

INSEE operations during the lockdown period

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Abstract. Since the beginning of the lockdown period in France, Insee has managed to reorganise its work to ensure the continuity of its missions, thanks to widespread teleworking and the adaptation of certain household surveys from face-to-face interviews to telephone interviews. Insee has also provided new output relevant both to the decision-makers and to the public, using partly new data sources (such as aggregated credit card transactions or mobile phone data) and new methods (mainly nowcasting) to shed light on the evolution of the French economic situation in real time as well as on the distribution of the present population throughout the national territory and the development of the mortality rate.

Keywords: Nowcasting, high frequency data, teleworking, partnerships, communication

1. Introduction

This paper is composed of two parts. The first deals with the measures adopted to ensure the safety of personnel and continuity in carrying out INSEE's missions from mid-March, as the lockdown has resulted in widespread working from home and the adaptation of certain surveys. The second presents the specific work that INSEE has urgently carried out, using partly new sources, to shed light on the country's economic situation and the development of the mortality rate.

2. Service continuity during the lockdown period

As soon as the first epidemiological outbreaks ("clusters") appeared in France in early March, INSEE took the decision to suspend field data collections in those areas, both face-to-face surveys (CAPI – Computer-assisted data collection) and in-store price surveys. Elsewhere in France, in agreement with the INSEE trade unions, collection continued, with an instruction not to insist if the respondent was reluctant to be surveyed or if he or she presented symptoms of illness. However, these provisions lasted only a few days, as

everything accelerated sharply in mid-March, with the prospect of a lockdown lasting several weeks.

With a few years' experience in developing teleworking from home, INSEE was able to equip personnel with ultra-light laptops: on Monday 16 March, a majority of personnel were equipped with them (around 4,000 laptops for 6,000 people, including interviewers).

At INSEE's Executive Committee meeting, held on March 16 at the Head Office, the following general principles were established:

- Until the health emergency is ended, working from home is THE rule, and only cases of *Force Majeure* still justify a physical presence on site. In fact, INSEE's sites in Paris-Montrouge and in the regions, will be empty from 18 March, with only a few sporadic visits to check the state of the sites and to collect mail.
- To allow remote working requiring server connections to function properly, the decision to restrict access to them was made at the outset. As the Information Systems Directorate believes that the servers can support 2800 simultaneous connections, I have decided to limit them to 2000, and this limit will be increased over the coming weeks, thanks to additional new servers provided and rigorous monitoring of infrastructures and networks.

At the start of the lockdown period, the majority of personnel will have to respect connection time-slots (morning or afternoon, as applicable). Connections are interrupted each day, between 12:30 and 13:30, to allow the IT personnel to perform maintenance and upgrades without disturbance.

- Local managers are asked to keep in touch with all personnel, even those without remote workstations, who are asked to check their mailboxes on their personal computers.
- The Executive Committee will meet via audio-conference (which we have found to be as efficient as, and to use less bandwidth than, video-conferencing) two to three times a week. The General Secretary will meet with union organisations at least once per week via audio-conference. The director in charge of the network of regional establishments will ensure the exchange of information with the regional directors, by means of a daily audio-conference.
- Face-to-face surveys (CAPI) have been suspended and, where possible, replaced with telephone surveys (CATI – Telephone-assisted data collection). As at 16 March, the continuation of certain in-store price data collection remained under discussion. Since January 2020, INSEE uses scanner data to produce part of the consumer price index. The teams responsible for retail price measurement wanted to maintain some in-store collection to supplement the scanner data but the Executive Committee was still hesitating.
- A press release was issued on 16 March to present how INSEE plans to carry out its missions. The press release confirms the ambition for the bulk of INSEE's productions and publications to be pursued. However, it does point out that certain activities will be given high priority: maintaining registers (of individuals and businesses), producing business tendency surveys, short-term indicators and national accounts, processing of the Labour Force Survey, which will be collected entirely by telephone (CATI). The press release also announces that the Economic Outlook Review planned for the end of March has been postponed (see Part 2, below) and that INSEE aims to publish a simplified statement on the French economic situation twice a month. Lastly, the press release warns of the risk of a deterioration in the quality of the statistics disseminated, which will therefore be mentioned systematically.

This press release was forwarded, an hour before its publication, to the Director-General of Eurostat, the Director of the office of the French Minister for the Economy, the President of the Official Statistics Authority (“ESGAB like body”) and the President of the National Council for Statistical Information (“ESAC-like body”). It will be sent to the heads of the Ministerial Statistical Departments (“ONAs”). An English-language version will be sent a few days later to my counterparts in other NSIs. This press release will also be used to provide information to the INSEE trade-union organisations and, more broadly, to notify all personnel of the measures taken by INSEE to ensure service continuity.

