FRANCE AND THE 4.0 INDUSTRIAL REVOLUTION

Barbara PALLI*

SUMMARY: I. *Introduction.* II. *Industry 4.0 in France.* III. *The French legal framework facing the 4.0 Industrial Revolution.* IV. *Reform proposals and projects.* V. *Conclusions.* VI. *Investigation resources.*

I. INTRODUCTION

Expressions such as, "the Fourth Industrial Revolution" or "Industry 4.0", are not commonly used neither by the media nor by the most authorised writers in the area of social law.

However, non-specialised magazines make use of expressions such as "digital revolution" or "artificial intelligence" with reference to the digitalization of the value chain aiming at the improvement of product quality and cost reduction.[1] These changes already affect both employment and working conditions and will affect them even more in the future, as well as required skills.

In this sense although the term "Industry 4.0" is not used in practice, France shows a major concern to introduce as much in advance as possible, such reforms that will secure labor and social protection for the digital workers of the new era. For this reason, the digital revolution is not seen as a threat in terms of employment losses or because of the obsolescence of work institutions but rather as a challenge and an opportunity to produce more creative jobs. With this goal in mind, France has recently introduced a law reform that offers platform workers labor and social security rights as well as some other fundamental social rights. Obviously, not all digitalized

* Lecturer in the area of private law, Université de Lorraine (UL, France), Investigation Institute IFG.

[1] La Tribune, n°6625, 14 September 2018.

work exercised within the French borders is covered by those legal remedies, because borders are not an obstacle to digital work. This is why part of the problem of work platforms is that they need to be regulated at a higher lever (other than national) such as that of the European Union or even better that of the International Labour Organization.

II. Industry 4.0 in France

Before we examine the social security and employment law reforms with regard to digitalization of employment, we will first study the referential framework dominating the implementation of the Industry 4.0 in France (1) and then the French and European position towards transitioning to Industry 4.0 (2).

1. *The referential framework dominating the implementation of the Industry 4.0 in France*

France along with Germany are the most powerful economies of the European Union. However, in 2016 industrial products represented 10 percent of the GDP (while it represented 20.3 per cent in Germany) and 2.7 million of jobs in France .[2] Among the most developed industrial sectors we find, the car and plane, the metal, ammunition, and the food and chemical industry. However, contrary to Germany, France has lost a large amount of jobs in the past two decades due to a loss in competitiveness. In the year 2000 industrial products represented 14 percent of the GDP. In 2015 it represented only 10 per cent. Industrial employment has substantially decreased, from 5.1 million jobs in 1980 (26 per cent of global employment) to 3.1 million jobs (12.6 percent of global employment) in 2011.[3] The most affected sectors were: ship building, textile and steel industry. In other words France has been exposed and is still confronted with a significant industrial contraction.

France has also been confronted with the relocation of its industrial production towards more competitive countries - including within the Eu-

[2] France has invested a lot on nuclear energy. Nevertheless, nuclear power covers only a third of the French needs. As a result, France is energetically dependent. In 2015, 44,4% of power needs have been covered through import. At the same time, only 15% of the consumed energy is renewable.

[3] *Les échos*, February 7th, 2018.

ropean Union - practising longer working hours and lower salaries.[4] For the same reasons (high social protection and energy costs), French industrial products are less competitive at the global level. This is why, one of the most important challenges for public policy is to encourage new products and therefore exports.[5]

The introduction of IT and the digitalisation of many tasks have affected not only industrial production but all sectors of the French economy, including retail and services. With the development of online sales of books, clothing, music and food neighbour shops close down. Another salient example is banking. Because of the digitalization of a large majority of tasks, 370.200 jobs have been lost in this sector since 2008.[6]

According to an OECD report on the transformation of the labor market because of technology and globalization, in the following 10 to 20 years, 9 percent of jobs will disappear in France due to the fact that robots will be able to execute more than 70 per cent of the relevant tasks. Another 30 percent of jobs will be significantly affected due to the fact that they will require new skills.[7] For this reason, the previously mentioned report emphasises on the French case, on one hand that France needs to transform its economy towards innovation and on the other that it needs to enhance the relationship between business and vocational training.

For this reason, since 1983 France introduced tax benefits for those companies that choose to invest in technological innovation. In that sense the "tax credit for investigation" followed since 2013 from the "tax credit for innovation"[8] encourage investment in new technologies and technological innovation (for instance for the purchase of three-dimensional printers, using robot directed production, or for having direct or indirect recourse to fundamental research) with the aim of promoting new products, improving quality and at the same time creating new jobs.[9]

---

[4] BENCHOMOL G., *L'entreprise délocalisée*, Hermès, Paris, 1994, p.110 ; MOUHOUD EL M., *Mondialisation et délocalisation des entreprises*, 5ed. La Découverte, Paris, 2017, p. 127.

[5] Report to the Prime Minister, Gallois Luis, *Pacte pour la compétitivité de l'industrie française*, 2012.

[6] Le Monde, June 15th, 2015.

[7] How technology and globalisation are transforming the labor market, OECD Employment Outlook, 2017.

[8] LOI n°2017-1837, December 30th, 2017, Finance law for the year 2018.

[9] The tax credit for innovation directed to small companies is capped to 80.000 €, while the tax credit for investigation directed to larger companies is capped to 100.000€.

Nevertheless, the creation of new digitalized jobs requires new skills. This is why the Statute n°2018-771, on September 5th, 2018, "on the freedom to choose one's' professional future", develops apprenticeship, work-linked training and long-term vocational training, in order for the worker to obtain fresh qualifications.[10]

Taken that France is a European Union Member State, it would be impossible to imagine an exclusively national strategy in order to tackle digitalisation, since this is putting at stake the European Union's global competitiveness.

