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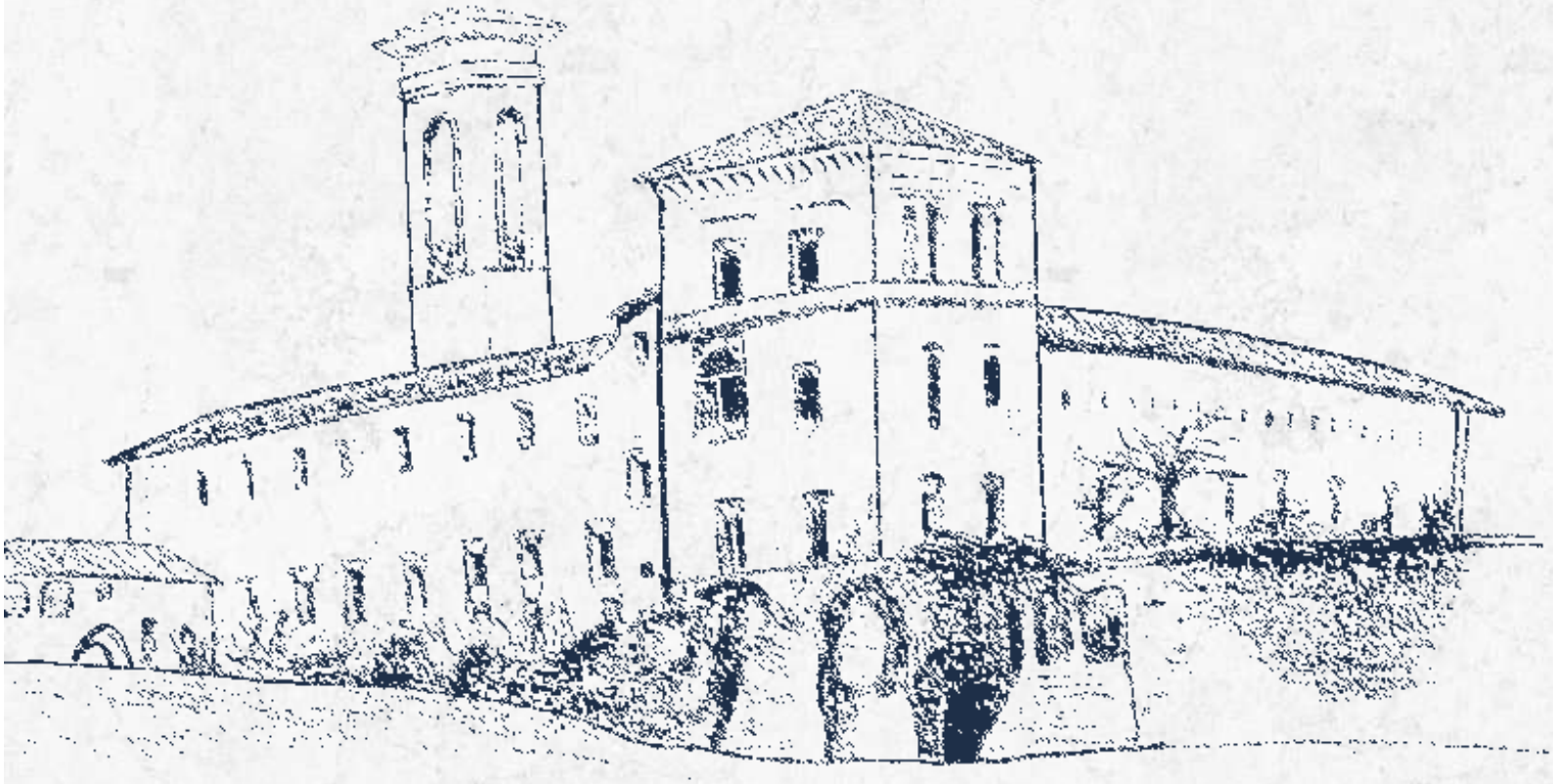

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Exploring the Social Dimension of Fintech Companies: Risks and Opportunities with Special Reference to the Spanish Legal Landscape

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Abstract

In recent years, the fintech phenomenon has given rise many debates in legal scholarship. According to the most commonly cited definition, it means "technology-enabled innovation in financial services that could lead to new business models, applications, processes or products with a concrete implication for the provision of financial services" (FSB, 2017). This study approaches the problem from the labour law perspective and consists of three parts: the origins, the concept and the five groups of labour-related risks and opportunities posed by fintech companies. The methodology based on the opposition between risks and opportunities is determined by the very nature of fintech. On the one hand, it alludes to the advances of the global technological revolution; on the other hand, it suggests a return to the origins of banking linked to the interests of local customers. In this sense, the initial idea of fintech startups is connected to the needs of the most vulnerable groups of population, who, in principle, lack access to traditional banking services.

Keywords: *Fintech, Disruptive Innovation, Digitalization, Job creation, Professional skills.*

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1. Introduction

In the current scientific, and not necessarily legal, landscape, the phenomenon known as "fintech"[1] has given rise to numerous debates and publications[2]. Undoubtedly, in the legal sphere, the most prolific and prominent reflections have been provided in the field of commercial and banking law, and there have been far fewer studies with a social or labour focus[3]. Thus, this contribution aims to provide a perception of fintech from the labour law perspective, although, of course, taking into consideration the multidisciplinary nature of the issue.

This approach to fintech companies allows us to shed light on the nature of work today, going back in time and looking for the roots of the phenomenon in its most remote and most recent antecedents. This is not merely a historical reconstruction, but a reference to the lessons of the past that can enrich reflection and suggest new ways of defining work[4].

[1] In this paper, we have chosen to use the term "fintech" (financial technology), according to the criterion of the majority usage in different sources, for example, the World Bank Group (WBG) and the International Monetary Fund (IMF) document *The Bali Fintech Agenda* - Chapeau Paper, 19 September 2018. Similarly, it seems more feasible to refer to both technology and business models of this type. However, we are well aware that other sources, in particular at the European Union (EU) area, use the term "FinTech". See the European Commission's Communication *FinTech Action plan: For a more competitive and innovative European financial sector* of 8 March 2018, COM (2018)109 final.

[2] See, inter alia: Rodríguez de la Heras Ballell, T. (2019), *Challenges of Fintech to Financial Regulatory Strategies*, Madrid, Barcelona, Buenos Aires, San Paulo: Marcial Pons; Deitch, J. (2020), *Disruptive fintech. The coming wave of innovation in financial services with thought leadership provided by Ceos*, Berlin: Walter de Gruyter & Co.; Mohan, D. (2020), *The financial services guide to fintech. Driving banking innovation through effective partnerships*, London, New York: Kogan Page; Ortuño Cámara, J. L. (2021), *Fintech con vocación social, una oportunidad en entorno Smart City*, Barcelona: Bosch Editor; Panzarino, H. and Hatami, A. (2021), *Reinventing Banking and Finance. Framework to navigate global fintech innovation*, London, New York: Kogan Page; Cuena Casas, M., Ibáñez Jiménez, J. W. (Dirs.) (2021), *Perspectiva legal y económica del fenómeno FinTech*, Madrid: La Ley; *Routledge Handbook of Financial Technology and Law* (2021), London: Routledge; Global Legal Group (2021), *Fintech 2021. A practical cross-border insight into fintech law*, 5th ed., International Comparative Legal Guides, London: Global Legal Group Ltd.; Martínez Sierra, J. M. (Dir.), Cetina Presuel, R. (Coord.) (2022), *Blockchain, fintech and the Law*, Valencia: Tirant lo Blanch.

[3] Cfr. Gil y Gil, J.L. (2022), "Las leyes singulares en el derecho del trabajo", *Variazioni su Temi di Diritto del Lavoro*, Numero straordinario, pp. 55 and 57.

[4] In this regard, we refer to the reflection suggested in the "Call for Papers" of the XI International Congress "Work and Its Value. Interdisciplinary Reflections on an Ever-Changing Concept", held in Bergamo (Italy), on 25, 26 and 27 November 2021, for the

An insight into the era of the creation and development of the so-called *relationship banks*[5] and a recollection of the "disruptive" companies serve this purpose.

It should be noted that *fintechs* as companies do not only comprise an ecosystem of innovative *startups* invading financial markets with ground-breaking technological solutions. They also include incumbent companies that adopt advanced technological strategies to effectively complement and innovate their traditional services.

With regard to the social field, and more specifically to the labour one, the study covers five groups of risks or challenges and their corresponding opportunities. The approach based on the "risk-opportunity" binomial is partly inspired by the *Bali Agenda* chapter of the same name[6].

The first challenge stems from the disruptive nature of the enterprise and reflects the debate of the 1990s on initiatives of this kind. However, in many cases, *startups* are linked to the local needs of the population and pursue sustainable objectives closely related to these needs.

The second risk invokes the problem of job destruction, which always comes with innovation and technology, and, as a counterpart, the opportunities for new jobs to ensure technological progress.

The third group is associated with the risk implied by the new digital skills required and the inequalities that these skills requirements foster in less developed countries and regions and among the most vulnerable groups of population. However, it goes without saying that the requirement for new skills implies new opportunities for training, qualification, and re-skilling of workers.

The fourth and, to some extent, the fifth set of risks concerns the particularities of working conditions that lead to greater autonomy, entrepreneurship and flexibility, but also to greater insecurity, precariousness and, above all, self-exploitation, to which Byung-Chul Han referred in his well-known book[7]. The issue of fintech shares many

Track 5 "The Idea of Work Today and through History. Origins, Developments and Future Prospects", p. 4.

[5] Panzarino and Hatami (2021), p. 2.

[6] "Opportunities and risks", IMF, WB (2018), *The Bali Fintech Agenda – Chapeau Paper,* Washington: World Bank Group, p. 5.

[7] Han, B. (2017), *Psychopolitics: Neoliberalism and New Technologies of Power*, London: Verso. "Han suggests that the psycho-political power of Big Data has nullified the contradiction of class struggle, arguing that Marx's 'distinction between proletariat and bourgeoisie no longer holds', as under Big Data '[t]here is no working class being exploited by those who own the means of production'. The data mined to steer the subconscious, unarticulated needs of consumers via platforms is disclosed voluntarily, and therefore

aspects with the platform work extensively addressed in relation to riders and other collectives of the collaborative economy.

2. Origins of Fintech

The irruption of fintech startups in the financial market took place in the second decade of the 21st century and was situated in the context of the challenge posed within the also innovative system of digital banking[8]. This type of company is characterised by several common features, such as their relatively small size, agility in putting new technologies at the service of commercial interests and orientation towards new customer demands[9]. Thus, seen at the beginning as a peculiarity and even as an opportunity, they have ended up being considered as a "mortal threat" for the traditional banking and finance system. Moreover, as fintechs have started to attract customers, the banking world has been divided into two types of companies: on the one hand, incumbents offering digital services continued to operate and, on the other hand, new "challengers" were created, that were in competition with the established banking institutions. While traditional digitalised banking was able to offer a wide range of services and also to replace traditional banking by satisfying all the demands of its customers, the fintech startup was focused on specific services based on new technologies such as payments or advising.
One of the most outstanding characteristics of this type of company is its proximity to the customer. In fact, their success depends, to a large extent, on their ability to meet local needs. In this respect, Panzarino and Hatami state that one of the most striking manifestations of the digital revolution is that technological modernisation relates to the historical moment of the birth of modern banking, i.e., to the initial model of *relationship banks*[10].

allo-exploitation has been eclipsed by auto-exploitation: 'people are now master and slave in one'." Quoted by Kelly, J. F. (2019). "Psychopolitics: Neoliberalism & New Technologies of PowerBy Byung-Chul Han Verso, 2017, pbk £9.99 (ISBN 9781784785772), pp. 96", Review, *Studies on Social and Political Thought,* Vol. 29, p. 74.