The press release will be updated on 25 March to announce the cancellation of some statistical productions: the household survey on the use of information and communication technologies (ICTs) will not be carried out in 2020, and the publication of price indices specific to Mayotte (one of French overseas departments) is suspended. The press release of 25 March also points out that non-respondent businesses will not be systematically re-contacted nor at risk of a fine and that in-store price surveys are provisionally suspended. Finally, the press release of 25 March presents the specific statistical products created during the crisis, which will be discussed in the second part of this article.

In terms of internal communication, I sent a message to all personnel two days after the lockdown started. I forwarded a letter from the Minister under whom INSEE operates, sent two weeks after the lockdown started, thanking us for the measures taken and the work accomplished. Personnel also receive regular information from the General Secretary and the Head of the Human Resources Unit.

I dare say that all of this has made it possible to maintain a high level of quality in relation to the functioning of INSEE, even though we have not held a physical meeting for over a month. The information system has never failed us and working teams have remained in contact. All stated objectives have been met. The first Executive Committee meetings of the lockdown period were, naturally, devoted to managing the crisis. After the first two weeks, we were again able to use the time and availability to deal with the usual topics, such as recruitment and appointments. It should also be pointed out that the press office has never stopped working and that there has been no interruption in the dissemination of press releases, their spread on social networks (I myself have had more feedback than ever on LinkedIn) and the responses to journalists and fact checkers.

More than a month after the start of the lockdown, the quality of the information collected (from both surveys

and administrative files) is more of a problem than the Institute's capacity to process this information. Indeed, the response rate for several business surveys has deteriorated dramatically and the availability of administrative records, particularly tax records, will undoubtedly be disrupted in part. The collection of data on observed prices is far from stabilised. On the household side, the switch from face-to-face interviews to telephone interviews is causing difficulties, particularly for complex surveys such as the first of the six consecutive interviews of the Labour Force Survey (LFS) or the Survey on Income and Living Conditions (SILC). Response rates are also affected for household surveys, although in a less significant and less general manner than for business surveys.

The relevance of some statistics may also be tested. As early as mid-March, I pointed out to my counterparts that the criteria for unemployment, in accordance with the definitions used by the ILO, were going to raise questions. Another example is the weights used for the consumer price indexes as the pattern of consumption will deviate from usual ones during the lockdown.

3. Statistical information in response to the crisis

3.1. Nowcasting

Among national statistical institutes, INSEE has the particular characteristic of having the task of short-term economic forecasts, i.e. using its own business tendency surveys and macroeconomic modelling tools to forecast national accounts aggregates for the current quarter and the next one. One of these "Economic Outlook Reviews", which are published four times a year, was due to be published on 24 March 2020. It was to cover growth forecasts for the first and second quarters of 2020. The exercise, which was made difficult by the development of the epidemic in China, appeared impossible with the arrival of the first clusters in Europe. On 12 March, the decision was made to suspend the planned Review and to redirect the work of INSEE's colleagues in charge of the short term economic review towards pure "nowcasting": measuring in real time the loss of economic activity as well as possible.

The aforementioned press release of 16 March underlines that the first analyses of the responses to the business tendency surveys show a decline of the business climate even faster than in autumn 2008. It announces that the Economic Outlook Review to be issued on 24 March has been postponed and that INSEE aims to

present its assessment of the economy every two weeks. Specifically, I am asking the teams to estimate the fall in GDP and the fall in consumption.

The first such estimate is published on 26 March, simultaneously with the March business tendency surveys. As most of the responses from businesses were received at the start of the month, the data collected did not reflect the effect of the decisions to close schools, followed by the closure of hotels, cafés and restaurants and finally the effect of the lockdown. As a result, the usual method of benchmarking on surveys would have greatly underestimated the loss of economic activity. It was therefore necessary to use very different methods.

The most natural method consisted in collecting information from businesses, from the various industry organisations, either directly or through the intervention of partners, such as the Banque de France or an economic research institute close to the business community. This information has been processed, sector by sector, at a very disaggregated level (138 items). An initial compilation estimated the loss of activity to be one third of GDP. However, I wanted to ensure that we do not rely on this sole method and that we corroborate its result using effective data sources, which are available with a high level of frequency. In this area, economic researchers think firstly of electricity consumption, but other approaches have been tested and quickly discarded (pollution indicators, Google Trends, vocabulary used in the press, etc.). We have given preference to statistics from bank card transactions, to which the Economic interest group bringing together the main banking networks has given us exceptional access.

