



The French in the Time of Covid-19: An Economy and Society Facing the Health Risk

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The Covid-19 pandemic is not just a health crisis: it has put to the test cooperation between citizens, governments and scientists. In this sense, it heralds the coming crises of the 21st century. These will be very different in nature from those of the 20th century, which were managed primarily in a technical manner. Dealing with the crises of the 21st century, from pandemics to the climate crisis, will call for cooperation and trust between all actors in society. This is the main message of this Note, which offers an initial review of the main features of the Covid-19 crisis. The level of trust that existed at the beginning of the crisis appears to be a key factor in explaining the economic and health outcomes of the various countries hit by the epidemic. This initial trust represents a synthetic barometer of the capacity of the State and society to co-produce an appropriate response to the crisis. In this respect, France is facing the crisis with a lower potential level of trust than its neighbours. Our analysis also shows that individual well-being seems to have been hit harder in France than in some of its neighbours. This is creating new constraints to consider in deciding on how to fight the epidemic.

Based on the CEVIPOF's unique surveys, we highlight another salient fact about France compared to other advanced countries: the French population's substantial loss of trust in the scientific community over the last twelve

months, even though the initial levels of trust were not very different from other countries. This is an important finding insofar as this trust has a direct impact on compliance with restrictive measures, vaccinations and the rules on social distancing and other protective practices. Based on our results, we recommend some measures to better prepare France for the next crises, whether these involve health, the environment or other dimensions. We show the importance of a culture of public health based on dealing with all the dimensions of health problems (hygienic, economic, psychological, etc.). Faced with a crisis, the public authorities must be able to rely on expert advice that encompasses a global vision of public health issues. To do this, France must have a genuine public health institution. We propose strengthening Santé publique France, giving it greater resources and a clear mandate focused on scientific expertise, health monitoring and public health crisis management (coordination, data, etc.). In addition, decision-making bodies must be able to rely on real-time studies evaluating public policy. Beyond this institutional aspect, it is important to develop a culture of evaluation and dialogue with science within the governing bodies and to train future decision-makers and public administrators in general. The scientific culture of citizens must also be strengthened, as it is essential to build the trust of our societies in the face of pandemics on this scale.

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The Covid-19 pandemic is an unprecedented experience confronting the vast majority of the world's countries. The analogy was made during the first lockdown with a war situation. Governments had to take charge of the organization of the public, professional and even family sphere. After the initial lockdown, it quickly became clear that to deal with the crisis the government would really need to cooperate with private agents, households, businesses, and all health professionals. Social cohesion was being put to the test. Our analysis will show that most of the differences between countries can be traced back to factors related to social cohesion in the face of the health shock.

In France, three waves of the epidemic can be distinguished, each followed by a lockdown, and each characterized by a significant shift in priorities. Initially, the priority was to protect the population from dangers to health. The results were decisive, with the number of cases falling to 500 per day in June. The summer 2020 was a period of euphoria, with economic activity rebounding dramatically in the third quarter, when the incidence rate began to rise again. In the autumn, as the resurgence of the virus became obvious, a second lockdown became inevitable. However, the government's objectives changed significantly in the second half of the year, as it shifted its focus to reducing the lockdown's economic cost. The third lockdown was marked by yet a different context. More than health or the economy, it was above all the state of the population's psychological health that required protection. Young people, who were not part of the health-economy equation in the first two lockdowns, emerged as the main victims of the crisis, with many indicators pointing to their psychological fragility. This *Note* aims to present an initial analysis, still in the heat of the moment, of the main features of this crisis, which differs so greatly from previous ones. We believe it is essential to draw lessons from this crisis in order to assess our strengths and weaknesses when faced with large-scale crisis. In this respect, feedback in this field is a precious capital that we must invest in quickly. Hospitals, charities, town halls and administrations have created new forms of cooperation that must be exploited to better tackle the next crisis, whatever form it may take. It will also be necessary to question the

weak institutionalization of public health in France, in order to be better equipped in the future when it comes to monitoring the population's health and managing public health crises with a global approach.

The economy in the Covid-19 era

From one semester to the next

The Covid-19 pandemic caused a drop in gross domestic product (GDP) that was unprecedented since the 1930s. There have been many other epidemics in human history, even in the post-war period, from Hong Kong flu to Ebola. Previously, their economic cost was proportionate to the number of deaths, which explains why they are generally inflationary: higher mortality increases the pressure on the labour market.¹ This crisis was different: it was in order to prevent a health catastrophe that economies shut down before the damage was done, rather than after. The first half of the year was particularly dramatic in this respect. The group of countries hit hardest, including France, saw output fall almost 20% relative to the first half of 2019. Across the G20 countries, the drop in production was around 10%. In the group of countries that escaped the crisis the fastest, China had managed by the second quarter to return to positive growth.

However, the crisis took an unexpected turn during the summer. The rebound was spectacular everywhere, with growth erasing part of the first half's loss. France was in line with the general trend: the third quarter rebounded by almost 19%, wiping out most of the first half's recession.² This rebound demonstrated the plasticity of the economy.³ It is wrong to think that a month of GDP lost is lost forever. What mattered more is that businesses and workers retained their productive capacity. The merits of "whatever it takes" were confirmed, and the mistakes made during the financial crisis in the euro zone were not repeated.