[8] According to Panzarino and Hatami's study, the history of modern banking is divided into four stages: *The Relationship Banks*, which were born in the late Middle Ages, spanning the Renaissance era; *The Industrial Banks*, which emerged in the context of the Industrial Revolution; *The IT Banks*, which burst onto the financial scene after a series of innovations in the mid-20th century; and, finally, *The Digital Banks*, from the 1980s, when banks began to offer digital services, and up to the present day. See Panzarino and Hatami (2021), pp. 1-18.

[9] In this passage, we follow the reasoning of Panzarino and Hatami (2021), pp. 10 et seq.

[10] Panzarino and Hatami (2021), p. 17

According to several sources, the origins could be found in local initiatives in the territory of small Italian states, in cities such as Genoa, Florence, Siena and Venice[11]. This is the period of the late Middle Ages and early Renaissance, which is described as the rebirth of man from antiquity and the reassertion of humanity, affecting all strata of the population and manifesting itself in all walks of life, including the legal and commercial spheres[12]. Thus, the mentioned Italian cities had similarities in the methods of providing commercial services, but each developed its own approach to banking. Genoa probably came closest to what is today's banking model through the well-known *Banco di San Giorgio*[13]. This bank, whose official origin dates back to 1252, is considered to be one of the oldest and longest established in the world. During the seven centuries until the Napoleonic conquest, its power extended to the north-west coast of Italy and was decisive in the wars of the Republic of Genoa.

The first official loan of Genoa was recorded in 1148 and, from that date onwards, debts multiplied and were divided into parts: initially, each hundred lire constituted a *luogo*, and, later, each debt, contracted and accounted for separately, with its corresponding guarantees and different interests, was called a *compera*, hence the name *Compere di San Giorgio* or the *Casa delle Compere di San Giorgio*, which the institution received in 1252[14]. It was not until 1407, however, that the *Banco di San Giorgio* became the true public financial institution, fully committed to the needs of the State[15].

As it was mentioned above, satisfying customer demand is the main purpose of fintech startups. Thus, many of them have been created on the basis of a different model from that of traditional banking. While the latter aim to sell financial products, the new ones try to build a relationship of trust by providing the means for their customers to achieve their specific objectives "moving from a transactional model to one based on outcome"[16].

Moreover, in 2012-2013, it became clear to entrepreneurs and investors that banking was ready for the digital revolution already taking place in many sectors, including transport, tourism, retail, and entertainment. As a

[11] Hoggson, N. F. (1926), *Banking through the Ages*, New York: Dodd, Mead & Co., pp. 63 et seq.; Panzarino and Hatami (2021), pp. 2-3.

[12] Störig, H. J. (2004), *Historia universal de la Filosofía,* 2ª reimpresión, Madrid: Tecnos, pp. 325-329. (Translated to Spanish by Gómez Ramos, A).

[13] Hoggson (1926), p. 64.

[14] Hoggson (1926), pp. 64-66

[15] Hoggson (1926), p. 67.

[16] Panzarion and Hatami (2021), p. 13.

result, investment in fintech startups increased from 3.2 (in 2012) to 55.3 billion (in 2018). However, subsequent years saw a slight decline to 42.9 (in 2019) and 42.1 billion (in 2020)[17].

The end of this period is characterised by the international institutions' concern for the phenomenon[18]. In particular, several international and regional bodies and organisations adopted documents analysing the situation and setting strategic objectives. Among others, it is worth mentioning: the *Report on Financial Stability Implications of FinTech. Supervisory and Regulatory Issues for Policymakers' Attention*, prepared by the Financial Stability Board (FSB)[19] on 27 June 2017; the *Financial Technology Action*

[17] *Ibid.*

[18] See Chatzara, V. (2020), "FinTech, InsurTech, and Regulators", in Morano, T. & Noussia, K. (Eds.), *Fintech: Legal and Regulatory View,* New-York: Springer International Publishing, pp. 6 and ff.

[19] "The Financial Stability Board (FSB) was established in February 1999 as the Financial Stability Forum (FSF) by the ministers of finance and central bank governors of the G7, based on proposals by Hans Tietmeyer, then the president of the Bundesbank. The G20 summit in April 2009 then established the FSB with a broader mandate and an extended circle of members. The FSB's members comprise central banks, finance ministries and supervisory authorities from the G20 countries as well as Hong Kong, the Netherlands, Spain, Singapore and Switzerland, the European Central Bank, the European Commission and all committees and organisations with a major role in global financial stability analysis and regulatory debate. In addition, the FSB has now also extended exchange with numerous other countries. The FSB thus plays a pivotal role in the international debate on financial stability. The Bundesbank contributes its analyses and positions to the debate". Quoted by https://www.bundesbank.de/en/tasks/financial-and-monetary-system/international-cooperation/fsb/financial-stability-board-fsb--625728 [Accessed 16 August 2022].
"The FSB promotes international financial stability; it does so by coordinating national financial authorities and international standard-setting bodies as they work toward developing strong regulatory, supervisory and other financial sector policies. It fosters a level playing field by encouraging coherent implementation of these policies across sectors and jurisdictions. The FSB, working through its members, seeks to strengthen financial systems and increase the stability of international financial markets. The policies developed in the pursuit of this agenda are implemented by jurisdictions and national authorities. More specifically, the FSB was established to: assess vulnerabilities affecting the global financial system as well as to identify and review, on a timely and ongoing basis within a macroprudential perspective, the regulatory, supervisory and related actions needed to address these vulnerabilities and their outcomes; promote coordination and information exchange among authorities responsible for financial stability; monitor and advise on market developments and their implications for regulatory policy; monitor and advise on best practice in meeting regulatory standards; undertake joint strategic reviews of the international standard-setting bodies and coordinate their respective policy development work to ensure this work is timely, coordinated, focused on priorities and addresses gaps; set guidelines for establishing and supporting supervisory colleges;

Plan: for a more competitive and innovative European financial sector, presented by the European Commission on 8 March 2018[20]; the *Bali Fintech Agenda* of 19 September 2018[21], or the *Report on Digital disruption in banking and its impact on competition* by the Organisation for Economic Co-operation and Development (OECD) in 2020[22].

3. Concept and Typology

What does the increasingly popular term "fintech" mean? At first glance, it is an abbreviation made up of two words ("technology" and "finance")[23], which refers to "technology-enabled innovation in financial services"[24] or to "the use of digital technology in finance"[25]. Among many more elaborate doctrinal proposals, reference can be made to Jackson's definition, which describes the phenomenon as "a wide range of private and regulatory innovations that have become possible through the rapid decline in the cost of computing, accompanied by the widespread availability of reliable, high-speed connectivity (typically over the internet),

support contingency planning for cross-border crisis management, particularly with regard to systemically important firms; collaborate with the International Monetary Fund (IMF) to conduct Early Warning Exercises and promote member jurisdictions' implementation of agreed commitments, standards and policy recommendations, through monitoring of implementation, peer review and disclosure". Quoted by https://www.fsb.org/about/ [Accessed 18 August 2022].
In particular, see FSB (2017), *Financial Stability Implications from FinTech Supervisory and Regulatory Issues that Merit Authorities' Attention*, Financial Stability Board, 27 June 2017, available at: http://www.fsb.org

[20] EU (2018), *FinTech Action plan: For a more competitive and innovative European financial sector,* Communication from the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee and the European Committee of Regions, 8 March 2018, COM (2018)109 final.

[21] IMF, WB (2018), *The Bali Fintech Agenda – Chapeau Paper,* Washington: World Bank Group.

[22] OECD (2020), *Digital Disruption in Banking and its Impact on Competition,* available at: http://www.oecd.org/daf/competition/digital-disruption-in-financial-markets.htm [Accessed 1 May 2022]. This is a revised version of the paper prepared for an OECD Competition Committee roundtable held on 5 June 2019.

[23] According to the Cambridge dictionary, "fintech" is an abbreviation for "financial technology", which means "the business of using technology to offer financial services in new and better way", available at: https://dictionary.cambridge.org/dictionary/english/financial-technology [Accessed 17 August 2022].

[24] EU (2018), *FinTech Action plan…,* p. 2.

[25] Brummer, C.; Yadav, Y. (2019), "Fintech and the Innovation Trilemma", *The Georgetown Law Journal,* Vol. 107, p. 241.

and an explosion of newly collected data about a broad swath of personal and commercial characteristics and behaviors"[26].

In this regard, the most widely cited source is the aforementioned Financial Stability Board (FSB) Report, which defines fintech as "technology-enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on the provision of financial services"[27]. As Rodríguez de las Heras points out, the term can be considered as a framework concept to refer to the phenomenon[28], providing the general description for a series of innovations in the broad sense and leaving the door open for the precision of more specific innovations. In this sense, the FSB Report proposes to classify these according to the most prominent economic functions they provide[29]. This classification has a double rationale: first, it highlights the financial stability implications of fintech in the context of the current financial market structure; and second, it focuses the analysis on the activities and outcomes of these activities, rather than on the underlying service providers or technologies.

Figure 1 below graphically represents this criterion based on previous studies[30], organising fintech activities into five categories of financial services: (i) payments, clearing and settlement; (ii) deposits, lending and capital raising; (iii) insurance; (iv) investment management; and (v) market support. It is also noted that "there has been rapid growth of innovations touching all these categories of financial services, with activities at both the retail (i.e., households and small and medium enterprises (SMEs)) and wholesale (corporations, non-bank financial institutions and inter-bank) levels"[31].

The use of new technologies has had important implications for the welfare of market participants which may lead to a reduction of financial

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[26] Jackson, H. E. (2020), "The Nature of the Fintech Firms", *Washington University Journal of Law and Policy,* Vol. 61 "The Rise of Fintech", pp. 10-11. See the full Vol. 61 "The Rise of Fintech" devoted to the fintech phenomenon.

[27] FSB (2017), *Financial Stability Implications from FinTech…,* p. 7. The same definition is mentioned, among other sources, in the *EU Action Plan*, EU (2018), p. 2., and in Omarova, S. T. (2020), "Dealing with Disruption: Emerging Approaches to Fintech Regulation", *Washington University Journal of Law & Policy*, Vol. 61, p. 25.

[28] Rodríguez de la Heras Ballell, T. (2019), *Challenges of Fintech…,* p. 16.

