



# Jobs in the time of corona

In March of 2020, the Covid-19 epidemic forced a partial or total shutdown of activities that were deemed “non-essential”, whilst others have been mobilized in response to the emergency. Beyond its economic dimension, this crisis has also impacted living and working conditions, reinforcing existing vulnerabilities and generating new ones. This note proposes a typology of professions based on their vulnerabilities from which five distinct groups have been identified.

The jobs that can be described as “traditionally vulnerable” combine the difficulty of working remotely and often holding a precarious status (one in five workers within this category is on fixed-term or temporary contract). These 4.2 million workers, who are mostly men, are craftsmen, industrial and construction workers, and are traditionally confronted with difficult living and working conditions.

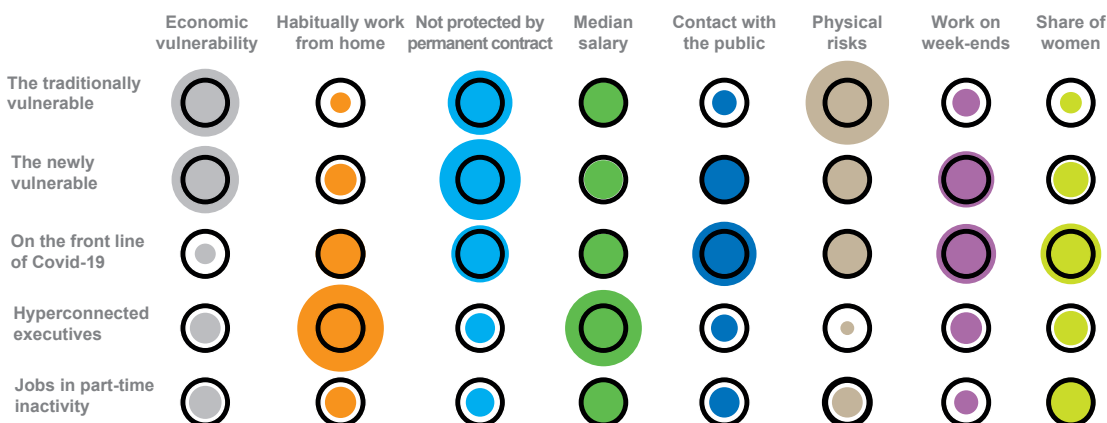
The “newly vulnerable” (4.3 million jobs) are facing an unprecedented crisis linked to the very exercise of their profession, which brings them into contact with the public. Their activities have been slowed down or even banned, which all the more puts them in vulnerable position given their job statuses (31% of these individuals hold intermittent contracts or are self-employed). For those working in the transport, hotel and restaurant, personal services, art, culture and sport sectors, their financial vulnerability is coupled with uncertainty about the future.

The 10.4 million professionals working directly or indirectly on the “front line” are those whose activities are deemed essential in this crisis. These are all the professions related to health, education, cleanliness, food and its distribution, as well as traditional “law and order” professions. Although they have little economic vulnerability, three quarters of them are nevertheless exposed to health-related vulnerability through their direct contact with the public. Situating themselves amongst the lowest paid and more female-dominated professions, these occupations are exposed to an intensification of work.

The fourth group, the teleworkers are exposed to a new risk of hyperconnectivity (3.9 million jobs). Mainly occupied by managers, these professions must, from a distance, ensure the continuity of work and prepare the return to activity. Usually subject to higher work intensity, their mental workload and difficulties in reconciling family life have been exacerbated by the crisis.

Finally, many intermediate professions or skilled employees (4 million jobs), most often in partial inactivity, are protected from short-term dismissal by their status. However, their difficulty in working remotely exposes them to risks of distance from the professional sphere as well as desocialization.

## Five professional categories according to their vulnerabilities



Reading: for each group of circles, the ratio between the radius of the coloured circle and the radius of the black circle corresponds to the ratio between its score for the variable in question and the average value of the variable for the entire employed population. For example, the median salary of “hyperconnected” executives is 1.7 times the median salary of the employed population.

Sources: France Stratégie, based on WIOD, the national accounts and the 2016-2018 Labour Force Surveys (INSEE) and the 2013 Working Conditions Survey (DARES).

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## INTRODUCTION

The picture we are about to paint is deliberately impressionistic. It does not attempt to quantify the number of job losses, burn-outs, unpaid work and inequalities of outcome, but where figures do exist, we can nevertheless deduce some information about the current effects of the covid-19 crisis. It sheds light in small touches on the vulnerabilities of those who were working before the 17th of March and who, because of the crisis and the confinement, have been forced to stop, slow down or, on the contrary, continue their activity, sometimes in an unbridled manner. Whilst the rate of slowdown is imprecisely known and the number of those who continue to work is still unclear, the risks workers are facing are on the other hand less uncertain. They were there before the confinement and the scale of the shock will highlight them today even more. It is therefore by putting these vulnerabilities under the magnifying glass that we may be able to further understand the impact of the crisis on jobs in France.

Several fracture lines appear when observing jobs through the window of vulnerabilities. The first separates on the one side those who are at risk of ceasing to work because their businesses have closed, because their contracts have been interrupted, their cash flows have halted, or that it is difficult, if not impossible, for them to carry out their work from home; and on the other, those who continue to work either at home or in a face-to-face setting. For the former, the economic risk is major. For the latter living and working conditions have been made more difficult by the confinement, either because their now professionalised private-life is more fragile, or because the specific features of their activities predispose them to psychosocial or unprecedented health risks.

The second boundary is between those whose living conditions are made difficult by the burden of educating their children, by the cramped conditions of their homes, by their disability or by their more fragile financial situation, and those who are better protected by more favourable living conditions. Vulnerable living conditions not only affect those who work in their homes, but also constitute a source of fragility and inequality for those who continue to work outside the home as well as for those forced into inactivity.

Finally, the third line of divide separates, among those still working, professions exposed to difficult working conditions, in direct contact with the public and subject to atypical working hours, arduous physical postures and psychosocial risks, and those who are protected from these risks.

This picture expresses a wide range of situations: between those who experience confinement as a slight inconvenience and those who cumulate all the facets of the most intense vulnerabilities. Some are not very vulnerable to the risk of job loss but are highly exposed to difficult living or working conditions. Some are vulnerable in their private sphere but have limited exposure to economic risk. Finally, some professions are at risk of job loss but their living conditions are more favourable.

How are these lines arranged and what vulnerability maps do they draw? The development of vulnerability indicators (economic, living and working conditions) for each occupation and the study of their intersections make it possible to measure the extent of the risk profiles prevailing.

## ECONOMIC VULNERABILITIES, LIVING AND WORKING CONDITIONS COMBINE DIFFERENTLY IN DIFFERENT OCCUPATIONS

*Economic vulnerabilities depend on the sector of activity, the ability to work from home and the share of precarious statuses*

Between those who continue to work and those who cannot, how do professionals deal with the economic risk created by the partial cessation and then the gradual resumption of activity? The slowdown is general, but it does not affect all professions in the same way. The more or less extensive cessation of activities is coupled with statutory and professional fragility. To account for the multiplicity of dimensions, we construct *an indicator of the economic vulnerability* of each job type as the product of: (i) an indicator of exposure to economic risk in the sectors that typically employ them; (ii) the proportion of professionals unable to work from home; (iii) an indicator of the fragility of the status of professionals, obtained by overweighting fixed-term, temporary and self-employed solo workers (see box 1 on the next page).