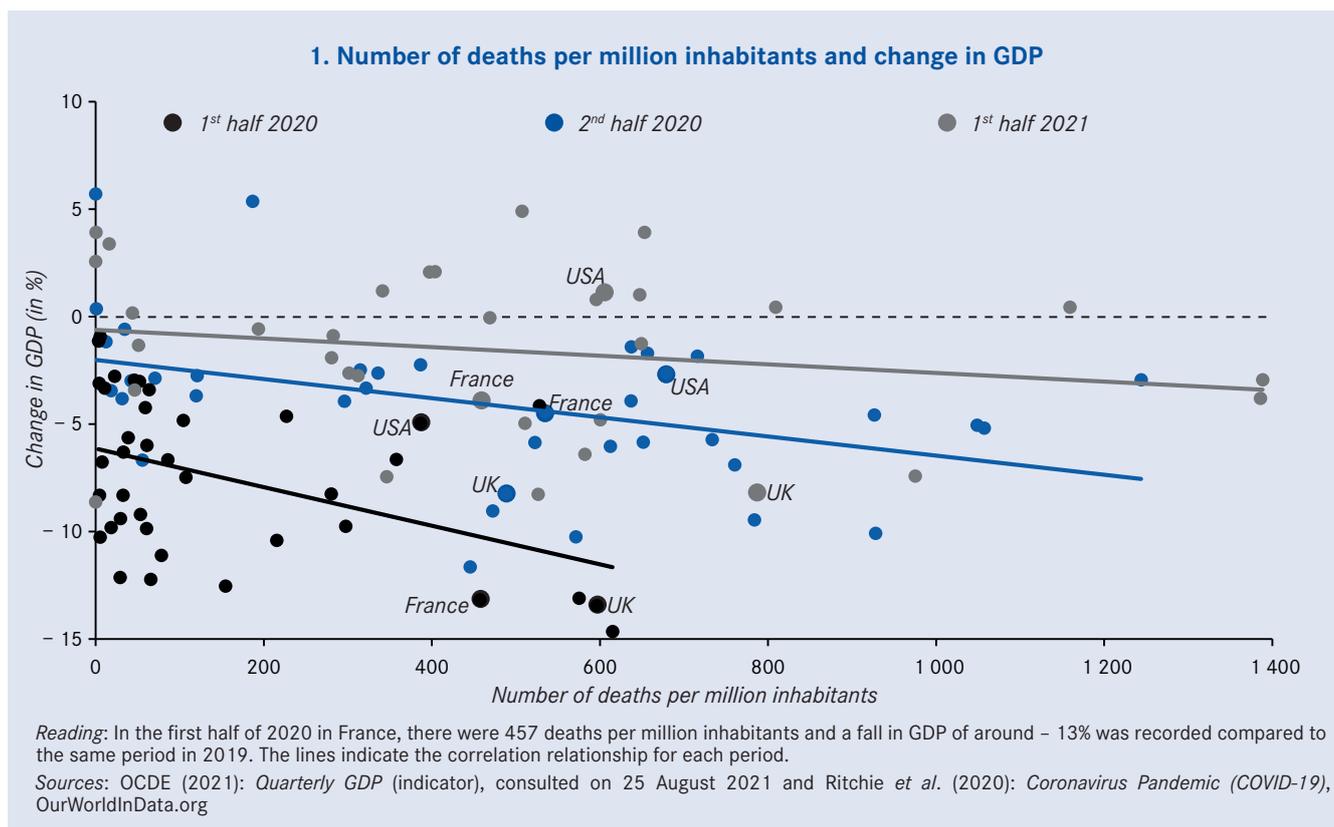
The first lockdown had succeeded in bringing the incidence rate down to particularly low levels, and it looked like the crisis was over in early summer. However, transmission rates

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¹ The literature on the economic consequences of epidemics often shows negative effects of varying magnitude. See Jordà O., S. Singh and A. Taylor (2020): "Longer-Run Economic Consequences of Pandemics", *Federal Reserve Bank of San Francisco Working Paper*, no 2020-09; Zafar A., C. Talati and E. Graham (2016): "2014-2015 West Africa Ebola Crisis: Impact Update", *World Bank Report*, May; Chakraborty S., C. Papageorgiou and F. Perez-Sebastian (2010): "Diseases, Infection Dynamics and Development", *Journal of Monetary Economics*, vol. 57, no 7; Kim Y.W., S.J. Yoon and I.H. Oh (2012): "The Economic Burden of the 2009 Pandemic H1N1 Influenza in Korea", *Scandinavian Journal of Infectious Diseases*, vol. 45, no 5. In addition, several channels have been identified through which an epidemic can be transmitted to the economy, both in the short term (loss of labour supply, behavioural shocks and restrictive public policies) and in the long term (reduction of human capital, education, productivity, effects of technical and sectoral recompositions, etc.). A summary of the literature is provided in Barbara M.A, C. Le Gall and A. Moutel (2021): "Effets économiques des épidémies", *Trésor-Eco*, no 279, March. This summary shows the effects of different epidemics on GDP, ranging from almost no effect for influenza to 2 GDP points for H5N1, together with estimates that severe pandemics prior to Covid-19 may have affected GDP by 1 to 5 points.

² INSEE (2021): *Point de conjoncture*, 4 February.

³ Fize and Paris (2020) show the recovery of consumption after the first lockdown: it is very heterogeneous depending on the sector, see Fize E. and H. Paris (2020): "Consommation des ménages pendant et après le confinement que nous apprennent les données de cartes bancaires CB", *Focus du CAE*, no 044-2020, July.



rose inexorably during the month of August and continued to increase in the autumn. The “test-trace-isolate” strategy that was supposed to work after the first lockdown failed in most Western countries, so a second lockdown became inevitable. Despite the resumption of the infection, the autumn lockdown was, in France as in a majority of countries that had to resort to it, very different from the spring lockdown. Everything was done to avoid a drop in production as sharp as in April. Despite a significant drop, the fourth quarter recorded a limited loss of 1.4% compared with the third quarter of 2019.

As Figure 1 shows, the relationship between fatalities and recession was very different in the first and second half of the year. In fact, there are two distinct phenomena. First, mortality increased in a large number of countries, including those that were little affected in the first half of the year but were hit in the second. This increase is much less correlated with economic activity than in the first half of the year. Statistically, the correlation between the change in GDP and mortality is no longer significant. The data available for the first quarter of 2021 show a continuation of this trend. The first explanation, confirmed in many analyses, is that countries have learned to better manage the economic consequences of the health crisis (more working from home, better patient care).⁴ Health risk management was much more effective, from a strictly economic point of view, in the

second half of the year. The other interpretation, which is not contradictory, is that countries did not prioritize health as much in the second half of the year, giving more importance to the economy.

Finding 1. The dynamics of the health and economic crisis differed greatly from the first half to the second half of 2020.

The determinants of the health and economic crisis

To understand the dynamics of the crisis, it is therefore important to distinguish between the two halves of 2020. The econometric analysis presented in Péron (2021)⁵ confirms the correlation between the number of deaths and the economic recession. Statistical analyses show that it is indeed the magnitude of the initial health shock and the number of deaths that explain the magnitude of the recession, and not the reverse. The very negative role played by the dependence on tourism in explaining the economic crisis is also clear. In addition to the health restrictions, countries such as France, Spain and Italy suffered from the effect of the interruption of air traffic and the almost universal closure of hotels and restaurants.

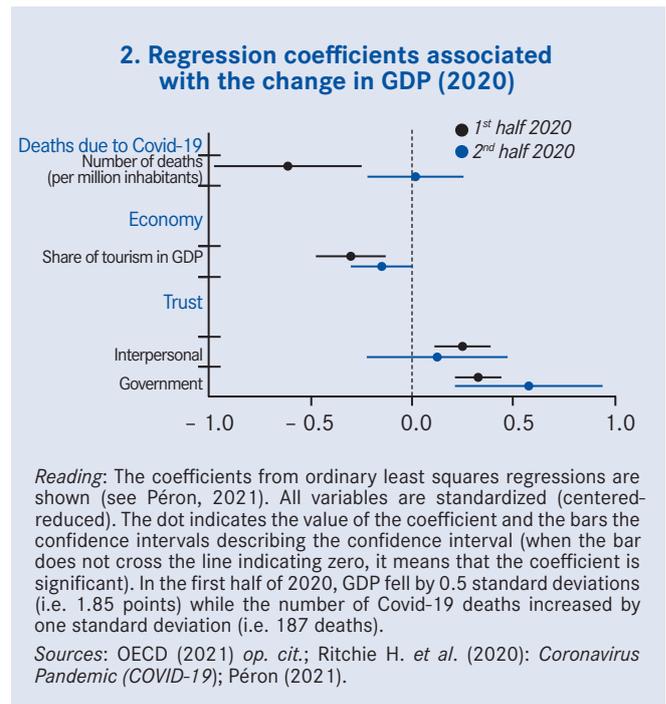
⁴ See in particular the report on the management of the crisis by Prof. Didier Pittet; see Pittet D., L. Boone, A.M. Moulin, R. Briet, and P. Parneix (2021): *Mission indépendante nationale sur l'évaluation de la gestion de la crise Covid-19 et sur l'anticipation des risques pandémiques*, final report, May.