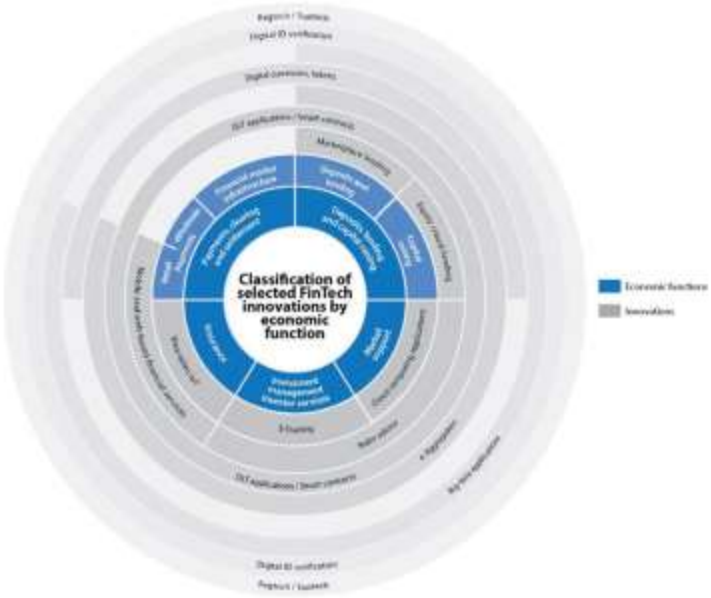
[29] FSB (2017), p. 16.

[30] This builds on the FSB Financial Innovation Network (FIN) work, which draws on the categorisation from the World Economic Forum (June 2015), "The Future of Financial Services." Quoted by FSB (2017), p. 8.

[31] *Ibid.*

intermediation costs in lending, payment systems, financial advice and insurance, along with better products for consumers. Fintech companies offer more attractive services to consumers, particularly in terms of efficiency. According to the OECD study, fintechs ensure this in different ways[32].

Figure 1. Classification of selected financial innovations by economic function



Source: FSB (2017). *Financial Stability Implications from FinTech. Supervisory and Regulatory Issues that Merit Authorities' Attention,* p. 9.

Firstly, they can more effectively screen loan applicants through Big Data-based statistical models, shovelling the information asymmetries that are at the heart of the banking business. As Brummer and Yadav underline, one of the most important innovations of fintechs consists of using "not just more data, but qualitatively different forms of data, spanning social media, websites, or digital metadata-that have never before been available"[33].

[32] OECD (2020), *Digital Disruption in Banking...,* pp. 12 et seq.
[33] Brummer, Yadav (2019), p. 242.

Secondly, the businesses are smaller, as they can dispense with staff (employees), such as loan officers or cashiers, and facilities, such as branches (buildings), as customers use their mobile phones applications for banking.
Thirdly, fintech companies allow for much more selective price discrimination, as they employ interest rate setting models with higher yields compared to those used by traditional institutions.
Fourth, they more easily reach out to less developed countries, as well as to disadvantaged population groups and SMEs that cannot be served sufficiently ore at all by traditional banking institutions. In particular, many SMEs in developing markets often do not qualify for loans (e.g., they do not have their accounts audited).
Finally, as fintech companies do not have to deal with legacy technologies, they are characterised by a culture of efficient operational design, which, together with their size, allows them to be more innovative than traditional institutions.
Although a startup is the archetypical of fintech firm[34], traditional companies, which provide financial services based on new technologies, as well as BigTech, including the well-known GAFA (Google, Apple, Facebook and Amazon)[35], should also be taken into account. In particular, BigTech platforms benefit from access to valuable business data and the provision of financial services at lower cost and higher scale. Platforms focused on Internet search (Google) collect customer information from search activity; those that make use of social networks (Facebook) have direct personal data on users and their connections; and those that benefit from e-commerce (Amazon) count upon data on sellers and buyers and their habits[36]. As *ab initio* they have at their disposal the important infrastructures and means, BigTechs are potentially much more disruptive to the traditional financial business[37].
According to the classification offered by Panzarino and Hatami, one of the criteria for understanding the global fintech ecosystem is to pay attention to their objective and mission. From this point of view, five categories of fintech can be identified: 1) "challengers" or companies that aim to displace the banking infrastructure in their markets; 2) "innovative

[34] See in the "Figure 2" the global landscape of top fintech startups, according to CB Insights, 14 September 2021.
[35] OECD (2020), *Digital Disruption in Banking*..., pp. 15 et seq.; Panzarino and Hatami (2021), pp. 100 et seq.
[36] OECD (2020), p. 15.
[37] *Ibid.*

payments" or fintech companies that take advantage of the situation of financial services that are obsolete with respect to the needs of the rest of the digital economy; 3) "unbanked or fintech advocates" that use technologies to reduce the number of unbanked people; 4) "social banking challengers" or fintechs that use social media to deliver financial services (e.g. GAFA); and 5) "infrastructure builders" or fintechs that use technologies to rethink services from the inside out[38].

Figure 2. The main fintech companies of 2021

Source: *CB Insights*, 14 September 2021.

Finally, to complete the picture, the Center for Finance, Technology and Entrepreneurship (CFTE) [39] refers to the 225 "Fintech Unicorns", i.e.,

[38] Panzarino and Hatami (2021), pp. 90 et seq.

[39] The Centre for Finance, Technology and Entrepreneurship (CFTE) was established in 2017 in London. It is a global platform for education and the future of fintech services.

startups of this type that have grown to be valued at more than one billion US dollars[40]. Thus, if the 100 traditional banking institutions represent a combined market capitalisation of 7.1 trillion, the 100 most valued fintech startups have a corresponding figure of 3.8 trillion (or the 38% compared to traditional banking)[41]. This reflects the enormous growth potential and the complex and evolving nature of fintech. Indeed, the authors warn of the need for caution on the blurring boundaries between fintech startups, banks using new technologies and tech companies[42].

4. Risks and Opportunities

The emergence of fintech startups in the traditional banking landscape has generated the need to address the phenomenon in the context of potential risks and opportunities. This approach has been highlighted in numerous documents produced by the international and regional bodies and institutions referred to in the previous sections. Moreover, it is part of the very logic of the moment we are living through, i.e., the second wave of globalisation, announced in Sen's speech at the 87th session of the International Labour Conference, at the dawn of the 21st century: "This is a crucial moment in the history of working people across the world. The first flush of globalization is nearing its completion, and we can begin to take a scrutinized and integrated view of the challenges it poses as well as the opportunities it offers..."[43].

Thus, the 2017 Financial Stability Board Report lists among the potential benefits of fintech for financial stability: decentralisation and diversification that, in certain circumstances, can mitigate crisis in the financial system; efficiency in operations that can underpin solvent and stable models; transparency that involves the creation of financial instruments capable of addressing risks and obtaining better information

See more information, in particular, at: https://courses.cfte.education/fintech-job-report/ [Access: 20 May 2022].

[40] The majority, or about the 90 percent, of "Fintech Unicorns" are private companies. From a geographical perspective, the USA accounts for the vast majority of them, followed by the UK, China, India and Brazil. However, China ranks second in terms of market value thanks to *Ant Group* and *Tencent*. CFTE (2022), pp. 22 et seq.

[41] CFTE (2022), p. 23.

[42] *Ibid.*

[43] Sen, A. (2008), "The Decent Work Agenda: Looking back, looking forward: A growing consensus", *World of Work,* nº. 64, p. 6. See also Sen, A. (2000), "Work and rights", *International Labour Review*, Vol. 139, nº. 2, pp. 119-128, reproduced in Special Supplement (nº. S1) of *International Labour Review*, Vol. 152 (2013), pp. 82-92.

on financial products and customers; and improved access to financial services, including for depressed regions and the most disadvantaged population groups, as well as for SMEs[44].

The list of risks is much longer and includes: 1) in terms of funding sources, maturity and liquidity mismatches and leverage; 2) in terms of operational sources, governance or operational process failures, cyber risk, third party relationship, legal or regulatory risks and business risk of vulnerable firms; and 3) the group of macro-financial risks[45].

The 2018 *Bali Agenda* distinguishes between opportunities[46], risks[47] and challenges[48]. Also, the OECD document warns about the consequences of digital disruption, brought about by fintech, for the stability of the financial system[49]. In the same vein, our reflection on the social dimension of fintech will be articulated through the analysis of the five opposing groups of risks and opportunities: the disruptive companies vs. the socially committed companies; job destruction vs. job creation; the demand for new skills vs. the opportunities for training, qualification, and

[44] FSB (2017), p. 13.

[45] FSB (2017), pp. 14 y 15.

[46] "Fintech offers wide-ranging opportunities; which national authorities are keen to foster. It holds the promise of reducing costs and frictions, increasing efficiency and competition, narrowing information asymmetry, and broadening access to financial services—especially in low-income countries and for underserved populations—although the benefits of technological change may take time to fully materialize. Ongoing innovations and technological advances support broader economic development and inclusive growth, facilitate international payments and remittances, and simplify and strengthen regulatory compliance and supervisory processes". IMF, WB (2018), para. 3.

[47] "At the same time, national authorities are concerned about potential risks posed to the financial system and to its customers. As the financial system adapts, concerns arise regarding a range of issues, including: consumer and investor protection; the clarity and consistency of regulatory and legal frameworks, and the potential for regulatory arbitrage and contagion; the adequacy of existing financial safety nets, including lender-of-last-resort functions of central banks; and potential threats to financial integrity. Moreover, the adoption process may also pose transition challenges, and policy vigilance will be needed to make economies resilient and inclusive, so as to capture the full benefits". IMF, WB (2018), para. 4.

[48] "In response, policymaking will need to be nimble, innovative, and cooperative and—importantly—will need to strike the right balance between enabling financial innovation on the one hand and addressing challenges to market and financial integrity, consumer protection, and financial stability on the other. This balance is critical to deliver the welfare benefits of financial innovation and avoid stalling the development of fintech with the risk of leaving the underserved behind". IMF, WB (2018), para. 5.

[49] OECD (2020), pp. 33 et seq.

requalification; the danger of (self-)exploitation of workers vs. their increasing autonomy; and individual agreements vs. global regulation.

4.1 The Disruptive Company vs. The Socially Committed Company

The fintech phenomenon is closely linked to that of startups. According to the definition available on the website of *Forbes*, startups comprise "young companies founded to develop a unique product or service, bring it to market and make it irresistible and irreplaceable for customers.
Rooted in innovation, [it] aims to remedy deficiencies of existing products or create entirely new categories of goods and services, disrupting entrenched ways of thinking and doing business for entire industries. That's why many startups are known within their respective industries as 'disruptors' "[50].
In turn, the Spanish Chamber of Commerce defines it "a new or early-stage company with high growth potential that markets products and services through the use of information and communication technologies"[51]. In this sense, a distinction must be made between a conventional SME and a startup. Conventional SMEs enter the market after having invested a certain amount of money and have to wait for a certain period of time to start enjoying profits. By contrast, startups enter the market very quickly to achieve the necessary growth and financing through digital transformation"[52]. In the Spanish legal landscape, the issue is addressed in the recent Law 28/2022 for the Promotion of the Startup Ecosystem, also known as the "Startup Law"[53]. This Law shall apply to startup companies, understood as "any legal entity, including technology-based companies created under Law 14/2011, of 1 June, on Science, Technology and Innovation, which simultaneously meet the following conditions:

> a) Be newly created or, not being newly created, when no more than five years have elapsed since the date of registration of the public deed of incorporation, in general, or seven years in the case of biotechnology, energy, industrial and other strategic sectors or companies that have

[50] Quoted by Baldridge, R.; Curry, B. (2022), "What is a Startup?", Feb 4 2022, available at: https://www.forbes.com/advisor/investing/what-is-a-startup/ [Access: 18 August 2022].
[51] Available at: https://www.camara.es/blog/creacion-de-empresas/que-es-una-startup [Access: 1 May de 2022]. The translation from Spanish to English is ours.
[52] *Ibid.*
[53] Ley 28/2022 *de fomento del ecosistema de las empresas emergentes*, dated 21 December 2022, *B.O.E.* no. 306 of 22 December 2022.