*A pronounced economic vulnerability for those with a precarious job-status and in professions exposed to the risks created by the slowdown of activity*

The professions with the highest economic risk generally combine a high exposure to sectoral cessation of activity and statutory fragility. Their activities have been administratively interrupted due to the dangerousness of the gatherings they involve and they are more likely to hold intermittent job contracts, or work as self-employed individuals under the status of auto-entrepreneurs. They also



## Box 1 – Methodology

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*This note proposes an unprecedented classification of occupations according to three types of vulnerability: economic, living conditions and working conditions<sup>1</sup>. The nomenclature of occupations used is that of the Dares Professional Families.*

### **Economic vulnerability**

*The indicator of economic vulnerability of each job type is constructed as a product of: (i) an indicator of exposure to economic risk in the sectors that typically employ them (ii) the proportion of professionals unable to work from home<sup>2</sup> (iii) an indicator of the fragility of the status of professionals, obtained by overweighting fixed-term contracts (including apprenticeships), temporary workers and self-employed workers without employees.*

*Sources: Word Input-Output Database; INSEE, national accounts and the 2016-2018 Labour Force Surveys.*

have less opportunity to practice their profession from home. This is particularly the case for hairdressers and beauticians, professionals in the arts and entertainment<sup>5</sup>, employees in various services, sailors, fishermen and aquaculturists, employees and supervisors in the hotel and catering industry (waiters) and cooks. Industrial workers (textiles, electrical engineering, metallurgy, wood) have a sectoral exposure linked both to the general slowdown of activity and to a higher risk of supply disruption due to the import of many of the required inputs, their contracts are more often of limited duration (fixed-term and temporary contracts) which also contribute to undermine the sustainability of their employment.

Finally, IT employees and warehouse workers have in common that they are somewhat less exposed to the risk of business interruption, but their status remain very fragile. Conversely, household staff (domestic employees) and mechanical workers and technicians have, on the contrary, a very high sectoral exposure and a lesser statutory fragility.

The least economically vulnerable occupations are obviously the medical and social professions, the civil service and the banking-insurance sector, which operate in priority

### **Vulnerable living conditions**

*Three types of vulnerabilities in living conditions are considered: a vulnerability linked to the reconciliation of work and family life (childcare, single-parent family, type of housing); a financial vulnerability taking into account rent and mortgage charges and the median salary level (including bonuses); a vulnerability linked to situations of disability or loss of autonomy.*

*Source: INSEE, the 2016-2018 Labour Force Surveys.*

### **Vulnerability of working conditions**

*Four indicators capture the vulnerability of working conditions: vulnerability due to atypical working hours; physical vulnerability (difficult postures, heavy loads)<sup>3</sup>; vulnerability due to work intensity, workload or pace constraints<sup>4</sup>; vulnerability from face-to-face contact with the public.*

*Sources: INSEE, the 2016-2018 Labour Force Survey; Dares, the 2013 Working Conditions Surveys.*

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sectors. Some professions that are highly protected from economic risk do not necessarily work in essential activities: commercial, administrative, accounting and financial executives are among the least at risk because they can work from home by teleworking, they are recruited in all sectors (essential or not) and are protected in the short term by permanent employment contracts.

However, certain professions on the "frontline", such as cashiers, bakers, butchers, and farmers are not among the least vulnerable in our classification, either because they are subject to the temporary shop or restaurant closures, or because the high proportion of precarious statuses (fixed-term contracts, temporary work, or self-employment) makes them vulnerable.

### **Health-care, cleanliness, public services: the crisis makes women's work more visible and exposes men's jobs to job loss.**

Beyond the fact that the "front-line" jobs are generally badly considered<sup>6</sup> and located within a social sphere (hospitals, justice, schools, welfare services) supported by the protective "hand" of the welfare state<sup>7</sup>, the crisis has

1. A more detailed description of the methodology is available [on the France Stratégie website](#).

2. This corresponds to persons who report having worked at home during the four weeks ending with the reference week of the Labour Force Survey (including those for whom the place of work corresponds to their home).

3. On the model proposed by the Dares, see Beque M. and Mauroux A. (2017), "*Quelles sont les évolutions récentes des conditions de travail et des risques psychosociaux?*", *Dares Analyses*, No. 082, December.

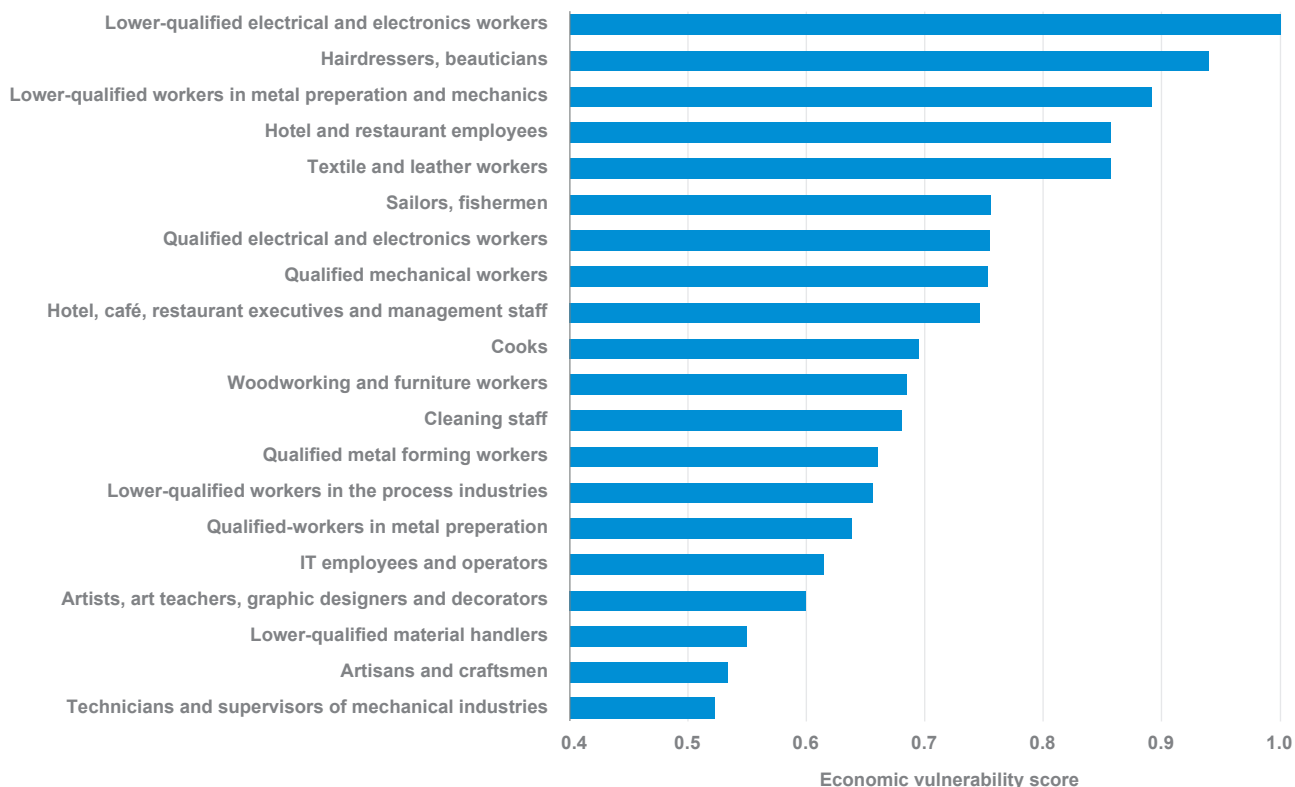
4. Also on the model proposed by the Dares.

5. Artists, graphic designers, stylists, decorators and art teachers.

6. This debate on the social value of jobs is not new. It had already been treated after the economic crisis of 2008. See Steed S et al (2009), *A bit rich: Calculating the real value to society of different professions*, New Economics Foundation.

7. Pierre Bourdieu distinguishes "the left hand of the state" that protects, from the "right hand of the state" that controls. Bourdieu P. (2012), *On the State. Course at the Collège de France (1989-1992)*, Paris, Seuil.

Figure 1 – Occupations most vulnerable to economic risk



Reading: Economic vulnerability has been normalised between 0 and 1: that of lower-qualified electrical and electronics workers is 1, the highest. Conversely, A score of 0 corresponds to the lowest vulnerability amongst professions.

Field: All of France (excluding Mayotte), population in employment.

Sources: France Stratégie, based on WIOD, the French National Accounts and the 2016-2018 Labour Force Surveys (INSEE).

highlighted women’s work. Indeed, women are over-represented amongst teachers, nurses and midwives, care assistants, home-helpers and childcare professionals<sup>8</sup> - i.e. professions within the fields of education and the care of vulnerable people as well as social care workers. Alongside the social sphere, women are also in the majority in certain clerical occupations (cashiers, self-service employees, maintenance workers) and in the public sphere (civil service administrative employees). These are all professions that are mobilized in this period of crisis and whose activity leads, by nature, to a greater degree of contact with the general population (graph 2 on the next page). These professions that involve direct social interaction are therefore more exposed to health risks.