⁵ The detailed analyses in this section are presented in Péron M. (2021): “Analyses d'une crise : éléments quantitatifs sur le choc Covid-19”, *Focus du CAE*, no 66, October.

Beyond these variables, two qualitative parameters play a crucial role: interpersonal trust and trust in the government. Measured before the onset of the crisis, they have come to act as constraints on the government (Figure 2). We measure interpersonal trust by the percentage of citizens in each country who say they can trust others in the 2017-2020 *European and World Values Surveys*. Trust in government is measured in the same survey.⁶ In the first half of the year, their effect goes in the same direction and is very significant: the greater the trust, the more limited the recession. A pandemic like this reveals many of the social dilemmas that our societies are facing. Interpersonal trust is defined as a person’s ability to trust others beyond their private circle. In countries where interpersonal trust is high, individuals trust each other more and comply voluntarily with social distancing in public spaces. This leads to less demand for strict formal restrictions such as lockdowns. Countries that entered the crisis with higher levels of interpersonal trust thus resorted to less strict containment policies in the first half of the year and relied more on interpersonal trust. It is also possible that in a crisis situation a low level of interpersonal trust makes it more difficult to coordinate actors to pursue economic activity. This is potentially what happened in the construction sector (not administratively closed) which fell much more in France between February and April 2020 (- 65%) than in the rest of the EU (- 26%). It is thus understandable that an initial high level of interpersonal trust helps to limit the economic cost of the crisis. Trust in governments has also played a very significant role throughout the year. Public support for and compliance with government measures depend heavily on the credibility of governments and on the (mutual) trust between the authorities and the population. Governments that entered the crisis with higher levels of trust have less systematically implemented strict containment measures, and compliance with health rules has also been higher.⁷

The difference between the first and second half of the year reflects a paradigm shift from warding off the health crisis, regardless of the economic cost, to avoiding an economic crisis by limiting the health impact. Nevertheless, trust in the government is a key factor that continues to play a significant role in explaining the change in GDP in the second half of the year. Interpersonal trust, on the other hand, has ceased to play an explanatory role, as if the management of the economic crisis was no longer dependent on the moral *desiderata* of individuals and depended above all on the actions of governments and their efficiency.

The analysis of death rates confirms this change in priorities (Péron, 2021, *op. cit.*). In the first half of the year, mortality



is highly correlated with public health factors (population density, age, number of hospital beds), and the main differences between countries depend essentially on the intensity of the initial health shock, which is particularly high in countries such as France and Italy, compared with Germany for example. Trust variables, on the other hand, play a very small role, showing that health depends more on hospital constraints in the different countries than on individual action in a context of lockdown, whereas it dominates in the economic analysis. In the second half of the year, the opposite is true. Morbidity indicators are mostly correlated with trust variables, both individual and public. In other words, the quality of social cohesion was mainly expressed in the economic field in the first half of the year and in the health field in the second. The best-performing countries reduced the extent of the recession at the beginning of the crisis. In the second half of the year, the economy rebounded everywhere, but it was in the health field that the difference stood out: the countries with the strongest social cohesion were better able to reduce the health impact of the economic recovery.

A ranking of the different countries

In order to evaluate the quality of the crisis management during the year, it is therefore necessary to take on board both economic and health criteria over the whole year. To

⁶ The wave we use combines these surveys in the pre-pandemic period, from 2017 to very early 2020. Trust in government is measured by the country average of responses to the question, “For each of the institutions I am about to name, would you please tell me how much you trust or do not trust it: (scale of 1 to 4) a great deal, some trust, little trust, or no trust at all? (scale of 1 to 4): the government. Interpersonal trust is measured by the rate of positive responses to the question, “In general, would you say that most people can be trusted or should you be wary when dealing with others?”

⁷ See Barrios J., E. Benmelech, Y. Hochberg, P. Sapienza and L. Zingales (2021): “Civic Capital and Social Distancing During the Covid-19 Pandemic”, *Journal of Public Economics*, vol. 193; Durante R., L. Guiso and G. Gulino (2021): “Asocial Capital: Civic Culture and Social Distancing During the Covid-19 Crisis”, *Journal of Public Economics*, vol. 193, or in the French case: Bargain O. and U. Aminjonov (2020): “Trust and Compliance to Public Health Policies in Time of Covid-19”, *Journal of Public Economics*, vol. 192.

ensure the comparability of data, we compute an indicator of excess mortality, which allows a better comparison between countries.⁸ As with the Human Development Index, we have created an index of sacrifice that integrates economic recession and excess mortality.⁹ This method is also inspired by the method used in the 1970s to add unemployment and inflation rates to measure the performance of countries.

The best-performing countries are mainly those that have managed to pursue a zero Covid strategy, eradicating it very quickly.¹⁰ Bulgaria, Italy and Spain are at the bottom, while Ireland, Korea and Australia are at the top, followed by Norway (China is not included in the ranking due to lack of satisfactory data on excess mortality). Ireland is a country that has been rarely commented on during the crisis. Despite a death toll that is not far from the median, it manages to maintain a particularly high level of economic activity, no doubt due to the weight of dematerialised activities in this economy.

Sweden and the United States, despite high death tolls, achieved better-than-average economic performances. These are countries that have clearly chosen to accept a high number of deaths in order to avoid lockdowns, whatever the motivations for this choice. France ranks 26th out of 38 countries, just above Austria and the United Kingdom.¹¹ France's ranking for the whole of 2020 reflects the average of a first half-year in which it ranked very poorly (34th) and a second half-year in which, due to the economic rebound in the third quarter, its ranking improved significantly (15th).¹² The first quarter of 2021, when the death toll was relatively high, does not significantly change France's position, in 28th place.

If we compare France to Italy, Spain and the United Kingdom, which faced initial shocks of the same magnitude, France has managed the crisis better according to the sacrifice indicator.

On the other hand, compared to Germany and other European countries, we fall behind, both because of a stronger initial shock and for reasons related to mutual trust between government, scientists and citizens. To evaluate the weight of these different factors, we compare the explanatory power of the health variables alone with the result obtained by taking into account the trust factors. The health variables alone explain 24% of the total variance. When the trust variables are included in the analysis, the explained share rises to 64%. Without minimizing the health shock itself, at the level of the countries considered, it is the initial trust factor that counts most in the final result.