> developed their own technology, designed entirely in Spain, which will be determined by the order referred to in Article 4.1.
> b) Not having arisen from a merger, spin-off or transformation of companies that are not considered to be emerging companies. The terms concentration or spin-off are deemed to be included in the foregoing operations.
> c) Not distribute or have distributed dividends or returns in the case of cooperatives.
> d) Not be listed on a regulated market.
> e) Have their registered office, head office or permanent establishment in Spain.
> f) Have 60 % of the workforce with an employment contract in Spain. In cooperatives, the workforce includes, for the sole purpose of the aforementioned percentage, worker-members and worker-members whose relationship is of a corporate nature.
> g) To develop an innovative entrepreneurial project with a scalable business model, as provided for in Article 4 (Article 3.1 of the Law 28/2022).

The explanatory memorandum makes clear that emerging companies have specific characteristics that make it difficult to fit them into the traditional regulatory framework. Among the already mentioned aspects, there are: firstly, the high risk arising from their innovative character and the uncertainty about the future of their business model at the early stage of financing, as they require capital to mature and test their ideas before generating benefits; secondly, the potential for exponential growth through economies of scale, which requires large capital investments to enable rapid expansion in case of success; thirdly, their dependence on the attraction and retention of new capital; thirdly, their dependence on highly skilled and highly productive workers from the very beginning of the business project, where there is no revenue stream to remunerate them through classical wage instruments; and finally, the exposure to strong international competition to attract capital and talent from abroad[54].
The innovative nature of an emerging company must be accredited. According to Article 3.2 of the Law, the key is its purpose is to solve a problem or improve an existing situation by developing products, services or processes that are new or substantially improved compared to the state of the art and that involve a risk of technological, industrial, or business model failure.
However, the rapid impact of companies on the market is not a new phenomenon. In this respect, it is worth recalling the so-called "disruptive

[54] See section I of the Preamble to the Law 28/2022.

companies" and the concept of "creative disruption". This concept was first introduced in 1992 by Jean Marie Dru (then president of the advertising agency TBWA)[55] and refers to a radical change in a market, caused by the overturning of existing conventions. He is thus recognised as the "father of the concept", having published articles entitled "Disruption" in *The Wall Street Journal*, *Frankfurter Allgemeine* and *Le Figaro*[56]. Moreover, a few years earlier, the author had somehow anticipated this idea in his *Saut créatif*[57].

Later, the concept mutated into "disruptive innovation", which was better suited to the broad content (competition, market, and business models) and the modern discourse on entrepreneurship. Disruptive innovation thus describes a new product or service, usually offered by a small firm, with inferior and/or different performance aimed at a low-end market segment and then incrementally improved to the point of dominating (disrupting) firms in the mainstream market (and rendering incumbents in that market obsolete)[58].

Disruption is often presented as the essence of the fourth industrial revolution[59], which manifests itself through new forms of business activity

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[55] See Dru, J. M. (1997), *Disruption*, París: Village mondial; Dru, J. M. (1997), *Disruption,* New Jersey: Ed. Wiley, also available in latter editions, including in Spanish. Dru, J. M. (1997), *Disruption,* Madrid: Ed. Eresma & Celeste Ediciones.

[56] As Consuelo Ferreiro points out, "[f]rom the beginning, there has been doubt about the attribution of authorship of this expression, disputed between French and American authors. The publicist Jean Marie Dru, who in 1992 registered the trademark 'disruption' and identified it with a 'creative methodology' oriented towards his clients, has been identified as the pioneer [(1984). *Le Saut créatif*. Paris: Jean-Claude Lattès; and (1997), *Disruption*. Paris: Village mondial]. But Harvard University professor Clayton M. Christensen is credited with introducing the term 'disruptive technology' in 1995 [Bower, J. L. and Christensen, C. M. (1995), "Disruptive technologies: Catching the wave", *Harvard Business Review*, Vol. 73(1), pp. 43-53], which he transformed two years later into 'disruptive innovation', and defined in the sense of technologies that introduce abrupt and/or sustainable changes or ruptures in themselves". Christensen, C. M. (1997), *The innovator's dilemma: when new technologies cause great firms to fail*. Boston: Harvard Business School Press]". Ferreiro Regueiro, C. (2019), "El liderazgo femenino ante la cuarta revolución industrial", *Revista del Ministerio de Trabajo, Migraciones y Seguridad Social,* Vol. 1 Extra, pp. 149-150.

[57] Dru, J. M. (1984), *Le Saut créatif*, Paris : Jean-Claud Lattès.

[58] Christensen, C. M. and Raynor, M. E. (2003), *The Innovators Solution: creating and sustaining successful growth*, Harvard Business School Press, Boston.

[59] Schwab, K. (2016), *The Fourth Industrial Revolution,* Geneva: World Economic Forum. At the website of *World Economic Forum,* it may be read that "[t]he First Industrial Revolution used water and steam power to mechanize production. The Second used electric power to create mass production. The Third used electronics and information

and organization[60]. Thus, innovative companies are disruptive because they identify a vulnerable sector of the economy and abruptly transform the market with the use of new technologies and, at the same time, companies may be innovative as well when they abruptly transform the market, even if they are not classified as emerging.

Disruption implies a radically different way of acting from what has been known or done before by the company itself, if that is the case, or by its competitors. The niche of activity that is found comes either from facilitating access to a particular product or service to customers who previously did not use it because they lacked sufficient purchasing power, known as "lower-end technologies"; or from facilitating access to such a product or service by using new technologies whose previous non-existence prevented them from having customers or offering a product or service in a different, more efficient or more attractive way than the one used previously, known as "new market technologies". An example of this are the digital collaborative platform companies that organise an important part of their goods or services through a computer tool, an interface, whose use is allowed to certain people so that they become providers or suppliers of such goods or services, while being apparently autonomous - rather than under strict subordination, an economic dependence can be seen in the legal relationship - and the recipients are the so-called "clients"[61].

In Panzarino and Hatami's classification, referred to in the previous chapter, one type of fintech stands out that illustrates the disruptive nature, but, at the same time, aims to meet immediate demand. This refers to the "unbanked" or the fintech companies that use technologies to reduce the number people who have no access to banking services[62].

In particular, companies that support vulnerable groups of population are emerging in countries and regions with a large number of inhabitants, such as Brazil, India or South Africa. In these countries, traditional banking is unable or unwilling to meet the needs of all people and is limited to serving only a few. Meanwhile, the "champions of the

technology to automate production. Now a Fourth Industrial Revolution is building on the Third, the digital revolution that has been occurring since the middle of the last century. It is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres", available at: https://www.weforum.org [Accessed 2 June 2018].

[60] Ferreiro Regueiro (2019), p. 149. Hereinafter, the reasoning of this author is followed.

[61] Ferreiro Regueiro (2019), p. 150.

[62] Panzarino and Hatami (2021), pp. 90, 96-98.

unbanked", with less advanced technological means, in particular mobile phone applications, are proposing creative and innovative solutions to open access to finance for all groups of population. Such initiatives include the success stories of *M-Pesa* in Kenya, Tanzania and South Africa, *Nubank* in Brazil and *Paytm* in India[63].

In this respect, the "seductive" message of the emerging narrative about the world of finance becomes more and more powerful[64]. The focus is on the specifics of the transaction, and not so much on systemic dynamics, proposing solutions to isolated and well identified frictions in the financial market. It incorporates the purpose of contributing to the "social revolution" in its broader aspirations by rebuilding finance according to the principles of reciprocity, cooperation, and inclusion[65].

In this context, the phenomenon of "socialtech", which encompasses the model of micro-finance institutions and the technological factor to challenge the ineffective conventional system, stands out. Thus, socialtech companies are defined as financial start-ups that operate on digital platforms in the microfinance field with a clear social purpose[66]. It therefore deals with hybrid entities, combining financial and social objectives, to which they apply the operational logic of a startup. Hence, there is an - already announced danger that entities with similar objectives, but coming from different business models, will coincide in the same space. As an example of such initiatives, in Brazil, three cases are cited (*Avante, IOUU* and *Palmas*), which have similar characteristics in terms of their social mission for the provision of financial services through digital platforms, although they differ in their origins, objectives and organisational structures.

The coexistence of various models and logics makes the phenomenon of the "hybrid" enterprise particularly interesting, illustrated through the conflicts and challenges or through the advantages that such a "mixed" nature can generate[67]. On the one hand, they have to face the contradiction between social objectives and economic benefits, i.e., the

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[63] Panzarino and Hatami, pp. 96-98.

[64] Omarova, S. H. (2019), "New Tech v. New Deal: Fintech as a Systemic Phenomenon", *Yale Journal on Regulation,* Vol. 36, p. 737.

[65] *Ibid.*

[66] Souza Siqueira, E.; Diniz, E. H. and Gonzalez, L. (2018), "Socialtech: Fintech with Social Goals and hybridism in emergent technological platforms of social financial organizations" (Study in progress), Conference paper, July 2018, See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/339936556 [Accessed 10 May 2022].

[67] *Ibid.*

trade-off between value creation and value capture[68]; on the other hand, they are able to access new resources and extend the repertoire of services in order to respond to complex and changing environments and to get closer to the demands of local communities and population groups.
Thus, by virtue of their social mission[69], socialtechs prioritise services aimed at the needs of their main target groups, usually vulnerable people in situations of poverty and social exclusion, and a personalised approach rather than a large-scale approach. They may also focus on operations to support and promote education, health, or development.
The commitment to sustainability makes these enterprises more successful than microfinance institutions without social objectives, although, like the latter, they ultimately aim to increase the scale of operations and maximise efficiency and effectiveness in view of the financial component of their nature.
Among other factors, the success of socialtech is due to individual entrepreneurship and forms of financing that include both government sources, crowdfunding, and private investments. In addition, as has been noted on many occasions, companies seek to meet local demand by making use of relatively short study cycles, launching the minimum viable product, and evaluating acceptance and growth assumptions. In this sense, experimentation and creativity are the hallmarks of this type of company.

4.2 Job Destruction vs. Job Creation

While it is true that disruption is associated with the fourth industrial revolution and Industry 4.0[70], it is no less true that these realities are

[68] Battilana, J., & Lee, M. (2014), "Advancing Research on Hybrid Organizing -Insights from the Study of Social Enterprises", *Academy of Management Annals*, Vol. 8, nº 1, pp. 397-441; Souza Siqueira, Diniz and Gonzalez (2018).
[69] On social, financial and startup characteristics, see in more detail Souza Siqueira, Diniz and Gonzalez (2018).
[70] Chronologically, "after the automation of industry in the 18th and 19th centuries (Industry 1.0), the division of labour and chain production (scientific organisation of work) in the 20th century (Industry 2.0), and the technological revolution at the end of the 20th century (Industry 3.0)", we must now speak of "the era of the digitalisation of the economy". (2017), "Derecho y trabajo en la era digital: ¿'Revolución industrial 4.0' o 'economía sumergida 3.0'?", *El futuro del trabajo que queremos,* Volumen II, Madrid: Gobierno de España, Ministerio de Empleo y de la Seguridad Social, OIT, p. 405. (The translation form Spanish is ours). According to several sources, the term "Industry 4.0" was coined as part of the Federal Government's High Tech Strategy, describes a form of production in which all machines and products are digitally networked together. It was presented to a broader public for the first time in 2011 at the Hannover Messe,

presented as causes of job destruction. In this sense, the phenomenon of fintech adds to the debate on the involvement of the technological factor in the destruction, transformation, and creation of jobs, and is part of the complex and multidimensional process, baptised by Joseph Schumpeter as "destructive creation"[71].