Moreover, some of these jobs have in common that they are poorly paid in comparison to the totality of the employees in France<sup>9</sup>, which partly justifies their feeling of lack of recognition in the workplace. Thus, the median salary of these occupations is below that of all full-time employees

(1,800 euros net per month). This is the case, for example, for professional caregivers, cleaners, cashiers or sales-people. Farmers and food service workers, who are mostly men, also earn less than the median wage (Figure 2).

Conversely, the economic vulnerability resulting from the crisis is more likely to impact men, who are over-represented in the professions most affected by the slowdown or stoppage of activity: this is the case in certain professions within industry (metallurgy, process), hotels and restaurants (cooks), construction (construction workers) and maintenance.

*Vulnerable living conditions: families - and particularly single-parent families - are on the front line*

How do inequalities in living conditions affect people in employment, whether they have continued to work from home or in the workplace or have temporarily or permanently ceased their activity? We define here three types of vulnerability in living conditions: firstly, a vulnerability

8. Childcare professionals are allowed to work when they are caring for less than six children. While many of them have had less activity since 17 March because many children have been cared for by their parents, this will no longer be the case when they leave confinement where they, like teachers, will be very exposed to contact with the public.

9. This wage indicator does not necessarily represent the level of household resources, especially if there is a spouse in employment.

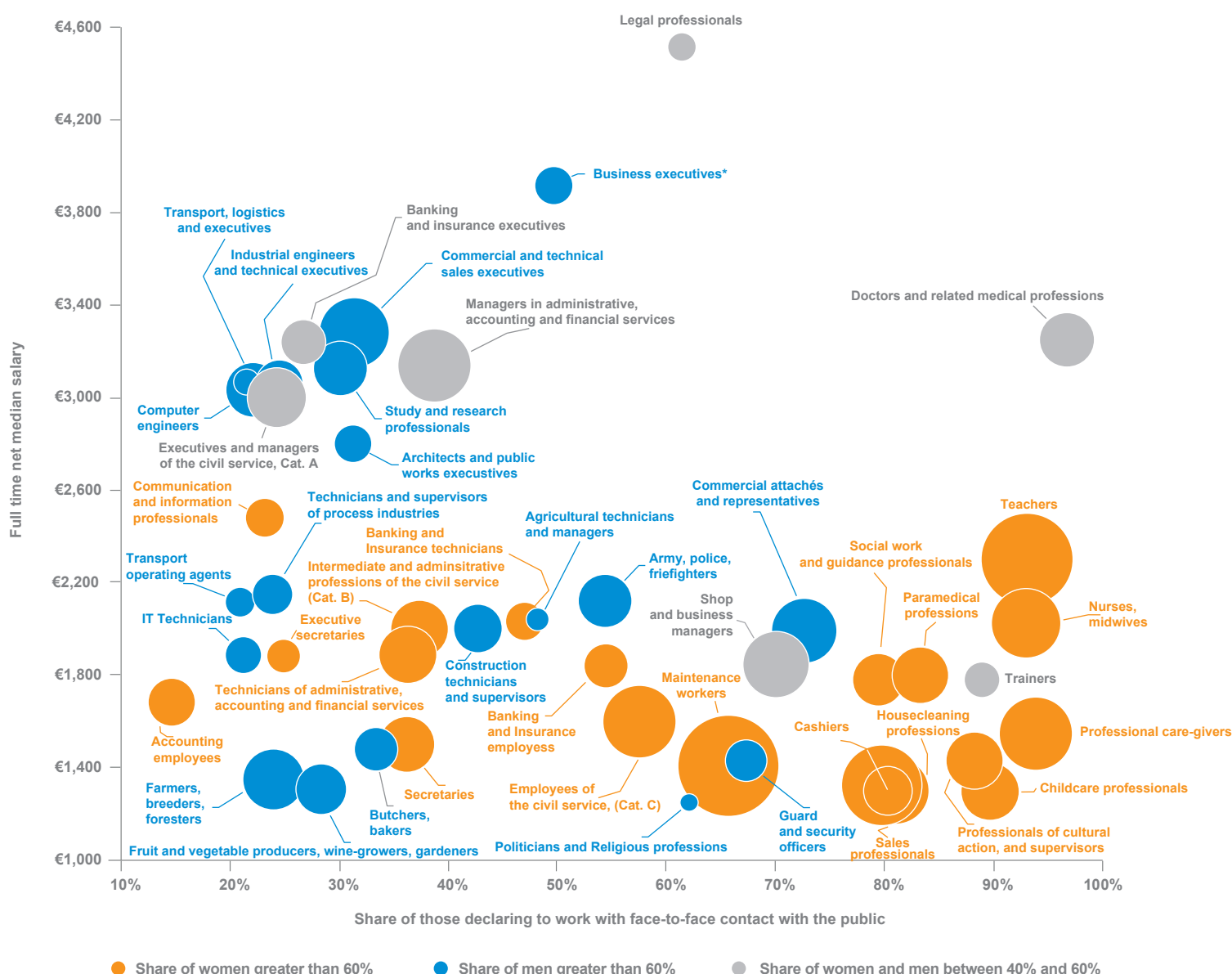


in terms of reconciliation between family and professional life as well as for families living in apartments and in large cities; secondly, a financial vulnerability, for low-income jobs that have rent or loan charges; and finally, a specific vulnerability for people with disabilities.

The first difficulty when you have to work in a period of confinement is that you have to take care of the children

and ensure pedagogical continuity in liaison with the National Education system if you stay at home, or find a childcare arrangement if you continue to work onsite. Reconciling family and professional life is therefore more difficult for those who have to care for children under 15 years of age, *especially* for single-parent families. Poorly paid female-dominated jobs are mostly found on the Covid-19 frontline (professional caregivers, home help, cashiers,

**Figure 2 – Low economic vulnerability occupations by median wage, share of public contact and share of women**



\*For the calculation of the salary level, only administrative, financial and commercial staff of large companies are taken into account.

Note: The occupations represented in this graph have a lower than average economic vulnerability score. The size of the circle is proportional to the number of jobs in the profession. The wage is declared, monthly and net (including bonuses). It is therefore calculated only for employees, as the income of self-employed workers is not included in the source used.

Field: All of France (excluding Mayotte), population in employment.

Reading: Amongst the 693,000 caregivers, 91% of these individuals are women, their median net monthly salary is 1,546 euros, and 94% of them declare that they are in face-to-face contact with the public.

Sources: France Stratégie, based on the 2016-2018 Labour Force Surveys (INSEE) and the 2013 Working Conditions Survey (DARES).



