Regulating FinTech: Crowdfunding and Beyond

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Abstract

The challenges posed by FinTech to regulation are similar to those raised by financial innovation in general. The first is to identify those areas of the law dealing with each type of Fintech instrument or institution. The second challenge is to establish whether regulation should be incrementally adapted to the various types of FinTech focussing on their function, or radically reformed by enacting special regimes and/or introducing ad hoc exemptions for FinTechs. In this paper, I consider loan-based crowdfunding and investment-based crowdfunding as meaningful case studies and analyse their regulatory treatment in European jurisdictions, which may be found in different areas – banking, payments, securities or ad hoc regulation - depending on the country considered, the business model adopted, the attitude and relative power of financial supervisors. Moreover, I offer an example of functional approach to crowdfunding policy by suggesting ways in which the two main types of crowdfunding (equity-based and loan-based) could be regulated in Europe along the model of securities regulation. In principle, I shun a holistic attitude to FinTech, as well as claims for radical reform in this area such as those advanced by recent scholarship. I prefer a pragmatic approach to FinTech differentiating the services to which existing regulation can be adapted from those - such as electronic payments and mobile payments - that have attracted special reform promoting competition and transparency in the relevant fields.

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I consider the Payment Service Directives (PSD 1 and 2) as an example of this type of reform. I conclude that new provisions are often motivated by the need to enhance the protection of clients vis-à-vis FinTech institutions and tools. However, they are also aimed to reduce the transaction costs of services through technology and/or to promote financial innovation. The regulation of crowdfunding precisely shows the trade-offs between investor protection and financial innovation/economic growth, while PSD 1 and 2 offer examples of legislation which facilitates the disruption of traditional finance and promotes the competition between incumbent institutions and the new players, including large IT companies, telecoms and thousands of start-ups.

1. Introduction

The challenges posed by FinTech to regulation and regulatory policy are similar to those raised by financial innovation in general, although financial innovation does not always derive from technological breakthroughs (Avgouleas, 2015). The first challenge is to identify those areas of the law dealing with each type of Fintech instrument or institution. In section 2 below, I consider loan-based crowdfunding and investment-based crowdfunding as meaningful case studies, while in section 3 I analyse their regulatory treatment in European jurisdictions, which may be found in different areas – banking, payments, securities or *ad hoc* regulation – depending on the country considered, the business model adopted, the attitude and relative power of financial supervisors.

A second challenge is to establish whether regulation should be incrementally adapted to the various types of FinTech focussing on their function, or radically reformed by enacting special regimes and/or introducing ad hoc exemptions for FinTechs, sometimes dubbed as regulatory sandboxes (EBA, 2017, 33; FSB, 2017, 28). In section 4, I offer an example of functional approach to crowdfunding policy by suggesting ways in which its two main types (equity-based and loan-based crowdfunding) could be regulated in Europe along the model of securities regulation. In principle, I shun a holistic attitude to FinTech, as well as claims for radical reform in this area such as those advanced by recent scholarship (e. g. D. Zetzsche, R. Buckley, D. Arner and J. Barberis, Nathan, 2017). I prefer a pragmatic approach to FinTech differentiating the services to which existing regulation can be adapted from those - such as electronic payments and mobile payments - that have attracted special reform promoting competition and transparency in the relevant fields. I consider the Payment Service Directives (PSD 1 and 2) as an example of this type of reform in section 5. I do not consider other areas of FinTech, such as those enabled by DLT technology, which may require extensive legal reform in the future, for they are still subject to testing and it is presently difficult to envisage policies regarding them (ESMA, 2017, 11).

The policy interventions concerning FinTech will ultimately depend on the goals pursued by governments and politicians, and on the relative weight of the interest groups involved. As I conclude in section 6, new provisions are often motivated by the need to enhance the protection of clients vis-à-vis FinTech institutions and tools. However, they are also aimed to reduce the transaction costs of services through technology and/or to promote financial innovation. The regulation of crowdfunding precisely shows the trade-offs between investor protection and financial innovation/economic growth, while PSD 1 and 2 offer examples of legislation which facilitates the disruption of traditional finance and promotes the competition between incumbent institutions and the new players, including large IT companies, telecoms and thousands of start-ups.

