Legal constants and the ‘constant’ outside of the law: Mobile payments in comparative perspective under European Union law

Daniele D’Alvia*

Abstract
This article aims to determine whether mobile payments can be characterized by a legal constant, or common legal meaning. Indeed, mobile payments are a new form of payment system that is shaping the new economy of financial markets. Generally, they are part of the Fintech phenomenon, and they are specifically regulated in Europe, inter alia, under the Payment System Directive and the Regulation on Multilateral Interchange Fees. Nonetheless, those secondary hard law acts do not include any compulsory legal definition for mobile payments, which remain undefined and conventionally identified as means of proximity or remote payments. With that in mind, the article introduces for the first time in comparative law a new concept that aims at discovering meanings rather than similarities and differences that are irremediably limited to a merely descriptive function. To this end, the article argues that each time the constant outside of the law is subsequently recognized as ‘legal’, it becomes a legal constant, which is in turn capable of effectively revolutionizing the same study of mobile payments as well as of comparative law tout court.

Keywords
Banking regulation, competition law, comparative law, European Union law, financial regulation, mobile payments.

* Queen Mary University of London, Lincoln’s Inn Fields London, UK

Corresponding author:
Daniele D’Alvia, Queen Mary University of London, Queen Mary University of London 67-69 Lincoln’s Inn Fields London, E1 4NS, UK.
E-mail: d.dalvia@qmul.ac.uk
1. Introduction

Mobile commerce is the natural successor to electronic commerce, and it is predicted that mobile payment (‘M-payment’) is the future alternative to cash,¹ representing a suitable technology for new consumers’ necessities.²

Currently, no compulsory legal definition of mobile commerce is provided by European and international law. Therefore, a conventional definition may be adopted to describe mobile commerce and the way in which mobile commerce involves a transaction that is carried out between a merchant and a customer, by which the latter is entitled to purchase goods and/or services through wireless handheld devices.³

Within this context, mobile payment is a current feature of modern economies and an evolved form of e-payment schemes which promote mobile commerce.⁴ Indeed, the most important markets where the diffusion of mobile commerce is reaching a peak are those of non-developing countries where the majority of the population does not hold a bank account and credit cards, therefore financial services are commonly delivered by virtue of mobile phones. On the other hand, in developed countries mobile payment solutions can appear less attractive because mobile phones and devices have to compete with debit and credit cards as payment instruments. Kenya in particular is a developing country where since 2007 mobile services have been revolutionized by the merchant M-PESA, whose numbers of transactions processed between July 2016 and July 2017 amount to 1.7 billion, plus today in Kenya there are over 120,000 M-PESA agents to allow people to exchange cash for virtual currency, etc.⁵ The success of M-PESA shows that mobile payments are an efficient tool to manage payments and purchase goods and services as well as transfer money.⁶

This opens the discussion for the evolution of retail payments law that especially in Europe seems to be focused on what has been defined as a ‘regulation for competition’.⁷ However, it is not only a question of competition between different payment instruments; the diffusion of mobile

1. N. Guthrie, ‘The End of Cash? Bitcoin, the Regulators and the Courts, in Banking and Finance Law Review’, 29 Banking and Finance Law Review (2014), p. 355; D.S. Evans, et. al., ‘Paying with Cash: a Multi-Country Analysis of the Past and Future of the Use of Cash for Payments by Consumers’ SSRN (2013) http://dx.doi.org/10.2139/ssrn.2273192.
2. Y. Au and R.J. Kauffman, ‘The Economics of Mobile Payments: Understanding Stakeholder Issues for an Emerging Financial Technology Application’, 7 Electronic Commerce Research and Applications (2008), p. 141.
3. Z. Radovilsky, Application Models for E-Commerce (Cognella Academic Publishing, 2015), p. 20; A. Chong, ‘Predicting m-commerce Adoption Determinants: A Neural Network Approach’, 40 Expert Systems with Applications (2013), p. 523; A. Chong, ‘Understanding Mobile Commerce Continuance Intentions: An Empirical Analysis of Chinese Consumers’, 53 Journal of Computer Information Systems (2013), p. 22. In particular, the author in the latter article points out the differences between electronic commerce and mobile commerce in terms of advantages of the latter because of the growth in wireless and mobile technologies; J. Wu and S. Wang, ‘What Drives Mobile Commerce?: An Empirical Evaluation of the Revised Technology Acceptance Model’, 42 Information & Management (2005), p. 720. The authors describe mobile commerce as: ‘(...) any transactions, either direct or indirect, with a monetary value implemented via a wireless telecommunication network’.
4. S.L. Rutledge, ‘Consumer Protection and Financial Literacy: Lessons From Nine Country Studies’ Policy and Research Working Papers’, Policy Research Working Paper WPS 5326 (2010), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1619168, p. 1.
5. T. McGath, ‘M-PESA: How Kenya Revolutionized Mobile Payments’, N26 Magazine (2018), https://mag.n26.com/m-pesa-how-kenya-revolutionized-mobile-payments-56786bc09ef.
6. W. Jack and T. Suri, ‘Mobile Money: the Economics of M-PESA’, The National Bureau of Economic Research, Working Paper 16721 (2011), p. 1288–1292.
7. A. Janczuk-Gorywoda, ‘Evolution of EU Retail Payments Law’, 40 European Law Review (2015), p. 858.
commerce is strictly connected to incentives to adopt new technologies. In this regard, financial literacy plays an essential role both in terms of information and protection of consumers’ interests, and it is much needed, especially in consideration of a general principle of technical neutrality in payment services.

Thus, this article aims to study mobile payments from a comparative point of view. In particular, the concept of legal constant is introduced for the first time in comparative law in section 2. It is here suggested that the comparison of different legal systems relies on the comparison of different meanings. Essentially, the meanings that are attributed by lawmakers, legal scholars and judges to legal institutions serve our purpose to describe and understand the M-payment environment in the search for a legal constant. To this end, mobile payments are here examined as legal transplants in the form of legal venues through the examples of joint venture cases heard by the European Commission (section 4) or as legal formants’ entities by virtue of the examination of domestic laws in Europe that implement the new Payment Services Directive (‘Psd2’) (see sections 5 and 6). The comparison of different legal systems as well as different legal cases in competition law can identify a constant outside of law for the mobile payment industry. Indeed, the search for a constant meaning to be regulated and recognized by the law seems to be the primary focus on which countries such as Spain, Malta, Italy, the UK and France are constructing their legal systems (see sections 6 and 7). Specifically, a legal constant aims to provide a unifying reading key to understand mobile payments beyond the limits of domestic laws, and its essence is in turn based on a constant outside of law. In other words, the perspectives of the M-payment ecosystem are studied to inspire a possible harmonization of the law and to help the construction of policy considerations in the industry as well as illustrate a new learning of the law beyond national limits.

The first issue of M-payments relates to the lack of a possible definition of mobile payments and digital mobile wallets. Those concerns are expressed under section 3 of this article. The lack of definition gives rise in turn to the need to find a constant outside of law that can justify the application of diversified branches of law, especially when mobile payment solutions are implemented by virtue of joint ventures. For this reason, in section 4 attention is focused on the main aspects to be monitored by the European competition authorities when stakeholders involved in the value chain of M-payment create a joint venture. Indeed, mobile payments represent a unique combination of different stakeholders in the value chain, such as financial service providers and payment card networks, mobile network operators, hardware manufacturers, software developers, data brokers, coupon and loyalty program administrators, advertising companies, and merchants. Accordingly, the regulation of such operators involves the application of different branches of law, such as financial services law, mobile telecommunications law, data privacy law, consumer law, and competition law.

Solutions to such anti-competitive behaviours are analyzed in section 5 through the examination of two proposals made by the European Commission in 2013, namely the Psd2 and the Regulation on Multilateral Interchange Fees (Mifs). Thus, the proposed solutions are aimed at improving the M-payment systems’ compliance with competition law whilst preserving the interests of the main stakeholders involved in the value chain. Nonetheless, such legislative responses are incomplete

8. For further considerations on the role of financial literacy in the financial industry and a review of the existing literature on the subject, please see L. Kappler et. al., ‘Financial Literacy and its Consequences: Evidence from Russia During the Financial Crisis’, 37 Journal of Banking and Finance (2013), p. 3904.
because they do not recognize directly mobile payments as payment service. Consolidating comments are offered in section 7.

2. Comparative law as a tool for studying (legal) meanings

To use comparative law as an effective and constructive tool, it seems important firstly to outline a possible definition of the subject, and how it can be used or considered in studying different legal systems. There are many views on the definition of comparative law, and it is not the purpose of this article to provide a literature review. However, some key concepts are highlighted in relation to comparative law with the aim of introducing here, for the first time, the concept of legal constant, and to reflect on how the application of a legal constant might benefit the field of comparative law in general, and specifically the area of law that is studied in this article, namely the M-payment industry.