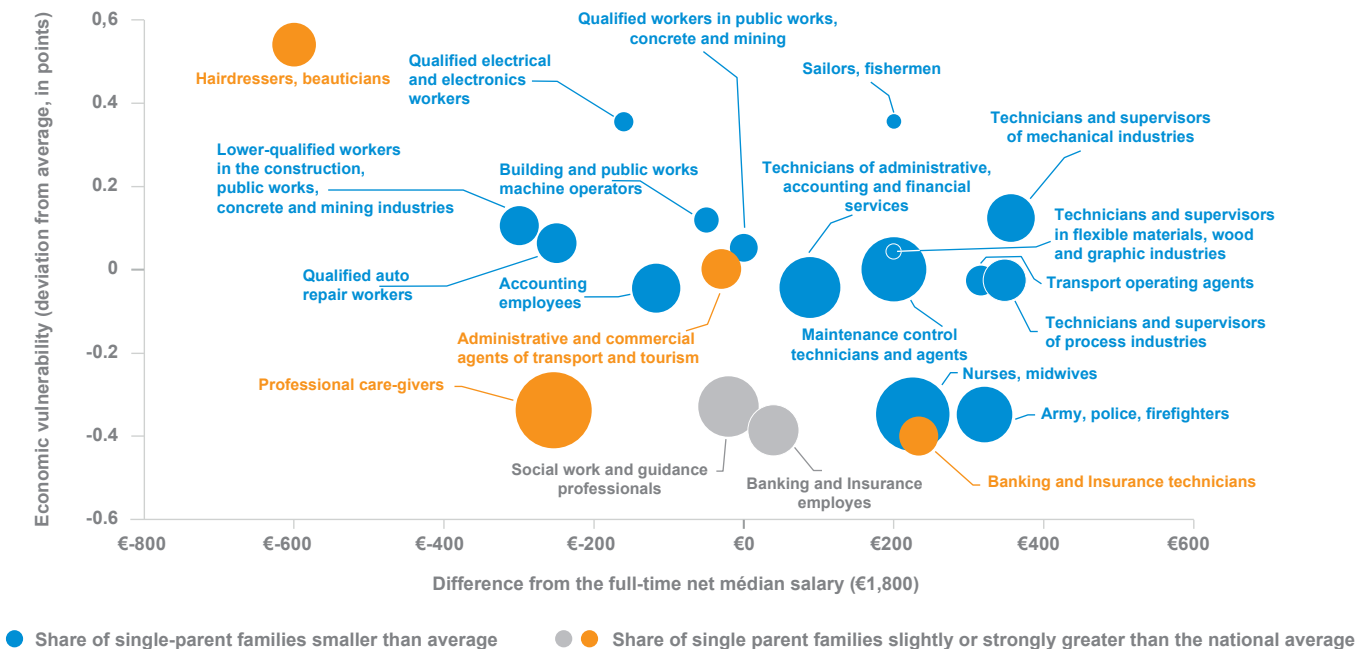
maintenance workers) but also within first experience jobs attractive to young people at the beginning of their careers (social work professionals) who find it difficult to work at home. Generally speaking, jobs that are mainly carried out with face-to-face contact are poorly paid, childcare therefore accentuates their financial worries when their activities are stopped or seriously threatened (graph 3).

Those who pursue their professional activities at home are nevertheless constrained both by the care of their children and by the nature of their dwelling (approached here by the distinction between living in an apartment and in a house) and their place of residence (large cities *versus* rural areas or small towns). Confined telework is more difficult for those living in apartments in large cities, which are smaller on average because of the price of land, as well as for those responsible for the full-time care of at least one child under the age of 15 due of the school closures. The populations concerned are often executives, less exposed to economic risk, but subject to a more difficult reconciliation between family and professional life compared to in normal times. As a result, they are exposed

to a high work intensity, hyperconnectivity and mental load that can be exasperated by the confinement (graph 4 on the next page)<sup>10</sup>.

A second source of vulnerability is that of financial constraints which are not the same depending on whether one is the owner (or usufructuary) or tenant (or first-time homeowner) of their private dwelling. Similarly, the initial level of remuneration reinforces financial vulnerability in times of crisis, since it serves as a reference wage for partial unemployment benefits and indicates a savings capacity that is all the more weaker given a salary lower or close to the median wage. Those who combine rent or loan charges with a level of remuneration that does not allow them to have savings are mainly employed in blue-collar and some white-collar jobs, often in young professions (army, police or firemen, salesmen or waiters, but also lower-qualified workers who will reach a higher level of qualification after a few years of experience). This financial constraint is obviously increased for professions that are badly affected by the halt or slowdown in their activity, notably the case within the catering, industry and transport industries (graph 5 on page 8).

**Figure 3 – Professionals with children who cannot work at home, according to median wage and economic vulnerability of their occupation**



Note: The size of the bubble is proportional to the number of employees in the trade. The concept of salary is declarative (including bonuses). It is therefore calculated only on salaries, as the income of self-employed persons is not included in the source used.

Reading : Hairdressers and beauticians, whose economic vulnerability is 0.54 points higher than the average job, have a median salary that is €600 lower than that of all occupations.

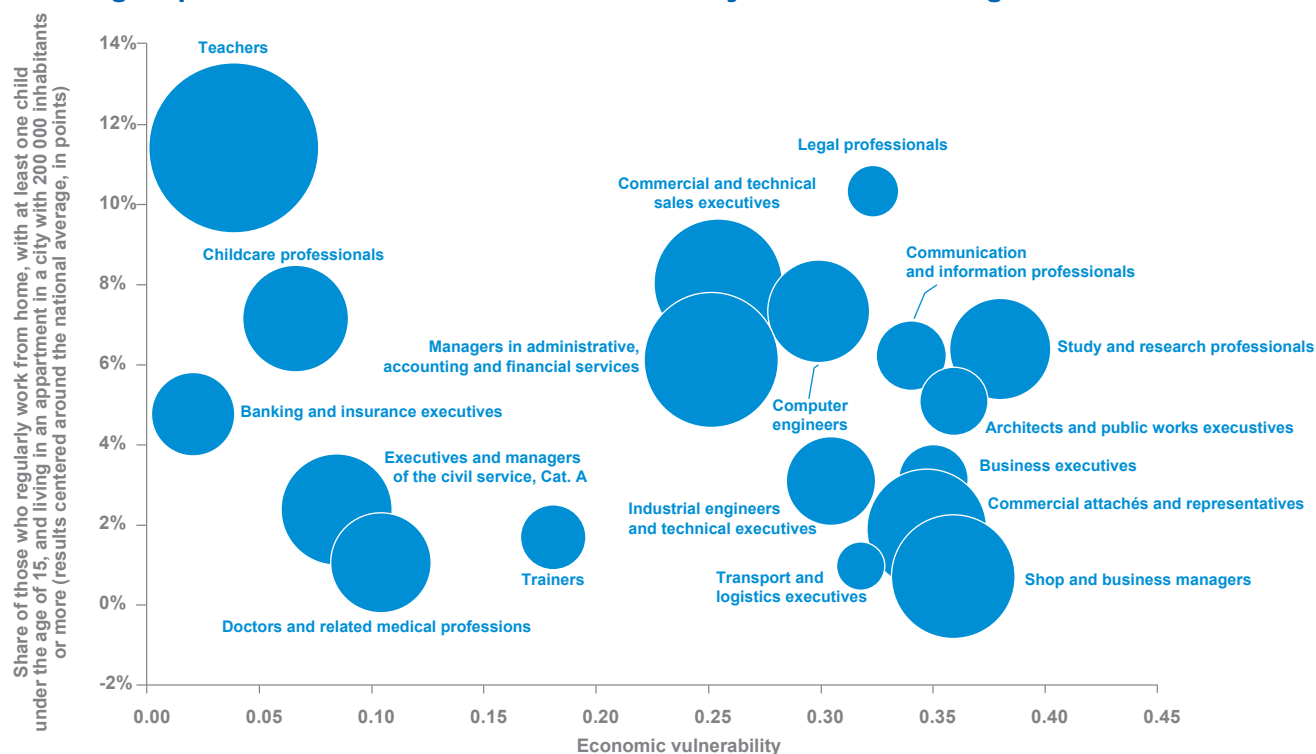
Field: All of France (excluding Mayotte), population in employment.

Source: France Stratégie, based on the 2016-2018 Labour Force Surveys (INSEE).

10. See the OpinionWay barometer for Empreinte Humaine relating to the mental health of employees of 20 April 2020.



**Figure 4 – Professionals who work more than average from home, with children, and living in apartments, and whose economic vulnerability is lower than average**



Reading: The size of the circles are proportional to the number of people in the profession. The selected professions are those that are less exposed than average to economic risk, and for which the proportion of professionals who usually work from home, with a child under the age of 15, and living in an apartment in a city of 200,000 inhabitants or more (including the Parisian agglomeration) is higher than average. For example, the economic vulnerability of legal professionals is low (0.32 on a scale of 0 to 1) and 13 % of them combine habitual work from home, residence in an apartment in a city of 200,000 inhabitants or more and the care of children under the age of 15, compared to 3 % for all occupations.

Note: Childcare professionals necessarily work less in the confinement period, since many parents look after their children themselves (see note above), but they are considered in our classification as not very economically vulnerable (they are mainly recruited in the social sphere and considered as essential, protected by permanent employment contracts).

Field: All of France (excluding Mayotte), population in employment.

