs but not on the problem of shrinking revenues for the statutory health insurance providers in the context of rising unemployment, the growth of precarious work-relations in the service sector, and a decline in the relative contribution of dependent labour to the GNP (Braun, Kühn & Reiners, 1998). Structural reforms aimed at strengthening the principle of solidarity in public healthcare have been practically absent from negotiations between the stakeholders of the German public health system since the late 1970s (Süß, 2020).

2.3 Italy: anti-state federalism

In accordance with article 32 of the Italian constitution, the Italian healthcare system is built on a universalistic concept of solidarity and promises to ensure care and assistance to all, regardless of nationality, residence, and income. The National Health Service (*Servizio Sanitario Nazionale*) was established by Law no. 833 of 23 December 1978 and implements the aforementioned article 32 of the constitution. This agency represents a system of structures and services that aim at guaranteeing universal access to the equitable provision of healthcare. Conceived in the tradition of the Beveridge model, the normative rationale of the Italian healthcare system is based on tax funding. Governmental actors and legislation are central for determining the frames of outpatient and inpatient medical care, of public and private providers of health services, and last but not least for linking healthcare to public action in the social domain.
From the 1990s onwards, public health reforms have been combined with constitutional and fiscal reforms: the 1992-1993 public health reforms (Legislative Decree no. 502/1992 and no. 517/1993), the reform of health system funding as a part of fiscal federalism (art. 10 of Bill no. 133/1999 and Decree Law no. 56/2000), and, in 2001, several reforms that have redistributed powers, resources, and competences to the regions and have led to the regionalization of the National Health Service. After 2000, financing of the public health funds changed completely. On the basis of Legislative Decree no. 56/2000, the old health fund was replaced by the additional IRPEF (a supplement on personal income tax) and by a share of excise duty on petrol and a VAT contribution. These taxes, together with the Italian Regional Tax on Production (*Imposta Regionale sulle Attività. Produttive*, IRAP) have to finance the entire health sector. In addition, the reform of Title V of the Italian constitution (Law no. 3/2001) has introduced concurrent legislation on health protection for regions. According to the constitutionally determined assignment of competences, the three

functionalities of public healthcare are accomplished on two governmental scales: on the one hand, by the central government, which defines both the essential levels of care (*Livelli Essenziali di Assistenza, LEA*) and the frameworks for fees or free in-kind services and the total amount of resources needed to finance them; and on the other hand, the regions, which are responsible for organizing their respective regional health services and for guaranteeing the provision of the relevant services in compliance with the essential levels of care (Mapelli, 2012; Gabriele, 2015).

Subdivided into Regional Healthcare Authorities (*Aziende Sanitarie Locali*), Hospital Organizations (including university hospitals), scientific institutes for research, hospitalization and healthcare (IRCCS), and accredited private establishments, the Italian healthcare system mirrors Italy's complex territorial structure of 20 regions (15 ordinary regions and 5 special regions), 2 self-governing provinces (Bolzano and Trento), 107 provinces, 14 metropolitan areas, and 7,926 municipalities. The special statute regions (Sardinia, Trentino-Alto Adige, Friuli-Venezia Giulia, and Valle d'Aosta with the exception of Sicily that contributes only to a part of healthcare expenditures, with the central state funding the remaining part) and the autonomous provinces of Trento and Bolzano provide funding for the National Health Service from their own budgets. With respect to public spending on healthcare, from 2000 to 2018 the increase was 74.7 %, one of the lowest among European OECD countries. Italy is in the third-to-the-last place, with the last three places taken by Greece (52.4%), Luxembourg (56.9%), and Portugal (69.1%). Private expenditures for health, including both voluntary schemes and household out-of-pocket payments, increased from 2000 to 2018 by 63.9 % compared to the average of the OECD countries (see Table 1).

From 2010 to 2019, the National Health Service was forced by the Stability Pact to comply with a series of rules blocking staff recruitment. The financial law of 2010 (191/2009) introduced an expenditure limit for the staff of the National Health Service. The maximum level of expenditure for personnel was to be set at that of 2004, a reduction of 1.4 %. From 2010 onwards, the institutions of the European Union, e.g. the European Central Bank, have forced Italy's national government to cut central transfers to regions and local governments for the policy areas disability, children, migrants, and welfare (Petmesidou *et al.*, 2020). Consequently, total public health financing decreased by €900 million in 2012, €1.8 billion in 2013, and a further €2 billion in 2014 (Ferré et al., 2014). In 2019, the amendment agreed upon between the Ministry of Health, the Ministry of Economy and Finance, the Ministry of Public Administration, and the regions abolished the expenditure limit in force since 2010. From 2019, staff expenditure may not exceed the 2018 value plus 5 %.

Table 1: Increases in private spending (voluntary schemes and household out-of-pocket payments) from 2000 to 2018; current expenditure on health (all functions), per capita, current prices, current PPPs

France	48.7%
Germany	51.6%
Italy	63.9%

Source: OECD Data on health expenditure and financing, 2020.