In fact, we had been in discussions with this group for some time and were about to launch with them two or three projects to test the value for statistics' compilation of credit card data. This had come to the forefront of our statistical thinking in recent months, against the backdrop of a major and prolonged Paris public transport strike last December, to provide a retrospective measurement of the fall in activity in Parisian businesses.

In mid-March, the support of the professional banking federation and also, at my initiative, that of the President of a major French bank will help to speed up cooperation. On 18 March, INSEE thus signed an agreement with the "Cartes Bancaires CB" group to have access to daily aggregated transaction data, broken down by product category, for the duration of the crisis. We have also obtained the data that allow us to look back historically over two years. Within a few days, use of these data made it possible to confirm the order of magnitude of a one-third drop in consumption – follow-

ing a few hiccups (hectic evolutions) linked to stockpiling behaviour following the lockdown announcements. These data also allowed us to obtain results relating to value added of direct use for certain household services sectors for which microeconomic information available was too poor.

On 26 March, INSEE therefore published a real-time estimate of a 35% immediate drop in GDP and a drop in household consumption of the same order of magnitude. In the publication's foreword, I point out, firstly, that it may seem incongruous to talk about economics while the peak of the health crisis has not yet been reached and, secondly, that the order of magnitude is necessarily fragile; however, I add that I believe, thanks in particular to the use of electronic transaction data, that the order of magnitude seems sufficiently robust for it to be published.

I think that this is the first estimate of its kind to have been calculated and published by a statistical office since the start of the health crisis, which is most probably also a precursor for compilation of "hard data".

It is important to point out that this publication followed the usual process for dissemination, i.e. communication under embargo solely to the Head of the office of the French Minister for the Economy, a few hours prior to dissemination on 26 March at 07:30 (application in France of the rules of good practice applied by official statistics authorities). The publication of 26 March was made available in English and distributed to my counterparts.

Since then, the order of magnitude has proved to be fairly reliable: it has been confirmed by two bi-monthly updates, one on 9 April, the day I presented it to the Finance Committee of the French Parliament, and the second on 23 April. Since 26 March, the Banque de France and national economic research institutes have published close assessments.

3.2. Present population in the regions

For several years, INSEE has been seeking to work with mobile telephone companies, in particular to measure the population present in a given area at a given time. As in the case of credit card data, discussions were lengthy due to legal and financial considerations.

A few days after the lockdown, it became clear that there had been a significant departure of residents from major cities, particularly Paris, heading for their second homes. It seemed to me that, with the distribution of the French population throughout the national territory having been affected, quantified information would be

of some interest for the health, supply chain and police services. Moreover, I had received confirmation of this interest in discussion with a Prefect (a central State representative in the regions).

I approached an executive at Orange, suggesting cooperation between data scientists from Orange and INSEE. Orange (which is the main telephone company in France) has obviously received demands for help by others. Orange therefore decided to share its data that appear to be of interest to public authorities in connection with management of the crisis. The use of these data would be exclusively of a statistical nature, a use which poses no problem in respect of the European General Data Protection Regulation (GDPR). Collaboration between data scientists from INSEE and Orange will prove useful, in particular it will help Orange to refine its estimates and INSEE to better understand mobile telephony data and how they translate into concepts useful for official statistics.

In the end, INSEE released a publication on 8 April showing the territories (at department level – France has around 100) where the population had fallen or, on the contrary, where it had risen following the migrations that preceded the start of the lockdown. Thus, around 10% of Parisians (excluding students) have left their home to "relocate", most often to the countryside.

For decision making in relation with public policy, there remains room for improvement for the data made available: the departmental geographical grid is too large to properly scale public services; it may be possible to produce figures at a more disaggregated geographical level and to pursue similar cooperation with other mobile telephone companies. From a media point of view, the visibility of such a publication is very important and provides a pretty good illustration of the statistical potential of mobile telephony data for information of common interest.

3.3. Death statistics

The third major effort made by INSEE is, alas, less original since it relates to a statistic on which most statistical offices are currently focusing their efforts: the death figures.

Around the 20th of each month, INSEE publishes the number of births and deaths during the previous month, as recorded by the civil registers of all the French municipalities. In normal times, these statistics receive relatively little attention. However, it soon became obvious, by mid-March, that the count of hospital deaths due to COVID-19 would be insufficient to account for the excess mortality.