At European level, the Commission has promoted three different strategies. All of them have an impact on the French situation. First of all, there is a common European strategy called "the European strategy for a unified digital market", dating back to 2015. Then, in 2016, the European Commission has introduced "a European strategy for industrial digitalization[11]" followed in 2017 by a "European data economy strategy".[12]

According to Junker (the former President of the European commission), "in order to secure the competitiveness of the European industry, Europe has to be at the forefront of the digital transformation. It has to promote its acceptance through the economy, aiming at the creation of new jobs linked to digitalization. If this is not the case, digitalization will be conceptualised by other countries and will only be consumed in Europe without getting out of it any benefit in terms of employment".[13]

Within the European plan "called digital skills" one can find for instance, the project of digital opportunities tranship that offers recently graduated students the opportunity to acquire digital skills related to cyber-security, artificial intelligence, codification or digital marketing.

[10] LOI n°2018-771, September 5th, 2018.

[11] Resolution of the European Parliament, June 1st, 2017, relative to the digitalization of the European industry (2016/2271 (INI) ; Communication of the European Commission under the title, « Digitalization of the European industry make the best of the united digital market » (COM(2016)0180.

[12] Communication of the European Commission, under the title « The construction of a European data economy » (COM(2017)9 final). Communication of the European Commission, April 25th, 2018 « Towards a common data space » COM (2018)232 final.

[13] The translation is ours.

2. *French and European problematic before the 4.0 industrial transitions*

The introduction of IT and technological innovation in general affects all industrial sectors. The Post office, an originally public company has been transformed, in 2010, to a public unlimited company. Taken that traditional posting has lost an important part of its market though digitalization and e-mail, the "Post Office" has diversified its activities, introducing new ones such as banking, insurance, and telephone services. As a result, postal workers need to offer their services to elderly people such as bringing them a loaf of bread or making sure they are fine.[14] The problem is that this diversification requires training new skills, and following the workers progress up. According to relevant trade unions, nine suicides and another five suicide attempts are related to the company's transformations.[15]

The same tendency is found in companies such as "France Telecom[16]" or "Yellow pages[17]", a private advertising agency, using paper advertisement. The transformation of its object, (from paper to digital) was accompanied with lay-offs, aggressive management, stress, bullying and suicides.

The French legal system tries to accompany these transformations as much as possible. To take an example, Article L1233-4 of the French legal Code[18] puts on the employers a legal obligation to accompany employees in case their job position substantially changes. The new statute on lifelong training provides the worker with a right to require training in order to obtain a new (different) qualification. Moreover, the French legal system recognises that bullying can be collective in nature and result from aggressive management. As for suicides, they can be qualified as work accidents even if they do not occur at the place of work.[19]

With the use of computers and GPS, there is controversy about data and communication security; companies have a legitimate interest to monitor the employees' conduct and to develop teleworking, while workers have a legitimate interest in safeguarding their right to privacy.

---

14 Le Figaro, May 22nd, 2017.

15 « A handful of suicides to the Post offices: a profound uneasiness", Le Monde October 17th, 2016.

16 Thirty-five suicides in two years, from 2008 to 2009, Le Figaro, 7 July 2016.

17 One thousand workers were dismissed among 4500 from 2018 to 2019, Le Figaro, February 13th, 2018.

18 Statute n°2002-73, January 17th, 2002.

19 Supreme Court decision n°05-13-771, February 22nd, 2007.

Nevertheless, the most important challenge, not only for France, but for all European member States, deals with the development of platform work and its effects on employment and working conditions.[20] The so-called "collaborative economy" includes various activities among which some are not really "collaborative". Under this term one can find platforms that have nothing or little to do with work such as flat hiring platforms like AirBnB or solidary transport like "Blablacar".[21] This report will not analyse this kind of platform as there is little, if any, link to work. The only platforms we will be interested in are work platforms such as Uber or Deliveroo.

Finally, it should be pointed out the European Commissioner for Economy and Digital society seems to be quite preoccupied by the fact that the vast majority or digital service providers (such as Google) are not Europeans. From this observation arises a suspicion that these services providers (twice) may deliberately refrain from promoting European products and services providers.

The European Commission wishes to solve this kind of problem at the European level by means of a Regulation bill.[22]

III. The French Legal Framework Faced to the 4.0 Industrial Revolution

France, like Mexico, has a legal system based on statutory law. However, where statutory law is absent, case law may intervene in order to avoid vacuum. In those cases, statutory law intervenes promptly either in order to enshrine judicial solutions or on the contrary in order to counteract them.

[20] Platform work: Types and implications for work and employment, Eurofound, September 2018, https://www.eurofound.europa.eu/publications/report/2018/employment-and-working-conditions-of-selected-types-of-platform-work

[21] Blablacar is a French private intermediation service. When for instance a car owner wishes to travel from Lille (north of France) to Marseilles (southern part of France), a distance of 1000 km that normally cost 165€ in gas and tolls, he can find, thanks to Blablacar's services, other people who wish to travel the same route on the same date to share costs.

[22] COM (2018)238 final proposal for a regulation on promoting fairness and transparency for business users of online intermediation services.

1. *IT and the protection of workers' rights according to the French and European case law*

The following developments deal first with the effects of the use of IT to the workers monitoring (A) and then with the definition of the applicable law to the relation between platform workers and platforms acting as intermediaries (B).

A. *IT and employee monitoring*

The use of IT makes it immensely easier to monitor the worker's conduct. However, case law seems to draw a fair balance between the company' legitimate interest and the workers right to privacy.

a. Employee geo-tracking

Geo-tracking necessarily intrudes workers' privacy. Nevertheless, according to the Supreme Court, social chamber,[23] geo-tracking is not illegal *per se*, as long as the employer has previously proceeded to the necessary declarations before the National IT Commission, called CNIL and has informed the relevant workers of geo-tracking. However, even under these conditions, geo-tracking remains licit if, and only if, the employer justifies a legitimate interest in using that intrusive means of locating workers.