In spite of differences in healthcare in France, Germany, and Italy, the three countries have witnessed important similar developments for the last four decades. In different ways and to varying degrees and at varying speeds in France, Germany, and Italy, reforms have not only aimed at reducing the growing costs of healthcare but have also been the outcomes of general and internationally promoted discourses on individual responsibility in the health domain and in protection against social risks. These discourses have not only justified "social vulnerability" as unavoidable but also defined strategies of "social risk

management" (Holzmann & Jorgensen, 1999; Alwang et al., 2001). The concepts of "social vulnerability" and "social risk management" assign individual responsibility for processes that depend on clearly defined governmental and intergovernmental choices (Bothfeld & Betzelt 2011). In the French, German, and Italian context, limiting public expenditure, privatization, and the individualization of important financial issues have been successfully framed, at least since the late 1990s, by the neoliberal narrative that has moved from governmental accountability to individual responsibility. However, specific issues of social coordination both between public and private actors and between the levels of territorial regulation appear to be salient in each national configuration. Two main deadlocks mark the French case. First, the failed attempts to decentralize the health system have disorganized its governance. Second, the focus placed on cutting spending in public hospitals has represented a further concrete obstacle to providing the services needed in all areas of the country. In the German case, the corporatist nature of the system and its greater capacity to reach agreements in the context of the federal system have maintained the ability of the health system to react to changing demands but have also led to an almost unquestioned economization of the health system. This economized system 'outsources' the costs of solidarity by making the individual responsible for her/his health and by creating increasingly heavy workloads for hospital staff. Nevertheless, in comparison to France, measures to limit the rise in healthcare costs have been more equally distributed between stationary and ambulatory care. The Italian case is characterized by both strong decentralization, which has meant that the governance capacity of the overall health system is now more and more fragile, and by long-term underfunding.

3. French, German, and Italian health crisis governance

In order to compare the way in which the French, German, and Italian healthcare systems related to solidarity in the context of the COVID-19 pandemic, we begin by focussing on governance aspects. We consider how the notion of solidarity was framed by policy discourses invoked by the heads of state or government in France, Germany, and Italy, as they announced their core policy responses to the first wave of the pandemic in mid-March 2020 (see 3.1.). We then compare the organizational, institutional, and legal arrangements put in place when the crisis broke out (see 3.2). Our analysis will consider the scales relevant for coordinating the various interactions in the health sector.

3.1 Policy rationales and privileged concepts of solidarity expressed in policy discourses

"We are a community in which every life and every person counts." When Chancellor Angela Merkel of Germany declared the first lockdown (officially *Beschränkung sozialer Kontakte*, also called *Kontaktsperre* – a word referring to a ban on contacts for prison inmates) with this solidarity formula in her speech on 18 March 2020, she emphasized "how vulnerable we all are, how dependent on the considerate behaviour of others". She combined this basic socio-political insight with a "thank you to people who are thanked too seldom" and referred to supermarket cashiers as an example. The central element of her speech, however, was to call on every individual, every "fellow citizen" to assume personal responsibility and to respect the restrictions during the lockdown. She promised that the federal government would do everything "to cushion the economic impact—and above all to preserve jobs" for companies, businesses, stores, restaurants, and freelancers (Presse- und Informationsdienst der Bundesregierung, 2020). As she emphasized, part of the contribution which she was asking everyone to make was to temporarily forego their "freedom of travel and movement", in her eyes a "hard-won right", and accept the fact that Germany was closing its borders.

The president of the French Republic, Emmanuel Macron, made two key speeches in mid-March, in which he presented the national public health strategy. At the very beginning of

his public address on 12 March, Macron paid tribute to the commitment of medical staff, calling them "heroes in white coats" and also commended the composure or "*sang-froid*" of the population in facing the virus (Elysée, 2020a). He praised the capacity of citizens to "put the collective interests first and form a humane community that bonds together thanks to shared values: solidarity, brotherhood". Macron evoked three further principles. The first one was "faith in science". The second was solidarity with disadvantaged citizens and businesses in the context of the lockdown. He insisted that "providing free healthcare" and "our welfare state" were not to be considered "costs or burdens" but "precious assets". And he added: "What the pandemic reveals is that there are goods and services that should be safeguarded against market laws". The third principle referred to by Macron was international and, specifically, European coordination in combatting a "virus that does not hold a passport". On 16 March, in his second official address, however, the president stressed restrictions on movement in public and on travel (France has implemented a strict version of the lockdown), on citizens' obligations in general, and on what he referred to three times as their indispensable "sense of responsibility" (Elysée, 2020b). He also mentioned the idea that France is "at war" with the virus and its impacts five times.

On 11 March, in the period when Italy was the country that was second most hard-hit by COVID-19 after China, Italy's prime minister Giuseppe Conte announced the government's new measures to combat the pandemic and prevent the spread of the virus and evoked a national sense of belonging. "Italy, we can say it loudly and with pride, is proving that it is a great nation, a great community, united and responsible" (Conte, 2020). Public affirmation of such sentiments has traditionally been limited in Italy. This emphasis on national community underscores individual accountability with the aim of preventing further pressure on healthcare facilities at a time when they were already facing enormous difficulties. In his first speech, Conte tried to reassure the population, in particular economic actors, by adopting a paternalistic rhetoric and by highlighting the effectiveness of the measures taken by the government. However, there are no references in the speech to civic and social solidarity.

The significant differences between the two French president's speeches create a similar ambivalence. Macron at first clearly insisted on the value of the French welfare state, but he then urged people to act responsibly during the pandemic, arousing feelings of guilt in French citizens. The German chancellor also combined the notion of collective solidarity with individual responsibility. In Merkel's speech, however, no intention to inculcate guilt in the population is apparent.