The 20th century was still living with the conviction of a division between human and digital labour. In this scenario, workers focused on the most creative tasks, those that could not be reduced to the mere execution of orders or the application of algorithms, while machines were assigned to the performance of routine tasks, such as data processing. Today, however, technological progress makes it possible to automate even the most complex and non-routine tasks[72]. In fact, many studies warn about the increasing substitution of cognitive tasks by computers[73]. Moreover, the substitution and, consequently, the destruction of jobs is happening

Germany's most important industrial fair. "Industry 4.0 in Hannover Messe", 2 April 2014, available at: https://www.deutschland.de/en/topic/business/globalization-world-trade/industry-40-at-hannover-messe [Accessed 18 August 2022]. Despite its terminological roots in Germany, the phenomenon itself is known in many other countries under the names of smart factories, the Industrial Internet of Things, smart industry or advanced manufacturing. Several States have developed and implemented initiatives related to Industry 4.0. See Ushakova, T. (2020), "Work-life balance and Industry 4.0 in the Legal Framework of the European Union", in Carby-Hall, J. and Mella Méndez, L. (Eds.), *Labour Law and the Gig Economy. Challenges posed by the digitalization of labour processes,* 1st ed., London: Routledge, pp. 190-208.

[71] "Creative destruction" or "restructuring" refers to the incessant process of renewal of the mechanism of production, whereby old economic structures are destroyed and replaced by new ones. Schumpeter, J. A. (1994), Capitalism, Socialism, and Democracy, London: Routledge, pp. 82-83. The empirical application of this metaphor finds expression in the analysis of outplacement factors and job volatility. Davis, S., Haltiwanger, J. and Schuh, S. (1996), Job Creation and Destruction, Cambridge: MIT Press. See also Ushakova, T. (2018), "De la máquina al trabajador y viceversa. Un ensayo sobre la implicación de las nuevas tecnologías en el mundo laboral", *Revista Internacional y Comparada de Relaciones Laborales y Derecho del Empleo*, Vol. 6, núm. 1, pp. 122 et seq.

[72] UN, DESA/DPAD, in collaboration with UNDP, ILO and UN Women (2017), *The impact of technological revolution on labour markets and income distribution*, 31 July 2017, pp. 3 et seq. This study was conducted in response to a request by the Secretary-General's Executive Committee Decision No. 2017/43 of 23 March 2017.

[73] Benedikt Frey, C., Osborne, M.A. and Holmes, C. (2016), *Technology at work v 2.0: The future is not what it used to be*, Oxford: Oxford Martin Institute and Citi, p. 11; UN, ECOSOC (2016), *Foresight for digital development*, Report of the Secretary-General, 29 February 2016, UN Doc E/CN.16/2016/3, p. 10.

faster than the creation of new jobs[74]. It is not for nothing that the involvement of new technologies in the world of work is one of the most revealing focal points in the "Future of Work" debate[75]. "Will it be different this time?" - ask many wise men and scholars[76]. According to some of them, we are facing a critical departure from the pattern we have been accustomed to so far and are confronting a phenomenon of an entirely different nature[77]. There are predictions that technological unemployment will continue to rise, due to the negative impact of the innovative use of information and communication technology, the spread of robotic learning, the Internet of Things and 3D printing, or even an annunciation of a jobless future[78].

Technological change affects not only the quantity, but also the nature and quality of jobs. Indeed, the main concern expressed by the European Economic and Social Committee (EESC) in its Opinion on the European Commission's *Action Plan*, is about the loss of a significant number of jobs in financial institutions, caused by the emergence of fintechs. The EESC therefore recommends that EU Member States design and implement active labour market policies to enable workers affected by the introduction of innovative technologies in the financial sector to take up new jobs as soon as possible[79].

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[74] Brynjolfsson, E. and McAfee, A. (2014), *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*, New York: W. W. Norton & Company Inc. Publishers.

[75] See, in this respect, the summary of ideas and open questions in: ILO (2017), *The centenary initiative on the future of work. Technological change and work in the future: How to make technology work for all?* Note Series, Issue 1, Geneva: International Labour Office. This note, based on a contribution from Irmgard Nübler, analyses the effects of technological changes on the quantity and quality of jobs and discusses policy challenges in developing a skilled workforce, avoiding job polarization, and assuring equal distribution of productivity gains.

[76] ILO (2017), *The centenary initiative on the future of work,* pp. 4 et seq. and Bergman, R. (2017), *Utopía para realistas*, Barcelona: Salamandra, pp. 175 et seq. (Available in English: Bergman, R. (2017), *Utopia for realists. And how we can get there,* London: Bloomsbury Publishing).

[77] Schwab (2016).

[78] Brynjolfsson, McAfee (2014).

[79] EU (2018), *FinTech Accion plan: For a more competitive and innovative European financial sector,* Opinion of the European Economic and Social Committee on the Communication from the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions, [COM (2018) 109 final], (2018/C 367/12), para 1.6. The same concern, albeit more nuanced, is expressed in the Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the

Some empirical studies corroborate the claim that, due to the novel approach and rapid growth of the fintech sector, fintech companies employ significantly fewer employees than in the traditional banking sector[80]. The reduction in workforce needs is impressive. It is "a few hundred or a few thousand jobs less" than ones required in banks: "whereas a banking institution may employ a hundred employees in a particular function, a fintech company needs only one person for the same task"[81]. On the other hand, the same sources point out that, in October 2021, there were 40,000 jobs available in the 225 "Fintech Unicorns"[82].

4.3 The Demand for New Skills vs. Opportunities for Training, Qualification and Requalification

Digitalisation and ecological transition (green and blue economies) are two essential transforming elements of the current economic model and, in particular, of the labour market[83]. The jobs generated by this transformation must therefore be filled by competent and professionally qualified workers. Thus, the absence of corresponding skills and abilities represents a huge handicap for creativity and innovation.
In traditional banking institutions, jobs are characterised by a clear and precise description of professional categories and functions in each position. In contrast, in the "fintech ecosystem", the situation is much

Regions on the *Coordinated Plan on Artificial Intelligence*. It states that "[g]iven the disruptive nature of many of the technological advances, policy-makers will develop strategies to deal with employment changes in order to ensure inclusiveness, as the pace with which some jobs will disappear and others appear is likely to accelerate, while business models and the way tasks or jobs are performed will change. This may make it necessary to modify current labour market and social protection arrangements to support transitions in the labour market". COM (2018) 795, para 2.4.

[80] CFTE (2022), *The Fintech Job Report: Technology is eating finance*, Torrazza Piemonte: Amazon Italia Logistica S.r.l.

[81] CFTE (2022), p. 32.

[82] CFTE (2022), pp. 28-29.

[83] See the Preamble of the Organic Law 3/2022 of 31 March on the organisation and integration of vocational training, *B.O.E.* núm. 78, 1 April 2022, and the study by Mella Méndez, L. (2022), "Sobre la Ley Orgánica 3/2022, de 31 de marzo, de ordenación e integración de la formación profesional: valoración general de una ambiciosa reforma", in *Briefs de la AEDTSS*, April 2022, available at: https://www.aedtss.com/la-ley-organica-3-2022-de-31-de-marzo-de-ordenacion-e-integracion-de-la-formacion-profesional-valoracion-general-de-una-ambiciosa-reforma/ [Accessed 20 May 2022].

more uncertain and changing[84]. Due to the nature of this type of business, the demand for jobs is formulated on an *ad hoc* basis. Given this particularity, the classification of fintech jobs presents several challenges. Firstly, it depends on the specific circumstances, often far removed from the established system, and does not conform to banking classification profiles. Secondly, given the innovative nature, the required positions may be completely new and unknown in the labour landscape a few years ago. Thirdly, the functions of the same job may vary from one company to another. Moreover, as we have learnt from the previous section, the term "fintech" covers different sectors, from the most traditional, such as the insurance, to the most innovative, such as cryptocurrencies[85].

On the basis of the analysis of the 225 "Fintech Unicorns", the CFTE has developed an approach to the classification of jobs and skills required for these types of companies[86]. A distinction is made between the 14 "Fintech Job Families"[87], which, in turn, are grouped into three categories: the general category, which is present in most companies (such as legal advice, human resources or customer service); the technology category dealing with jobs specific to technology companies (including Tech Jobs and Non-Tech Jobs); and the finance category, which describes the jobs in demand in financial institutions. The table available in the CFTE Report shows that technology-based jobs account for 70 percent (in the Blockchain sector) to 30 percent (in the payments sector); finance-related jobs account for 35 percent (in the Insurtech sector) to 10 percent (in the Blockchain sector), and non-tech jobs are account for 20 to 40 percent of cases in different sectors[88]. Overall, 80 percent of the jobs in fintech are similar to those in tech companies. Consequently, this leads to the

[84] CFTE (2022), p. 32.

[85] Cryptocurrency is decentralized digital money that's based on blockchain technology. The most popular versions are Bitcoin and Ethereum, but there are more than 19,000 different cryptocurrencies in circulation. Bitcoin was the first cryptocurrency, addressed, among others, by Satoshi Nakamoto in a 2008 paper titled "Bitcoin: A Peer-to-Peer Electronic Cash System." Nakamoto described the project as 'an electronic payment system based on cryptographic proof instead of trust'." Quoted by Ashford, K. (2022), "What is Cryptocurrency?", 6 June 2022, available at: https://www.forbes.com/advisor/investing/cryptocurrency/what-is-cryptocurrency/ [Accessed 20 August 2022].

[86] CFTE (2022), p. 33 et seq.

[87] These "Fintech Families" comprise: business development, core business, customer service, data science, design, engineering, finance, human resources, IT and operations, legal, marketing and communications, partnering, product management, and liability and risk. CFTE (2022), p. 33.

[88] CFTE (2022), p. 41.

conclusion that, in the "fintech" binomial "tech is eating finance", as reflected in the title of the CFTE study[89].

However, the main merit of this empirical study lies in the description of the skills required for jobs in fintech companies[90]. In this respect, in addition to the well-known "hard" and "soft" skills, mindset, industry knowledge and experience stand out. According to the distinction criterion applied, the difference between "hard" and "soft" skills lies in how easy they are to measure. In this line of thinking, it seems that "[e]verything becomes comparable and measurable, and subject to the logic of the market"[91]. Soft skills, such as teamwork or leadership skills, are less obvious and are difficult to measure. In our opinion, mindset-related competencies, such as adaptability or resilience, can be included in the group of soft skills[92]. Hard skills, on the other hand, can encompass knowledge of the sector, such as the application of artificial intelligence (AI) in responsibility or general knowledge of the fintech ecosystem.