According to a recent decision of the Supreme administrative Court,[24] the use of geo-tracking in order to monitor the workers' hours of work is no longer legal when it is possible to use less intrusive alternative means, although it might also be less efficient.[25]

b. The use of e-mail

According to the Supreme Court, social Chamber, the employee has a right to intimacy and private life including during working time as well as at

[23] Supreme Court n°16-12.569, December 20th, 2017.

[24] Supreme admin. Court, n°403776, December 15th, 2017.

[25] Geo-tracking seems to be licit regarding truck drivers in order to monitor compliance with maximum working hours.

the place of work.[26] This protection derives from the fundamental right of the secret of correspondence. For this reason, the employer is deemed to violate the worker's fundamental freedoms, when he reads personal messages (correspondence) sent or received through to the computer provided to the worker for work purposes, even though the employer would have prohibited any non-professional use.

Nevertheless archives and folders created thanks to the computer provided to the worker for professional reasons are deemed to be professional in nature. As a result, the employer can open and read them even in the absence of the worker, unless the worker has identified them as personal folders.[27]

A few years later the European Court of Human Rights decided that there is no excessive use of authority when an employer checks on workers in order to make sure they do their professional tasks during their working time.[28] However, in the same judgement, the plenary made clear that monitoring systems are not legal unless they comply with seven conditions: (i) previous complete information of the workers on the nature of the monitoring system (ii) legitimate framework of monitoring (iii) legitimate reasons to justify monitoring (iv) absence of less intrusive alternatives (v) consequences for the worker (vi) safeguards for the workers' rights to privacy (vii) access to a court or other judicial resource.[29]

B. *The contract of platform workers*

According to their contractual provisions, in their vast majority, these workers are independent workers, while the platforms seem to act as an intermediary between the clients (consumers or users of a service) and the service providers (taxi drivers or food takers). As a result, in general, platform workers are not entitled to minimum salary, nor to maximum working time, or to any right on termination of the employment relations. They pay themselves social insurance, especially in case of accident or unemployment. However, some platform workers have brought claims before French

[26] Supreme Court n°99-2.942, October 2nd, 2001.
[27] Supreme Court, social chamber, n°11-12.502, July 4th, 2012.
[28] ECHR Barbulescu v Romania, n°61496/08, September 5th, 2017.
[29] *Ibid;*

courts in order to have access to a more favourable status, applicable to salaried work.

In one decision dating back to December 20th, 2017, the European Union Court of Justice (EUCJ) decided that Uber is not a simple intermediary but has to be considered as a service provider with respect to transport. In other words, the EUCJ might consider in the near future that platform workers are the platform's employees or at least it does not exclude this possibility.

At national level, the Supreme Court hasn't had yet the occasion to consider the nature of the contractual relation between Uber and the taxi drivers nor that between Deliveroo and the food takers. Nevertheless, French judges are not deemed to follow the contractual qualification expressly used by the contractual parties.[30] The employment contract is a concept of public order. For this reason, what the parties may have called an intermediation contract for the provision of services, the Judge is entitled to transform it into an employment contract, provided that the worker is legally subordinated to the platform. Legal subordination is defined as the employer's right to: give the worker orders as to the conditions of work (time-shifts, tasks and place of work); to provide him with the required production means; to control execution and to sanction the workers faults.[31]

In one of the few cases already known by the French courts, the Paris Employment Tribunal[32] (*Conseil des Prud'hommes*) recognized that the relation between the platform LeCab and the taxi driver was an employment contract because of an exclusivity term. The fact that the driver was contractually obliged not to work for another platform/employer was considered to be sufficient evidence that he was not independent.

In another case, in front of the Employment Appeal Tribunal in Paris, the Court found there was no employment relation between the "Take eat easy" food takers and the relevant platform because the workers were free to organise their work according to their desires and fixed themselves their hours of work.

Thanks to judicial unrest, a case will be soon brought before the Supreme Court, social chamber.

---

30 Supreme Court, Plenary, 4 March 1983, D. 1983, p. 381. «The existence of an employment contract does not depend neither on the expressed will of the parties nor on the terms used by the parties, but on the actual conditions the workers exercise their activity".

31 Supreme Court, social chamber, n°94-13.187, November 13th, 1996.

32 CPH, n°14/11-044, 20 December 2016.

2. *The legal protection of the workers confronted to the digitalization of their tasks*

Although the digital revolution has a significant impact on the French economy it has never been considered as a threat from a legal point of view. Since 2008, statutory law has intervened in various occasions, and with different aims and excuses, in order to adapt employment law and social security to the new forms of employment, related to the digital era.

In the first place, we will study employment law reforms facing digitalization of tasks (a) and then social security reforms regarding intermediary work platforms (b).

A. *Employment law reforms facing digitalization of tasks*

These reforms include, among others, the legal framework of telework (a); the right to "logout" (b); the legal protection whistleblowers (c) and the social responsibility of the work platforms (d).

a. Telework

The Statute n°2012-387 of March 22nd, 2012[33] incorporated a national generally applicable agreement on telework (dating back to July 19th, 2005[34]) and a European framework agreement (of July 16th, 2002[35]) on the same matter into the French Labor Code. The French statute on telework was ultimately revised on September 22nd, 2017.[36]

According to the French legal framework, the employer is generally deemed to be responsible for all digital material. French legal scholars and practitioners are generally hostile to the "bring your own device" doctrine and practice, frequently used by Anglo-American legal cultures. As a result, generally speaking, from a legal point of view, the employer is the owner of the electronic/digital material, not only because he buys it but also because

[33] Statute law relative to the simplification of the law and the lightning of administrative procedures.