3.2 Setting up crisis-governance: structures and legal frames

In January 2020, with the outbreak of the pandemic, the Italian government declared a national state of emergency based on article 24 of the Italian Civil Protection Code (art. 24, Legislative Decree No. 1, 2 January 2018). The Civil Protection Code has been the legal basis for the management of the pandemic. In accordance with article 24 of the Code, the central government is allowed to intervene directly in the organization of local administrations (regions, provinces, metropolitan cities, and municipalities). Subsequently, on 23 February, with Decree Law no. 6, 11 municipalities in Lombardy and Veneto were placed under quarantine. In these municipalities, people's right to freedom of movement was suspended and police surveillance imposed (Wuhan model). The first phase of pandemic management began on 9 March and ended on 3 May. In this phase, free movement outside of one's home was strictly limited, schools were closed, and work activities that were not in the public interest were prohibited at first in Lombardy and in 14 provinces in central and northern Italy and soon after in the entire country. From 4 May to 14 June, the second phase of pandemic management was initiated with the reopening of factories, some businesses, and public places. On 15 June, the management of the third phase began with the

ongoing suspension of teaching activities and monitoring of access to public places. The new decree strictly limited to 200 the number of people allowed to visit cinemas or museums at any given time. Social distancing measures remained in place in closed public spaces and large-scale meetings and events were still prohibited (smaller meetings were allowed only on the condition that distancing was respected). At the beginning of November, in order to avoid another lockdown and the total closure of production facilities and services, the minister of health signed a new ordinance defining three different areas associated with different levels of risk (medium-high risks or level 3 were marked orange, the highest was level 4 and marked red). This ordinance classified all regions in Italy based on the analysis of epidemiological data on the spread of the epidemic and risk scenarios spelled out in the report of the Higher Institute of Health (*Istituto Superiore di Sanità)*. From February to October 2020, the Council of Ministers of the Italian Government adopted 18 legislative decrees and 20 decrees passed down by the president of the Council of Ministers. During the same period, the Civil Protection Department of the Presidency of the Council of Ministers adopted 46 ordinances. The Ministry of Health adopted 28 ordinances. This overproduction of laws in Italy has served to legitimize a government that does not have a common agenda. At the same time, the silencing of parliamentary debate has prevented decision-making processes from becoming caught up in the political game. The management of the pandemic crisis was greatly affected by interactions between the national and regional levels. On a formal level, the constitution and parliamentary legislation are recognized as expressions of the superior power of the central government. On a substantive level, the autonomy granted to the regions made the implementation of national policies to tackle the pandemic crisis dependent on the regional administrations. This led to a conflict between different levels of decision-making that prevented timely and effective management of the pandemic.

In view of development of the pandemic in Italy in February 2020, the German Federal Minister of Health commissioned the Robert Koch Institute (RKI), the central state agency for disease surveillance and prevention (§4 *Infektionsschutzgesetz*), to update the existing pandemic plan. On 4 March, the RKI presented this updated plan (RKI, 2020a). The plan set first standards for Sar-CoV-2 testing and the use of ICU beds in hospitals. In France, in contrast, instead of mobilizing the institutions charged by law with management of health emergencies (*Institut de veille de sanitaire*, *Santé Publique France*, *Direction générale de la santé*), the president of the republic established an ad hoc scientific committee on 12 March and installed an interministerial crisis management unit on 16 March under the authority of the Ministry of the Interior. This improvised crisis governance structure has been criticized by an international evaluation report for its complexity and its weak capacity to coordinate activities with the regional health agencies (ARS) and the *préfets* (Mission indépendante, 2020). Moreover, most key decisions concerning the pandemic are taken in the strictly hierarchical Defense and National Security Council convened by the French president at the central governmental institution—the Palais de l'Elysée.

In Germany, the first Law for the Protection of the Population in the Event of an Epidemic Situation of National Significance was passed by the Bundestag on 25 March and by the Bundesrat on 27 March. This law, like the second Law for the Protection of the Population in the Event of an Epidemic Situation of National Significance, dated 19 May 2020, significantly expanded governmental control over the German healthcare system and in particular strengthened the administrative authority of the RKI. Both laws clearly shifted healthcare responsibilities to the executive branch at the expense of the legislative branch and, last but not least, at the expense of the self-administration of the various corporatist actors involved in the healthcare system such as the Association of Statutory Health Insurance Physicians, the German Hospital Federation, or the boards of the statutory health insurance providers (Worschech, 2020, 235). However, this shift to more centralization has

not meant that federalism has been overridden in German crisis management of the pandemic. Cooperation between the governments on the federal level and the *Länder* level has intensified (Behnke, 2020). Each *Land* has enacted, on the basis of the two federal Laws for the Protection of the Population in the Event of an Epidemic Situation of National Significance, its own *Corona-Verordnung* (COVID-19 ordinance) and has reached decisions at different times on banning public events, opening or closing stores, entry restrictions for travellers, etc. Until the end of August 2020, German federalism has allowed the two laws and the decrees of the Federal Minister of Health to be efficiently adapted to local developments in the pandemic, to the need for immediate response, and to specific healthcare problems. However, in view of the increasing number of infections and the RKI categorization of risk areas in Germany established in September 2020, the heads of the *Länder* decided on a ban on accommodating residents from these risk areas who travel to other regions (*Beherbergungsverbot*). These bans demonstrated the absurd ends that the cooperative structures of German federalism could lead to and negated the existence of social ties across the borders of *Länder* and districts. These interactions, however, represent absolutely necessary contributions to solidarity, whether in the realm of economic or educational activities, care, family ties, or knowledge production. In controversial negotiations between the Federal Chancellery and the heads of the *Länder* from the second half of October on, these bans were largely withdrawn.