According to Zweigert and Kötz, comparative law is ‘the comparison of different legal systems of the world’.9 I shall argue that it is crucial to find a common substrate in the development of different legal systems as well as in the comparison activity itself to study the differences and similarities among legal systems through a common kaleidoscope, namely the activity of interpretation. According to this approach, comparative law does not simply refer to the comparison of different legal systems, because this is only a descriptive function of comparative law. It is a function that directly relates to the activity of stating the law, such as in legal opinions when lawyers are describing and illustrating the law of their domestic systems to their clients. Indeed, it is in the application of the law to the facts that both lawyers and judges are compelled to interpret the law by giving to legal provisions a specific meaning. It is by virtue of such meaning that the facts are interpreted, qualified and categorized through different laws or decisions depending on the legal system that we are examining, such as civil law or common law. From this point of view, one can start to understand that comparative law is, indeed, the science of comparison of different legal systems, but the real subject matter of the comparison is the different meanings that either judges, lawyers, scholars or lawmakers attribute to different legal provisions or decisions, by virtue of a unique activity: that is interpretation and hermeneutic activity.

A. The legal formant(s) and the legal constant(s) in Fintech

The approach of identifying comparative law through the activity of interpretation is not totally new. Indeed, Rodolfo Sacco was one of the first to theorize the famous legal formants as tools to facilitate the study of comparative law by virtue of their descriptive functions based on statute law, judicial decisions, and scholars’ opinions.10 Indeed, if we can examine the legal world through legal formants, we are surely right in defining comparative law as a science that increases our knowledge. Furthermore, as Sacco highlights, that knowledge is only one function of comparative law, because its main function is to discover similarities and differences between legal systems, and to allow jurists to borrow foreign legal institutions bring them into their own legal system.

9. K. Zweigert and H. Kötz, An Introduction to Comparative Law (3rd edition, Oxford University Press, 2008), p. 2.
10. R. Sacco, ‘Legal Formants: A Dynamic Approach to Comparative Law’, 39 American Journal of Comparative Law (1991), p. 1.
11. A. Watson, ‘Aspects of Reception of Law’, 44 American Journal of Comparative Law (1996), p. 335.
This is what Sacco defines as the principal aim of comparative law, so that legal formants really represent an interpretation tool for the jurist to influence and develop domestic legal systems.

In the light of this, comparative law is a ‘rebellious tool’ to influence the law in a dynamic way. Nonetheless, what is missed in Sacco’s analysis is the understanding of comparative law beyond its functions, namely, to identify comparative law as a subject that is devoted to the study of different meanings that become ‘legal’ once judges, lawyers, scholars or lawmakers recognize them. Indeed, the same borrowing of legal institutions can never itself be transformed into a perfect transplant. In other words, once we borrow a legal institution and bring it into our own domestic system we are essentially borrowing a meaning that once implemented inside another legal system becomes ‘legal’ because it is in turn influenced by the other legal institutions or legal provisions of that domestic legal system. Therefore, the outcome can never resemble the initial legal meaning that was originally borrowed. This can be seen especially in the financial technologies (‘Fintech’) area where there are no legal definitions for the new legal institutions such as mobile payments, the blockchain, smart contracts, etc. Those are technical innovations that saw a rapid growth and the emergence of new types of payment services in the market place imposes a necessary re-thinking of the need to regulate electronic money devices. For this reason, mobile payments as well as blockchain are generally subject to principle of technical neutrality through which technological developments shall not be subject to strict regulation, although they should be provided with legal status and certainty to not incur into a possible legal vacuum. In particular, under the preamble n. 21 of the Psd2 we find such principle expressed in the following words:

The definition of payment services should be technologically neutral and should allow for the development of new types of payment services, while ensuring equivalent operating conditions for both existing and new payment services providers.

The principle of technical neutrality becomes in this way one of the leading principles of the EU law of payment services. Consequently, the decentralized infrastructure of blockchain is not contemplated in the new legislative framework. This because the Psd2 is providing only a centralized infrastructure of the provisions of payment services.

Therefore, every time, each single domestic system is capable of attributing different legal meanings or definitions to mobile payments, smart contracts or blockchain depending on what the legal system aims to protect such as the consumer, competition between firms and so on (see section 3). In other words, a specific definition is adopted in consideration of the aims or values that a legal system seeks to protect. Such qualification of facts under the paradigm of the law is quite natural in law studies. However, the main question is still unanswered today, namely is there a common meaning that can be unanimously legally recognized by regulators, judges, scholars and lawmakers by which a legal constant can be identified?

It is important, therefore, to focus our attention on the concept of what I shall define for the first time in comparative law as legal constant(s). A legal constant is the result of the interpretation and construction of different meanings that are derived from a legal system, or more precisely, from the comparison of two or more legal systems as well as two or more decisions. Specifically, the interpreter is focused on finding a constant outside of law to which regulators, judges, lawyers, scholars and lawmakers give a legal meaning, so that we speak of legal constant(s) where the

12. N. Vardi, ‘Bit by Bit: Assessing the Legal Nature of Virtual Currencies’, in G. Gimigliano (ed.), Bitcoin, and Mobile Payments: Constructing a European Union Framework (Palgrave, 2016), p. 56.
‘legal’ qualification is only a subsequent identification of a non-legal concept that is recognized as a common meaning for one or more legal systems, as well as one or more decisions.

Meaning is the ultimate objective of legal analysis in comparative law, as well as within any national or domestic system (for instance, interpretation is the core activity that judges carry out in every legal system to solve a dispute, or interpretation is the main legal activity of lawyers to defend their clients by providing judges with a different qualification of the facts and/or provisions). For this reason, the conception that associates comparative law with the comparison of different legal systems is misleading because essentially the main comparison being carried out is directly related to the study of different meanings, by which different legal constant(s) can be discovered through the examination of either legal transplants or legal formants. In view of this, legal transplants and legal formants represent ‘working tools’ for the interpreter firstly to identify a constant meaning outside of the law.

B. Constant(s) outside of law and legal constant(s)

A legal constant cannot be construed only as a common element to be discovered while studying different legal systems. Indeed, the concepts of a legal constant or legal constants are not simply based on the idea that a legal institution exists in two or more legal systems, but on the fact that a legal constant is the constant legal meaning derived from the interpretation of different legal institutions, and it is usually identified as the only meaning that can relate to and justify the comparison between two or more different laws, two or more different principles or two or more judgements.

A legal constant is not just a common element, because a common element has itself only a descriptive function and can identify only the objective existence of a legal institution in one or more legal systems, although subject to different interpretations and meanings. For this reason, the interpreter whose objective is to find a legal constant must firstly identify a constant meaning outside of law which is derived from the comparison of two or more legal systems or judgements and is then given a legal qualification that consequently allows it to be identified as a legal constant. In other words, although the interpretation of different laws enacted in different legal systems can equate to different legal meanings, a legal constant is the only meaning capable of unifying all those different meanings under a common one. It is a unique form of interpretation to read laws, principles and case law that have been enacted, developed and upheld in different

13. For instance, the right of one party to terminate a contract is a right that is usually present in many different legal systems, namely under English common law as well as civil law countries such as Italy, France, Germany, etc., but the mere fact that this element exists in more than one country does not make it a legal constant. In this light, it can be considered only a simple common element that has mainly a descriptive function; to provide the reader with another example: divorce exists in more than one legal system such as under English common law, civil law countries and in some cases also under Islamic law. The termination in contract law as well as the divorce in family law are considered in this instance as a common element of the law that is present and exists in one or more legal systems, but it is not a legal constant. Indeed, a legal constant can be appreciated in the research of a common legal meaning that is mainly identified by a constant meaning outside of law to which jurists, judges, scholars and lawmakers give a legal status. For instance, this article, which is focused on mobile payments, is identifying a constant meaning outside of law to which mobile payments deeply relate to, and it qualifies the legal recognition of such constant meaning outside of law as a legal constant (in such specific case, for example, the payment function is seen as a constant outside of law to which European legislation as well as judgements of the European Commission are granting a legal status to protect several public interests such as consumer protection, technological network safety, etc.).
countries, at different times and by different interpreters. Indeed, this article illustrates the case of mobile payments as an instance for the application of a constant meaning outside of law (namely, as payment service) through which a legal constant is identified in regulations as well as in the case law analysis of the M-payment industry (see sections 6 and 7).