Source: France Stratégie, based on the 2016-2018 Labour Force Surveys (INSEE).

Finally, situations of disability<sup>11</sup> reinforce the constraints for professionals, whether they are able to work from home, or forced to continue their work in the workplace as well as when subject to temporary cessation of their activity. However, professions are very unequal in the face of disability health risks, which affect “blue-collar” workers more than “white-collar workers”. In this respect, their more fragile health predisposes them to develop the most serious forms of the disease, all the more when they live in areas where access to the health system is more difficult<sup>12</sup>. Craftsmen, lower-qualified electrical and electronics workers as well as warehouse workers are the most exposed to the risk of disability<sup>13</sup>. Whilst the activity of the former has slowed down sharply, those of the latter is holding steady and exposes them, particularly in the case of those working in warehouses, to increased health risks.

### *The vulnerabilities within the prism of working conditions*

An analysis of working conditions reveals the singularity of certain professions in the current crisis. Does this crisis reinforce pre-existing situations or, conversely, does it constitute a limited break from these precarious conditions? These working conditions, based on the declarations made by employees in the DARES<sup>14</sup> surveys, can be broken down into three main dimensions. The first refers to the intensity of mental workload, which includes working under pressure, lack of recognition or having to do an excessive amount of work. The second relates to the intensity of time related pressure, which includes working under pressure of pace or having to hurry. Finally, the third dimension describes the physical stresses and risks associated with the work, such as awkward postures, carrying

11. The only people considered here are those with an administrative recognition of disability or loss of autonomy, which represents 976,000 people in employment.

12. Amdaoud M., Arcuri G. and Levratto N. (2020), "Covid-19: spatial analysis of the influence of socio-economic factors on the prevalence and consequences of the epidemic in French departments", Working Paper, Economix.

13. The number of people with a recognised disability is equal to or greater than 10% in these three professions (20% for artisans), with an average of 3.6% for all professions combined.

14. The 2013 Working Conditions Survey (DARES). The indicators calculated are based on the study by Beque M. and Mauroux A.. (2017), *op. cit.* See the box and the methodological appendix for more details on the construction of the indicators used

**Figure 5 – The most financially vulnerable occupations that combine the burden of rent (or borrowing) with a salary close to or below the median wage**



Note: The selection illustrates the professions where the share of tenants and first-time home buyers is highest.

Field: France as a whole (excluding Mayotte), employed population.

Source: France Stratégie, based on the 2016-2018 Labour Force Surveys (INSEE).

heavy loads or exposure to intense noise. This panorama is completed by the type of hours worked: weekends, evenings or nights.

### Difficult work constraints for those mobilized during the crisis

Many of the professions that have been heavily mobilized in the crisis are also characterised by difficult working conditions. Nurses, midwives, professional caregivers, regal professions or social work professions thus combine mental workload and time pressure (graph 6 on the next page). Since these professions are directly affected by the health crisis (graph 2 page 5), it is possible to think that this intensity of work is accentuated. What these jobs also have in common is that they are carried out more frequently in the context of atypical working hours, for example the case

of health professionals working on call or cleaning staff working staggered hours. Other professions that ensure the smooth running of shops, such as cashiers or managers, face significant time pressure. They often work weekends and evenings. All in all, for these professions, the current situation may increase vulnerability, especially when considering that rules that came into force during confinement have opened up the possibility of increasing working hours<sup>15</sup>.

Other professionals, less in direct contact with the population, have seen their working conditions affected by the crisis. Even if part of their activity can be carried out remotely, using digital tools, they nevertheless consider their mental load to be high. One thinks in particular of civil service managers and teachers who ensure the implementation and continuity of public services, but also of managers

15. See article 6 of Order No. 2020-323 of 25 March 2020 on emergency measures relating to paid leave, working hours and rest days.





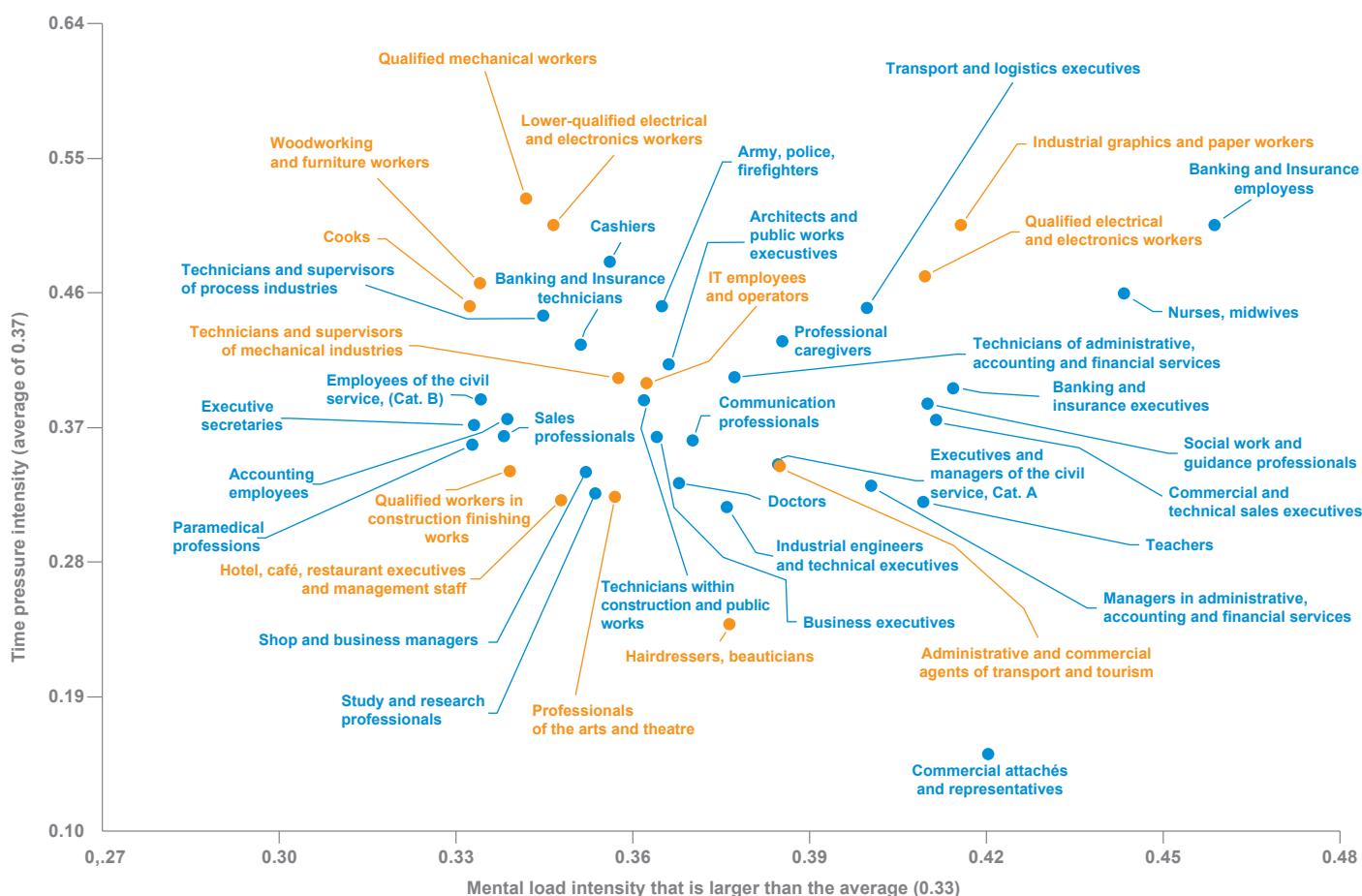
in administrative, accounting and financial services who are responsible for adapting the organisation of work within companies (introduction of telework, monitoring of financial activities, introduction of the partial unemployment, etc.). All these situations are sources of psychological suffering.

The catering trades, such as bakers and butchers, and the agricultural trades that ensure the satisfaction of basic needs are exposed to significant physical constraints (graph 7 on next page). These constraints are also significant for maintenance agents and technicians in the process industries, particularly in the food processing and handling sectors.