The CFTE Report on fintech, although it does not include the Spanish companies of this type, can be useful as a reference, in particular, in the new model intended for vocational training[93]. The main achievement of the new law (LO 3/2022) consists in including in a single system three different subjects: vocational training, strictly speaking; accreditation of competences and professional orientation[94]. With regard to training, the new system starts by identifying the most valued professional competences in the labour market, then it elaborates the corresponding training offer and, finally, it facilitates the delivery and acquisition of the offered contents. In this respect, the main challenge is to cover the two generally separated and independent training sub-systems: that of the education system and that of employment, - and therefore to address both students and the active workforce (workers or unemployed). Success in education, as in the other two areas, will depend on "the appropriate

[89] *Ibid.*

[90] See Part 4. "The Skills in Fintech", pp. 45 et seq.

[91] Han (2021), p. 45.

[92] See, among others, White, D. (2021), *The Soft Skills Book. The Key Difference to Becoming Highly Effective and Valued*, Madrid et al.: LID, p. 17. In his brief and illustrative guide, the author refers to the growth mindset or the ability to develop new skills over time, which, in turn, allows you to learn faster and collaborate better, take risks and deal with mistakes naturally etc., citing the famous book by Dweck, C. (2006), *Mindset: The New Psychology of Success*.

[93] Organic Law 3/2022, *B.O.E.* núm. 78, 1 April 2022.

[94] Mella Méndez (2022).

solution to the different mismatches"[95] that may arise in the complex relationship between the education system and the labour market. This complexity is due to the "acceleration"[96] of changes brought about by the technological factor, unprecedented in history. In other words, what seemed to take a decade to happen five years ago is taking place in one, two or three years. The acceleration makes it difficult to predict the changes that will affect the labour market, work organisation and human resource management.

4.4 Workers' (Self)exploitation vs. Increasing Workers' Autonomy and Flexibility

Fintech companies themselves represent accelerated change: they feed on the changing landscape and accelerate transformation. Equally, they are exponents of "the multiple variants and combinations resulting from the interaction of disruptive technologies"[97] that produce effects on the organisation of work and the labour market.

One of the central concerns raised by disruptive technologies is the issue of data protection. While, in the field of fintech, the need to strengthen the security of transactions and the protection of customer data is particularly emphasised, in the regulatory framework of labour relations, specific regulations affecting the data protection of employees are being developed. Indeed, initiatives in this respect are seen as direct consequences of technological change, along with indirect ones[98] such as the reorganisation of working time, the right to disconnect[99] or remote

[95] *Ibid.*

[96] Del Rey Guanter, S. (2017), "Sobre el futuro del trabajo: modalidades de prestaciones de servicios y cambios tecnológicos", *El futuro del trabajo que queremos*, Volumen II, OIT, Madrid: Gobierno de España, Ministerio de Empleo y de la Seguridad Social, p. 362. Hereafter, the translation to English is ours.

[97] Del Rey Guanter (2017), p. 363.

[98] *Ibid.*

[99] Thus, following the first initiatives, in particular the French one, the Spanish Workers' Statute Law (Real Decreto Legislativo 2/2015, of 23 October, por el que se aprueba el texto refundido de la Ley del ET, *B.O.E.* no. 255 of 24 October 2015) incorporated a new Article (Article 20 bis) on workers' rights to privacy in relation to the digital environment and to disconnection: "Workers have the right to privacy in the use of digital devices made available to them by the employer, to digital disconnection and to privacy from the use of video surveillance and geolocation devices under the terms established in current legislation on the protection of personal data and the guarantee of digital rights". The article was added by final provision 13 of Organic Law 3/2018, of 5 December, on Personal Data Protection and Guarantee of Digital Rights, *B.O.E.* no. 294, of 6 December 2018.

working[100]. Thus, with regard to organisational factors, the need to pay attention to "the distribution of the working day, availability times and the guarantee of breaks and disconnections during the working day" is highlighted. And, with regard to the occupational risk factor, the distribution of working hours between face-to-face and remote work, on the one hand, and the legal distribution of actual working time and availability versus rest time, on the other, must be assessed[101].

In addition, the professional classification is affected: functions are redefined in relation to jobs and even entire processes. It is stated that "...probably, due to the great diversity of situations in the labour market, in service provision, in professional projects, in training needs.... that disruptivetechnologies cause in labour relations, the regulatory framework must consider with enormous flexibility the different contractual positions that may arise, so that it must be extremely cautious when establishing rigid models that may be in detriment to the diversification of positions that derive from new and unknown productive processes"[102]. In any case, "this contractual diversification must not be tantamount to maintaining or fostering situations of job precariousness"[103].

As stated in different sources, fintechs are looking for talent and, in this sense, they are betting on the new generations as "digital natives" who are attracted by this type of business where digital skills and knowledge are required in the financial business[104]. In addition, not insignificant pull factors are high salaries and a considerable degree of autonomy and flexibility. It seems that salaries in fintech companies still fall short of the numbers in traditional banking. However, they add benefits in terms of the employee's "emotional wage", such as flexible hours, identification with a dynamic and innovative structure, and even participation in the process of building of a new market[105].

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[100] In Spain, Article 13 on remote work of the Workers' Statute was modified due to the enactment of Law 10/2021, of 9 July, on remote work. *B.O.E.* no. 164 of 10 July 2021.

[101] See, in more detail, Mella Méndez, L. (2020), "Sobre la organización del trabajo como factor de riesgo laboral en el trabajo a distancia", *Noticias CIELO,* nº 11, available at: http://www.cielolaboral.com/wp-content/uploads/2020/12/mella_noticias_cielo_n11_2020.pdf [Accessed 10 July 2022].

[102] Del Rey Guanter (2017), p. 363.

[103] *Ibid.*

[104] See, among other sources, information available in the web page of iProUP: https://www.iproup.com/empleo/18542-bancos-o-fintech-quien-paga-sueldos-mas-altos [Accessed 24 May 2022].

[105] *Ibid.*

In this context, the way is paved for the trend already noted in the general technological landscape. The worker is at risk of voluntarily submitting to an inhumane work regime. Thus, flexible working hours are translated into unlimited working hours, identification with the innovative structure becomes exclusive dedication to the professional activity, and participation in the creation of a new market leads to absolute absorption of the personality by the task. It is about personal optimisation and the constant increase of efficiency, the aims of which are not only the exploitation of working time, but also absorption of the person[106]. Blockages, weaknesses and errors are suppressed, while all results are made comparable and measurable and subjected to the internal logic of the market[107]. In this scenario, the working person embraces the motto of "quantified self" or "self-knowledge through numbers"[108]. A perfect example of this numerical appreciation of a worker can be illustrated by the approach to a collective dismissal. In this respect, the case of *Porras Guisado*[109] is significant, due to the confluence of the assumption of collective dismissal and discriminatory dismissal. In contrast to its very extensive case law on the protection of pregnant women, the Court of Justice of the European Union (CJEU) has not interpreted Directive 92/85[110] in conjunction with Directive 2006/54[111]. Although it is also true that the national court emphasised that it was not seeking to interpret anti-discrimination judicial protection under the latter provision[112]. In any event, the criteria applied by the company (*Bankia*) to carry out the collective dismissal have been taken into account, prioritising the situation

106 Han (2021), p. 45.
107 *Ibid.*
108 Han (2021), p. 79.
109 *Porras Guisado,* C-103/16, Judgment of the CJEU of 20 February 2018.
110 Council Directive 92/85/EEC of 19 October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding (tenth specific Directive within the meaning of Directive 89/391/EEC, Article 16.1), *OJ* L 348, 28.11.1992.
111 Directive 2006/54/EC of the European Parliament and of the Council of 5 July 2006 on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation (recast), *OJ* L 204, 26.07.2006.
112 This reference for a preliminary ruling concerns the interpretation of Articles 10.1 and 10.2 of Council Directive 92/85/EEC of 19 October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding, and Article 1.1(a) of Council Directive 98/59/EC of 20 July 1998 on the approximation of the laws of the Member States relating to collective redundancies (para. 1).

of the worker by virtue of quantified criteria as part of the group affected by the dismissal. It dealt with the result of the assessment process carried out in the entity, which was specified in the consultation period and incorporated as a part of the agreement, being a relevant element that the worker in question was among those with the lowest scores[113]. Thus, the quantitative criterion linked to productivity prevailed over the qualitative one of the situation of pregnancy, with a slight nuance in favour of the latter[114].

In this scenario, it is not only the working person who is at risk of being valued and self-valued in numerical terms. Customers are also susceptible to being part of the quantifiable society monitored by the *Bannoptikum*[115], i.e., a device which identifies persons and groups of persons who do not fit the profile of a desired customer, and which ensures the security and efficiency of the system[116].

4.5 Individual Agreements vs. Global Regulation

Undoubtedly, one of the peculiarities of employment in fintech companies is the possibility of using individual agreements. In this sense, depending on each position and in accordance with the strategy of each company, not only salary is negotiated, but also long-term incentives, variable components and flexible benefits, as well as work-life balance schemes that are adapted to the needs of the employees[117].

In the field of fintech, the labour legislation that generally regulates the regime of dependent workers or self-employed workers is applicable. Experts point out that, in Spain, there is no specific legislation applicable

[113] Para. 21.

[114] The CJEU held that Article 10.1 of Directive 92/85 must be interpreted as precluding national legislation which does not in principle prohibit, as a preventive measure, the dismissal of a pregnant worker or a worker who has recently given birth or is breastfeeding, and which only provides, by way of compensation, for the nullity of such dismissal where it is unlawful.

On the other hand, it declared that there was not conflict between national and EU law in three other preliminary questions.

[115] From German *bann* (prohibition, proscription, banishment). Quoted by Han (2021), p. 85.

[116] Han (2021), pp. 85-86.

[117] See more details at the web page of iProUP: https://www.iproup.com/empleo/18542-bancos-o-fintech-quien-paga-sueldos-mas-altos [Accessed 29 May 2022].

to those employed by companies of this type[118]. Therefore, the employment relationship of dependent workers is governed by the Workers' Statute (*Estatuto de los Trabajadores*)[119], and the contractual relationship of self-employed workers or, where appropriate, economically dependent self-employed workers, is regulated by the Self-Employed Workers' Statute (*Estatuto del Trabajo Autónomo*)[120].

In this sense, the flexibility of the legal framework has to respond to the plurality of professional situations involving fintech workers. Thus, one cannot agree more with the statement that the regulation must avoid contractual reductions, the most obvious consequence of which is the limitation of technological development, with the repercussions for employment and the quality of work, in favour of regulatory provisions that, if no less protective, being adequately designed to accommodate the different forms of service[121]. Thus, it does not seem appropriate to take it for granted that self-employment, as distinct from that performed by salaried employees, is a category to be limited and assimilated as far as possible to the latter. All indications in the new organisational developments in companies based on disruptive technologies point to a more consistent development of self-employment.

It is therefore urgent to design and develop a regulation that contemplates and protects this figure, delimiting it with respect to salaried employment, providing it with minimum individual and collective rights, especially when it is a self-employed worker whose income basically comes from one client[122]. Therefore, it is not correct to assimilate self-employment with precarious or irregular work, nor should we start from the premise that the destiny of these workers is one of progressive labourisation, as happened recently in the case of platform delivery workers[123]. On the

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118 See López-Lapuente, L., Aguilar Alonso, I., Albuerne González, C. (2021), "Fintech Laws and Regulations. Spain 2021-2022", in *Fintech Laws and Regulations,* ICLG, available at: https://iclg.com/practice-areas/fintech-laws-and-regulations/spain [Accessed 20 June 2022].