Hence, it can be argued that a legal constant mainly relates to a constant meaning outside of the law, such as the payment service qualification in the case of mobile payments, although Annex I of PSD2 does not recognize them as payment service. However, I shall also highlight how the meaning outside of the law constitutes indirectly a detachment of the same concept from the law, so that the main field of application of such alienation of meanings can be easily identified in commercial concepts (such as payment, business customs, risk management, etc.) or concepts related to the private sphere such as intimacy, dignity, privacy, marriage, equality, etc. Essentially, every concept that can have multiple definitions in different fields of inquiry, or different subjects such as economics, biology, anthropology, philosophy, etc. can be identified subsequently as a legal constant where the interpreter is able to find a possible legal meaning that is attributed to such a concept. This is why we speak about legal constant(s) as a common meaning that is identified in different legal formants such as statutory laws and judgments. Those formants once interpreted convey the same meaning, namely they identify a legal constant that can be used later to provide definitions for legal institutions and to outline the intimate function of that concept in order to provide more protection for consumers, customers, and private parties (i.e. the family is a direct instance where private interests of children – namely a concept outside of the law based on love and affection – must be protected against ‘egoistic’ interests of adults mainly based on economic interests. Here, for example, the same concept of ‘maintenance’ can constitute a legal constant of many family law institutions, such as divorce, separation, adoption, marriage, abortion, etc.). This is why legal constant(s) are based on a constant outside of the law because only beyond the law is the interpreter free to identify the intimate meaning of every legal institution. In other words, we must firstly think (un)legally to become legal. This is because our humanity is based on non-legal concepts and law relates to humans, hence to find the intimate essence of every law we have to re-start our discourse from human being and from his/her needs.

3. Mobile payments: is there a legal compulsory definition?

The identification of legal definitions for mobile payments and especially for digital mobile wallets is important to clarify the possible interconnections that can exist between them. For instance, when a joint venture is created between different stakeholders of the value chain, such as mobile network operators, banks, and payment platforms (such as Visa and MasterCard), the purpose of the agreement is to offer a digital mobile wallet. Therefore, different markets’ definitions are usually considered for competition assessment to clear the joint venture. 14

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14. Two recent cases that have been decided by the European Commission show that the implementation of a mobile payment solution by virtue of a digital mobile wallet can imply the consideration of different markets under the competition assessment, such as the market for the secure storage, the downstream market for the distribution of mobile wallets and the market for retail mobile services (see European Commission, Telefonica/Caixabank/Banco Santander/JV, Case No. COMP/M.6956 (2013); European Commission, Telefonica UK/Vodafone UK/Everything Everywhere/JV, Case No. COMP/M. 6314 (2012)). On the point see also D. D’Alvia, ‘Mobile Payments and Merger Regulation: A Case Law Analysis’, in G. Gimigliano (ed.) Bitcoin and Mobile Payments: Constructing a European Union Framework (Palgrave Macmillan, 2016), p. 251.
In view of this, it is essential correctly to identify the definitions of markets to carry out the competition assessment by which the European Commission or the European Antitrust authorities clear the joint venture.

Nonetheless, before establishing relevant market definitions, a legal definition for mobile payments should be identified. Currently no compulsory legal definition of mobile payment is provided within either the European legal framework or on an international level because regulatory legislation on mobile payments is mainly provided by virtue of soft law instruments.\textsuperscript{15} This is in line with principle of technical neutrality that has been introduced in section 2 as a limit to impose strict regulation to fast technological developments. Indeed, in relation to EU law it shall be acknowledged how the development of payment systems is based on a hybrid regulation system where self-regulation approaches of market operators are encouraged and sustained, although the retail payments law under the EU legal framework has seen a recent resurgence of regulation.\textsuperscript{16}

Furthermore, it is also important to outline that mobile payments and e-payments are regulated in the same fashion in the Psd2 apart from the exceptions listed under article 3 (l) Psd2. Essentially, the Psd2 has narrowed or clarified the list of exclusions including the exclusions of ATM operators, commercial agents, use of payment instruments within a limited network and electronic communication network providers. Indeed, under article 3(l) Psd2, there is an exclusion for transactions carried out by a provider of an electronic communication network for ticket purchases or charity donations that are carried out from or via an electric device, or for purchase of digital content or voice-based services (\textit{e.g.} ringtones, music and premium SMS-services), in each case where the transaction is charged to the subscriber’s bill. PSD2 introduces quantitative caps on this exclusion of €50 per transaction and €300 per month. It means that firms that seek to rely on this exclusion must notify and provide their national regulator with a description of the service and an annual audit opinion that their customers’ transactions fall within the financial limits provided for in the exclusion. Subsequently, the national regulator must notify the European Banking Authority (EBA) of services falling within this exclusion or notify the firm if this latter cannot rely on the exclusion. The firms relying on such exclusion will appear in the national and EBA registers of payment service providers, together with a description of their activities falling within the exclusion. Hence, the Psd2 restricts the original exemption according to which payments made through mobile phones, the internet or other IT devices were exempted from the EU legal framework of payment services. Today, the exemption is more detailed on monetary caps. Finally, any exceptions to the harmonized regime established by a Member State shall be in compliance with the harmonized rules set forth in the Psd2 that establish a centralized system for payment services.

Specifically, in relation to mobile payments among many non-legal definitions based on economic theories or technological features and innovations\textsuperscript{17}, the most important in terms of law should be the following which was provided in the White Paper issued by the European Payments Council in 2014. According to the White Paper:

\begin{itemize}
\item \textsuperscript{15} T. Khiaonarong, ‘Oversight Issues in Mobile Payments’, \textit{International Monetary Fund Working Paper} 123 (2014), p. 1–35. At International level the Committee on payment and settlement systems, which is part of the Bank for International Settlement is, \textit{inter alia}, in charge of an oversight and regulatory activity of mobile payments.
\item \textsuperscript{16} A. Janczuk-Gorywoda, 40 \textit{European Law Review} (2015), p. 860.
\item \textsuperscript{17} T. Dahlberg et. al., ‘Past, Present and Future of Mobile Payments Research: A Literature Review’, 7 \textit{Electronic Commerce Research and Applications} (2008), p. 165.
\end{itemize}
[the mobile payment is a] payment service made available by software/hardware through a mobile device. [Then, the White Paper analyses the definition of a mobile device according to which a mobile device is a] personal device with mobile communication capabilities such as telecom network connection, Wi-Fi, Bluetooth . . . which offers connections to internet. Examples of mobile devices include phones, smart phones, tablet. 18

In addition, the Committee on Payment and Settlement Systems has defined mobile payments as:

( . . . ) payments transmitted by access devices that are connected to the mobile communication network using voice technology, text messaging (via either SMS or USSD technology) or NFC. 19

These definitions are not provided by a classic source of law (i.e. statute law or case law) but rather by soft law instruments 20 and therefore they are not binding and enforceable. Nonetheless, it is important to highlight that according to such definitions, M-payment is seen as a payment service that is rendered by virtue of a mobile device. In other words, it means that the mobile device is considered itself as a payment instrument (that is, a definition of M-payment is taken into account based on a definition of proximity money transfer), although there are exceptions derived from the remote transfer of money. 21

From this possible definition of mobile payment it could be assumed that in terms of competition law, mobile payment solutions are seen as a service when they are implemented by virtue of proximity money transfers, and as a product when they are used as a form of confirmation of other payment instruments (peer-to-peer transfers, prepaid top-up services, etc.) usually through the implementation of digital mobile wallets (namely, a technology primarily based on a definition of remote money transfer). This definition is also confirming the new objectives of regulation in retail payments law of the European Union that according to Janczuk is defined as a ‘regulation for competition’. 22