On 23 March, the French National Assembly passed the so-called health emergency law (*LOI n° 2020-290 du 23 mars 2020 d'urgence pour faire face à l'épidémie de COVID-19*). It enables the government not only to assume control of the entire health system but also authorizes the *préfets* (the head of the central state administrations at local level) to implement the national strategy. This law has enabled the government to replace the regular legislative process with executive decrees pertaining to the various dimensions of the health crisis. This strong concentration of power in the hands of the central state administration was at first enacted for two months and was extended several times and is currently valid until 1 June 2021 (*LOI n° 2021-160 du 15 février 2021 prorogeant l'état d'urgence sanitaire*). The poor integration of local authorities and the weaknesses of the public health administration with its decentralized structures have hindered coordination of the activities needed to mobilize in a national health crisis. Territorial conflict between the central state and mayors of big cities was limited during the first wave of the pandemic but increased significantly during the second wave from the beginning of October 2020 on.

The three countries have all undergone a phase of centralization of the decision-making process in the context of the COVID-19 pandemic. However, whereas Germany has rapidly returned to a federal form of shared crisis management, with the risk of creating great confusion at the beginning of the second wave of the pandemic, France has stuck to a strongly centralized management of the pandemic that centres on public actors (Bergeron et al., 2020). This strategy obstructed efforts to deal with the pandemic in the first phase of its spread and has fostered territorial conflicts in the second wave. Finally, in Italy, the central state was able to impose restrictions on local and regional levels but had a hard time dealing with the decentralized health systems.

4. Combatting the pandemic via key health policy measures

In this last part of our analysis, we examine how two key public health resources have been deployed in a more or less planned manner in these three countries: testing strategies and capacities (see 4.1.) and the provision of ICU beds and medical staff qualified to treat patients in them (see 4.2). As early as 10 January 2020, the WHO pointed to these resources in its "Review tool for a novel coronavirus". In considering these two elements, we will consider efforts in France, Germany, and Italy to coordinate their healthcare systems in view of two dimensions: territorial (vertical) and public-private (horizontal). More

specifically, securing the availability of mass test capacities entails coordination of the work of various types of more or less commercial laboratories with that of primary healthcare centres. In the case of ICU beds, the strong regional concentration of disease outbreaks in Europe during the first weeks of the pandemic meant that interregional solidarity was a key issue. This also raised the question of various forms of solidarity or at least coordination between public and private operators of stationary care provision and secondary care. The governance patterns of the health systems of the three countries and the funding logics of health policies in each country (see section 2) have influenced greatly the provision of both tests and intensive care beds.

4.1 Testing as a key preventive measure

Tests are key elements of prevention in the context of the COVID-19 pandemic. In order to be efficient, tests had to be made available to the public health system as quickly as possible at the beginning of the pandemic. In that phase, this represented both an organizational challenge and a challenge for the relevant industries. Coordination between private and public actors (researchers, producers, prescribers, providers, etc.) played a key role. However, tests also generate costs that, on the one hand, call into question the concept of solidarity in the various countries and, on the other hand, yield income for the producers and providers of the tests.

Table 2: Comparison of the data on testing for COVID-19 in Germany, France, and Italy

2020	**Tests** (in absolute numbers)	**Country's population**	**Testing rate** (per 100.000 residents)	**Rate of positive tests** (per cent)
2 March–8 March				
Calendar week 10				
Germany (source TESSy*)	124,716	83,019,213	150.22	0.59
France	11,101	67,012,883	16.56	5.54
Italy	29,132	60,359,546	48.2	16.34
13 April–19 April				
Calendar week 16				
Germany	331,902	83,019,213	339.80	5.85
France	145,316	67,012,883	216.52	12.42
Italy	346,348	60,359,546	571.81	6.82
11 May–17 May				
Calendar week 20				
Germany	432,076	83,019,213	520.45	1.19
France	151,346	67,012,883	225.84	2.27
Italy	439,048	60,359,546	727.39	1.48
24 August–30 August				
Calendar week 35				
Germany	1,120,883	83,019,213	1350.15	0.69
France	885,824	67,012,883	1321.87	1.45
Italy (country GitHub)	518,704	60,359,546	958.76	0.48
9 November–15 November				
Calendar week 46				
Germany	1,565,418	83,019,213	1885.61	8.43
France	1,051,249	67,012,883	1568.72	16.39
Italy	1,503,673	60,359,546	2491.90	16.10

*The source is case-based data submitted by Member States to TESSy, if not otherwise mentioned. When the data has not been submitted, the ECDC has compiled data from public online sources.

Source: European Centre for Disease Prevention and Control (ECDC), Data on testing for COVID-19 by week and country (19 Nov. 2020).

Comparison of the number of reverse transcription polymerase chain reaction (RT-PCR) tests and, since September 2020, rapid antigen nasal swab tests administered, the testing rate per 100,000 residents, and the percentage of positive tests over the period of our investigation in Germany, France, and Italy points to the differences in national testing strategies and their implementation (see Table 2). In Germany, the strategy that followed the motto "test, test, test – but in a targeted way" has played a major role in containing the pandemic. A team led by Christian Drosten (who became one of the most well-known virologists thanks to a weekly radio broadcast) at the German Institute for Infection Research of the Berlin University Hospital, Charité, published a RT-PCR-test protocol on 23 January 2020 on the platform *eurosurveillance* that the WHO had already announced on 13 January 2020 (Corman et al., 2020). Thanks to the "short distances" for cooperation and the exchange of information between scientific research, especially at university hospitals, and the associations of medical and pharmaceutical product manufacturers that are a result of the corporatist structure of the German healthcare system, the first tests quickly went into production in Germany. The launch of production was also speeded by a dense network of technologically advanced medium- and small-sized companies working on a local level. These companies were able to bring the test to market without long supply chains and offer tests to governmental health authorities, hospitals, and private laboratories. By early March, 124,716 tests had already been performed in 90 laboratories (RKI, 2020b, 17). In mid-April, the Federal Ministry of Health announced in a fact sheet that around 150 laboratories in Germany had carried out 1.7 million tests (Faktenpapier, 17 April 2020). According to this fact sheet, Germany had a test capacity of about 700,000 RT-PCR tests per week.