The French position

France lies exactly on the regression line between initial trust in government and economic and health performance (Figure 3), as do Germany and Portugal, whose better results are also perfectly consistent with the trust index. The United Kingdom does worse than its index, reflecting the government's initial misguided health policy. France entered the Covid-19 crisis with much lower levels of trust than its neighbours, particularly in terms of trust in government and trust in others. The CEVIPOF survey "*Baromètre de la confiance politique*" (Barometer of Political Trust)¹³ highlights that even before lockdowns started, France stood out from Germany and the UK with much lower levels of trust in government or in others. Just before the crisis in February 2020, only one in three French people trusted "strangers met by chance", compared to about half of Germans and Britons. This French mistrust at the beginning of the crisis was found both when respondents were asked to indicate whether they think that the current crisis has strengthened solidarity between the inhabitants of their country (59% in France compared to 71% in Germany and 81% in the United States), or when they were asked whether they thought that government policies related to coronavirus treated everyone

⁸ We have relied here on the work done by Karlinsky and Kobak (2021) to consolidate and harmonize mortality data country by country for more than a hair, see Karlinsky A. and D. Kobak (2021): "The World Mortality Dataset: Tracking Excess Mortality Across Countries During the Covid-19 Pandemic", *MedRxiv*, January. We have chosen to compare the total number of deaths over the period to an extension of the pre-Covid trend calculated over 4 years before the pandemic (Péron, 2021, *op. cit.*). For an in-depth discussion, see Rousselon J. (2021): "Comparaisons internationales : au-delà des décès identifiés Covid, combien de morts en plus ? Point d'étape 'un an après'", *Points de Vue, France Stratégie*, March and Pison G. and F. Meslé (2021): "France 2020: 68 000 décès supplémentaires imputables à l'épidémie de Covid-19", *Population et Sociétés*, no 587, March. For the first part of the analysis, we focused on the number of deaths officially attributed to Covid-19, considering that it is an indicator that allows for a better understanding of policy choices because it is available to governments and populations in near real time.

⁹ We actually divide the mortality rate (per million inhabitants) by 100, so as to make the two parameters health and GDP roughly equivalent on average (see Péron, 2021, *op. cit.*). This amounts to considering that the implicit value of the life saved is worth 100 times the per capita income, i.e. about 2 million euros in the French case. The ranking would be little affected by an alternative weighting that would place the implicit value around 60 times average income as estimated by Jones C.J., T. Philippon and V. Venkateswaran (2020): "Optimal Mitigation Policies in a Pandemic: Social Distancing and Working From Home", *National Bureau of Economic Research Working Paper*, no 26984. We thank Thomas Philippon for his valuable comments on this point.

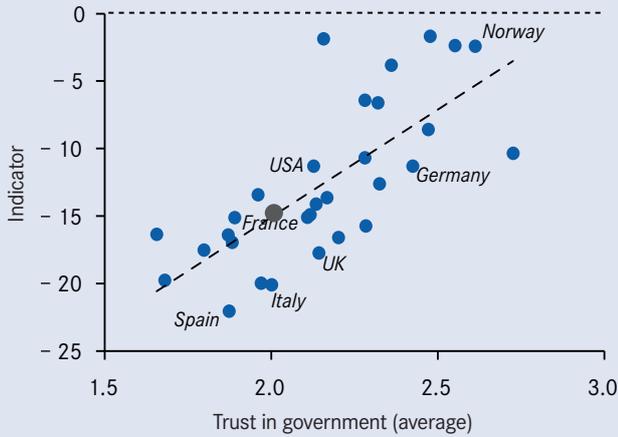
¹⁰ See Olliu-Barton M., B. Pradeliski, P. Aghion, P. Artus, I. Kickbush, J. Lazarus, D. Sridhar and S. Vanderslott (2021): "SARS-CoV-2 Elimination, not Mitigation, Creates Best Outcomes for Health, the Economy, and Civil Liberties", *The Lancet*, April.

¹¹ These rankings will obviously be very different in 2021 because of the vaccination campaigns. Perhaps not coincidentally, the United Kingdom and the United States, which had a high number of deaths per million population in 2020, were very quick to begin the vaccination campaign. This speed of implementation was undoubtedly motivated by the health emergency in these two countries.

¹² See the evolution of this ranking between the two semesters in Péron (2021), *op. cit.*

¹³ See Cautrès B. and L. Rouban (2021a): "La gestion de la crise sanitaire au miroir de la défiance politique et d'une société peu cohésive", *Focus du CAE*, no 67-2021, October; Cautrès B. and L. Rouban (2021b): "En quoi les Français ont-ils confiance ?", *Baromètre de la confiance politique*, wave 12; Algan Y., B. Cautrès, D. Cohen, I. Laugier and L. Rouban (2020): "Les impacts psychiques et psychologiques du Covid : une comparaison France, Allemagne, Royaume-Uni", chap. 3, in *Le bien-être en France*, Report 2020, CEPREMAP.

3. Correlation between the economic and health indicator and average trust in the government (2020 and early 2021)



Reading: There is a positive correlation between the economic and health indicator and the average trust in the government measured before the crisis.

Sources: OECD (2021); Karlinsky and Kobak (2021); Haerpfer C. et al. (eds) (2020): "World Values Survey: Round Seven-Country-Pooled Datafile", *JD Systems Institute & WWSA Secretariat*; European Values Study (2017): *Integrated Dataset*, GESIS Data Archive, Cologne.

equally (51% in France, compared to more than 70% in the other countries). It is also perceptible in the idea that people have of the civic-mindedness of their fellow citizens with regard to the virus. Only 50% of the French population thought that their compatriots showed civic-mindedness and acted responsibly, whereas more than three-quarters of the German and English populations believed this of their fellow citizens (see Cautrès and Rouban, 2021b, *op. cit.*).

French trust in the government at the beginning of the crisis was also much lower than the levels in our two neighbouring countries. In April 2020, 40% of the French thought that the government had managed the crisis well, while nearly three-quarters of respondents thought so in Germany and the UK.

Regardless of considerations of how the three governments handled the crisis, it should be noted that these figures reflect the absence of trust observed as early as February, before the crisis, which acted as an additional constraint on the government. One year later, however, the judgment of British and German citizens was much more severe. Only 56% (down 18 percentage points from the April 2020 survey) in Germany and 48% in the UK (down 21 percentage points) considered that the government has managed the crisis well, and 52% in Italy. But again France stands out with 37% (down three percentage points) of positive opinions, even though according to the sacrifice index its results were better than in the UK. The health shock was just as much a social shock

in France, and citizens' assessment of our government's management of the crisis partly echoes a political mistrust and weak social cohesion of a more structural nature in the country (Cautrès and Rouban, 2021a, *op. cit.*).