[34] National general agreement on telework, July 19th 2005

[35] Framework agreement on telework, July 16th, 2002.

[36] Statutory Decree n°2017-1387, September 22nd, 2017, relative to the predictability and security of the employment relation, JORF n°0223, September 23rd, 2017.

he is responsible for its installation and for the workers' training in order to be able to use it.

Since September 2017, the use of telework at company level supposes a framework collective agreement at company or plant level. When there is no such agreement, the framework for the use of telework is unilaterally decided by the employer under the condition he previously consults with the workers' representatives. As a result, since 2017 recourse to telework supposes a common, uniform and decentralised framework. For example, teleworkers have a legal right to a trial period, meaning that if they are not convinced by the conditions of employment under telework, they can go back to normal non telework conditions, provided they give notice according to a company agreement/plant collective agreement.

Moreover statutory law extends protection of the teleworkers private life. In effect, the previously mentioned collective agreement must determine among other things the time framework during which the employer can contact teleworkers. However, in order to make sure that the teleworker abides by his work schedule, the collective agreement may provide for a monitoring scheme. Monitoring has to be adequate and proportionate, the worker has to be informed in advance and the workers' representatives have to be consulted before the monitoring system is put in place.

Last but not least, statutory Decree n°2017-1387[37] provides for a legal presumption that when an accident occurs in the place determined by the employment contract as that of the execution of the telework, the accident is qualified as a work accident (article L 1222-9 of the French Employment Code).

b. The right to logout

The Statutory Decree n°2017-1385, from September 22nd, 2017 (Article 7) provides that companies with more than 50 employees have to negotiate with a trade union representative on the use of digital devices in order to make sure that employees effectively take advantage of their time off work (11 hours per day and 35 per week), holidays (5 weeks minimum), family and private life. If there is no such agreement, the employer is entrusted with training the workers to the reasonable use of digital devices (Article L 2242-17, 7 period, of the French employment Code).

[37] The statutory Decree n°2017-1387, 22 September 2017, has been ratified by Statute n°2018-217, 29 March 2018, JORF N°0076 March 31st, 2018.

c. The protection of whistleblowers

With the digitalization of data, it is much easier for an employee not only to notice but also to prove illicit acts taking place within the structure he works for such as an extensive tax evasion. Statute n°2016-1691, from December 9th,2016[38] defines the whistle-blower and provides for the protection of anonymous denunciation under criminal sanctions (2 years of prison and a 30.000€ fine). The Employment Code also protects whistleblowers against discriminatory or vindictive termination of employment (Article L1132-3-3).

d. Social responsibility of work platforms

Statute n°2016-1088, from August 8th, 2016, introduced, within part VII of the Employment Code, title IV, under the title "platform workers" and a second chapter called "social responsibility of intermediary digital platforms". According to Article L7341-1 of the French Employment Code, this chapter applies to "independent" workers, having recourse to the services of one or more intermediary platforms for the exercise of their professional activities under the condition that it is these platforms that determine the nature and particular conditions of the service, as well as its price.

The employed terminology is puzzling. On the one hand, when the platform unilaterally defines the conditions of service, especially its price, the existence of an employment contract is more than probable. However, the statute expressly defines its scope and limits it to independent workers. On the second hand, the use of the expression "social responsibility", seems strange, as it implies a voluntary commitment more than a legal obligation. Even though the relevant Statute introduces mere incentives with regard to social protection against work accidents it also introduces actual legal obligations.

One thing should be made clear from the beginning, though. The relevant Statute does not seem to introduce a legal presumption that platform workers are not employees in the sense of the Employment Code. In a very neutral way, the law establishes its scope, restricting its application to independent platform workers. This however does not exclude the possibility that a platform worker might be an employee of the platform and can

[38] Statute n°2016-1691, December 9th, 2016, relative to transparency and fight against corruption and modernisation of the economic life, JORF n°0287, December 10th, 2016.

therefore rely on the application of the more favourable status provided by the Employment Code.

To start with, we will first examine the part of the law that is closer to what is generally called social responsibility. According to Article L7242-2 of the Employment Code, if the independent platform worker voluntarily subscribes to an insurance contract against work accidents, then the platform should pay him back the amount of the premium rates not exceeding a certain ceiling. However, statute law "encourages" platforms to voluntarily subscribe on behalf of their workers a work accident insurance.[39] Nonetheless, not all independent platform workers are covered by this law provision. According to Article D.7342-1 only platform workers that have earned at least 13 per cent of the social security ceiling, meaning at least 5.165,16€ in one year, can require the reimbursement of their premium rates.

From the previous results, the inductive and not obligatory nature of the law, regarding health and accident insurance for platform workers.

On the other hand, Statute n°2016-1088, August 8th, 2016, seems to guarantee platform workers with an authentic right to occupational training. In effect, according to article L7342-3 "it is the platform that takes in charge occupational training on behalf of platform workers". In this sense, the platform "users" may validate their professional experience while the platform is required to accompany them and indemnify them.

Last but not least, independent platform workers can organise themselves in trade unions (Article L. 7342-6). This law provision was not necessary, given that the freedom to put in place and participate in trade unions is guaranteed by the French Constitution.[40] In relation to the previous, Article L.7342-5 provides that if the independent platform workers go on strike in order to further professional claims, this strike, unless abusive, does not engage their contractual liability, nor does it justify the termination of their contract to the platform or motivate any penalization of the worker whatsoever. It seems therefore that the 2016 statutory law guarantees independent platform workers the right to strike.