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18. European Payments Council, ‘Mobile Wallet Payments’, EPC White Paper EPC163-13 (2014), p. 9.
19. Committee on Payment and Settlement Systems, ‘Innovations in Retail Payments’ Report of the Working Group on Innovations in Retail Payments of the Bank for International Settlements’ (2012), p. 1–96.
20. Indeed, soft law instruments (i.e. recommendations, white papers, guidelines, reports) are common features of the current legislative approaches in the European Union especially after the current financial crisis (2008–2010) in order to provide dynamic and quick responses to financial innovations. However, it has been highlighted how the non-state nature of those acts could give rise to issues in terms of democratic deficit (i.e. accountability) and complexity (see H. Marjosola, ‘Regulating Financial Markets Under Uncertainty: The EU Approach’, 39 European Law Review (2014), p. 338–361; E. Ferran and A. Kern, ‘Can Soft Law Bodies Be Effective? The Special Case of European Systemic Risk Board’, 35 European Law Review (2010), p. 751–776; N. Moloney, ‘Innovation and Risk in EC Financial Market Regulation: New Instruments of Financial Market Intervention and the Committee of European Securities Regulators’, 32 European Law Review (2007), p. 627–663.
21. M. Bourreau and M. Verdier, ‘Cooperation for Innovation in Payment Systems: The Case of Mobile Payments’, Working Paper in Economics and Social Science ESS-10-02 (2010), p. 1–25. Generally, money transfers might occur through two different forms, namely remote transfers and proximity transfers. In the former circumstance, the payer’s location is not essential and there is no need to use a point of sales terminal (for instance peer-to-peer transfers, prepaid top-up services). In this fashion, the mobile device is used as a means by which other payment instruments such as credit or debit cards are accessed; therefore, the mobile device is used as a post-paid confirmation, therefore, it can be considered an access channel to other payment instruments. By contrast, in proximity transfer of money the mobile device communicates with a point of sales terminal or an automatic teller machine by means of contactless technologies such as the NFC: therefore, in this case, the mobile device is considered as a proper payment instrument.
22. A. Janczuk-Gorywoda, 40 European Law Review (2015), p. 860.
However, the definitions of mobile payment expressed in the White Paper of the European Payments Council and in the report of the Committee on Payment and Settlement Systems do not make any reference to the main actors in the M-Payments environment and they do not identify the main purpose of using M-Payments, namely to transfer money through a mobile device in exchange for goods and services (i.e., the basic essence of mobile commerce). Such a broad definition has been adopted because it has been noted that the transfer of money in exchange for goods and services is not the exclusive function of M-Payments; a variety of forms of money transfer exist (such as peer-to-peer, customer-to-customer, business-to-business, and business-to-customer).

A. The definition of digital mobile wallets

In relation to digital mobile wallets, there is no agreed or compulsory definition available. In a recent competition case decided by the European Commission in 2012, Three UK recognized the importance of digital mobile wallets in the following terms:

Three UK submits that the availability of a mobile wallet will become a key parameter of competition when consumers decide on a tariff plan with an operator, as handsets will become increasingly multi-functional and the mobile wallet is going to be the next step of an already existing natural evolution, becoming a ‘hygiene factor’ in the sense that it will be an integral part of the mobile phone, like for example the camera, or access to the internet.

Therefore, it now appears to be crucial to establish a definition of digital mobile wallets due to their emergent role in the financial industry.

On this point, the White Paper issued in 2014 by the European Payments Council provides a non-binding definition of a digital mobile wallet in the following terms:

a digital wallet accessed through a mobile device. This service may reside on a mobile device owned by the consumer (i.e. the holder of the wallet) or may be remotely hosted on a secured server (or a combination thereof) or on a merchant website. Typically, the so-called mobile wallet issuer provides the wallet functionalities, but the usage of the mobile wallets is under the control of the consumer.

It is worth noting that when the European Commission has to assess the interchangeability of digital mobile wallets, it will make reference to them as a product rather than a service because in the majority of cases the digital mobile wallet is based on a remote money transfer function. Hence, the mobile device is not seen as a payment instrument itself, but as an access channel to other forms of payment instrument (debit or credit cards, checks, etc.) on which the competition assessment related to interchangeability should be carried out. Nonetheless, it cannot be excluded a

23. M. Bourreau and M. Verdier, Working Paper in Economics and Social Science ESS-10-02 (2010), p. 4.
24. On this point it has been suggested the more suitable definition of mobile business see further Z. Radovilsky, Application Models for E-Commerce, p. 20.
25. European Commission, Telefonica UK/Voafone UK/Everything Everywhere/JV, Case No. COMP/M. 6314 (2012).
26. Ibid., para. 521, fn 406.
27. European Commission, Telefonica/Caixabank/Banco Santander/JV, Case No. COMP/M. 6956 (2013), para. 5: ‘(...) the digital wallet does not constitute a payment method, but it is only the place where digitalized means of payment are stored and can be accessed in order to make a payment. The retail wallet will not have field communication (NFC) functionality for payments without the use of the internet (mobile or static).’
priori that a digital mobile wallet can be seen in some circumstances as a service as well (for instance, it will depend whether the proximity money transfer functionality has been activated on the mobile handset).28 In such circumstances, the competition assessment should be focused on the markets where other possible competitors are operating, such as the market for secure storage (i.e. the secure element components and any similar technological device having the main function of storing personal data of each consumer), the downstream market for the distribution of mobile wallets, and the market for retail mobile services, etc.

Furthermore, based on the above-mentioned decision, digital mobile wallets are divided according to their structure between container wallet and app-centric wallet in the following terms:

there are two approaches to what is commonly described as a mobile wallet: (i) a container wallet: the container wallet at a minimum provides the consumer with an overview of all applications that are loaded into the secure element (see Recital (53)) and allow him or her to select which payment cards are switched on and off and to set priorities between them. This mobile wallet serves as a container for all the customer’s virtual payment cards (the graphical user interface component) and allows the configuration of the secure element (the technical component) even from different card issuers, in a similar fashion to a consumer having several payment cards physically in his or her leather wallet; (ii) an app-centric wallet: it contains only one application which can include several cards, but from the same issuer. Each individual card stored on the secure element (for example a payment card) is represented by a corresponding (graphical user interface) application on the mobile handset. A card belonging to an individual service provider therefore shows up as an individual application on the mobile handset. In the physical word, it would be equivalent to a plastic card.29

This statement is relevant because it encourages the consideration of digital mobile wallets as a distinctive market that deserves a specific competition investigation. Furthermore, this definition is essential in assessing the structure and functionalities of a digital mobile wallet in terms of competition effects, especially in relation to the app-centric wallet, where the different payment cards are all issued by the same issuer. Therefore, the fact that the consumer can be potentially prevented from using other payment cards could be anti-competitive in terms of conglomerate effects; this is further explored in the following section.

4. The competition issues of mobile payments

Mobile payment solutions give rise to new challenges to competition law. In particular, the new competition challenges depend on the legal nature of the different actors involved in the value chain, and on the remoteness or proximity of money transfers that occur in mobile payments.

The main actors in M-payment transactions are mobile network operators, banks and payment platforms (i.e. Visa, MasterCard, etc.). These operators manage respectively mobile devices, bank accounts and payment platforms. Hence, competition issues in relation to those actors depend on

28. European Commission, Telefonica UK/Vodafone UK/Everything Everywhere/JV, Case No. COMP/M. 6314 (2012), para. 5(a): ‘The provision of a platform enabling the supply of (for example payment or ticketing) transaction services accessible offline through a Near Field Communication (“NFC”) enabled mobile handset as well as online via the internet (the “Wallet Platform”). The Wallet Platform would support the supply of various related NFC services including payment in shops, ticketing, and access services as well as voucher and loyalty services (….)’.

29. European Commission, Telefonica UK/Vodafone UK/Everything Everywhere/JV, Case No. COMP/M. 6314 (2012) (para. 5, fn 5).
their degree of cooperation and on the business model that has been adopted. Basically, five different business models have been identified by virtue of economic conventions, but among them the most efficient from an economic point of view is the full integration business model. In this model banks, mobile network operators and payment platforms collaborate towards the creation of a joint venture. However, it is important to note that a full integration model has not yet been implemented, although in Europe there are instances of a partial integration model and a mobile centric model.

A. The regulatory complexities of mobile payments

The existence of these different business models derives from the lack of a cohesive technology and of regulatory standards in the M-payment environment (for instance, the financial operators are subject to different regulations from the telecommunication industry). This situation can make the payment solutions complex. In other words, there is no universal mode of payment; the lack of standards has therefore created the fragmented versions of M-Payments offered by different stakeholders (i.e. network operator centric models, bank centric models and integrated models). Standards should protect consumers in terms of security and privacy as well as guaranteeing interoperability between various software and devices.

The settlement of agreed standards will avoid the creation of de facto standards that are usually provided by startup companies, and that can result in distorted competition effects as regards abuse of a dominant position and preventing the establishment of positive network effects. Indeed, no standards currently exist for digital mobile wallets to enable customers to pay, redeem coupons and claim loyalty points at the same time on their mobile handsets. The development of standards and specifications that the whole M-payment industry would be forced to use and that the standard-developing companies would have the freedom to license or not, and the establishment of conditions relating to their use, would therefore attract the scrutiny of competition regulators. To this end, it will be necessary to guarantee a transparent procedure for the adoption of standards and

30. M. Bourreau and M. Verdier, Working Paper in Economics and Social Science ESS-10-02 (2010), p. 18. There are different business models to implement a mobile payment solution. Essentially, in the light model an M-payment service provider can develop a solution without a strong cooperation with a bank because the consumer can top up money on the account of the M-payment service provider directly by virtue of their debit or credit cards; in the mobile-centric model the customers may make a payment to merchants by virtue of his or her mobile phone and this is then charged to the mobile phone bills of the customer. In the same way, in the bank-centric model the bank does not collaborate with MNOs and rather the bank starts a mobile payment service on its own. In a partial integration model there is a strong cooperation between banks and MNOs without the involvement of existing payment platforms such as Visa and Mastercard. Finally, the full integration model corresponds to a complete integration and cooperation of the main actors, namely banks, MNOs, and payment platforms.