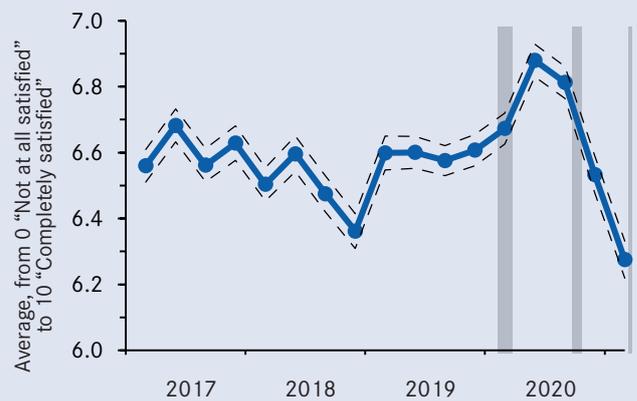
The mental health of the French

Our approach so far has mainly focused on the health-economic trade-off. However, as the crisis took hold, it became clear that a third essential element was essential to the analysis: the well-being and psychological health of the French.

Figure 4, constructed by the CEPREMAP¹⁴ well-being observatory, shows a particularly striking change in satisfaction levels among the population. First of all, it can be seen that the indicators did not deteriorate in the first part of the year. They rose during the first period of lockdown, as if the French were relieved, on average, to be able to secure collective protection against the health threat. The end of the lockdown was almost euphoric, as the satisfaction peak in previous years was clearly surpassed. This peak parallels the rise in GDP in the third quarter: it seemed then, in the minds of the French, that the crisis was over. The gradual realization, starting in September and particularly during the second lockdown, that the health crisis was going to last caused a spectacular drop in the satisfaction indicator. The previous low point that had been recorded at the height of the Yellow Vests crisis was exceeded.¹⁵

4. Evolution of life satisfaction

Overall, how satisfied are you with the life you currently live?



Reading: The latest wave of the French household survey indicates an average life satisfaction of 6.27 on a scale of 0 to 10.

Sources: Perona and Senik (2021) *op. cit.*; Plateforme "Bien-être" de l'enquête de conjoncture auprès des ménages, INSEE/CEPREMAP.

¹⁴ For a more detailed analysis of changes in well-being in France over this period, see in particular Perona M. and C. Senik (2021): "Le bien-être des Français – Mars 2021 – Un an après : l'usure", *Note de l'Observatoire du Bien-Être*, CEPREMAP, no 2021-04, from which part of these analyses and the graphical representation are extracted.

¹⁵ Implemented at the beginning of the first lockdown, the CoviPrev survey of Santé publique France allows us to confirm our observations and to date the inflections more precisely. After a high plateau following the end of the first lockdown, life satisfaction began to fall in the autumn, at the dawn of the second lockdown, and again at the beginning of 2021.

In terms of psychological health, the CoviPrev survey showed a significant increase in anxiety and depression, with the rate of depression affecting almost one in three people in the autumn of 2021. CoviPrev confirmed over time what had already been observed during the first lockdown: lockdowns weigh more heavily on young people.

From an international perspective, individual well-being seems to have been more affected in France than in a number of neighbouring countries. The CEVIPOF surveys make it possible to extend the comparison of France with its neighbours, Germany and the United Kingdom, as well as Italy in the last survey wave (see Cautrès and Rouban, 2021b, *op. cit.*). From the start of the crisis, in April 2020, the words most cited by respondents to characterize their current state of mind diverge between countries. Distrust (32%), gloom (28%) and weariness (28%) top the list in France. In contrast, in the UK and Germany, serenity tops the list, with more than a third of respondents (35% in the UK and 39% in Germany) citing this positive word to describe their state of mind. In Germany, well-being (27%) comes second, followed by fear (18%), which was also mentioned by the British (25%).

After health and the economy in the first and second half of last year, the malaise afflicting the population was a very strong constraint on public action from the fourth quarter. The attempt to postpone the third lockdown bears this mark. It was as much about maintaining the mental health of the French population as about avoiding a new economic crisis.

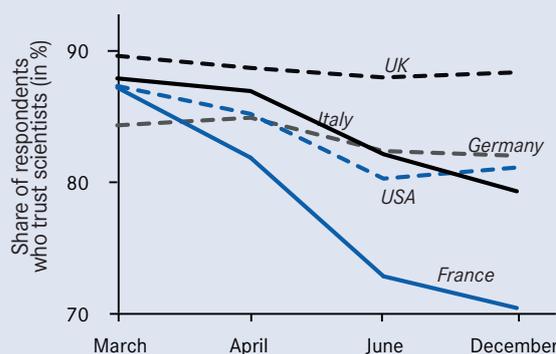
Weakened trust in scientists

Another striking fact emerged in France during the crisis. While trust in others, and to a lesser extent trust in the government, remained fairly stable over the period, trust in scientists fell considerably, more so than in any other country, with a drop of 20 percentage points between March and December 2020 (Figure 5) (see Algan *et al.*, 2021b).¹⁶

Heterogeneity in trust levels across countries, among the people and over time has important consequences for adherence to health measures, compliance with these rules and attitudes towards the vaccine. Figure 6 illustrates the differences between countries in levels of adherence to the restrictive measures¹⁷ that have been implemented, or that could be implemented if the health situation were to require it, according to levels of trust in scientists.

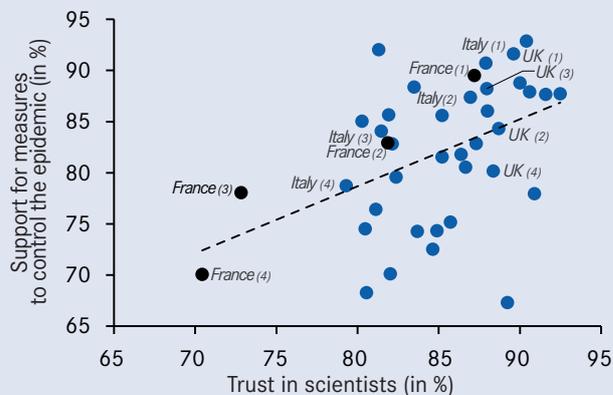
We observe a strong and positive relationship between this index and countries' average level of trust in scientists: 33% of the heterogeneity in the index is related to differences in

5. Changes in levels of trust in scientists in 2020



Source: Algan A., D. Cohen, E. Davoine, M. Foucault and S. Stantcheva (2021): "Trust in Scientists in Times of Pandemic: Panel Evidence from 12 Countries", *Proceedings of the National Academy of Sciences*, vol. 118, no 40.

6. Adhesion to restrictive measures in 2020



Reading: The figure corresponds to the survey wave: (1) March; (2) April; (3) June; (4) December. In France, the share of respondents who trust scientists fell from 87.2% to 70.4% between March and December 2020.