119 Real Decreto Legislativo 2/2015, de 23 de octubre, por el que se aprueba el texto refundido de la Ley del Estatuto de los Trabajadores, *B.O.E.* núm. 255, de 24/10/2015, as subsequently amended.

120 Ley 20/2007, de 11 de julio, del Estatuto del trabajo autónomo, *B.O.E.* núm. 166, de 12/07/2007, as subsequently amended.

121 Del Rey Guanter (2017), p. 364. In this paragraph, the reasoning of the cited author is followed.

122 See Gil y Gil, J. L. (2021), "Collective Bargaining for the Self-Employed", *Comparative labor law and policy journal*, Vol. 42, Nº. 2, pp. 327-370.

123 "Twenty-third additional provision. Presumption of employment in the field of digital delivery platforms. By application of the provisions of Article 8.1, the activity of persons

contrary, their contractual autonomy must be respected, but, at the same time, a network of minimum social rights must be extended to establish intermediate areas of protection, so that the protection gap between self-employed and salaried workers is not as wide as it is at present. It is clear that self-employment plays and will continue to play a very important role in the neo-technological economy. In this scenario, flexibility must be preserved, which, fundamentally, is manifested through individual autonomy in the configuration of the provision of the service, without being equated with a situation of lack of protection.

Following Del Rey Guanter's reasoning, neither is it advisable to cultivate a negative view of the fixed-term contract itself, considering that it should be eliminated or marginalised in favour of the permanent contract[124], even though this is the central idea of the recent reform of the Workers' Statute[125]. Without losing sight of the negative effects in all senses of an excessive rate of temporary employment, two premises must be assumed in this respect: firstly, the stability in employment represented by the permanent contract must be promoted for its positive consequences in different aspects, including those required in the field of technological change; secondly, this does not mean that fixed-term contracts should no longer be legally contemplated, especially in the case of economic and business developments resulting from the disruptive technological impact. However, this requires an effort to establish the regulatory framework to increase the levels of protection for temporary employees, so that their

who provide paid services consisting of the delivery or distribution of any consumer product or merchandise, by employers who exercise business powers of organisation, management and control directly, indirectly or implicitly, by means of algorithmic management of the service or working conditions, through a digital platform, is presumed to be included within the scope of this law. This presumption does not affect the provisions of Article 1.3 of this regulation". Law 12/2021, of 28 September, which amends the revised text of the Workers' Statute Law, approved by Royal Legislative Decree 2/2015, of 23 October, to guarantee the labour rights of persons dedicated to delivery in the field of digital platforms. *B.O.E.* no. 233, 29 October 2021 (Ley 12/2021, de 28 de septiembre, *por la que se modifica el texto refundido de la Ley del Estatuto de los Trabajadores, aprobado por el Real Decreto Legislativo 2/2015, de 23 de octubre, para garantizar los derechos laborales de las personas dedicadas al reparto en el ámbito de plataformas digitales*. *B.O.E.* núm. 233, de 29 de octubre de 2021).

[124] Del Rey Guanter (2017), pp. 364-365.

[125] Royal Decree-Law 32/2021, of 28 December, on urgent measures for labour reform, the guarantee of employment stability and the transformation of the labour market. *B.O.E.* no. 313 of 30 December 2021 (Real Decreto-ley 32/2021, de 28 de diciembre, *de medidas urgentes para la reforma laboral, la garantía de la estabilidad en el empleo y la transformación del mercado de trabajo*. *B.O.E.* núm. 313 de 30 de diciembre de 2021).

conception is radically removed from situations of job insecurity, especially the formation of ghettos of groups with little or no possibility of access to permanent contracts. In this respect, it seems that the very logic and *raison d'être* of fintech startups prevents them from moving away from the concept of temporariness, since, by becoming a solid and long-lasting business structure, they lose their status as innovative outposts.

According to experts, Spain has not yet designed a specific framework to regulate fintech companies as such[126]. Thus, in the Explanatory Memorandum to Law 7/2020, of 13 November, for the digital transformation of the financial system[127], the legislator reports the increasingly common use of terms "such as fintech, insurtech or regtech, referring to financial activity in general, insurance activity or the use of new technologies for regulatory purposes" and recognises that these terms "reflect the advances that are producing substantial changes in production processes, in the relationship with customers, in business models and in the very structure of the sector, due to the emergence of new players". It also endorses the Financial Stability Board's (FSB) definition of fintech. However, when referring to supervision[128], it states that it does not intend to "modify the current framework for the distribution of competences between authorities, without prejudice to the collaboration between all of them in the new digital context", and describes as "supervisory authorities" the national financial authorities with supervisory functions that are competent in this area, "whether the Bank of Spain, the National Securities Market Commission or the Directorate General of Insurance and Pension Funds" [Article 3(b)]. A different level of conciseness is provided, for example, by Article 71 of Royal Decree-Law 19/2018, of 23 November, on payment services and other urgent measures in financial matters, section 1 of which clearly states that the sanctioning regime provided for in Title IV of Law 10/2014, of 26 June, on the regulation, supervision and solvency of financial institutions, shall be directly applicable to the providers of such services, as well as Royal Decree 2119/1993, of 3 December, on the sanctioning procedure applicable to

[126] López-Lapuente, Aguilar Alonso, Albuerne González (2021), Loc. cit.

[127] Ley 7/2020, de 13 de noviembre, para la transformación digital del sistema financiero *B.O.E.* núm. 300, of 14.11.2020.

[128] In this respect, it follows the reasoning of Fernández Rivaya, J. and Gómez Miralles, J. (2021), "'Fintech': la importancia de contar con un entorno regulatorio estable y desarrollado que confiera seguridad jurídica", *Garrigues digital*, 20/07/2021, available at: https://www.garrigues.com/es_ES/garrigues-digital/fintech-importancia-contar-entorno-regulatorio-estable-desarrollado-confiera [Accessed 20 June 2022].

parties acting in the financial markets, and whose paragraph 2 states that "the Bank of Spain is designated as the competent national authority to guarantee and oversee effective compliance with this Royal Decree-Law".
There are frequent warnings that the rules governing the financial sector do not provide sufficient security to meet the technological challenge, and that governance in the field of fintech requires renewed principles, rules and protocols to promote innovation and mitigate the social cost of innovation[129].
Many models of such a regulation can be mentioned. Taking into consideration the World Bank Report as a starting point, we can distinguish between seven models: firstly, *Wait & See* (allows innovation to be developed with no restriction, can work well in environments with limited regulatory capacity, involves a relevant degree of risk if there is no subsequent regulation, example: China); secondly, *Test & Learn* (innovations tested in real environments, with involvement of supervisory authorities, on a case-by-case basis, requires active involvement of supervisory authorities and presents difficulty for large-scale and for equal opportunities, examples: Philippines and Tanzania); thirdly, *Regulatory Sandbox* (this is a virtual environment, where innovators can test their products or services in a limited period of time, characterised by high transparency and replicability, advisable for active markets with a good degree of supervision, and for potentially unlicensed actors); fourth, *Waiver & Exemptions* (exemptions from the licence or restrictive sections of the licence, normally provided for by law and therefore do not involving the decision of the supervisory authority, no special remedies are required); fifth, *Letters of No-objections* (involves a certificate issued by the national authority stating that it does not object to the product or service offered by the fintech, advisable for a small market where the risk involved in the innovation can be understood without difficulty, e.g. Kenya); sixthly, *Differentiated Ted Regulation* (differentiated regulation established by law, no need for involvement of supervisory authorities, does not require special resources for its maintenance, examples: India, Payment Banks & Trade Receivable Platform License); and seventh, *Regulatory Reforms & Law* (enactment of rules that support fintech startups

[129] World Economy Forum (2021), *Global Technology Governance Report 2021: Harnessing Fourth Industrial Revolution Technologies in a COVID-19 World*, Insight Report in Collaboration with Deloitte, December 2020, p. 6.

and protect consumers, competition, stability and financial inclusion, involve legislative reform, examples: Mexico, European Union)[130].

It seems that the *Regulatory Sandbox* model is the one that has had the most impact in the doctrinal legal debate and legislative initiatives[131], and has even been extrapolated to the field of collective bargaining[132]. As explained in the BBVA entry on the concept, it originally emerged from the "sandbox", i.e. "the small enclosure where children can play and experiment in a controlled environment"[133]. It has gradually acquired new meanings, for example, in the field of IT, a sandbox is a closed test environment designed to safely experiment with web or software development projects, or, in the field of the digital economy, it refers to the testing ground for new business models that are not yet protected by a regulation in force, supervised by regulatory institutions. Likewise, these testing grounds are particularly relevant in the fintech world with a pressing need to develop regulatory frameworks for emerging models. In this sense, a *Regulatory Sandbox* is generally defined as "a controlled, time-bound, live testing environment, which may feature regulatory waivers at regulators' discretion."[134]

In Spain, Title II of Law 7/2020 on the digital transformation of the financial system, which is the central part of the Law, refers to regulatory sandboxing, as understood at European and international level. The explanatory memorandum defines it as "a set of provisions covering the controlled and limited testing of a project that can provide a technology-based financial innovation applicable in the financial system".

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130 See the slides made by Saal, M., Grandstein, H. (2018), "Regulating Fintech", *Developing and Operationalizing. National Financial Inclusion Strategies for the Digital Economy,* New-York: World Bank Group, in particular, Slide 21.

131 "Around the world, 57 countries currently operate 73 fintech sandboxes". WBG research; see Appendix 3 for full details. WBG (2020), *Global Experience from Regulatory Sandbox,* The World Bank Group: Washington, pp. 1, 5-6.
See about the early initiatives BBVA (2017), "¿Qué es un 'sandbox' regulatorio?", published on 20 November 2017, available at: https://www.bbva.com/es/que-es-un-sandbox-regulatorio/ [Access: 10 July 2022], and about the results of regulation in Singapore, South Korea and the United Kingdom in World Economy Forum (2021), *Global Technology Governance Report 2021*, p. 35.

132 Mercader Uguina, J. R. (2021), "Sandboxes para la transición digital en la negociación colectiva: la luz de un tiempo nuevo", *Foro de Labos,* published on 21 December 2021, available at: https://www.elforodelabos.es/2021/12/sandboxes-para-la-transicion-digital-en-la-negociacion-colectiva-la-luz-de-un-tiempo-nuevo/ [Access: 10 July 2022].

133 BBVA (2017), "¿Qué es un 'sandbox' regulatorio?". The translation to English is ours.

134 WBG (2020), *Global Experience from Regulatory Sandbox,* p. 65.

From a labour law perspective, it is argued that the *Regulatory Sandbox* model could be applied in the framework of collective bargaining, more than anything else, to disprove the thesis that technological innovation and collective bargaining are mutually exclusive[135]. "In other words, the ability to adapt to market conditions in a digital environment will depend on the rapid and efficient response of enterprises and workers in the framework of collective bargaining"[136]. Thus, the Collective Bargaining Agreement for the Banking Sector[137] incorporates Chapter XV on digital transformation and digital rights. Article 79 "Digital Transformation" reads:

> Given that digital transformation is a factor in the restructuring of Companies, with potential effects on employment and working characteristics and conditions, the parties recognise that collective bargaining, by its nature and functions, is the instrument to facilitate adequate and fair governance of the impact of the digital transformation of entities on employment in the sector, dynamising labour relations in a proactive sense, i.e. anticipating the changes and their effects, and balancing the relationship of these labour relations, preventing and mitigating possible risks of segmentation and exclusion. In the processes of digital transformation, companies shall inform the RLT[138] about the technological changes that are going to take place in them, when these are relevant and may have significant consequences on employment and/or substantial changes in working conditions.