### The stopping or slowing of the activity: professionals put at rest?

Beyond the intensification of work, the crisis reminds us that the level of qualification remains a gradient of physical arduousness (graph 7 on next page). Indeed, physical risks remain largely a concern for manual labour workers<sup>16</sup>. With the exception of the agricultural and food industry as well as logistics, these professions are largely forced to cease their activity. The crisis thus marks a pause in the exposure to these difficult working conditions traditionally faced by construction, electronics, mechanical or metallurgical engineering workers, which usually combine physical constraints, time pressure and

**Figure 6 – Occupations with high mental load, depending on the level of time pressure and economic vulnerability**



- Occupations with an economic vulnerability that is smaller than the average
- Occupations with an economic vulnerability that is larger than the average

Field: All of France (excluding Mayotte), population in employment.

Reading: Nurses and midwives, which are among the occupations with lower than average economic vulnerability, have a high intensity of mental load (0.44) and time pressure (0.46).

Sources: France Stratégie, based on the 2016-2018 Labour Force Surveys (INSEE) and the 2013 Working Conditions Survey (DARES).

16. Gollac M., Volkoff S. and Wolff L. (2014), "Les variations sociales des conditions de travail", in Gollac M. (ed), Les Conditions de travail, Paris, La Découverte, pp. 43-58.





the crisis (although they are beneficiaries of the “partial unemployment” scheme), but they have also suffered greatly as a result of the economic crisis of 2008, which led to major job cuts (table 2 on page 15). These occupations share a common economic vulnerability, past and present, linked to several factors. First, their status is more precarious than for the average job (nearly one in five is on a fixed-term or temporary contract). Their cyclical activity also suffers from the slowdown in the sectors that employ them (strong sectoral exposure). In addition, they are unable to work from home. These professionals also share financial fragility, with median wages below the average. But the fragility is also physical and psychological, linked to their living and working conditions: 53% of them declare working with physical risks and 40% are subject to intense work rhythms (compared to 29% and 37% on average).

With regard to living conditions, those working within these occupations reside less often in apartments, as their activities are less concentrated in large cities. The most feminized professions – textile workers, lower-qualified process industry workers, household staff, company administrative staff – have more single-parent families. Childcare becomes all the more complicated when employment is jeopardized or when short-time working reduces already low incomes.

The physical constraints and risks to which these professions of workers, craftsmen, sailors, and fishermen are exposed to have already led to a recognized handicap for some of them. All of them are also subject in normal times to overbearing work rhythms, particularly for those working on industrial production chains. Some of them work atypical hours to meet the uninterrupted needs of end of value chain consumers and companies: this is true in particular for sailors, fishermen, car repair workers, and those within the process and graphic industries. The mental burden of fear of losing one’s job<sup>17</sup> and lack of recognition is particularly significant among mechanical workers and technicians, electrical and electronic workers, qualified construction tradesmen, woodworkers and workers in the graphic industries. These occupations therefore combine physical, psycho-social and living conditions vulnerabilities that increases the burden given an already high economic risk.

### *The newly vulnerable: in transport, catering, personal services and culture, prolonged economic risk and high individual vulnerabilities*

Transport and warehousing professions (handling workers, vehicle drivers, administrative and commercial agents in transport and tourism), hotel and catering professionals (cooks, hotel and catering employees and supervisors, hotel managers and executives), personal service occupations (hairdressers, beauticians, miscellaneous service employees) and professionals in the arts, entertainment, culture and sport sectors, whose employment had held up well or even grown steadily in recent years, are facing a historic economic crisis. With nearly 4.3 million jobs, these professions in contact with the population are highly exposed to the slowdown or prolonged stoppage of their activity. Although employees benefit from the “partial unemployment” scheme, their status makes them vulnerable: the proportion of non-permanent salaried contracts reaches 20% on average in these professions<sup>18</sup>, with peaks in handling, the hotel and restaurant business or the arts and culture (table 2 page 15). In addition, their activity cannot be carried out remotely.

Like the “traditionally vulnerable” occupations, they face financial difficulties, with a median salary of 1,550 euros per month, the lowest of all the occupational categories identified here. More than others, they work atypical hours: half of them usually work weekends, compared with 40% of the employed national workforce on average. Their individual vulnerability can affect their ability to bounce back, especially since there are many solo freelancers: hairdressers, beauticians, employees in various services, hotel managers and executives, cafés, restaurants, arts and entertainment professionals (including graphic designers). For the latter, a prolonged cessation of their activity would pose a lasting threat to them (cash flow difficulties, impossibility of benefiting from partial unemployment).

The jobs of warehouse workers share with the other blue-collar occupations a habitual exposure to physical risks: these risks have sometimes led to occupational disabilities, as made evident by a higher than average rate of legally recognised forms of disabilities<sup>19</sup>. Female professions (lower qualified handling workers, cooks, waiters, hairdressers and beauticians) have a higher incidence of single-parent families. They are also more often subject to atypical working hours and above-average work intensity.

17. For certain professions, the decline in the workforce does not automatically mean a high risk of losing one's job, this can be obtained through the reduced rate of renewal following retirements.

18. As opposed to 13% on average.

19. While there is a strong correlation between physical risks and the recognition of a disability in certain occupations, this link is not systematic, as the disability may have a cause independent of work.

Despite the support measures deployed, be it partial unemployment or the solidarity fund for the self-employed, these professions are likely to suffer from the crisis beyond the confines of lockdown given the fact they are more exposed to physical risks, and more vulnerable both financially and in terms of living conditions.

### *Jobs "on the front lines" in the crisis, between health risks and work intensification*

Occupations who are not subject to closure or deemed essential, are at the forefront of responding to health emergencies, primary health care needs and the necessity to ensure the operation of public services. There are 10.4 million people, with little economic vulnerability, who work in care, education and cleanliness professions, the regal professions (army, police, firemen), those in contact with users of essential services (cashiers, public service employees) as well as the professions within the agricultural and food sector (food service professions, agricultural professions) (table 1).

Most of these professions are subject to a risk of infection through their direct contact with the public: 73% usually directly face users, customers or patients. Some are highly

exposed during confinement to health risk (care, cleanliness, food sales), while others, whose activity is currently slowed down or is done remotely, will be exposed post-lockdown (non-food sales, teaching, childcare, etc.). This professional singularity is likely to aggravate working conditions already considered difficult by these professionals, with a higher than average share of atypical working hours and a high mental load, particularly among the health and education professions. In these often female professions (65%), many of them are a single parent, which makes it more difficult to reconcile childcare with an intense pace of work. With the exception of doctors, teachers<sup>20</sup> and "law and order" professions, these occupations also have in common that they are paid at a level close to or below the median wage (1,626 euros per month on average).

The care and cleaning professions (home helpers, childcare assistants and cleaning staff<sup>21</sup>) are already at the forefront of managing the health crisis. Among health professionals (doctors, nurses and midwives, care assistants, paramedical professions<sup>22</sup>), the mental workload and time pressure due in particular to the reorganization of services and the influx of patients are all factors likely

**Table 1 – Characteristics of professionals "on the front lines" during the crisis**

On the Covid-19 front	Agriculture and food-retail professions	Care-workers and cleaning professions	Healthcare professions	Teachers	Security professions	Others*	Together
<b>PART</b>	28%	23%	21%	11%	6%	12%	100%
Share of those who regularly work from home	16%	17%	13%	80%	7%	14%	22%
Share of those with fixed-term contracts	14%	19%	12%	6%	10%	16%	14%
Share of those who are self-employed without employees	17%	1%	13%	0%	0%	3%	8%
<b>LIVING CONDITIONS</b>							
Share of women	48%	83%	79%	67%	18%	70%	65%
Share of those with children under the age of 15	36%	35%	42%	48%	44%	37%	39%
Share of those within single-parent families	10%	14%	9%	8%	7%	11%	10%
<b>WORKING CONDITIONS</b>							
Share of those who work week-ends	69%	33%	60%	63%	68%	31%	54%
Share of those who work in the evening	19%	13%	39%	56%	54%	15%	28%
Share of those who work in the night	7%	6%	16%	5%	43%	3%	10%
Physical risks and constraints intensity	0.35	0.25	0.30	0.12	0.31	0.20	0.27
Time pressure intensity	0.34	0.29	0.41	0.32	0.37	0.33	0.34
Mental load intensity	0.30	0.28	0.39	0.41	0.33	0.33	0.33
Share of those in face-to-face contact with the public	57%	80%	92%	93%	62%	67%	73%

\* Administrative employees of the public service (cat. C and assimilated), social action and guidance professionals, trainers, political professionals and clergy.