In Italy, the number of tests administered has differed significantly by regions throughout the entire period of pandemic management so far. Lombardy has by far the highest number of tests conducted with more than 3,500,000, followed by Veneto (more than 2,500,000 tests), Emilia-Romagna and Lazio (less than 2,000,000), Tuscany, Campania, and Piedmont (around 1,250,000). In the majority of the Italian regions, less than one million persons (in Sicily) or even less than 500,000 persons (in Sardinia or Calabria) have been tested (Statista, 2020a). However, while much fewer persons were tested in Italy than in Germany in the week from 2 March to 8 March, the number of tests administered has increased quickly and, in some periods, surpassed testing in Germany. The testing capacity of the Italian public health system has remained high (see Table 2).

In France, the testing capacity was at first very low (see Table 2). In the week of 6 April, the daily testing capacity was still less than 18,000 tests a day. This capacity increased slowly during the month of April. The situation improved in quantitative terms during the month of May: more than 42,000 tests a day were run in the week of 11 May, the first day of the French lockdown (see Rapport d'information, 2020, 103-105). Throughout most of the month of March, tests were mostly run in hospitals and were principally dedicated to identifying COVID-19 patients. A resolute decision to develop and implement a mass testing strategy was not reached until March. Poorly developed cooperation between the public testing centres (most of them in public hospitals) and a weak and decentralized private sector (see Mission indépendante d'évaluation, 2020, 33), a lack of infrastructure (laboratory equipment for processing tests), and the inability of the administrative system to respond swiftly to these deficits were obstacles to upscaling the national testing capacity. These difficulties, which were only gradually overcome in France, were apparently not encountered in Germany.

The German test strategy could build almost seamlessly on the territorial and corporatist structures of the national healthcare system, which traditionally bring together public and private actors both in the realm of healthcare provision and in activities on an administrative level. These structures have facilitated, at least in the first pandemic wave, the

interactions between the RKI and the regional and municipal health authorities (*Gesundheitsämter*), and professional associations in the medical sector. In France, procurement of testing capacities by the authorities began on 10 April. Acquisition of diagnostic equipment for laboratories by the French Ministry of Health was delayed and installation throughout the country did not commence until late March and was not completed until the end of April (21 machines were bought simultaneously). Finally, the decision to establish a comprehensive information system for registering all COVID-19 tests run in the country was not taken until 11 May. The quantitative scale-up of testing capacities in France has not solved all problems related to the country's testing strategy. In early September 2020, the COVID-19 scientific advisory board clearly stated that the French strategy *tester-tracer-isoler* (test-track-isolate) was not implemented appropriately (Conseil scientifique COVID-19, 2020a). The task of tracking infected persons and their contacts was assigned to local health insurance providers. These had no experience or competence in the sphere of public health and thus encountered difficulties in accomplishing this mission efficiently. A further warning report by the COVID-19 scientific advisory board clearly stated at the end of September that delays in reporting test results severely hampered the virus containment strategy (Conseil scientifique COVID-19, 2020b).

The German Ministry of Health underlined the need for targeted testing in a fact sheet issued 17 April 2020. One element of targeted testing has been to define priority groups. Initially only persons with symptoms and those for whom there was medical evidence of a suspected infection were tested. Later the criteria were extended to include asymptomatic contact persons, healthcare personnel with contact to COVID-19 patients, and those being (re)admitted to hospitals, nursing homes, homes for the elderly and disabled, and "other facilities for particularly vulnerable groups" (RKI, 2021). Other symptom-free groups were added on 9 June (with payment of tests guaranteed retroactively from 14 May) such as travellers returning to Germany from a risk area abroad. As of 6 August 2020, previously voluntary and free tests for these travellers became obligatory, and from October 2020, travellers who were aware before their trip that they were entering a risk area had to pay for these obligatory tests.

In Italy, in the first phase of the pandemic in February 2020, testing focussed on hospitalized patients with severe symptoms and was extended from March to include anyone with symptoms, medical personnel, and persons with contact to those infected. Whereas the German authorities began offering tests to people without symptoms as of June and the French authorities from the end of July, their Italian colleagues maintained the strategy of testing people with symptoms and a prescription written by a general practitioner or the medical monitoring service (*Guardia Medica*). Travellers from risk areas in other countries were defined, as in Germany, as a further test group as of August 2020. In some regions, school staff is in part also one of the officially defined test groups but screening is limited to teaching and educational staff.

With respect to costs, the situation differs in the three countries. In France the tests are in general free of charge and covered by the national health insurance scheme. From October 2020, it was decided that everyone could apply to be tested (Ministère des Solidarités et de la Santé, 2020). Prior to that decision, access to tests and processing of results was prioritized for specific groups; these were people with medical prescriptions, those with symptoms or contact with others who had tested positive for SARS-CoV-2, and health-sector professionals. The added expenditures in the public health sector were estimated at more than €15 billion 2020—but this figure includes masks and the bonuses regularly paid to healthcare employees as well as the cost of testing (Compte rendu du Conseil des ministres du 7 octobre 2020).

In the Italian case, all residents and non-residents apart from priority groups have access to tests in private laboratories at costs on an average between €50 and €162 for RT-PCR

tests and €22 for rapid antigen nasal swab tests. Refunds for tests carried out in private laboratories are granted only to persons with serious and chronic or rare diseases, those who meet specific income criteria, or during pregnancy.