31. European Commission, Telefonica/Caixabank/Banco Santander/JV, Case No. COMP/M. 6956 (2013).
32. European Commission, Bite/Tele2/Telia Lietuva/ JV, Case No. COMP/M. 8251 (2017). European Commission, Telefonica UK/Vodafone UK/Everything Everywhere/JV, Case No. COMP/M. 6314 (2012).
33. A.S. Lim, ‘Inter-consortia Battles in Mobile Payments Standardization’, 7 Electronic Commerce Research and Applications (2007), p. 202.
34. J. Liu, et al., ‘Competition, Cooperation, and Regulation: Understanding the Evolution of the Mobile Payments Technology Ecosystem’, 14 Electronic Commerce Research and Applications (2015), p. 382.
35. European Commission, Telefonica UK/Vodafone UK/Everything Everywhere/JV, Case No. COMP/M. 6314 (2012), para. 379.
to ensure unrestricted participation in standard-setting. Access to the standards is to be provided on fair, reasonable and non-discriminatory terms.36

B. The network effects and competition law in mobile payments

The importance of cooperation between those different players by means of the creation of a joint venture or a cooperation agreement can actually be justified on the basis of the importance of establishing positive network effects.37 Essentially, a network effect occurs when the user’s valuation of the network increases because more users are joining the network (for instance, to state it plainly, if new customers join a telephone network this will produce a positive network effect because it will permit existing customers to connect with more people). However, from a competition point of view, it is vital to guarantee that customers are still able to switch and change their preferences and that operators who set up the network do not retain a dominant position in the market preventing other operators from joining or establishing their own network (if such conditions are fulfilled, there is a positive network effect). In this way, a negative network effect that contributes towards the establishment of a dominant position for the provider of the network or creates a hurdle for interchangeability for customers could reduce technological developments in the M-payment ecosystem.

From a competition point of view, then, negative network effects imply three main competition concerns with M-payment solutions: namely the possibility of entering into tying arrangements between banks and mobile network operators, the creation of market power and the impact on fees with reference to mobile network operators only.38 Indeed, payment platforms have not so far been involved either in a full integration business model or in a partial or mobile centric model. However, one might imagine that a possible competition concern in relation to the latter could give rise to a classic competition issue, namely the imposition of multilateral interchange fees.39

C. The legal constant of European joint ventures in mobile payments

The examination of possible definitions of mobile payments and digital mobile wallets has provided non-legal definitions (section 3). Put simply, those definitions are strictly connected to practices and technological developments. Essentially, it seems that lex mercatoria (namely, international commercial usages and principles and rules common to most states) shapes the principal features of mobile commerce as well as the definitions of mobile payments and digital mobile wallets. In other words, lex mercatoria can be seen as a constant outside of the law in respect of M-Payments.

36. European Commission, Guidelines on the application of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements, 14 January 2011, OJ C 11/1. See European Commission, Telefonica UK/Vodafone UK/Everything Everywhere/JV, Case No. COMP/M. 6314 (2012), para. 253.
37. M.L. Katz and C. Shapiro, ‘Network Externalities, Competition, and Compatibility’, 75 American Economic Review (1985), p. 424.
38. D. D’Alvia, in G. Gimigliano (ed.), Bitcoin, and Mobile Payments: Constructing a European Union Framework, p. 14.
39. In particular a recent judgement held by the European Court of Justice has established that a high rate or percentage of interchange fees are in violation of European competition law (see Case C-382/12 P MasterCard and Others v. Commission, EU:C:2014:2201). On the point see also D. D’Alvia, ‘Two-sided Markets and Card Payment Systems: New Approaches and Trends under Art. 101 TFEU’, 13 JANUS (2016), p. 37.
Those definitions are established by soft law instruments (see sections 2 and 3) that seem appropriate to deal with the dynamic side of Fintech. Hence, the possibility of establishing open-ended definitions where meanings are broad rather than precise and definitive, represents a constant outside of the law that must be recognized when dealing with mobile payment solutions. In such cases the meaning of mobile payments varies according to the functions that the payment instrument performs, namely remote or proximity payments. These functions are essential to determine whether the mobile payment is seen as an access channel for other forms of payment or as a payment instrument itself. The cases that have been examined before the European Commission confirm that digital mobile wallets are a form of remote payment, although sometimes the mobile payment can be understood as a form of product rather than a service where the market definition comes into play. Indeed, the examination of those legal cases allows lawmakers as well as scholars and judges to construct the market definition of mobile centric models in joint ventures. The most up-to-date case of a joint venture of mobile network operators examined by the European Commission confirms this approach where the analysis of a retail market definition for mobile payments has focused on the distinction between proximity and remote payments.

This confirms that the main constant meaning outside of the law that can be identified beyond the methodology of payment, such as contactless payments, digital mobile wallets, payments over invoice, etc., is based on the fact that mobile payments today still perform a payment service where a direct obligation exists between a payer (debtor) and payee (creditor) with the exception of article 3(l) Psd2. To that constant outside of the law judges then attribute legal qualifications to protect consumers from anti-competitive behaviours. For instance, the tying arrangement in mobile payments is based on verifying whether the joint venture has the ability to foreclose competing digital wallets by virtue of restricting the use of payment cards in its digital wallet only. As can be seen, what is indirectly assessed is the qualification of mobile payments as payment service and the obligations that parent companies of the joint venture (creditors) impose on consumers (debtors). For instance, the legal constant of tying arrangement is based on a constant outside of law that refers back to the commercial function of mobile payments in their payment service qualification because only in this way can regulators assess the cooperation agreement of a digital mobile wallet. This concept is further explored in sections 6 and 7 below.

5. The new legislative pack reforms (2015) in Europe

In 2007 the Council and the European Parliament adopted the so-called Payment Services Directive based on a European Commission proposal of 2005. The primary objective of that directive was to set up a single market in payment services (the Single Euro Payments Area) to further enable not only the free movement of goods, services, persons and capital, but also to diminish the fragmentation of domestic legislation of the Member States by providing a harmonizing legal framework for the creation of an integrated payments environment. In particular, in 2012 the

40. European Commission, Bite/Tele2/Telia Lietuva/JV, Case No. COMP/M. 8251 (2017).
41. The case is confirming all the previous European decisions in mobile payments’ joint ventures where the central market definition for retail customers has always been focused on an identification of the payment function carried out by the mobile device and/or the digital mobile wallet.
42. European Commission, Telefonica/Caixabank/Banco Santander/JV, Case No. COMP/M. 6956 (2013).
European Commission adopted a Green paper,\(^\text{43}\) which recognized that technological innovation in payments systems, and therefore the emergence of new means of payments such as the internet and mobile payments, justified a further update of the existing regulatory measures in order to make the European *acquis* on payments environment more efficient, competitive and secure. Consequently, the European Commission in 2013 proposed a new directive amending the existing Payment Services Directive, the so-called Psd2\(^\text{44}\) and a Regulation on Multilateral Interchange Fees (Mifs).\(^\text{45}\)

In this context, the Mifs has given rise to a centralized system for payment services but only for payment service providers, namely banks, credit institutions, e-money firms and payment institutions (that include money remitters, non-bank card issuers, merchant acquiring firms, etc.).

Under article 7, paragraph 5, the principle of interoperability has become mandatory. However, mobile network operators are not contemplated within the scope of this legislation. Therefore, the standards that the European Banking Authority has to develop for payment service providers would match and coordinate with the new standards drafted by mobile network operators’ authorities (such as the Body of European Regulators for Electronic Communications or the Radio Spectrum Policy Group). Indeed, only in this way will the interoperability between cross-border payment transactions in mobile commerce be preserved and guaranteed.

In the end, mobile commerce, as was stated at the beginning of this article, is composed of different actors governed by different legislations. Therefore, the legal measures to adopt must differ on the basis of the subject matter that has to be regulated.

Finally, following the Commission Green paper of 2013 the Psd2 stressed once again the importance of security in relation to electronic payments, both for the protection of users and for the development of the M-payment ecosystem. As a result, the EBA will play a central role in determining the standards of security in mobile payments. A lower level of security will be required for a proximity money transfer, while the remote money transfer is considered highly risky for the security of the customer both in terms of authorization and personal data information. Furthermore, the EBA will be in charge of the drafting of regulatory technical standards in relation to the maintenance of fair competition among all payment service providers, to ensure technology and business model neutrality and to promote innovation in the M-payment environment. In the same way, the EBA is empowered to take into account different grounds of exceptions, namely the level of risk involved in the provided service (i.e. proximity transfers vs. remote transfers), the amount and/or the recurrence of the transaction, and the payment channel used for the execution of the transaction (i.e. a mobile device in proximity transfers or, for instance, credit cards in remote transfers). The drafting of specific standards will therefore promote interoperability between different implementations. Essentially, the importance of providing solutions to the current lack of standards has been recognized, hence the lack of efficient interoperability within the mobile payments environment.