In contrast, the aforementioned Statute does not include a right to a decent salary, even though remuneration is one of the basic claims in case of strike. Neither provides remedies in case the platform ceases to exercise

[39] For instance Deliveroo has declared having subscribed to a global insurance for health care with AXA on behalf of 7.500 « platform users », La Tribune, September 7th, 2017.

[40] Article 6 of the Preamble of the French Constitution, October 27th, 1946.

its activities regarding justification in case of termination of the commercial relation between the independent worker and the platform.

In July 2018, in the framework of a statutory Bill known as "Freedom to choose one's professional future", an MP from the majority proposed an amendment in relation to platform workers. According to this proposal, that was finally rejected[41], platforms were encouraged to introduce, unilaterally and *on a voluntary basis*, a private regulation applicable to digital workers including the absence of exclusivity terms; conditions permitting platform workers to receive a decent salary, training and social protection against work related risks; rights to information and representation in case their working conditions were changed and guaranties in case their working relation to the platform were terminated.

This amendment made it clear that in case a private regulation was introduced by a platform, it could not be used as a means to establish legal subordination of the platform workers to the platform. In other words the amendment, contrary to the 2016 Statute, seemed to exclude the existence of an employment relation between the platform and the worker. In order to avoid the adoption of the aforementioned amendment, the workers of UberEats, Deliveroo, Foodora, Glovo and Stuart went on strike during the last week of the world cup held in France.

B. *Platform workers and social security*

Platform workers are not necessarily undeclared. Generally speaking they are covered under the social regime of the micro or auto-enterprise.[42] Additionally taken that for the past twenty years, social security reforms seek to unify the employee and independent worker regimes; recent reforms offer substantially comparable benefits both to employees and independent workers (a); better conditions in case of transitions from one regime to the other thanks to the portability of training and retirement rights (b) a voluntary social coverage against work related accidents and an obligatory coverage against unemployment, the financing of which is secured by taxes (c).

41 National Assembly, Amendments, Francia.

42 LHERNOULD J-P, Digital Age, Employment and working conditions of selected types of platform work, National context analysis France, Eurofound 2018.

a. The micro-enterprise: the favoured legal framework for platform workers

According to the French social security system all those residing within the French territory receive the same basic health care (medical treatment, medicine, hospitalization costs) even though they have no professional activity[43] whatsoever. In other words, even though they would be undeclared, platform workers would still be covered by the basic social security scheme.

However, in their vast majority, platform workers are registered as independent workers, and more specifically like micro-entrepreneurs. This regime was first introduced by Statute on August 4th, 2008.[44] Although revenues obtained out of services are capped to 33.200€ per year, this regime has certain advantages and is therefore attractive, especially to young people. These advantages include procedural simplicity; quarterly income declarations and tax payment through the Internet; social security contributions proportional to earnings; company and VAT exemptions.

As a result, the social security contributions of a micro-entrepreneur represent 22.7 percent of his income while for employees they represent 25 per cent, to which one should add employer contributions that ultimately reach 20 to 40 percent of the employee's gross salary.

In addition, in case of the worker's temporary incapacity (illness), the micro-entrepreneur has a right to a replacement income under two cumulative conditions: a minimal social security coverage period of at least one year at the date of the incapacity and at least 3.900€ declared income during the same period. This minimum coverage period (one year) might seem quite long at first glance taken that employees only need half (six months). However, the minimum income condition seems to counterbalance this inequity, taken that employees need to declare at least 10.028,20€ in only six months.

In contrast, the amount of the retirement pension may be very low considering that it results automatically from the declared income and the coverage period under this regime. However, in order to be able to declare four quarters (meaning one year of coverage) a micro-entrepreneur must at the same time declare at least 12.000€ income per year, which might seem low at the forefront but it is not for some platform workers.

43 Statute n°2016-1827, December 23rd, 2016 on the financing of social security for the year 2017, JORF n°0299, December 24th, 2016.

44 Statute n°2008-776, August 4th, 2008, on modernization of the Economy, LORF n°0181, August 5th,2008, p. 12471.

President Macron has announced a reform of pensions for the year 2019. The idea is the unification of regimes in order to avoid that the change of sector or activity affects the amount of pension.

The Statute, relative to the financing of social security for 2018, has organised the absorption of the independent workers' regime from that of employees. This reform shows that there is a strong political will to unify not only management of the regimes but also benefits that separate them. Nevertheless this change will most certainly affect both contributions (that will increase) and benefits (that will be reduced as a consequence).

b. Personal activity account

Platform workers are in their vast majority either young people or they have a complementary activity as an employee or a public servant. As a result, they either seek to improve their professional perspectives or to increase their revenues. Moreover, their generation is conscious that, unlike previous generations, they might be frequently obliged to change activity. For these reasons, statutory law, from August 8th, 2016, has introduced a "personal activity account" in order to allow the accumulation of rights and therefore a comfortable transition from one regime to the other. This account unifies the previously existing, training, hardship at work and citizen commitment accounts.

Indeed, every worker, including employees, public servants and – from January 1st, 2018 onwards – independent workers, accumulate rights to occupational training (500€ per year). These rights increase every year until they reach a peak of 5.000€. They are attached to the worker and not to the employer. As a result, they follow the worker when he changes employer or regime (when for instance the platform worker crosses borders and becomes an employee, or the other way round).

In the same way, the consideration for hardship at work takes into account the work conditions in order to reduce the coverage period required in the case of requesting retirement, or in order to increase occupational training rights and therefore providing the worker with new qualifications in a less dangerous sector.

This last consideration contemplates citizen commitments such as membership to a political party or an association in order to increase occupational training rights or recognize acquired qualifications.