With the aim of pursuing serial testing and testing as part of sentinel surveillance in Germany, the Federal Minister of Health issued a decree on 9 June 2020 that allowed reimbursement of the cost of tests for symptom-free individuals retroactively from 14 May at the expense of the national health fund (*Gesundheitsfonds*). In this period, additional expenditures for the laboratory costs of RT-PCR tests (not including, for example, the remuneration of physicians) were estimated to be €50.5 million. As early as February 2020, it was decided that the test costs would be part of the outpatient service catalogue of the statutory health insurance. This means that the statutory health insurers must cover, on the basis of the national health fund, the costs of the tests—not only for those insured by the statutory health insurance but also for all privately insured persons who are tested either as contact persons or in the context of the identification of clusters or sentinel tests (Engeser, 2020). From the end of August 2020 to the end of February 2021, free testing in Germany has been increasingly limited to persons with symptoms and those with a medical prescription. In most *Länder,* asymptomatic contact persons, people who wish to be tested before visiting family members or friends, and resident and non-resident travellers who are obliged to be tested when they enter Germany must pay for their tests. During this period, the "targeted testing" strategy (with the exception of serial and sentinel testing) seems to have been subordinated to quarantine as a preventive measure.

Germany would appear to have been most successful in anticipating the requirements for testing in the context of the first wave of the COVID-19 pandemic. The French public health system has apparently first had difficulties in grasping the importance of testing and then in installing an efficient testing strategy. In the Italian case, the mobilization of tests occurred when the virus had already spread widely throughout the most affected regions. Free tests and the organization of easy access to them for many (residents and non-residents) can been seen as an expression of solidarity and may have promoted people's willingness to be tested.

4.2 Mobilizing intensive care beds

Intensive care beds are a key instrument in treating COVID-19 patients. Their availability is the result of structural health policy choices going back to political decisions taken from the 1980s onwards (for Germany: Kühl & Tümmers, 2020). Inter-regional and in part international transfer of patients has also played an important role during the crisis and represents a concrete dimension of solidarity in the context of the COVID-19 pandemic.

Comparative analysis of the number of ICU beds is hampered by existing differences between countries, including from the very definition of what constitutes "intensive care". The data provided by national statistics institutes (Insee for France, Statistisches Bundesamt for Germany, Istat for Italy) as well by Eurostat and the OECD offer very different figures.

According to Eurostat, in 2018 Germany had 602 curative hospital beds per 100,000 inhabitants, France 304 and Italy 259 (Eurostat, 2020). In 2017, Germany had 423 nursing professionals per 100,000 inhabitants and France 533; this number is not available for Italy (OECD, 2019). In the French public debate about healthcare policies, the cost of public hospitals is seen as the largest factor in healthcare expenditures and frequently regarded as a burden (Juven, 2019). The number of hospital beds in France has been reduced from 484,279 in 2000 to 395,670 in 2018 (Statista, 2020b), the equivalent of a decline from 8 beds per 100,000 in 2000 to 6 beds per 100,000 in 2018. This policy is part of a strategy that aims at reducing the period of hospital treatment and concentrating various stationary institutions. Short-term hospitalization and day care have been main cost reduction

objectives for decades. Since 2007, the number of full-time hospitalization stays has remained constant at around 12 million a year in France, but the total amount of day care hospitalization has increased from 13.5 million a year in 2009 to almost 17 million in 2017 (Drees, 2017). From 1998 to 2018, the absolute number of full-time public hospital beds has dropped by one-third. Over the same period, the proportion of public beds in the total amount of full-time stationary beds has declined from 64% to 61% (Insee, 2020).

The emergency plan or *plan blanc* was initiated by French health authorities on 12 March 2020 and triggered mobilization of all inpatient capacities and postponement of non-urgent operations. The number of ICU beds throughout France—5,000 in mid-March—was doubled by mid-April (Mission indépendante d'évaluation, 2020). The high incidence of COVID-19 patients in two regions—Grand-Est and Ile-de-France—was addressed by transferring 660 patients to regions less affected by the pandemic or to neighbouring countries (Germany, Luxembourg, and Switzerland). Intensive care bed capacities increased in this period—mostly in the public sector—by 158 % in the region Grand-Est, by 138% in the region Ile-de-France, by 200% in Corsica, by 121% in Auvergne-Rhône-Alpes, by 97% in Hauts-de-France and by 66% in Burgundy Franche-Comté (Rapport d'information, 2020). However, the rapid rise in hospitalized cases in a short timespan (between 23 March and 20 April) led to extreme stress and fatigue for hospital staff—at the height of the first wave in France, 7,019 patients were treated in intensive care units (see Rapport d'information, 2020, 76). Moreover, mobilizing ICU beds in the private sector proved difficult due to the complex organization of the French public health system.

In Germany, hospital beds have been reduced by 25% since 1991, while the number of intensive care beds has increased by 36% from 20,200 to 27,500 in the same period (Statistische Bundesamt, 7 October 2020). In 2018, Germany had a total of 498,192 hospital beds and 27,500 ICU beds. At first glance, this development seems to have contributed to the success of the German crisis management system, which was praised in France and Italy. Nevertheless, the bed figures, which reflect the economization of the hospital healthcare sector (Bauer 2008, 152-156; Kühl & Tümmers, 2020), do not reveal considerable regional differences in the number of hospital beds (including ICU beds) as well in occupancy rates: for instance, Thuringia and Bremen have 7.4 hospital beds per 1000 inhabitants but Baden-Wuerttemberg has only 5. In 2018, the bed occupancy rate in Berlin was 84.1%, whereas in Sachsen-Anhalt less than three quarters of all beds were occupied. The bed figures also fail to show the impacts of additional workloads for hospital nurses due to increases in documentation tasks that have come with new billing systems and shortages of skilled nursing staff (DIP, 2018). Between 1991 and 2018, for example, the number of physicians in German hospitals increased by 73%, while the number of nursing employees in 2018 was only slightly higher than in 1991 (Statistisches Bundesamt, 7 October 2020).