Field: All of France (excluding Mayotte), employed population.

Reading: In the health professions, which account for 21% of the workforce "at the front", the proportion of women is 79%. The closer the intensity score for working conditions is to 1, the higher the measured intensity.

Sources: France Stratégie, based on the 2016-2018 Labour Force Surveys (INSEE) and the 2013 Working Conditions Survey (DARES).

20. In addition to school and secondary school teachers, this family includes higher education teachers and school principals and inspectors.

21. This occupational family includes Hospital Service Officers (HSOs).

22. This professional family includes pharmacy assistants.



to worsen working conditions in the short term. These professionals work more frequently at weekends, evenings or during the night and are more likely to be employed on permanent contracts or to be self-employed. In this respect, it should be noted that the employment status on open-ended contracts of personal services professions, such as childcare assistants, is a result of legal requirements and does not reflect the conditions of employment. It is known, for example, that part-time work is important in those occupations. These predominantly female professions are also more likely to be exercised by a single parent. Regal professions (army, police and firemen) and security guards ensure the physical security of the population. These occupations are more likely to be performed in the evening or at night, but their status protects them in the short term from the risk of losing their jobs.

The current crisis also exposes the professions of user relations (public service employees, social workers and guidance professionals) or commercial relations (cashiers and self-service employees, sales professions, shop managers). Some of these professionals are already in contact with the public or will be after the end of lockdown.

Moreover, despite the closure of their workplace, education and training professionals have been able to implement alternative ways of organizing their work to ensure the continuity of their activity. For example, teachers have adapted their pedagogical practice by using digital tools or "out-of-class" learning devices. Varying according to the institutions, this transformation presents a risk of accentuating educational inequalities<sup>23</sup>, which will be an additional difficulty for teachers when they return to the classroom. While for the time being trainers and teachers have taken precautions against a direct health risk, the supervised reopening of schools is nevertheless likely to make them more vulnerable. This is also the case for child care professionals, for whom activity has been greatly slowed down.

Finally, other professionals, who were not directly exposed to Covid-19 and will not be exposed to it following the end of lockdown, have seen their work intensified to meet basic needs. This is the case for agricultural occupations (farmers, technicians and agricultural managers) or food service occupations (butchers, bakers). The former have had to cope with the impossibility of using seasonal workers to operate the harvests and cope with the

increase in their activity. In addition to their atypical working hours, professionals in the agriculture and food service sector report that they are subject to significant physical constraints (carrying heavy loads, difficult postures, etc.) which the crisis is likely to accentuate, particularly when the availability of seasonal labour is limited.

### *Executive jobs face hyperconnectivity and work intensification*

In a period of confinement, the management professions are exposed to low economic risk: their ability to work remotely using digital tools (38% usually work from home, compared with 20% in all professions) and their employment status (nearly 90% are on permanent contracts or self-employed with employees) enable them to continue to fulfil their professional responsibilities. Nearly 4 million jobs are concerned.

The telework of managers can be involuntary and, in this sense, lead to a reorganisation of work. Managers may be called upon to adapt the organization of the company to containment measures and thus facilitate the resumption of activity: implementation of telework, internal communication, safety and hygiene measures, etc. They are an intermediary link in the organization, whose role is to deploy the company's strategy to their teams. While managers in the civil service and in banking and insurance have had to mitigate the direct effects of lockdown on public health and the financial and banking system, managers in industry and commerce are now preparing the terms and conditions for the resumption of activity.

The difficulty of organizing this collective effort at a distance and the trend towards hyperconnectivity to respond to emergencies expose executives to a deterioration in their working conditions, aggravated by the difficulty of reconciling family and professional life. Yet, these professions already have the highest work intensity and mental workloads in France.

Even before confinement, 81% of managers and up to 86% of transport and logistics executives reported excessive amounts of work, compared to 64% for all occupations. They were also almost half to report having to work under pressure (50% compared to 34% for all occupations). Indeed, these occupations mobilize supervisory and managerial skills with an intensity twice as high as the national average<sup>24</sup>, no doubt one of the origins of this stress.

23. See [the article](#) by Pascal Plantard, professor of anthropology of the uses of digital technologies, in the newspaper *Le Monde*.

24. Lainé F. (2018), "*Situations de travail, compétences transversales et mobilité entre les métiers*", Working Paper, No. 2018-03, France Stratégie, February.



The vulnerability of managers could increase in the coming months, given the economic difficulties of the sectors in which they work. On the front line in responding to the uncertainties generated by the crisis, some are mostly recruited by business sectors that are very sensitive to cycles (industry, construction, business services). While their vulnerability is at this stage mitigated by their status and their ability to work remotely, the uncertainties about the economic context as they emerge from lockdown create a long-term doubt about the preservation of their jobs. This is particularly the case for construction managers and civil engineers as well as for engineers and technical managers in industry. (graph 8).

*Professions that are economically preserved but sometimes forced into partial inactivity*

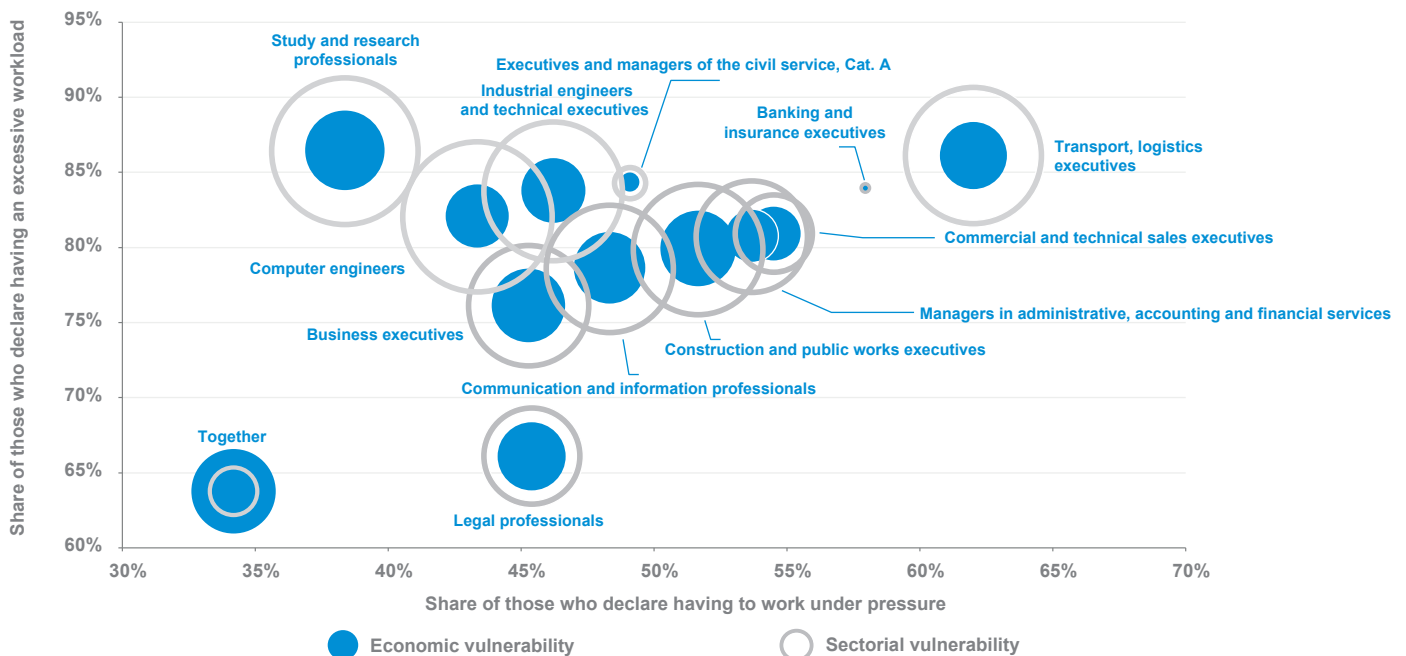
Some technicians and associate professionals or qualified employees are not included in the above groups. They have a low or moderate risk of job loss, and can be partly mobilized in the crisis (administrative associate professionals in the civil service, banking and insurance employees and technicians). Some are working in most companies regardless of business sector (accounting employees, IT technicians, secretaries, executive secretaries, employees for financial and administrative services) and others are protected from short term dismissal due to their open-en-

ded contract (technicians in maintenance, construction, process industries, wood and graphic industries). This category accounts for 4 million jobs (table 2 on the next page).