Source: Algan A., D. Cohen, E. Davoine, M. Foucault and S. Stantcheva (2021): "Trust in Scientists in Times of Pandemic: Panel Evidence from 12 Countries", *Proceedings of the National Academy of Sciences*, vol. 118, no 40.

trust in scientists. The second observation is that support decreased significantly in countries where trust in scientists deteriorated over the year. While support was quite high in all countries during the first two waves (88% on average), it declined significantly in the July–December period specifically (62% on average), particularly in countries where trust in scientists declined the most: this is notably the case in Italy, Brazil, the United States, but especially in France. Support for vaccine policy, measured in the fourth wave of the survey in December 2020, is also strongly dependent on trust in scientists. In December 2020, only slightly more than a third of French people said they agreed to be vaccinated, compared to more than two-thirds in countries with high and stable levels of trust in scientists (see Algan *et al.*, 2021b). Despite this initial delay, the demand for vaccines has been

¹⁶ Algan Y., D. Cohen, E. Davoine, M. Foucault and S. Stantcheva (2021): "Confiance dans les scientifiques par temps de crise", *Focus du CAE*, no 068-2021, October. The term "scientist" in the survey refers to people who express themselves as scientists, and is distinguished from other categories such as trust in "doctors" or in "science".

¹⁷ The index of restrictive measures includes containment policies, curfews, the closure of schools, transportation and non-essential businesses, and the requirement to wear a mask in public spaces. See Algan *et al.* (2021), *op. cit.*

steadily increasing since the spring of 2021. We can also see that certain factors play an important role in explaining the differences in vaccination rates in France at the communal and inter-communal levels, in particular the civic participation indicator and the abstention rate (see Box).

Trust in scientists also has a direct impact on actual self-reported compliance with social distancing rules and barrier practices.¹⁸ In all countries, greater trust in scientists is associated with an increase in the health compliance index, by an average of 9 percentage points. The role of trust in scientists is even greater than the role of individual health status. Trust in government has a much more moderate effect on average. It even had a negative role in the United States and Brazil, the two countries where the Trump and Bolsonaro governments have opposed restrictive health measures. Trust in others has a much more ambiguous role and tends to be negatively associated with compliance with barrier gestures. This result confirms the previous analysis on the role of interpersonal trust: people who trust others regarding respect for barrier gestures and social distancing in public spaces tend to remain less confined in private spaces. This result also helps to understand the negative correlation observed across countries between the index of the severity of health measures and the level of interpersonal trust. The demand for restrictive mandatory policies was also higher in countries with low levels of interpersonal trust: the measures implemented may have been stricter in order to overcome a pre-existing deficit in trust between citizens and policy makers.

Finding 2. Trust is a very important determinant of reactions to the crisis. Trust in scientists, which has particularly eroded in France, is central to crisis management and the demand for vaccinations.

Thus, it is clear that the interactions between citizens, governments and scientists are critical to understanding both support for and compliance with public health policies. Our analyses reveal that political trust and trust in scientists are central to the management of a health crisis. In France, a low level of trust in the government and the fall in trust in scientists shed new light on the complexity of the crisis. Going beyond this, how can we explain this erosion during

the first months of the health crisis? What lessons can be learned from these initial observations in order to maintain trust more effectively in future crises?

Lessons from this crisis for managing the next one

Rethinking coordination and cooperation between different levels of government

Facing a crisis of an unprecedented nature, some governments did not rely on their existing procedures and institutions. This is the case of the French government, which preferred creating new organizations, starting with the Scientific Council in March 2020, and then a series of structures in charge of crisis management during the first lockdown. The creation of *ad hoc* organizations is not in itself a new idea in order to bring in plural and differing points of view.¹⁹

The choice of a panel of medical experts, however, seems to have had other origins than simply the desire for an independent perspective (see Bergeron *et al.*, 2021).²⁰ It also stems from the complex arrangement of agencies and institutions put in place over the last few decades to provide expertise on health issues, which in an emergency situation becomes difficult to navigate and control, especially as these organizations failed to warn of an impending crisis in early 2020. The French healthcare system is characterized by great “institutional diversity”, which is characterized both by the diversity of funding institutions and by the diversity of the care it offers (Nay *et al.*, 2016).²¹

The first step must be to enable the different actors involved in the crisis (Santé publique France, Institut Pasteur, ARS, hospitals) to organize feedback on the pandemic. There have been numerous efforts at cooperation between these different actors during the crisis, so it is essential that they be formalized and theorized. Initial feedback can be obtained with the help of external observers, specialists in social sciences and public health, people who will have been following throughout the management of the crisis and observed the adjustments being made by the various actors. Additional feedback should enable them to draw lessons (in particular the identification of important determinants) about what worked or did not work in raising awareness, knowledge

¹⁸ See Algan *et al.* (2021), *op. cit.* for individual regressions of the health compliance index on trust in scientists, governments and others in each country. The barrier actions include “wash hands”, “keep a distance in public spaces”, “avoid crowded places”, “stop seeing friends”, and “reduce outdoor travel”.

¹⁹ In their book analysing the first months of the health crisis, Bergeron *et al.* (2020) rely on Graham Allison’s study of the 1962 Cuban missile crisis and on J.F. Kennedy’s decision to create the ExComm, a body of experts separate from the existing agencies. This choice resulted from the botched Bay of Pigs invasion a few months earlier, which Kennedy attributed to the various agencies in charge of the operation and their mechanical implementation of pre-existing plans, without questioning their relevance. He felt that the situation created by the positioning of Soviet missiles in Cuba required the examination of other options, and to this end he decided to call upon experts from various fields, which would allow the soundness of various policy options to be tested. The same objective can be found in the French handling of the pandemic in early 2020, see Bergeron H., O. Borraz, P. Castel and F. Dedieu (2020): *Covid-19 : une crise organisationnelle*, Presses de Sciences Po, 136 p.

²⁰ Bergeron H., O. Borraz and P. Castel (2021): “Analyse organisationnelle et comparée de la gestion de la crise du Covid-19”, *Focus du CAE*, no 068-2021, October.

²¹ Nay O., S. Béjean, D. Benamouzig, H. Bergeron, P. Castel and B. Ventelou (2016): “Achieving Universal Health Coverage in France: Policy Reforms and the Challenge of Inequalities,” *The Lancet*, vol. 387, no 10034.

Trust and vaccination in France

Public support for vaccination involves a complex process, in which trust in the authorities and in scientists plays an essential role (Algan et al., 2021).^a Going back further to identify the factors underlying public trust in the vaccine strategy, several hypotheses can be put forward. First, we can assume that trust in vaccines is mainly a matter of education: the higher the level of a population's education, the more it will adhere to vaccination. This corresponds to an optimistic version of the view of mass education as a tool enabling citizens to make informed choices. But other hypotheses can also be put forward, as education might only be one factor shaping the conditions of existence on which life in society depends, rather than a cause in itself. In terms of public communications, it is necessary to emphasize the medical benefits of vaccination, under the hypothesis of an information deficit, by giving, for example, statistics on the hospitalizations of unvaccinated people. On the other hand, one should also communicate how vaccination is beneficial for society as a whole. In this respect, it should be noted that the government's vaccination campaign relied on these two elements, providing statistics to support the effectiveness of vaccines, while also displaying the pleasure of grandparents and friends who could finally get together.