\(^{43}\) European Commission, *Towards an Integrated European market for Card, Internet and Mobile Payments*, Green paper, 2012.

\(^{44}\) Directive on payment services in the internal market, amending Directive 2002/65/EC, 2009/110/EC, and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC, [2015] OJ L 337/35, n. 2366. Member States have to implement the directive by 13 January 2018.

\(^{45}\) Regulation on interchange fees for card-based payment transactions [2015], OJ L 123/1, n. 751.
6. The current European regulatory system on M-payments in 2019

The Psd2, as explained in the previous section, aims to make electronic payments more secure by introducing ‘strong customer authentication’. This requires firms to ask customers for more information to verify their identity using a minimum of two factors: knowledge (a PIN or password), possession (use of a card reader) or inherence (fingerprint). These measures are designed to combat unauthorized payments at a time when 2017 industry figures put losses due to financial fraud at over £800 million. The new rules apply whether a customer is accessing his account online to check his balance or to make a payment, using contactless payments or using his debit or credit card in-store or via a web merchant. Even though the rules permit some exemptions, customers can expect to be asked to authenticate themselves more frequently today than before the changes took effect in September 2019.

One of the ‘game-changing’ aspects of Psd2 is that it sets ground rules for the provision of payment initiation and account information services, which collectively are often referred to as ‘open banking’ services. Banks and other providers of online-accessible accounts must allow third-party providers to access payment functionality and account data. These services let the customer pay companies directly from their bank account rather than using their debit or credit card (payment initiation services). They also enable provision of account aggregation services, which give a consolidated online or mobile app view of account data held with different providers or allow use of budgeting and money management tools (account information services).

Businesses that would like to provide these services and benefit from account access rights must be registered or authorized and always have the customer’s consent. In 2018 several companies were looking to enter this market, ranging from well-known firms like Experian, Sage and American Express to new and existing players such as Emma and Money Dashboard.

Psd2 does not mandate how firms provide third-party access. In June 2018 the EBA published an important opinion to provide further clarity and additional Guidelines on aspects of open banking in December 2018. In those opinions the EBA clarifies its position on the regulatory technical standards for Strong Consumer Authentication (‘SCA’) and Common and Secure Communications (‘CSC’) that constitute the new security requirements under Psd2 and regulate access by Account Information Service Providers (‘AISPs’) as well as Payment Initiation Service Providers (‘Pips’) to customer payment account data held in Account Servicing Payment Service Providers (‘ASPSPs’). On 13 March 2018 Regulatory Technical Standards (‘RTS’) were published in the Official Journal.

It is worth noting that no mention has ever been made in those soft law instruments (the opinion) or hard law instances (the Psd2) of a specific technology to deal with access data and data security problems, namely the blockchain. This technology could potentially be used in the future to verify

46. EBA, Opinion of the European Banking Authority on the implementation of the RTS on SCA and CSC, 13 June 2018.
47. EBA, Guidelines on the conditions to be met to benefit from an exemption from contingency measures under Article 33(6) of Regulation (EU) 2018/389 (RTS on SCA & CSC), 13 June 2018. This document in particular is providing an insight into whether the contingency mechanism under Article 33(6) of the RTS on SCA and CSC can be exempted and under which circumstances. These was the first consultation paper that was then followed by a final report issued on 4 December 2018 (see EBA, Final Report – Guidelines on the conditions to be met to benefit from contingency measures under Article 33(6) of Regulation (EU) 2018/389 (RTS on SCA & CSC), 4 December 2018).
48. Commission Delegated Regulation (EU) 2018/389 of 27 November 2017 supplementing Directive (EU) 2015/2366 of the European Parliament and of the Council with regard to regulatory technical standards for strong customer authentication and common and secure open standards of communication, OJ L 69, 13.3.2018, p. 23.
transactions of mobile payments with the application of the so-called MobiChain.\textsuperscript{49} The proposal for the application of this technology of mining processes, to be performed effectively on mobile devices, is very recent. In this context, the blockchain will contain ‘an accurate, time-stamped and verifiable record of every transaction, and hence the network does not need a central authority’.\textsuperscript{50}

This new finding could make the new efforts of European legislation, once again, obsolete and outdated. It shows how the fast pace of technological developments is not always easily followed by lawmakers and regulation authorities. Nonetheless, the blockchain – as we said – represents a decentralized infrastructure that is subject to the principle of technical neutrality, being in the Psd2 a centralized infrastructure of the provision of payment services. Hence, it should be noted that the RTS established by the EBA are aiming to constitute universal standards for payment service providers in relation to SCA. However, the application of a blockchain technology to mobile devices can undermine the authority of the EBA or generally give rise to the question of whether regulation is required when the simple application of technology can effectively provide strong consumer authentication (i.e. the principle of technical neutrality).

These research questions will be put on a policy agenda in order to ‘block’ the blockchain or alternatively, provide that technology with a regulatory framework that cannot simply rely on the existence of universal standards, but on specific ones settled on a sector-by-sector approach. It is common for Member States to address the regulation of new technologies by implementing regulatory sandboxes and innovation hubs (so-called innovation facilitators). However, the lack of coordination among Member States on the role and functioning of innovation facilitators may lead to the adoption of various national standards unable to cope with the global dimension of cybersecurity threats. For example, the Financial Conduct Authority (‘FCA’) in the UK has been a pioneer in the application of sandboxes and their effectiveness in preventing technological hazards, especially in relation to blockchain technology in mobile payments. However, this approach might create in the future a forum-shopping phenomenon in Europe in relation to blockchain users who are willing to look for more resilient markets or alternatively less strict requirements.

For this reason, the next sections illustrate the variegated domestic legislations that exist in Europe in terms of Fintech regulation of mobile payments. Those countries are selected to highlight the different regulation approaches that are pursued despite the common playing field established by the Psd2. Consolidating remarks are provided below in section 7.

\textbf{A. The Italian legal framework on m-payments}

The Psd2 in Italy was implemented by Legislative Decree n. 218 published in the Italian Official Gazette on 13 January 2018. The decree also sets rules for the application of Mifs regulation for card-based payment transactions. In particular, the Psd2 Decree amends domestic sanctions for violations of the Single Euro Payments Area regulation and the EU regulation on cross-border payments, as well as repealing the Ministerial Decree concerning fees charged to merchants in connection with payment card transactions.

In 2018 the Central Bank of Italy (Banca D’Italia) took charge of supervising the payment sector by enacting three decrees to implement Legislative Decree n. 218, although the

\textsuperscript{49} K. Suankaewmanee, et. al., ‘Performance Analysis and Application in Mobile Blockchain, in \textit{International Conference on Computing, Networking and Communications} (ICNC) (2018), p. 642.

\textsuperscript{50} Ibid., p. 642.
Commissione Nazionale per la Società e la Borsa (‘Consob’, the Italian authority responsible for regulating the Italian securities market) was not involved in any implementation phase of the directive. According to one of the decrees of the Central Bank of Italy enacted on 11 October 2018, mobile network operators must notify Banca D’Italia in relation to payment operations that are carried out, and they are exempted from the application of the discipline reserved for payment service providers when they effectively perform those functions. Finally, firms that provide third-party access must appear in a special register of Banca D’Italia.

Following the implementation of the Psd2, the Testo Unico Bancario (the unified Legislative Decree on Banking Regulation) has been modified in respect of several articles. Those articles comply with the main aims of the Psd2, namely, to guarantee transparency, accountability, and competition in the payment environment.

B. The UK legal framework on m-payments

The UK implemented the Psd2 in the Payment Services Regulations 2017, which repealed the existing Payment Services Regulations 2009, and it took effect on 13 January 2018.

Specifically, the FCA continues to be the competent authority for authorizing and supervising payment service providers under the Psd2, whereas the Payment Systems Regulator (‘PSR’) is responsible for supervising and enforcing the Regulation on Multilateral Interchange Fees.