2. FinTech and alternative finance

In this section and the following one, I focus on FinTech as applied to alternative finance with special reference to financial reward (FR) crowdfunding, and show how financial regulation has been either adapted or reformed at national level in order to enhance investor protection while fostering financial innovation.

Alternative finance

The distinctive feature of FinTechs engaged in alternative finance, like P2P lenders, is that they employ digital platforms for connecting those in need of financing with investors and savers willing to take on the relevant risks (G. Ferrarini and E. Macchiavello 2018). Digital platforms are the new instruments for financial disintermediation (or for new forms of intermediation), for they offer their services directly to existing and potential clients on the web (M. Fenwick, J. McCahery and E. Vermeulen, 2017). The firms running digital platforms generally do not undertake the risks of financial activities that are executed on the same. They rather act like brokers between borrowers and investors, without facing the capital constraints that affect banking activities. In essence, digital platforms are 'transparent' intermediaries between borrowers and investors, while banks are 'opaque' intermediaries (S. A. Ross, 1989) that extend credits to clients on their own books, while receiving deposits from savers as liabilities.

Digital platforms do not create the stability risks typical of banks, which justify the capital requirements foreseen by banking and investment firms' regulation. This explains, partially at least, the success of FinTechs operating as alternative lenders after the great financial crisis. While capital requirements for banks and other opaque intermediaries have been tightened as a result of the crisis, alternative lenders are able to operate without similar constraints. Their clients are protected mainly through other means, such as the offer of diversified portfolios for investment and the creation of special guarantee funds. Moreover, the platforms specialise in assessing the credit risk of borrowers and producing scores to the benefit of investors. Banks perform similar tasks to their own benefit. However, digital technology allows firms to collect information, including big data, about recipients of funds in unprecedented ways, which FinTechs are fast to exploit often better than banks. Other reasons for the development of FinTechs in alternative finance obviously include speed of execution and convenience for firms and investors, together with the attractiveness of financial democracy particularly after the crisis.

FR-crowdfunding is a manifestation of marketplace investing, representing a significant part of the Fintech industry. FR-crowdfunding includes either lending transactions, whereby the investors/lenders expect to receive the principal and interest at the end of the lending period, or equity transactions, where a privately-held company offers securities to the general public through the medium of an online platform. The distinction is consequently made between loan-based (LB)-crowdfunding, commonly referred to as peer-to-peer (P2P) lending, and equity crowdfunding or, more generally, investment-based (IB)-crowdfunding, which could also refer to bonds and other debt securities (E. Kirby and S. Worner, 2014).

Marketplace investing also includes other transactions, which do not necessarily involve the crowd. Its key identifier is the digital platform where financial transactions occur between the recipient of funds and investors. The latter access the platform for executing either primary market transactions – such as the granting of a loan or the subscription of a bond – or secondary market transactions (such as the sale of a loan participation or of investment securities). The platform is similar to an exchange and marketplace investing presents similarities with exchange investing (G. Ferrarini and P. Saguato, 2015). However, market participants access the platform directly, i.e. without intermediaries, whereas an intermediary generally runs the platform. Moreover, transactions generally have a bilateral character, being intermediated by the digital platform, whereas exchange trading is by definition multilateral (ESMA, 2014, 18).

FR-crowdfunding

FR-crowdfunding has attracted the attention of regulators due to its relevance and also to the fact that retail investors are involved. Its two forms - LB- and IB-crowdfunding - share some common features. First, they both have a clear investment component, i.e. the expectation of profits from the efforts of others. Second, FR-crowdfunding platforms are a manifestation of direct finance and therefore of disintermediation relative to traditional intermediaries. Nonetheless, platforms play an important role in reducing information asymmetries between recipients and lenders/investors. In fact, the latter either rely on the platform's checks of recipients and other information conveyed through the platform, including rating or scoring of recipients, or on automatic diversification of investments by the platform. In the absence of traditional intermediaries such as banks and of the typical mechanisms of securities markets (including book-building and the aggregation of public information through secondary markets), crowd-lenders/investors would otherwise have difficulties in identifying the correct price, unless we assume that the 'wisdom of the crowd' is working here to the benefit of all (J. Surowiecki, 2004).