To try to get a clearer picture, we collected vaccination data at the communal level (using data from the CNAM, the National Health Insurance Fund, which imputes vaccination rates by place of residence, rather than by place of vaccination). For each French intercommunalité (a grouping of cities and villages that put part of their fiscal resources together), a large amount of information on the level of education, the average standard of living, the population density, etc., is available. We also have data on electoral participation. This variable was used by Barrios et al. (2021)^b to successfully predict compliance with social distancing norms in the US. The authors'

argument was that low political participation predicts low civic-mindedness and lower compliance with health rules.

The most significant variables affecting vaccination are: the proportion of people over 65 years of age – the older the population, the higher the vaccination rate; and population density – when it is low, vaccination is reduced. Among the socio-economic variables, the median standard of living plays a decisive role, almost doubling the explanatory power of the regression (see Péron, 2021).^c Education, on the other hand, does not seem to play any additional role... It is mainly poverty that matters, even if one indirectly influences the other (it is important to keep in mind that these results are at the communal and inter-communal level, not at the individual level). A low income at the county level is probably a sign of under-equipped health infrastructures, and likely also means a greater distance to urban centres. Adding the abstention rate in the first round of the 2017 presidential election to the list of variables also provides interesting information. This variable is highly correlated with the degree of vaccination, which supports the analysis of Barrios et al. (2021) op. cit. Not participating in politics and not adhering to vaccination policy are two sides of the same coin.

This point of resistance is confirmed by analyzing the impact of the 13 July Presidential speech making the health pass compulsory (it made it mandatory to provide proof of vaccination or a recent test to enter most public spaces, including restaurants and bars). A clear catch-up effect happened afterwards, with the least vaccinated territories (due to their age structure, population density or income) rising relatively to the average, which proves the effectiveness of the measures. On the other hand, the intercommunalities with high abstention rates continued to lag behind the others.

^a Algan Y., D. Cohen, E. Davoine, M. Foucault and S. Stantcheva (2021): "Confiance dans les scientifiques par temps de crise", *Focus du CAE*, no 068-2021, October.

^b Barrios J.M., E. Benmelech, Y.V. Hochberg, P. Sapienza and L. Zingales (2021): "Civic Capital and Social Distancing During the Covid-19 Pandemic", *NBER Working Paper*, no w27320.

^c Péron M. (2021): "Analyse d'une crise: éléments quantitatifs sur le choc Covid-19", *Focus du CAE*, no 66, October.

production and decision-making, with the goal of preparing for future crises. Beyond taking into account the scientific and technical knowledge accumulated during this crisis, the main challenge of this exercise is to enable the major French health institutions to simplify their interactions, so as to come to the best possible agreement on the responsibilities of each party during the next crisis. More generally, the restoration

of trust requires the creation of open and inclusive spaces for cooperation and deliberation between the different actors (government, intermediary bodies, local authorities, citizens).²²

It is also important to identify the proper level of centralization/ decentralization in the decision-making process, depending on

²² Norheim O., J. Abi-Rached, L.K. Bright, K. Bærøe, O. Ferraz, S. Gloppen and A. Voorhoeve (2020): "Difficult Trade-Offs in Response to Covid-19: The Case for Open and Inclusive Decision Making," *Nature Medicine*, no 27.

the nature of the crisis and the type of public policy.²³ While this issue goes well beyond the scope of this *Note*, we stress that a *prerequisite* for better cooperation between actors is a clear definition of responsibilities so as to ensure efficiency and simplicity in the decision-making process. As many case studies show,²⁴ the creation of trust in government action depends on a sense of competence (efficiency), transparency and legibility of action (simplification), as well as goodwill and equity. The management of the economic crisis is a good illustration of this point. Indeed, the French population is mostly positive about the economic management of the pandemic, especially in comparison to the management of health issues (51% positive about the first aspect versus 35% on the second in April 2021).²⁵ Drawing on the lessons of the previous crises, France quickly put in place important measures to preserve the economic and social environment, in the wake of the emergency law and the amended finance law, both adopted on 23 March 2020.²⁶ These measures have proven to be very effective in containing the rise in unemployment and have made it possible to limit business failures (the level of failures in 2020 was 36% lower than in 2019). In addition to speed and efficiency, these schemes have been characterized by a robust simplification of procedures. Moreover, the government has chosen to trust businesses and the self-employed with automatic grants of credit, with only *ex post* controls. Although this approach may generate windfall effects, it is in line with the “right to error” approach and the administration’s attitude of trust in the various players.²⁷

Strengthening public health

One of the lessons to be learned from this crisis is the importance of a public health culture that is not limited to epidemiology, population statistics, and various types of modelling and communication campaigns. The culture needed should embrace a global approach to health issues (health, economic, political, psychological, social, etc.). Although the knowledge, expertise and know-how of the public health

system have continued to grow and have gained undisputed scientific legitimacy (in health promotion, prevention, risk and harm reduction, etc.), the institutionalization of public health is largely incomplete. Few institutions have embraced this global approach, few hospital practitioners are trained and work from this perspective, few training courses are available, and our health system remains mainly organized around a curative approach. There has not been, strictly speaking, a failure of public health, but a further manifestation of its weak institutionalization. In the future, a global approach must be placed at the heart of crisis management strategies, and at the heart of reflections on anticipation policies.

The composition of the Scientific Council, which was overwhelmingly dominated by doctors, also made it difficult to assess the other dimensions of the crisis. This created a situation where medical experts became central to the health management of the crisis. The government, for its part, found itself in charge of integrating the other points of view, whether economic or psychological. While the public debate could have been organized around different fields of expertise, the result was a tension between experts and political power that undermined the credibility of public action. In a crisis situation, the decisions of public authorities must be based on expert opinions offering a global vision of public health issues. Rather than relying on an *ad hoc* committee, and in order to be better prepared for crisis situations, France must have a real public health institution, which is currently lacking. Indeed, as stated by the Pittet Mission, “Santé publique France (SPF) is currently an agency that carries out both scientific expertise and logistical missions, but suffers from a lack of legitimacy in both areas”. Like the Mission, we believe it would be desirable to refocus SPF on its scientific expertise component and to strengthen its resources and make it more attractive.²⁸ This is a long process, and legitimacy takes time to acquire, which makes the rapid emergence of a major public health institute like those that exist in several developed countries all the more important.

²³ If the distribution of responsibilities for the health management of the crisis was complex in France, the federal approach in Germany was not free of tensions between the Lander and the government either, particularly in the second and third phases of the pandemic. See Algan *et al.* (2021a), *op. cit.* and Hassenteufel P. (2021): “La politique de lutte contre la pandémie Covid-19 en Allemagne : entre fédéralisme et centralisation”, *Les Tribunes de la Santé*, no 68.