Since 27 March, each Friday, INSEE has been publishing statistics on deaths that occurred the previous week (municipalities have one week to send their civil register data to INSEE). The excess mortality can be estimated by comparing the cumulative number of deaths since the beginning of March to the cumulative number of deaths over the same periods in previous years. Since 27 March, statistics are now made available at national level and at the two lower territorial levels (regional and departmental).

The publication has been supplemented with new tables over the weeks. There are now breakdowns by gender, age group and death location type (hospital, nursing home, personal residence, other or not stated). Interest in these figures is clearly massive, at both national and local level. They are regularly presented in the press conferences given by the health authorities.

In accordance with INSEE practice, these tables are accompanied by comments making it possible, in particular, to correctly interpret the comparison with previous years. For example, the winter flu was quite virulent in March 2018, meaning that at national level until almost the end of March 2020 there was no noticeable excess mortality compared to that year. The statistical approach to excess mortality was also presented in an article published on the brand new INSEE blog.

I note, with a certain degree of bitterness as I write now, that death statistics currently provided by country do not systematically present figures that are comparable from one country to another. It seems to me that there is an important effort to be made here by all official statistics offices in order to provide the most comparable statistics possible at international level and, anyhow, to explain the limits of comparability.

I have not yet mentioned statistics on the causes of death, which are not processed by INSEE in France. The basic information related to the causes, as recorded on death certificates by doctors, is processed by a health research organisation, INSERM. I would like to highlight an issue: in times of health crisis, it is obviously important to consider the desirable frequency of publication for this statistical information (European regulations require annual publication). It is also important to consider the comparability of the information collected across countries and death certificate completion practices.

3.4. Surveys carried out in regard of specific features of the present situation

INSEE has added specific questions to the monthly consumer confidence surveys (2,000 people by tele-

phone) in order to assess the effects of the lockdown on the lives of households; the first compilation of the data collected is planned for May.

INSEE has also compiled the open-ended responses of companies in the business tendency surveys to gauge, through textual analysis, the general concern caused by the epidemic (published in the bi-monthly business outlook update of 23 April).

With INSEE's assistance, DARES (i.e. the statistical department of the French Ministry of Labour) has adapted an ongoing quarterly business survey carried out in April to obtain data on the number of people working from home, in receipt of benefits for being partially unemployed, etc. The results of this survey were published on Friday 17 April.

INSEE is planning to adapt a business survey scheduled for September, on sub-contracting, to assess the impact of the crisis on the organisation and activity of businesses, on supply and value chains, etc.

Finally, INSEE has been asked by various health research departments and organisations to provide them with representative samples. The most significant cooperation concerns INSERM and the statistical department of the French Ministry of Health, to measure the prevalence of the virus and its symptoms through a huge internet survey followed by tests on sub-samples. The first wave of this survey is scheduled to start in the last week of April.

4. As a preliminary conclusion

Clearly, all this statistical information produced by INSEE and the French official statistics system are highly visible on the website and are widely discussed. Since 22 April, they have been made available all together, for greater visibility, on a unique page on the INSEE website dedicated to statistics linked to the COVID-19 crisis.

Some final remarks come to my mind before I stop my presentation.

I do not know whether or not official statistics will come out of this stronger, but I think I can already say that INSEE has done its utmost to bring relevant information to the public. It has also taken advantage of exceptional circumstances to speed up cooperation with data producers that had been in the pipeline for a long time.

Lockdown and working from home are restrictive. We all fear for our loved ones, our elders and our colleagues. It is undoubtedly a comfort, in spite of every-

thing, in this ordeal, to carry out a mission that can demonstrate its usefulness in real time and that allows INSEE to show that it is capable of producing output that it would not have produced without the crisis. The act of discussing, within this article, the life of the Institute over the past few weeks is undoubtedly one of those things that nobody would have imagined doing in normal times.

I cannot pay enough tribute to the commitment and responsiveness of our many INSEE colleagues over the past few weeks.

Some final words. We have learned much that we will consider further as we look to the future. The strength of Official statistics organisations is in the skill, pa-

ssion and commitment of the staff; we can innovate and adapt; the relevance of some of our statistics needs to be tested; with good partnerships we can produce statistics in real time to help decision making; international comparability matters and is not as good as it needs to be; statistical offices can make the best contribution when they work well with other official agencies. There will, I am sure, be many more lessons for us that will help the community of official statistics in France and around the world grow stronger and be ever more at the service of better lives for all.

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