There are also relevant differences between the two types of crowdfunding, starting from the products offered: loans and profit-participation loans in LB-crowdfunding; equity/quasi-equity, debt securities (bonds, mini-bonds), investment funds/securitized debt in IB-crowdfunding. However, the two models appear to converge in practice when complex structures, including the use of SPVs or guarantee funds, and hybrid forms (such as profit-participation loans) make the transactions similar to investments of the quasi-equity type, often with a collective character (FCA, July 2016). Moreover, illiquid debt securities of unlisted companies and illiquid hybrid/quasi-equity products offered by IB-crowdfunding platforms present similarities with LB loans.

Other elements of comparison between IB- and LB-crowdfunding emerge from an analysis of their respective risks and benefits. The two types of crowdfunding present similar benefits to investors. In fact, crowd-lenders and crowd-investors may receive higher returns, diversifications opportunities (investing in an alternative market, often resilient to changes of mainstream markets) and possibly emotional satisfaction from helping people and participating to a project in which they believe (European Commission Financial Services User Group, 2015, 55-6). Furthermore, crowdfunding could enhance financing opportunities for households and SMEs, also thanks to lower transaction costs, and serve as a market test and marketing tool for firms' products. Finally, the system might benefit from increased competition in the financial market (in Europe mostly dominated by banks) and stimulus to innovation (European Commission, 2014, 5).

The two forms of crowdfunding also share some risks. Firstly, crowd-lenders/investors might not be fully aware of the specific risks of their investment especially as a result of cognitive biases and/or of misleading advertisements or unchecked information. They might lose the capital lent/invested as a consequence of the recipient's and/or platform's negligence and the magnitude of the loss could be enhanced by the fact of concentrating investments on a single platform and a few borrowers/issuers. No doubt, equity-based crowdfunding is riskier to investors than LB-crowdfunding. Firstly, few small companies present characteristics making investment in their shares appear as relatively safe and feasible. Moreover, due diligence is more complex and time-consuming, therefore limiting the number of campaigns simultaneously present on the platform (European Commission Financial Services User Group, 2015). Secondly, the universe of investible companies is limited, so that diversification of investments is more difficult than in LB-crowdfunding. Thirdly, lock-in periods may be longer than average loan maturity and the investees, generally start-ups and seed companies, are generally riskier than other companies and typically attract venture capitalists who factor-in a high percentage of defaults (FCA, 2013). As a result, crowd-investors tend to attach particular importance to information made available by the platform in taking their investment decisions, while LB-crowdfunding models are moving also in Europe towards forms of automatic matching ('auto-bid') (Kathryn Judge, 2015).

3. Regulatory approaches to crowdfunding

National approaches to FR-crowdfunding vary substantially among member States (G. Ferrarini and E. Macchiavello, 2018). We can distinguish between a 'traditional' approach extending prior banking or financial regulation to FR-crowdfunding and a 'innovative' one consisting of the adoption of either *ad hoc* rules or fully-fledged regimes for FR-crowdfunding. However, relevant differences exist even amongst countries adopting the same approach.

Loan-based crowdfunding

In Europe, platforms generally do not lend money directly, but only facilitate loans amongst their clients. Nonetheless, in some business models either the platform takes a participation in the loans made through it or a bank extends the loans on behalf of crow-lenders (European Commission, 2016, 33). In other models, the platform either issues notes to crowd-investors that are backed by loan originally made by a bank (the prevailing model in the U.S.) or assigns investors the right to a return calculated on the performance of either individual loans or of a pool of loans.

These activities can in principle trigger the application of a number of laws and regulations concerning different areas (such as banking, payments, financial services and markets, consumer protection, anti-money laundering-AML). However, different business models and different legal traditions determine substantial differences between the regimes applicable to LB-crowdfunding platforms around the world.

(a) Under a first approach, LB-crowdfunding is seen as falling under banking law. In the case of *Zopa Italia*, for instance, the Bank of Italy as a banking supervisor held that the receipt of funds by a P2P platform, in view of transferring the same from lenders to borrowers, gave rise to the receipt of repayable funds from the public, as such prohibited to undertakings other than banks under Italian banking law (E. Macchiavello, 2015). This type of breach of the banking monopoly could be found in cases of imperfect separation of the funds of clients from those of the platform determining an obligation of the latter to repay the relevant amount of money, as well as in cases where clients are entitled to choose between reimbursement of the funds and re-investment of the same in the system (*de facto* a form of deposit).