As a result, platform workers also have a personal activity account, in order to adapt to transitions.

c. The unemployment benefit reform for independent workers

Article 51 of the Statute n°2018-771, from September 5th, 2018, relative to the freedom to choose one's professional future, extends the unemployment benefit to independent workers as well as micro-entrepreneurs. As a result, theoretically, platform workers, registered as micro-entrepreneurs also have a right to receive the replacement benefit in case they cease their activity for the platform. In effect, the previously mentioned Statute provides for an unemployment replacement revenue for independent workers when they cease activity. This means that independent workers as well as micro-entrepreneurs will receive unemployment benefits in the future under conditions yet to be determined.

Although at the time of writing the content of the law Decree has not been made yet public, it seems that the Government intends to require: two years of previous continuous activity and at least a 10.000€ income per year. According to one author[45], these conditions are quite high, considering that 80 per cent of the micro-entrepreneurs have declared revenues of less than 10.000€ per year and 40 per cent among them have ceased their activity in less than two years.

In contrast to the unemployment benefit payable to employees, which amount and duration of payment depends on the duration of coverage and previous contributions, the replacement benefit for independent workers will consist in a flat rate (800€ per month) paid for a maximum period of six months. Moreover, the replacement benefit will be financed by the State budget and will be conditioned by the previous Court-ordered liquidation of the micro-enterprise. Finally, micro-entrepreneurs for whom this regime was acquired on behalf of a secondary activity, are excluded from the payment of a replacement benefit.

[45] Robert E., Which unemployment insurance for independent workers? Dr. Soc. July 2018, p. 614.

IV. Reform Proposals and Projects

The large majority of authors dealing with challenges related to the new forms of digitalized work, point out that part of the problem cannot be solved neither at national level nor at European level. In effect, when platforms are not legally established neither in France nor Europe it is difficult, if not impossible, to impose national legislation on them. This is why it seems to be of vital importance putting in place supranational measures either at European or, even better, at global level.

1. *The proposal of a European regulation for intermediation platforms: an essential requirement for transparency*

Among its other functions, the European Commission (EC) safeguards the implementation of the European competition law. In 2016 the EC initiated proceedings and fined Amazon in order to ensure the binding effect of terms included into the contracts concluded with certain (European) editors for the distribution of electronic books.[46] In June 2017, Google was fined for having abused its dominant position, offering its own price-comparison service an illicit advantage.[47]

Faced to the competition from huge non European digital companies (such as Google, Amazon, Intel, Android) abusing their dominant position regarding European user companies, the EC proposed, in April 2018, a regulation aiming at the development of fairness and transparency for business users of online intermediation services in order to avoid the fragmentation of the united digital market.[48] According to the fundamental provisions of this proposal "Digital platforms and search engines are helpful to European businesses in order to reach consumers, as long as they do not make an abusive use of their power".

The principal remedies proposed by the EC regulation, are the following: the digital platforms and search engines offering online intermediation

[46] On 11/06/2015, the European Commission initiated formal antitrust proceedings against Amazon *http://ec.europa.eu/competition/antitrust/cases/dec_docs/40153/40153_1359_6.pdf*

[47] On June 27th, 2017, the European Commission imposed on Google a fine of 2,42 billions.

[48] COM (2018)238 final, Proposal for a regulation promoting fairness and transparency for business users of online intermediation services.

services, should be obliged to guarantee accessibility of their services to all professional users (without unlawful discrimination); they should determine the reasons they might invoke to exclude or suspend access of a user company to their service; they should observe a reasonable notice in case they want to introduce a change to the terms and conditions of the online intermediation service provision. As a result, if an online provider of intermediation services revokes or suspends a business user's contract, it has to specify the reasons justifying this decision. Moreover, the online intermediation service providers should make their policy regarding their own products and services public in comparison to that of other professional users. Finally, the online intermediation service providers and search engines should determine and make public the criteria used in order to classify products and services among the results of a specific search.

These remedies are clearly of protectionist nature. However, they will have little effectiveness given that some European mMember States, like Ireland, have already denied the execution of Commission sentences and fines against Apple in order to preserve their relation to that firm.[49]

Nonetheless, if the European level is not the most adequate one, because of its regional character, then it would be up to the United Nations or the ILO to convince the digital mastodons to undertake a commitment towards equitable conditions of work for global digital workers.

2. *Current debates regarding the legal framework applying to new forms of work arising from the digitalization of the French and European economy*

The digitalization of the economy challenges the perimeter of employment law and more precisely the concept of "employee" and as a result the scope of employment law in general. The current debate seeks to give a satisfactory reply to the following question: how can we protect platform workers if they are not employees in the sense of Employment law? To this question there are different answers that have been proposed in France.

[49] On October 4th, 2017, the EC introduced an action against Ireland for the non-execution of a sentence according to which the Commission was ordering the Irish government to recover 13 million dollars tax credit illegally granted to that company.

A. *The extension of the scope of Employment law*

Many authors propose the extension of the concept of "employee".[50] This solution would suppose the abandonment or at least the adjustment of the legal subordination theory taken that the new forms of digital work suppose independency regarding work schedules, place of work and means of production. The majority of these authors propose the replacement of the legal subordination criterion by that of "economic dependency". As a result, an employment relation would be established as soon as a worker would depend for his income from a unique or at least a major client. This proposal has already been enshrined in some decisions of the French Supreme Court.[51]

However this solution doesn't seem very appropriate in case of pluriactivity meaning in case the digital worker exercises more than one activities, such as an employment relation, or has a public service position, or in case he works simultaneously for more than one platform.