In 1991, every second hospital in Germany was in public hands; in 2018 the figure was 29%. Non-profit organizations maintained a further 34% of the hospitals (39% in 1991) and commercial private operators managed 37% of the hospitals (15% in 1991) (Statistisches Bundesamt, 7 October 2020). In addition to privatization, since the mid-1980s hospitals have increasingly been seen as businesses, regardless of whether they are run by a public provider (such as state-run university hospitals or municipal hospitals), a non-profit provider (e.g. the Red Cross or other charitable organizations), or a private commercial operator. On the one hand, this shift has led to higher workloads and exacerbated the pressures that all hospital employees face (Hardering, 2018). On the other hand, it has led to an increasing recourse to precarious employment contracts. In particular small public hospitals on the municipal level have been forced to close because of the impacts of market competition or the introduction of diagnosis-related group payment schemes.

Faced with the problem that the treatment of COVID-19 patients leads to a loss of hospital revenue, especially in the utilization of ICU beds, the German government enacted the

COVID-19 Hospital Relief Law in March 2020 with the aim of mitigating economic consequences of the pandemic for hospitals and physicians paid by the statutory health insurance providers. Currently, hospitals receive financial compensation for every delayed operation or treatment; this amounts, for example, to €560 for every unoccupied bed held in reserve for COVID-19 patients and a bonus of €50,000 for every additionally created ICU bed. As in the case of SARS-CoV-2 tests, the costs are financed from the liquidity reserves of the national health fund. Treatment costs for COVID-19 patients transferred to German hospitals from France, Italy, and Belgium since April 2020 and again since November 2020 are covered by the German government, i.e. financed from tax revenues. As Federal Minister of Health Jens Spahn explained on 20 April 2020, "that is our understanding of European solidarity" (Bundesgesundheitsministerium, 2020).

In Italy, the gradual reduction of ICU beds since the 1990s has heightened the vulnerability of the country's hospitals during the first phase of the COVID-19 pandemic. These deficits were exacerbated by the far-reaching austerity measures that the government was forced to implement in the wake of the European debt crisis. Prior to the spread of COVID-19 there were 5,179 ICU beds across Italy, with significant regional differences in distribution (Statista, 2021). In 2018, the total number of hospital beds dropped to 3.1 per 1,000 inhabitants (OECD, 2021). Pneumological beds decreased from 4,414 in 2010 to 3,573 in 2018 (Italian Ministry of Health, 2020). On the backdrop of the deficits of the Italian public health system, the Italian government adopted the decree on Urgent Provisions for the Strengthening of the National Health Service in Relation to the COVID-19 Emergency on 9 March 2020 and allocated €845 million for 2020 to implement extraordinary measures to pay for personnel, equipment, and services. Based on the Law Decree No. 18 of 17 March 2020 (the so-called *Cura Italia Decree*), the government also spelled out its right to requisition health and medical facilities from private healthcare providers. Moreover, prefects could order requisitioning of hotels and other buildings in order to provide rooms for patients. In addition, the Italian government adopted the Law Decree No. 34 of 19 May 2020 (the so-called *Relaunch Decree*) and allocated resources to strengthen the public and private health sector, including €3.2 billion for hospitals and care structures and 3,553 new ICU beds and recruitment of 9,000 nurses. At the end of October 2020, there were only slightly more than 1,000 new ICU beds compared to the more than 3,000 planned. Besides the lack of ICU beds, the enormous problem of recruitment of medical staff (doctors and nursing personnel) has become obvious. With respect to medical staff, the decree of 9 March on Urgent Provisions for the Strengthening of the National Health Service in Relation to the COVID-19 Emergency defined specific rules for the enrolment of doctors and healthcare personnel, including hiring of trainees and temporary and self-employed positions in the national healthcare system, recruitment of retired doctors and nurses, recruitment of general practitioners and paediatricians, and an increase in outpatient specialist hours. Many doctors and nurses trained in Italy are employed in long-term jobs throughout Europe rather than in Italy, due to the endemic lack of investments in the Italian health sector.

5. Conclusions

Our scrutiny of availability of intensive care beds and the organization of hospital capacities, including nursing staff, in France, Germany, and Italy during the first wave of the COVID-19 pandemic has revealed some of the difficulties encountered in mobilizing private market actors and integrating them into the public health strategy for combatting the pandemic, especially in France and Italy. In Germany, the relatively successful containment of the pandemic has meant that intensive care units were not overwhelmed during the first wave. However, the crisis has shed light on the shortages of nursing staff and the effects of economization of work relations in the hospital system. The insufficient ICU bed

capacities have been an obvious consequence of the economization of healthcare in Italy, due to austerity measures in this sector. In the Italian case, the decentralization of the public health system, in part inadequate infrastructure, and private actors who are poorly adapted to serving the public interest have been obstacles to combatting the pandemic. In France, a complex, centralized system of healthcare governance and the inability to share decision-making processes with decentralized and private actors have hindered the drive to mobilize ICU beds in the private sector.