The PSR was launched in 2014 under the Financial Services (Banking Reform) Act 2013 to supervise and regulate the payment systems market in the United Kingdom. Specifically, when money is transferred between individuals and businesses, including mobile banking propositions, then that transfer is made through payment systems. The PSR is therefore in charge of enforcing rules on payment card schemes, including caps on certain interchange fees. It also provides guidance in relation to Mifs and has the power to determine interchange fee disputes between merchants and their payment service providers. In 2016 and 2017 the PSR issued information requests to market participants in the contactless mobile payments sector in order to understand the market and highlight its shortcomings. As a result, in 2018 the PSR produced a report which identified contactless mobile payments as an alternative payment system benefiting both retailers and card issuers, especially in terms of having and providing more payment options and offering electronic receipts. Nonetheless, as far as competition and innovation are concerned, the PSR noted that the sector would be under observation due to the potential risks to the development of products or access to payment services.

As explained previously, the Psd2 does not mandate how firms provide third-party access. However, for instance, not long after the Psd2 was finalized, the Competition and Markets Authority (CMA) in the UK set up the Open Banking Implementation Entity (OBIE), which is funded by the CMA to develop an Open Banking Standard to deliver access via secure application programming interfaces. While the CMA’s order on open banking applies to a more limited number of products and providers than are affected by the Psd2, OBIE has aligned the Open Banking Standard with Psd2 so that it can be used by firms beyond the CMA to comply with their Psd2 access-related obligations in a standardized secure way.

51. Many articles have been modified, inter alia, article 114-bis, 114-ter, 114-quater, 114-quinquies, 114-septies, 114-novies, 114-decies, 114-duodecies, and the paragraphs 4 and 5 of section 114-quaterdecies, 114-sexiesdecies, 114-septiesdecies, 126-bis, 126-quater, 126-octies, 128, 128-decies, and 144.
52. Payment Systems Regulator, Contactless Mobile Payments: A PSR Report, PSR.
The settling of standards is so important that the FCA has again reassured the markets that in the case of a Brexit no-deal scenario, the main requirements and parameters imposed by the Psd2 will be respected.

C. Malta legal framework on m-payments
The main law regulating payments in Malta is the Financial Institutions Act (Chapter 376), through which the EU Payment Services Directive has been transposed. The act must be read in conjunction with the Credit Institutions and Financial Institutions (Payment Accounts) Regulations as well as the Financial Institutions Rules issued by the Maltese financial services regulator (namely, the Malta Financial Services Authority). Finally, the Civil Code of Malta (Chapter 16) regulates the private and civil law aspects relating to payments.

The revised directive Psd2 was initially partially transposed into Maltese law through Directive n. 1 issued under the Central Bank Act (Chapter 204). Nonetheless, in 2018 the Malta Financial Services Authority published a consultation document on proposed amendments to the Financial Institutions Act (Chapter 376) and the Banking Act (Chapter 371) in preparation for a full implementation of the provisions of the Psd2. These amendments supplement the revised Directive n. 1 of the Central Bank of Malta on the provision and use of payment services.

According to those amendments there is a need to apply to become a payment service provider. The licence is granted by the Malta Financial Services Authority, which also has the power to withdraw it if the financial institution in question remains non-compliant. The persons who obtain an authorization or registration under the Psd2 from another Member State do not need to be in possession of a licence or a registration granted under the Financial Institutions Act due to the right of establishment. Finally, under article 32 of the Psd2 payment institutions can be exempted from the application of some or all of the licensing procedure. This exemption does not apply in Malta since the Malta Financial Services Authority has decided not to transpose this article into Maltese law in order to provide consumers with a higher level of protection.

Maltese law clearly provides a strict regulation for payment service providers.

D. The Spanish legal framework on m-payments
The Spanish government has delayed the implementation of the Psd2. It has been one of 15 EU countries to delay the communication of any ‘transposition measures’ to the European Commission. In addition, Malta, as seen in the previous section, has only implemented the Psd2 in part.

For this reason, in March 2018, the European Commission announced an infringement procedure as pending against 16 EU countries, including Spain. Following the notification of this procedure the Spanish government finally implemented the Psd2 with a delay of almost 11 months through a Royal Decree Law n. 19 of 23 November 2018.

The Royal Decree was published in the Spanish Official Journal (Boletin Oficial del Estado) on 24 November 2018 and entered into force one day after its publication, granting a transitional period of three months for most of its provisions.

The main aim of the implementation is stated in the objectives of the Royal Decree:

(…) este real decreto-ley incorpora parcialmente a nuestro ordenamiento jurídico, tiene como principales objetivos facilitar y mejorar la seguridad en el uso de sistemas de pago a través de internet,
The main objectives of the Psd2 are clearly taken into account, as well as the importance of cybersecurity in relation to mobile payments. Nonetheless, the Royal Decree does not provide any definition for mobile payments and it mainly refers back to the general provisions of the directive in relation to access to payment accounts (open banking) and SCA requirements applicable only when RTS and SCA were enforced on 14 September 2019.

Furthermore, in July 2018 the Ministry of Economy and Business in Spain published the Draft Law for the Digital Transformation of the Financial System, which was discussed by the Spanish Government in February 2019. The final text has not yet been published, but the purpose of that draft is to ensure that financial supervision is carried out within the new digital environment to facilitate innovative processes and achieve better competition. In this way, the draft bill promotes the implementation of regulatory sandboxes in Spain to test with consumers and firms the security and efficiency of new payment instruments.

E. The French legal framework on m-payments

In August 2017, the French National Assembly adopted a draft bill that ratified an ordinance implementing the Psd2 (the Ordonnance n. 2017-1252 of 9 August 2017 and the Decret n. 2017-1314 of 31 August 2017). The Decret introduces amendments to the ordinance and in particular, it deals with the supervision of exempted payment instruments that would otherwise be supervised with regard to security by the French Central Bank (Banque de France); secondly, the draft bill implements the cashback exemption provided for under the Psd2. The means by which French merchants may be authorized to provide cashback services is specified in secondary legislation to be adopted by the French government.

In relation to mobile payments, Law n. 1321 of 7 October 2016 relating to a digital republic reads two measures which transpose the order of the Psd2: firstly a firm providing payment services must submit a request for exemption to the French Central Bank, to be applied under certain conditions; secondly, mobile network operators that provide payment services for the purchase of digital content and voice-based services, or for donating money to charities, or for the purchase of electronic tickets such as public transportation and sporting events, must submit a request to the French Central Bank for exemption from the regulation applicable to payment service providers (article L.521-3 -1 of the French Financial and Monetary Code).

F. The legal constant in the regulation of mobile payments

The Psd2 entered into force on 12 January 2016, to be transposed into domestic legislations of Member States by 13 January 2018. As noted in the sections above, several Member States failed to communicate implementation actions by the deadline and, therefore, the European Commission started an infringement procedure.

A common feature of all those domestic acts of implementation of the European payment systems directive relates to the lack of definition of mobile payments and digital mobile wallets. This means that in the absence of a legal compulsory definition of mobile payments the most effective way to test the efficacy of these alternative payment systems is found in protected
environments where regulation can be tested and consumers protected, namely the regulatory sandboxes which are now promoted in Spain and UK.

This comparative study has shown the various approaches taken in Europe by Member States. Indeed, Italy and Malta do not allow mobile network operators to be exempted from application of the legal discipline reserved for payment service providers (although this exemption is allowed under the Psd2). This occurs when mobile network operators facilitate or perform payment services, hence the need to extend the discipline of the Psd2. France and Spain constitute an exemption in this sense because mobile network operators can ask for an exemption.

There is no clear understanding yet about which authority is empowered to supervise the mobile payment industry. In some cases, such as in the Italian legal system, this function seems to be reserved for the Central Bank (Banca D’Italia); in others it is for private regulators such as the FCA and the PSR in the UK. In the UK, the existence of the OBIE makes the system even more complex, although it is safer for consumers because there is a third level checking the legitimacy of the payment operations as well as the regular checks performed by the PSR and the FCA.

These different regulatory approaches that can be registered in Europe at the moment can give rise to competition issues as well as to forum shopping—concentrating the mobile payment industry in those countries that offer softer regulation and supervision, and especially in those that do not necessarily assimilate them to payment service providers (such as the French and Spanish legal systems).

The legal systems that have been examined are seen as legal formants according to the understanding of Sacco. Hence, in the description of those legal formants, one is persuaded that mobile network operators are not traditionally banks, but within the mobile payment industry they can effectively provide customers with remote or proximity payment solutions. For this reason, the definition of payment service as an exchange of money for goods and services must be considered when examining the right of mobile network operators to ask for an exemption under the Psd2. Indeed, it seems that the traditional function of payment services is no different from that of banks or credit institutions when performed by mobile network operators. In view of this, Geva notes that although mobile payments are characterized by a digital component, they are still a payment mechanism and they perform the function of payment services, namely to satisfy the payment obligation ‘by the delivery by the payer to the payee of monetary objects’.53 Furthermore, even the common concepts of cybersecurity with regard to strong consumer authentication and third-party access are still centred on the understanding of mobile payment as a form of payment system itself.