In this sense, although the criterion of legal subordination seems to become obsolete, the criterion of economical dependency also needs to be refined. For instance, it would be interesting to concentrate on the person of the employer instead of concentrating on that of the employee. The employment relation would therefore derive from the fact that the employer determines, more or less unilaterally, the conditions of work and especially the price for the service to be. As a result, it would be his dominant position within the employment relation that would impose liability and a number of legal duties towards the worker.

B. *The assimilation of platform workers to employees*

Another solution would be, without extending the concept of employee to platform workers, to assimilate platform workers to employees in order for the legal regime normally applicable to employees to apply to them, in part or as a whole. For instance the proposal of a European directive, offer-

[50] Barbara E., Proposal for a new definition of the contract of employment, Sem.soc. Lamy, 2017, n°1767 ; BOSSU B., Quel contrat de travail au XXI siècle, Dr. Soc. 2018, p 232 ; PASQUIER T., Sens et limites de la qualification de contrat de travail, RDT, 2017, p.95.

[51] Supreme Court (social Chamber), n°98-40.572, Labbane v. Bastille Taxi and al., 19 December 2000 ; Supreme Court, n°08-40.981, June 3rd, 2009.

ing workers a clear, precise and transparent information as to their working conditions[52], extending its scope to platform workers without expressly including them within the concept of employee.

As a result, the proposal of a directive imposes on the intermediation platform the legal obligation to inform the workers on: the duration and conditions of their trial period; their right to training; their work schedules and overtime payment or the social security system were receiving social security contributions.

In this sense the assimilation technique offers digital workers a fragmented protection that could evolve over time.

C. *The intermediary regime*

A third solution would consist of applying a specific regime like that applicable to para-subordination in Italy or Spain, to platform workers[53]. Statute Law n°2016-1088, from August 8th, 2016, relative to the "social liability" of the work platforms has initiated this kind of intermediary regime. However the French legal framework is not that clear for the time being, as it seems to confuse legal obligations such as those regarding training and freedom of association and strike, and simple inducements to platforms in order to propose workers' social protection against work related accidents. The rejection of an amendment seeking to enhance work platforms social liability shows that the French government is currently withdrawing from this solution: the creation of an intermediary legal regime.

D. *The creation of a unique regime applicable to all professional activities*

Under the influence or the seminal work of Professor A. Supiot, "Beyond employment", (1999 revised in 2016), France has initiated the merger of two separate social protection regimes: that of independent workers and that of employed workers, in order to put in place a unique system, that of "professional activity". This unique system applicable to all professional ac-

[52] COM(2017)797 final on transparent and predictable working conditions in the European Union.

[53] PERULLI A., Le travail économiquement dépendant/ Parasubordination : les aspects juridiques sociaux et économiques, 2003, *http://www.social-law.net/IMG/pdf/parasubordination_report_fr.pdf*

tivities has the ambition to offer all workers, including platform workers, a complete and continuous social protection without disruptions and loss of rights when the worker changes activities or cumulates different activities and therefore regimes. Of course this ambitious project regarding social security unification has also certain disadvantages. For instance, the principle of universality affects the amount of benefits and requires funding through taxes. More substantially, unification is for the time being limited to social security, as employment law doesn't seem to follow the same trend: it still applies only to subordinate work.

V. Conclusions

In France, Industrial Revolution 4.0 is not considered as a disruption of the past but more as a challenge and an opportunity for the future. In the past twenty years France has introduced various measures in order to face digitalization of the economy. The efficiency of these measures is yet to be proven. However, it is important to emphasize that not only legislation (employment and social security law) but also case law seem to adapt themselves and to take up the digitalization challenge. Although social security and employment law reforms do not always serve the same purposes and therefore lack coherence, these developments show that in spite of the financial crisis, France still has a dynamic legal system.

A few ideas arise from the previous arguments, for taking up action in the near future. On one hand, at national level, it seems crucial to adapt the scope of employment law in order to extend it to employment relations with digital companies that determine alone, or almost, the price and conditions of performance. This measure would offer platform workers wider protection and would impede fraud from the application of employment law and social security.

On the other hand, it would be pragmatic to enhance the social responsibility of intermediary platforms using decent work as a guide.[54] In effect, given that companies of the digital era are not confined within frontiers and

[54] Decent work has become a universal criterion and has become part of the most important declarations of human rights, such as the Resolution of the United Nations and the final document of the principal conferences, including Article 23 of the Universal Declaration of Human Rights (1948); the World summit on social development (1995), the Document of the World Summit (2005). During the UN General Assembly in September 2015, decent work and the four pillars of the Decent Work Agenda – employment creation, social

that no national legislation seems to cover their global activities, the most pragmatic solution to ensure digital workers' protection (without taking into account their place of work), would be to encourage the voluntary submission of these companies to the decent work principles, with support from the ILO and the UN.

Certainly, we have to point out that problems related to worker vulnerability in the digitalization era are not solvable at a national or regional level but only at a global/world level. As a result, the national or regional measures we have presented can only be seen as opportunities to conceive adequate solutions at global level.

VI. Research Sources

1. *Bibliographie*

Heyer E, Lokiec P. Meda D., Une autre voie est possible, le modèle social français n'est pas mort, Flammarion, 2018.

Lokiec P., il faut sauver le droit du travail, Odile Jacob, 2015.

Reynaud E., Supiot A., Protección social y trabajo decente, nuevas perspectivas para las normas internacionales de trabajo, LA LEY, 2006

Supiot A., Au delà de l'emploi, Flammarion, 2016.

2. *Articles*

Bidet A. et Porta J., Le travail à l'épreuve du numérique, RDT, 2016.

Bonici C., Les chauffeurs Uber, Canuts du XXI siècle? RECMA 2017, n° 346.

Bossu B., Quel contrat de travail au XXIe siècle? Dr. Soc. 2018.