In Germany, public healthcare management was at first centralized during the crisis. Subsequently, however, decentralized public (in particular the local and regional health authorities, the *Gesundheitsämter*) and private actors in the system were successfully integrated and coordinated. Coherent and timely information as well as concerted decision-making has eased the mobilization of most stakeholders in the German health system. This was particularly evident in the German test strategy and its implementation during the first wave of the pandemic. Conflicts between the federal state, the *Länder* and some local authorities re-emerged in September 2020, largely against the backdrop of party-political tensions, especially over the succession to Merkel in the future federal election. These conflicts were, however, widely resolved through intensive discussions between the chancellor and the heads of the *Länder* at the end of October, no doubt in part under the impression of the looming second wave. In France, the central state's actors and agencies tried to compensate for their unpreparedness by creating more centralized and authoritarian governance structures. As some authors have pointed out, the complexity of these structures—in particular as they pertain to relations between the national health ministry and public health authorities on the central and regional levels and to governmental and inter-ministerial relations—has emerged as one of the major problems of French management of the COVID-19 crisis (Rapport d'information, 2020; Mission indépendante d'évaluation, 2020). This has in effect initially hampered public health actors' response to the pandemic and was identified as one reason for the delays in setting up an appropriate testing regime that met France's quantitative and qualitative needs. In Italy, the central state also reacted in a rather hierarchical way to the issues associated with monitoring of restrictions, which triggered conflicts between the central state and the regions. Regional autonomy has demonstrated the existing disparity between regions in the healthcare sector and the resulting differences in implementing an efficient testing strategy.

Overall, our comparison of French, German, and Italian pandemic containment regimes for preventing the spread of SARS-CoV-2 and treating patients with COVID-19, including measures aimed at monitoring the population, has revealed unresolved tensions and conflicts linked to the distribution of resources and power between the various levels of governance. As we have detailed in this text, in particular in the fourth section, these tensions and conflicts shed light on, on the one hand, particularities of the three public health systems and their respective path to marketization and individualization of responsibility for health, especially financially. The analysis shows that the specificities of the different health systems, above all the relationship between the public and private sectors and between central and peripheral levels of government, has played a key role in the management of the pandemic so far. The amount of resources allocated to public health over time and their distribution at various territorial levels were decisive in managing the crisis.

Moreover, the emphasis that the governments of the three countries have placed on individual accountability and recovery of a "sense of community" point to the communalities of marketization and individualization of responsibility in the three countries. This emphasis on the individual and the responsibility assigned to him/her for containing the pandemic has little to do with civic and social solidarity (Lessenich, 2020), which is the glue that holds society together, and represents a deceptive version of this solidarity concept. Governments in France, Germany, and Italy have pursued a twofold and ambivalent

strategy for containing the pandemic. On the one hand, they have emphasized the role of individual citizens' responsibility to practice voluntary self-limitation and self-management of epidemiological risks. This attitude is in keeping with the celebration of individualism rather than collectivism; we would argue, however, that this in fact hinders self-discipline on the part of citizens in the interests of the collective good. The culture of the new capitalism, as Sennett (2007) points out, which was established with the neoliberal turning point of the 1980s, promotes an idealized self that disdains dependency and denies the essential role of care in our societies (Tronto, 1993). This continuing emphasis on the development of the individual's ability to survive has become particularly pronounced in the realm of health. On the other hand, in the three countries analysed here, citizens are called on to participate in societies that have been shaped for some time by the dismantling of the welfare state. Civic solidarity was one of the pillars on which the welfare state was built. More specifically, thanks to the mutual obligations of citizens, it has been the foundation of the European social model, in which social rights are guaranteed by a universalistic welfare state. The public sector and its services still represent a cornerstone of European societies; its regulation plays a key role in maintaining political consent and economic growth. From the 1980s onward, and especially after the financial and economic crisis that began in 2008, many governments have launched reforms of their public sector and public budgets. Welfare state retrenchment plays a noticeable and crucial role in the weakening of social and civic solidarity.

Besides differences in discourses about the notion of solidarity amongst the three European countries, we also observed dissimilarities in relations between political power and scientific expertise. Whereas in Germany the trust of the federal and *Länder* governments in scientists and medical experts and their contribution to decision making has been a constant in the management of the COVID-19 health crisis, in France there has been a tendency for the government to instrumentalize recourse to scientific knowledge production. Medical experts were used to justify political decisions in the first phase of the pandemic and have been marginalized since September 2020 and excluded, for political rather than medical reasons, from decision-making circles since January 2021. In the Italian case, the lack of scientific journalism has led to an overexposure of scientists in the media; they often offer conflicting and/or ambivalent messages to the public. The relationship between science and political power has been deeply affected by tensions between central government and regions. Relations have been more stable and successful on the central level and more conflicted on the regional level. These differences in relating to scientific expertise are no doubt in part a reflection of how democratic traditions diverge, even amongst founding members of the European Communities like France, Germany, and Italy. But they should not obscure the social relations that have created, over the course of several decades, close ties between these countries through economic, professional, scientific, educational, family, and other interactions. By focussing on these interactions, management of the COVID-9 crisis in France, Germany, and Italy could gain in terms of coherence, solidarity, and, last but not least, effectiveness. Coordination between the member states of the European Union could be enhanced, not only in the domain of pandemic containment strategies but also in managing and financing the social consequences of the COVID-19 pandemic. The pandemic has uncovered deficits in the functioning of government and the health system, but it is as yet difficult to predict whether this crisis will contribute to promoting a move away from neo-liberal concepts in favour of recognizing public health and scientific research as collective goods in which governments should invest substantial structural resources.

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