This provision highlights the role of the social partners in addressing technological innovation. In addition, the Convention recognises and details a series of digital rights: the right to digital and work-related disconnection; the right to privacy and the use of digital devices in the workplace; the right to privacy from the use of video surveillance, sound recording and geolocation devices in the workplace; the right to digital education and the right to artificial intelligence (Article 80). With regard to the latter, it states:

> New tools based on algorithms can add value in moving towards a more efficient management of companies, offering improvements in

[135] Mercader Uguina (2021).

[136] *Ibid.*

[137] Resolution of 17 March 2021, of the Directorate General for Labour, registering and publishing the 24th Collective Bargaining Agreement for the Banking Sector. *B.O.E.* no. 76 of 30 March 2021.

[138] The *RLT (los representantes legales de los trabajadores)* means the legal representatives of workers.

> their management systems. However, the increasing development of the contribution of technology requires careful implementation when applied to people. Therefore, employees have the right not to be subject to decisions based solely and exclusively on automated variables, except in those cases provided for by law, as well as the right to non-discrimination in relation to decisions and processes, when both are based solely on algorithms, being able to request, in these cases, the assistance and intervention of the persons designated for this purpose by the Company, in the event of discrepancy.
> Companies shall inform the RLT about the use of data analytics or artificial intelligence systems when decision-making processes in human resources and labour relations are based exclusively on digital models without human intervention. Such information shall, at a minimum, cover the data feeding the algorithms, the operating logic and the evaluation of the results".

Undoubtedly, this regulation develops the provisions of the Workers' Statute, introduced by the latest reforms, in particular, Article 20 bis, introduced by Organic Law 3/2018, to which it explicitly refers, and also Article 64. 4 (d), following the amendment made by the aforementioned Law 12/2021 or the "Riders" Law, which provides for the right of the works council to "be informed... of the parameters, rules and instructions on which algorithms or artificial intelligence systems are based that affect decision-making that may have an impact on working conditions, access to and maintenance of employment, including profiling".
However, the most striking example of the product of collective bargaining is the provision of the Collective Agreement of the Department Store Sector[139], which refers to the government's commitments to the digital transition, quoted by Mercader Uguina in his essay:

> The Sectoral Observatory may refer to the sphere of each company or group of companies the establishment of Protocols for the digital transition and organisational changes, connected with the objectives and functions of the Sectoral Observatory, and may in turn provide for the articulation of innovative frameworks for social dialogue ('SandBox', observatories or laboratories).

[139] Paragraph 2 of the eleventh transitional provision, relating to "Commitments for the governance of the digital and organisational transition of the sector". Resolution of 31 May 2021, of the Directorate General for Labour, registering and publishing the Collective Agreement for the Department Store Sector. *B.O.E.* no. 139 of 11 June 2021.

This provision shows how the regulatory framework of the *Sandbox* can have an impact not only on the business model and regulation of fintechs, but also on the process of social dialogue that affects their workers. In the author's words, it is "a declaration of intent on how to tackle this reality through joint action by the social partners"[140].

5. Conclusions

1. The methodology of this paper, based on the opposition between risks and opportunities, is determined by the very nature of fintech. On the one hand, it alludes to the advances of the global technological revolution; on the other, it suggests a return to the origins of banking in its model of *relationship banking* closely linked to the interests of local customers. In this sense, the initial idea of "fintech" invokes technology with the purpose of crossing borders and national legal systems to embrace a model adapted to the needs of the most vulnerable groups, who, in principle, lack access to traditional banking services. In this first approach to the problem, the opposition between the "financial", as the most emblematic manifestation of the globalised and depersonalised world, and the "social", in its local and humanitarian expression, is so manifest that it seems to be a cognitive dissociation.
2. The definition most frequently used in different sources is the one provided in the 2017 Financial Stability Board (FSB) Report entitled *Financial Stability Implications from FinTech Supervisory and Regulatory Issues that Merit Authorities' Attention*, and refers to "technology-enabled innovation in financial services that could lead to new business models, applications, processes or products with a concrete implication for the provision of financial services". This concept has been used in doctrinal works (Omarova, Rodríguez de la Heras Ballell), in documents of international organisations (*EU FinTech Action Plan*) and in legal rules (Spain: Law 7/2020 of 13 November for the digital transformation of the financial system).
3. The first meaning (a business model) can be connected to fintech-type companies. In this respect, startups are those that "launch" new financial services and products on the market. In fact, the growing interest and concern about the phenomenon is largely due to the creation of new companies that fill the gaps left by traditional banking, challenge it and compete with it. However, such innovative financial services and products

[140] Mercader Uguina (2021). The translation to English is ours.

are also offered by traditional companies, which are trying to meet the technological challenges, by large companies (such as the well-known GAFA), which incorporate techno-finance into the scope of their operations, and by the former startups, once they have become established. In the latter case, once again, we are faced with the opposition between the initial premise of the locality and immediacy of the service and the aspiration for growth and consolidation.

4. Fintechs embody both Schumpeter's "destructive creation" and Dru's "creative disruption". This dichotomy is manifested through the labour market situation, determined by technological progress, and characterised by the destruction of jobs and the creation of new ones. In the field of fintech, the situation is illustrated by the actual demand of workers that are infinitely lower than those of traditional banks. At the same time, traditional banks are forced to modernise and to reduce jobs. It seems to be clear that job destruction predominates over job creation. For this reason, international organisations, including the EU, are warning states about the urgency of measures to protect workers against these risks, in particular through active employment policies. Paradoxically, the demand for highly qualified profiles in the fintech sector is very high and highlights the gap between training and the labour market and the shortcomings in the qualification and requalification of workers.

5. Although the protection of workers is less frequently invoked in the field of fintech than the danger to the security of the financial market and the protection of customers, the risk of insecurity, precariousness and exploitation or self-exploitation of workers is obvious and stems from the very nature of the business model.

Thus, a number of protective measures can be envisaged. Firstly, national employment policies, especially active policies for the qualification, requalification and placement of workers. In this respect, the State government and the company must share the corresponding commitments and responsibilities. Secondly, labour and social security law can offer useful tools, such as rules on teleworking, digital rights at work and other latent initiatives that have gained considerable momentum and have come to the fore in the wake of the pandemic. Thirdly, collective bargaining can play a pioneering role and seize this opportunity to address the challenges posed by technological progress. As we have seen, the so-called *Sandbox* model of fintech regulation can also offer advantages in the social dialogue process. Finally, at the international level, it would seem advisable to seek a minimum standard for the regulation of fintechs that is based on the common principles and values, in the context of this study, recognised in the social sphere. Thus, it would not be appropriate for the

fintech phenomenon to suffer from a kind of "vertigo of singularity"[141] within the legal framework, and for the "absolute singularity" of the other, which is labour law, to be manifested as something different and deliberately removed from the phenomenon. For it should not be forgotten that "the relation to the singularity of the other implies the universality of the law"[142]. Applied to the legal field, among others, this relationship requires a "third party"[143]. The third party is the one who comes to "interrupt the vertigo of singularity", and, in the case of fintech, this "third party" could be international law or regional law that establishes the common principles and values applicable to companies of this type and to people working in the sector.

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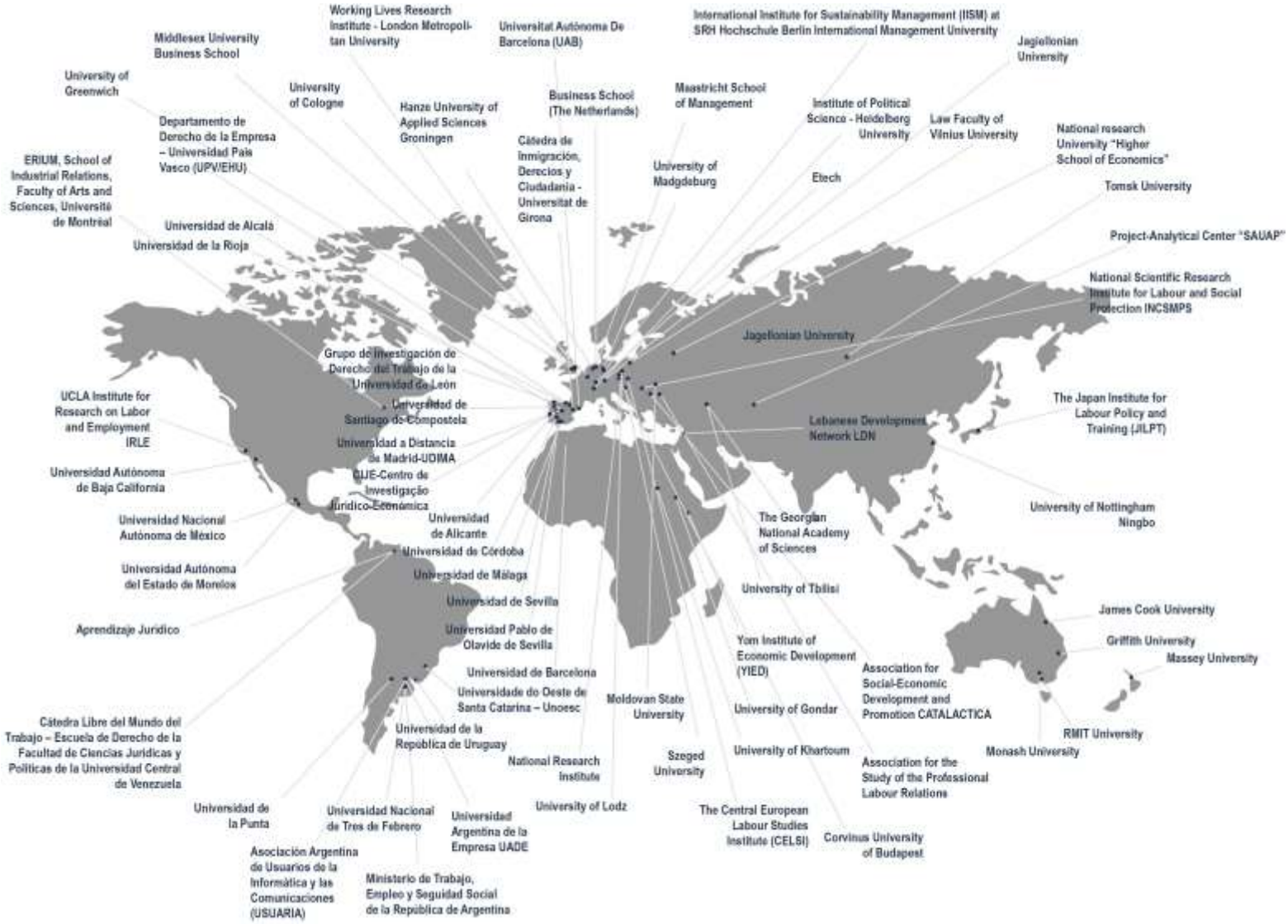

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