In young entry-level occupations, their median salary is slightly above that of all occupations and they work less remotely than managers, which forces them into partial inactivity (their usual share of work at home is lower than the average for all jobs). As they perform support or intermediate management functions, they are dependent on their colleagues. The attrition of these groups during the lockdown period implies a greater autonomy of the colleagues they support (secretarial, computer or administrative technicians) or supervise (technicians in industry and construction) and symmetrically creates a lower workload.

However, this situation carries with it the risk of distancing oneself from the professional sphere and of alienating them socially. The resumption of activity will potentially be made less easy by the empowerment of work collectives, which may require an adaptation of support and supervision methods (more autonomy in the management of employees and managers, leading to a repositioning of tasks). Distance working and the use of digital tools during lockdown may also require an upgrading of the digital skills within these occupations.

**Figure 8 – Executive Work Intensity and Sectoral Exposure**



Note: The economic vulnerability of each profession is represented by a blue circle and its sectoral vulnerability by a black circle. The diameter of the circle is proportional to the ratio between the value of the score and the average sectoral vulnerability score for all trades. For example, the ratio of sectoral and economic vulnerability of study and research staff to the average sectoral vulnerability score is 3.07 and 1.64 respectively (compared to 1 and 1.73 on average in the professions). 38% of them declare having to work under pressure in France (compared to 34% of all professions) and 87% of them declare having excessive work loads (compared to 64% on average).

Field: All of France (excluding Mayotte), population in employment.

Sources: France Stratégie, based on the 2016-2018 Labour Force Surveys (INSEE) and the 2013 Working Conditions Survey (DARES).



These categories do not exactly overlap with the three statuses of work during lockdown – partial unemployment, teleworking, face-to-face work – as there are naturally heterogeneities within each occupation. But they do have clear dominants: the “traditional vulnerable” and the “newly vulnerable” total 8.5 million people (32% of employment) and largely coincide with employees on partial unemployment (11.3 million on 28 April, according to the DARES<sup>25</sup>), after the end of lockdown, the former will be able to resume their activity but will be exposed to the risk of redundancies (the companies that employ them may potentially be in difficulty); the recovery of activity of the latter will be durably slowed down by the health risks accentuating their economic fragility. The third category, with 10.4 million people and 39% of employment, includes most of the people who still work on-site, but not

only (it also includes teachers). Finally, the last two categories include many of the people currently teleworking.

Much has been said but not always measured, and hence the purpose of this analysis: women are in the majority in the occupations on the Covid-19 front (including the second line<sup>26</sup>). They account for 65% of the third category within the workforce. Conversely, men are in the vast majority in the “old vulnerable” (77%) and the “newly vulnerable” (62%).

Generally speaking, the occupations on the pandemic front are those most in contact with the public (73%), although some newly vulnerable groups are also included, such as hairdressers and beauticians as well as hotel and restaurant employees.

**Table 2 – Main characteristics of the categories of trades, at the time of Covid-19**

Occupational Class	The traditionally vulnerable	The newly vulnerable	On the front lines of Covid-19	Hyperconnected executives	Jobs in part-time inactivity	Together
NUMBER OF JOBS (IN MILLIONS)	4.2	4.3	10.4	3.9	4.0	26.8
SHARE	16%	16%	39%	15%	15%	100%
<b>Sectorial vulnerability score</b>	0.70	0.69	0.25	0.54	0.46	0.52
<b>Share of those who regularly work from home</b>	9%	14%	22%	38%	14%	20%
<b>Share of those with fixed-term contracts</b>	17%	20%	14%	4%	9%	13%
<b>Share of those who are self-employed without employees</b>	8%	11%	8%	7%	2%	8%
<b>Economic vulnerability score</b>	0.60	0.60	0.18	0.27	0.29	0.40
<b>LIVING CONDITIONS</b>						
<b>Median monthly net-salary (for those working full-time)</b>	€1,631	€1,550	€1,626	€3,078	€1,906	€1,800
<b>Share of women</b>	23%	38%	65%	37%	52%	48%
<b>Share of those with administratively recognised handicap or loss of autonomy</b>	4%	4%	4%	2%	4%	4%
<b>Share of those within single-parent families</b>	8%	10%	10%	5%	8%	9%
<b>Share of those living in urban areas (urban unities with 200 000 or more inhabitants)</b>	31%	43%	39%	61%	42%	42%
<b>Share of tenants (rent paying or otherwise)</b>	70%	74%	69%	66%	69%	69%
<b>WORKING CONDITIONS</b>						
<b>Share of those who work week-ends</b>	25%	50%	54%	28%	22%	4%
<b>Share of those who work in the evening</b>	19%	34%	28%	31%	14%	26%
<b>Physical risks and constraints intensity</b>	0.53	0.30	0.27	0.09	0.19	0.29
<b>Time pressure intensity</b>	0.40	0.38	0.34	0.36	0.39	0.37
<b>Mental load intensity</b>	0.29	0.33	0.33	0.38	0.35	0.33
<b>Share of those in face-to-face contact with the public</b>	28%	53%	73%	30%	34%	51%

\* Including the Paris agglomeration.

Field: All of France (excluding Mayotte), population in employment.

Reading: Sectorial and economic vulnerability scores have been normalized between 0 and 1. In the “front line” occupations of Covid-19, which account for 39% of the employed workforce, the proportion of women is 65%. The closer the intensity score for working conditions is to 1, the higher the measured intensity.

Sources: France Stratégie, based on the 2016-2018 Labour Force Surveys (INSEE) and the 2013 Working Conditions Survey (DARES)

25. Dares (2020), “Situation on the labour market during the health crisis as at 28 April 2020”, Weekly Scoreboard.

26. Extract from the speech of April 13, 2020 of the President of the Republic: “Our civil servants and health personnel, doctors, nurses, orderlies, ambulance drivers, first-aiders, our military, our firemen, our pharmacists have given all their energy in this first line to save lives and provide care. They have held on. The French hospitals managed to treat everyone who came to them. These days, these weeks have been and will remain the honour of our caregivers, both in the city and in the hospital. In the second line, our farmers, our teachers, our lorry drivers, delivery drivers, electricians, stock handlers, cashiers, cashiers, garbage collectors, security and cleaning staff, civil servants, journalists, social workers, mayors and local councillors, and I forget so many more, helped by so many French people who have committed themselves”.

## CONCLUSION

Exit from lockdown and the sometimes long transition to a total or partial resumption of activity do not have the same meaning for all professions. Without prejudging the decisions that will be taken by the professional branches and the social partners, the measures in place or which will be extended to preserve the employment of the most vulnerable, it is necessary to draw attention to a "differentiated" subjection of risks faced by the professions. Some professionals require that both their economic and financial vulnerability be prevented, whilst others are at risk of skills inadequacy and desocialization, and still others are vulnerable from a health and psychological point of view. Burn-out can affect both highly skilled and low-skilled professions that have faced the health crisis face-to-face or remotely to manage the consequences and the resumption of activity.

Beyond that, lockdown may have accelerated organizational transformations. The diffusion of digital technologies will require adaptations both to take account of innovations and to reposition tasks and hierarchies shaken by social distancing. The likely recurrence of major crises – health or otherwise – will also impose lasting health and safety measures that will transform work collectives and could impose new ways of collaborating and organizing work.

Keywords: coronaviruses, trades, professions, vulnerabilities, telework, female employment, professional families

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