For these reasons, this comparative study has been able to identify a shortcoming in the understanding of the intimate nature of mobile network operators, which are still seen as different in some way from traditional banking despite performing the same functions, and giving rise to the same issues regarding consumer protection and clearance. Considering this, the EBA has not yet enacted any RTS for mobile network operators, so neither the interoperability promises nor extension of banking standards to mobile network operators have yet been implemented. Indeed, the Psd2 has not been clear on this point, and this has created an interpretation issue in the implementation phase, confirmed by the numerous infringement procedures started in Europe since the directive entered into force. By contrast, the UK and Italian legal systems seem to be

53. B. Geva, ‘Mobile Payments and Bitcoin: Concluding Reflections on the Digital Upheaval in Payments’, in G. Gimigliano (ed.) Bitcoin and Mobile Payments: Constructing a European Union Framework (Palgrave Macmillan, 2016), p. 271.
the most compliant, where respectively the PSR and the Italian Central Bank are in charge of supervising the mobile payments industry. Indeed, both the UK and Italian approaches have indirectly recognized the existence of a legal constant in the mobile payment industry which has been identified by this article as the constant outside of the law, namely the qualification of mobile payments as payment service, and in the primary quality that is based on the nature of the payer (the debtor) and the payee (the creditor) as postulated by Geva.

7. Conclusions

This article has analysed the mobile payment ecosystem from a competition point of view, as well as from a regulatory perspective.

Competition concerns have focused on tying agreements, abuse of market power and imposition of fees in the form of access charge fees on mobile network operators. The article has not only noted the possible effects following the adoption of different business models in mobile payment solutions outside of any existing standard-procedure to follow, but it has also emphasized the importance of standard settings in order to avoid the emergence of negative network effects (namely, where a new player is denied entrance to the established network and the choice of consumers is reduced in terms of using other payment instruments, then competition is at risk). In this regard, the EBA has been empowered by the Regulation 2015/751 and by the Psd2 to draft technical standards to promote interoperability in the mobile network payment system solutions, but only with reference to payment service providers. Therefore, the enactment of rules concerning mobile network operators is essential to harmonize different legislations inside the European Union and to guarantee the avoidance of access charge fees in order to promote a full interoperability of the network and to preserve competition in terms of market power. However, the EBA has not yet set any standard to promote interoperability for mobile network operators. This is because mobile network operators in Europe are not yet identified as payment service providers, despite performing the same payment functions in joint ventures (see section 3).

In particular, new challenges to competition law have been discerned, based on the legal nature of actors involved in a joint venture as well as on the nature of mobile money transfers (i.e. remote and proximity money transfers) by recognizing that the legal issues that exist in remote money transfers (where the mobile device is seen as an access channel to carry out the final payment) are much more delicate than those of proximity money transfers, where the mobile device is seen only as a payment instrument and, therefore, assessment of the relevant market is mainly product oriented. In this regard, study of the competition law cases has shown a definition of mobile payments that is strictly based on the function of the payment services provided by mobile network operators. Hence, we have first identified this as a constant outside of the law both for competition concerns and for a general understanding of mobile payments as payment instruments.

The same constant outside of the law has been identified when describing the implementation processes of the Psd2 in several European countries (see section 6). As a result, it seems that mobile network operators should be subject to the same discipline as payment service providers when mobile payment solutions are in place. In this comparative study, only the English and the Italian

54. For instance, the assessment on the storing of personal data, their fundamental nature of services in terms of establishing the relevant market to compare in terms of interchangeability.
legal system seem to have understood the ‘banking’ role that mobile network operators can play in the M-payment environment by restricting the exceptions provided by the Psd2.

In light of this the article has argued that a legal constant is a new methodological tool to study comparative law and that comparative law, as the study and comparison of different meanings rather than different specific provisions or decisions, is a revolutionary way of thinking. In fact, the activity of interpretation is the key for identifying a constant outside of the law that in the case of mobile payments is strictly connected to a lex mercatoria or to a commercial meaning of such instruments as means of payment resembling the traditional paradigm of creditor to debtor in exchange for goods and services. The recognition of this payment service qualification has then been transposed into national legislations (specifically, the UK and Italy) as well as into the decisions of the European Commission (see section 3). These are legal formants as, respectively, statute law and judgements which directly recognize such constants outside of the law by virtue of making their commercial nature ‘legal’ in the form of a legal constant incorporated into legislations and decisions.

This comparative study has also given rise to the concern that Central Banks, or alternatively, payment systems institutions, will be in charge of supervising the mobile payment industry because they are a payment service. This has justified a regulatory approach that aims to identify mobile network operators as payment service providers, especially when they carry out joint ventures and when they offer payment solutions that reveal their ‘banking’ nature (see section 4).

This new approach to the study of comparative law and the identification of the legal constant of mobile payments in their payment function can justify a further harmonization of the law in Europe in the direction of extending the discipline that is imposed on payment service providers to the payment solutions of mobile network operators, as well as imposing supervision on Central Banks and payment systems institutions such as the PSR in the UK for the M-payment industry.

Finally, agreed definitions of mobile commerce, mobile payment and mobile wallet have not yet been formalized. This might be justified by the rapid growth of M-payment solutions, and it is actually a common approach in terms of regulation of financial and technical innovations that has been adopted in relation to economic crisis reforms (for instance, the new role of the European Security Markets Authority in capital markets’ regulation). In this context, the fast-moving payment ecosystem should not be imprisoned inside formalisms or strict definitions, and the soft law nature of the acts which are required to regulate this phenomenon may represent a better solution from a policy decision making perspective and in accordance with a principle of technical neutrality.

Put simply, technology is a challenge and unless the regulator enacts different standards for different sectors, technology will always have the power to supersede any type of general regulation. This is because technological developments are changing the nature of the law. The law will become specific rather than general. Only in this way can technological developments have a future which is disciplined in accordance with the law. However, in adopting such an approach the regulator or supervisor should always design universal standards within the specificity of each sector. This is because even the specificity of blockchain must always be counterbalanced with the identification of universal standards. For this reason, from a policy point of view, the most resilient approach should be defined as a ‘Specific to Universal’ standard (the innovation facilitators are a good instance of this) rather than implementing a ‘Universal Standard Alone’, which although it is theoretically more coherent with the legislative framework, is irreversibly limited by its unrealistic generalization and unfeasible expectations of regulation tout court.
Dr. Daniele D’Alvia has been a visiting lecturer at Birkbeck University of London since 2014, where he acts as the module convener of Comparative Law and Islamic Finance. He has also been a visiting lecturer in Islamic Finance at the International Chamber of Commerce in Rome since 2018, and he has recently been appointed as a Teaching Fellow in Banking and Financial Law at Queen Mary University of London in 2019, where he works with Prof. Rodrigo Olivares Caminal (Chair in Banking and Finance). Formerly, he held the position of visiting lecturer and module convener of International Finance and Company Law at the University of Hertfordshire for the academic year 2017–2018.

Dr. D’Alvia is a pioneer in studies on Special Purpose Acquisition Companies (SPACs). Indeed, the academic literature on the topic is still scant, and scholars as well as the financial industry are very much in need of a regulatory framework for such investment vehicles. Since 2014 Dr. D’Alvia has published intensively on the subject and he is now leading research projects on SPACs both at the Institute of Advanced Legal Studies as an associate research fellow and Harris Manchester College (Centre for Commercial Law) University of Oxford as a Senior Visiting Scholar in order to design a possible model of regulation for SPACs. He is the CEO and Founder of SPACs Consultancy Ltd, the first consultancy company in the World entirely focused on SPACs and investment vehicles. He was a visiting scholar at the Max Planck Institute for Comparative and International Private Law in Hamburg (April–June 2017), and a Ronnie Warrington Scholar at Birkbeck College with his doctoral research titled ‘Risk, Uncertainty, and Finance: Special Purpose Acquisition Companies as self-regulation instruments’. In 2017 a research piece on SPACs written by Dr. D’Alvia was awarded the prestigious Colin B. Picker Prize by the American Society of Comparative Law.

Since 2010 he worked at international law firms such as Bonelli Erede Pappalardo, Dewey & LeBoeuf LLP, and Deloitte LLP where he assisted clients in relation to M&A transactions, bond issuance, and IPOs. He has also worked for the Financial Conduct Authority in London in the Criminal Investigation Unit – Enforcement and Market Oversight Division (EMO) dealing with high-profile white-collar crime cases. He is currently an external consultant at the European Bank for Reconstruction and Development (EBRD) in relation to a project titled ‘COVID-19 Response EBRD Insolvency Assessment’ where he is member of a group of experts providing consultancy on insolvency law regimes in relation to reorganization plans related to over 38 countries of operation.