Desbarats I., Quel statut social pour les travailleurs des plateformes numériques? La RSE en renfort de la loi, Dr. Soc. 2011.

Durant P., Naissance d'un droit nouveau: du droit du travail au droit de l'activité professionnelle, Dr. soc. 2010.

Drenao M., L'impact du numérique en entreprise. Réflexions autour des relations individuelles de travail, RJS, 2017.

protection, rights at work, and social dialogue – became integral elements of the new 2030 Agenda for Sustainable Development.

FABRE A. et ESCANDE-VARNIOL M-C., Le droit du travail peut-îl répondre aux défis de l'Uberisation? RTD, 2017.

FROUIN C., L'entreprise face au numérique : incidences de la loi Travail et de la loi pour une République numérique, Gaz. Pal., 7 mars 2017, n°10.

GOMES B., Le crowdworking: essai sur la qualification du travail par intermédiation numérique, RTD, 2016.

ISIDORO L., L'universalité en droit de la protection sociale, des usages aux visages, Dr. soc., 2018.

JEAMMAUD A., Uber, Deliveroo: requalification des contrats ou dénonciation d'une fraude à la loi? Sem. Soc.L amy, 2017, n°1780.

JULIEN M et MAZUYER E., Le droit du travail à l'épreuve des plateformes numériques, RDT, 2018.

LECLERC O. GUAMAN HERNANDEZ A. *et al.*, La dépendance économique en droit du travail: éclairages en droit français et en droit comparé, Rev. trav. 2010.

LEDERLIN E., Le travail numérique à l'épreuve du droit social: l'appréciation du lien de subordination selon le principe de réalité, JCP S., n°47, 2015.

LOISEAU G., La qualité de salarié refusée aux travailleurs à la tâche des plateformes numériques, Comm. Com. Electr., 2017, comm. 71.

_____, Le mystère contractuel des relations triangulaires impliquant une plateforme de mise en relation en ligne, Comm. Com. Electr., 2016, comm. 61.

ROBERT, E., Quelle assurance chômage pour les travailleurs indépendants? Dr. Soc. Juillet 2018, p.614.

TEISSONNIERE, J-P, Lorsque l'employeur est un algorithme, la subordination est violente, Sem. Soc. Lamy, 2017, n°1767.

VAN DEN BERGH K., Plateformes numériques de mise au travail: mettre fin à une supercherie, Rev. Trav. 2018.

3. *Reports*

AMAR, N. et Vioslat J-L, Les plateformes collaboratives, l'emploi et la protection sociale, Rapport de l'IGAS, 2016.

GALLOIS Louis, Pacte pour la compétitivité de l'industrie française, 2012.

METTLING, B., Transformation numérique et vie au travail, à l'intention de la Ministre du Travail, de l'Emploi, de la formation professionnelle et du Dialogue Social, septembre 2015.

MONTEL, O., L'économie des plateformes: enjeux pour la croissance, le travail, l'emploi et les politiques publiques, Dares document d'étude n°213, août 2017.

TERASSE, P., Rapport sur le développement de l'économie collaborative, Hôtel Matignon, février 2016.

Conseil D'etat, Puissance publique et plateformes numériques: accompagner l'uberisation, Étude annuelle, 2017.

4. *Legislation*

LOI n° 2008-776 du 4 août 2008 de modernisation de l'économie, JORF n°0181 du 5 août 2008 page 12471 (regimen juridico de la auto-empresa)

LOI n° 2012-387 du 22 mars 2012 relative à la simplification du droit et à l'allégement des démarches administratives, JORF n°0071 du 23 mars 2012 page 5226 (Teletrabajo).

LOI n° 2016-1088 du 8 août 2016 relative au travail, à la modernisation du dialogue social et à la sécurisation des parcours professionnels, JORF n°0184 du 9 août 2016 (protección de los trabajadores independientes de plataformas digitales y responsabilidad social de las últimas).

LOI n° 2016-1691 du 9 décembre 2016 relative à la transparence, à la lutte contre la corruption et à la modernisation de la vie économique, JORF n°0287 du 10 décembre 2016 (protección de los denunciantes de actos ilícitos).

LOI n° 2016-1827 du 23 décembre 2016 de financement de la sécurité sociale pour 2017, JORF n°0299 du 24 décembre 2016 (cobertura universal para la salud)

DÉCRET n°2016-1999 du 30 décembre 2016, relatif à la mise en œuvre du compte personnel d'activité pour les travailleurs indépendants, les membres des professions libérales et des professions non salariées, leurs conjoints collaborateurs et les artistes auteurs JORF n°0304 du 31 décembre 2016 (Cuente de actividad aplicado a los trabajadores independientes.

ORDONNANCE n° 2017-1387 du 22 septembre 2017 relative à la prévisibilité et la sécurisation des relations de travail, JORF n°0223 du 23 septembre 2017 (Teletrabajo).

ORDONNANCE n° 2017-1385 du 22 septembre 2017 relative au renforcement de la négociation collective, JORF n°0223 du 23 septembre 2017 (derecho a la de-conexión).

LOI n° 2017-1837 du 30 décembre 2017 de finances pour 2018, JORF n°0305 du 31 décembre 2017. (Crédito de impuestos de innovación, absorción del régimen de los independientes por el régimen general).

LOI n° 2018-771 du 5 septembre 2018 pour la liberté de choisir son avenir professionnel, JORF n°0205 du 6 septembre 2018. (Ley sobre la capacitación profesional).

COM (2017) 797 final Propuesta de directiva europea sobre "unas condiciones laborales transparentes y previsibles en la Unión Europea", 21.12.2017.

COM (2018)238 final, Propuesta de reglamento sobre el fomento de la equidad y la transparencia para las empresas que utilizan servicios de intermediación en línea.