²⁴ OECD (2017): *Trust and Public Policy: How Better Governance Can Help Rebuild Public Trust*, *OECD Public Governance Reviews*, OECD Publishing, Paris.

²⁵ Ifop (2021): *La confiance dans l'exécutif face au Covid*, April.

²⁶ These include: the introduction of short-time work and compensation for partial unemployment up to 80%, payment deadlines for taxes and business contributions and a solidarity fund for the self-employed, guaranteed loans, purchasing power assistance with a bonus of 1,000 euros for those who continued to work. See the reports of the Monitoring Committee on the implementation and evaluation of the financial support measures for businesses faced with the Covid-19 epidemic.

²⁷ According to the *Baromètre de la confiance politique* [Political Trust Bar] these measures were strongly approved by the French at the beginning of the crisis (compensation for short-time work: 92%; Delayed payment of taxes and contributions to companies: 89%; 1,000 euro bonus for those who continue to work: 85%). One year later, in May 2021, more than two out of three French people considered that the government is managing short-time work well or fairly well (63% of French people) and aid to companies (65%), with the reasons for dissatisfaction being more related to the closure of cultural and commercial spaces. Similarly, this simple and effective action has protected the French against economic risks: more than half of them say they are “not worried about their household’s financial situation” (55%), which is remarkable in the context of a pandemic and comparable to the feelings of the Germans and British (52%). See Algan *et al.* (2020), *op.cit.*

²⁸ A report by the Senate, made on behalf of the EC Evaluation of public policies in the face of pandemics, tabled on 8 December 2020) also points to a “multiplication of ad hoc scientific expertise bodies competing with what is produced by the health agencies”, which has undermined the coordination of stakeholders and discourses, and also recommends the creation of “a single national scientific body of expertise responsible for advising the public authorities in crisis management and mobilising and coordinating existing sources of expertise” (see “Évaluation des politiques publiques face aux pandémies (2020-2021)”, Rapport du Sénat, no 199, 8 December).

Recommendation 1. Strengthen *Santé publique France* with increased resources and a clear mandate focused on scientific expertise, health monitoring and public health crisis management (coordination, data, etc.).

It is of course essential to maintain trust in scientists during the crisis by preserving their independence, especially in countries where trust in government is low. Support for a vaccine programme, or even for a particular vaccine, depends crucially on the position of the scientists. This issue is similar to the question of central bank independence in the economic literature. In an environment of low confidence, the independence of monetary institutions is an essential tool against inflation. Similarly, the independence not only of scientists but also of scientific institutions is essential to obtain public support for public health objectives. It is also important that all decisions taken are monitored, using precise indicators covering many aspects (not just health), in order to measure their effectiveness and any adverse effects in real time. This kind of evaluation, which could be coordinated by SPF, should be entrusted to existing organizations that have experience in collecting data and constructing indicators. It should involve representatives of the main health agencies and authorities, who have valuable data for the production of opinions. It must make it possible to regularly reassess the costs and benefits of the measures taken, and to adapt them in real time to the observed or anticipated effects. In this respect, health data, which is fundamental for accelerating research, improving the organization of care or responding to a health crisis, is still underused in France due to a lack of sharing. The legal and technical obstacles can be progressively lifted, but there is still a strong “proprietary” reflex. Indeed, whether they are research organizations or health institutions, the producers of public data are currently subject to contradictory injunctions: to open up the data in accordance with the open science policy while also being profitable by developing, for example, commercial data analysis services that are sometimes exclusive. It therefore seems essential to change the paradigm for the financing of public health data. This change is possible, and it has already been seen in other sectors (public statistics, INRAE, etc.) and abroad (UK Biobank, Northern European registries). This entails the establishment of a genuine public policy on health data, involving data mapping, criteria for eligibility for stable funding and the expected trade-offs, such as sharing but also standardization, quality control, etc.

Recommendation 2. Conduct public policy evaluations with real-time data. Establish a genuine public policy on health data by removing the obstacles and disincentives to their sharing.

Making better use of scientific expertise

In the long run, restoring public trust in scientists also implies improving scientific education, as suggested by the significant correlation between the PISA test score in science and trust in scientists (Algan *et al.*, 2021b, *op. cit.*). Crucially, a country’s scientific literacy is highly correlated with the resilience of societies to a pandemic: trust in scientists has been maintained in the countries with the highest PISA scores, but has declined sharply in the others, particularly France, Italy and the United States. From this point of view, the choice to have kept schools more open during the second and third phases of the pandemic was probably very beneficial. However, France’s stagnation in successive PISA results and the sharp drop in scientific results in the TIMSS survey²⁹ should call for an upturn. As explained in a previous *CAE Note* on education,³⁰ it is important to review teaching methods and improve teacher training in France. These are not sufficiently focused on socio-behavioural skills that improve both academic results and cooperation among students. Acting at the school level is the best way to restore a high level of science literacy, which is an important determinant of trust in science, while working to improve the socio-behavioural skills of future generations, including trust.

Recommendation 3. Improve science teaching by strengthening teacher training. More generally, apply pedagogical methods that develop students’ socio-behavioural skills (cooperative work, autonomy, etc.).

However, the education of citizens is not the only issue at stake. There needs to be more training based on research into the lessons needed by people in a position to make decisions during a crisis. The challenge is to give them the skills to make decisions in complex situations characterized by uncertainty, a diverse set of issues to be reconciled, and the number and heterogeneity of the stakeholders who need to be induced to cooperate. To accomplish this, these people must first have the skills to understand scientific reasoning,

²⁹ <https://timssandpirls.bc.edu/>

³⁰ Algan Y., É. Huillery and C. Prost (2018): “Trust, Cooperation and Autonomy: Towards a 21st Century School”, *Note du CAE*, no 48, October.

including the process of investigation, the production of results and the management of uncertainties. The aim is not to turn future decision-makers into scientists, but to enable them to interact effectively with scientists in solving complex problems and to know how to compare the available expertise. Second, they must be trained in the social sciences to understand and be able to act on the determinants of cooperation and conflict. Finally, they need to be given the different decision-making tools that will allow them to compare different options and their direct and indirect consequences.

Recommendation 4. Strengthen the scientific and evaluation culture of the people who make up the decision-making bodies.

It is essential that we learn the lessons of this crisis in order to assess not only our institutional and health weaknesses, but also to appreciate the tremendous potential for cooperation that it has revealed and the dimensions that have won the approval of the French people. Some other points that the French population considered positive and which need to be kept in mind include the speed and simplicity with which the economic aspect of the crisis was managed.

In this respect, it should be noted that the economic management of the crisis has benefited from the lessons learned from the recent economic crisis of 2008-2009. The analyses, feedback and lessons learned from that crisis have enabled many countries, including France, to avoid repeating the same mistakes and to respond quickly and effectively to the shock. For future crises, the same analyses will need to be made, broadening the spectrum to include all actors and areas involved.

At a time when France has long been plagued by general mistrust, this crisis offers a historic opportunity to rethink our strengths and weaknesses. ●



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