However, from a policy perspective, prudential regulation has been designed for banking firms, which undertake the risk of lending money collected from the public through deposits. Banks also transform maturities and have a special role in liquidity formation, transmission of monetary policy and payment systems. Extending the banking regime to crowdfunding platforms, which do not lend money at their own risk and formally do not accept deposits, appears to be overreaching and unjustified. LB-crowdfunding would rather require specific measures tailored to its peculiar features and risks (e.g. special warnings to crowd-investors as to the risks undertaken by the same).

(b) Under a second approach, national authorities (including the Bank of Italy) and EBA consider crowdfunding activities as subject to payment services regulation, based on the argument that these activities might include the execution of payments on behalf of lenders and borrowers on the platform (EBA, 2015). Another reason for preferring this type of regulation and asking platforms to apply for authorization as payment institutions can be found in the special treatment of money held by these institutions on behalf of their clients. In fact, the funds received by payment institutions from payment service users with a view to the provision of payment services do not constitute a deposit or other repayable funds within the meaning of CRD IV.[61] Moreover, the relevant regime ensures money segregation, continuity of payments and cyber security provisions. Nonetheless, the regulation of payment services does not satisfy the

61. *See* Article 18 of Directive (EU) 2015/2036 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market (PSD 2) stating: '[...](2) Where payment institutions engage in the provision of one or more payment services, they may hold only payment accounts which are used exclusively for payment transactions. (3) Any funds received by payment institutions from payment service users with a view to the provision of payment services shall not constitute a deposit or other repayable funds within the meaning of Article 9 of Directive 2013/36/EU [...]'.

needs for borrowers' protection and crowd-lenders' transparency, while the definition as payment institution only covers some of the platforms' activities, which also include *inter alia* credit checks/due diligence on borrowers, demand/offer matching and publications of offers (E. Macchiavello, 2015).

(c) A third approach is framed under securities regulation. An investment component is generally present in LB-crowdfunding, which entails investment of money with expectation of a profit. It is no surprise, therefore, that the Italian Securities Commission (Consob) defined P2P loans as financial products and held that the public offer of the same is subject to the prospectus obligation (Consob, 2010). Nonetheless, at EU level, the Prospectus Directive and MiFID only apply to offers of, and activities in financial instruments and have therefore a narrower scope of application than U.S. securities regulation, which extends to investment securities in general. Under EU law, financial instruments include shares, bonds, notes and derivatives, but not 'investment contracts', which *per se* are not transferable on secondary markets (N. Moloney, 2010; G. Castellano, 2012). Yet, some LB-platforms are presently developing secondary markets for their products, which would then become financial instruments, while other platforms have adopted complex business models close to collective investment schemes.

However, concepts such as 'financial instrument' and 'investment (or financial) product' vary in latitude amongst countries and the definitions of investment service are also divergent in practice despite EU harmonization. Even in countries where the prospectus obligation extends to the offerings of investment products, the same often does not apply to LB-crowdfunding either because the lending volumes fall below the exemption thresholds or special exemptions are in place. In any case, EU securities law was modelled on traditional securities markets and intermediaries and would require adapting to the specificities and needs of LB-crowdfunding. In particular, the disclosure duties should be amended to reflect the needs of protection of crowd-investors, who may require specific warnings while avoiding the risk of information over-load, but also the interest of crowd-borrowers to avoid full treatment as issuers, as the relevant duties and costs could make the whole business model impracticable.

(d) A fourth approach includes bespoke regimes. Several member States (such as France, the UK, Spain and Portugal) have adopted special regimes for LB-crowdfunding (G. Ferrarini and E. Macchiavello, 2018). They commonly foresee a new type of intermediary, subject to lighter regulation than banks and investment firms and to registration duties conditional on compliance with a few special requirements (such as a 'fit and proper' test for executives). In addition, member States limit the scope of the new regulated business with respect to either the size of the loan obtainable by each borrower or to the volume of the offer, to the sums investible by each lender in a project or per year, and to permissible activities.

The regimes at issue focus on disclosure obligations facilitating the adoption of an informed decision by the lenders. Platforms need to provide borrowers with information about applicable interest rate, costs and main contractual terms (e.g. repayment plan and duration) and warnings about the consequences of a default. The UK has extended its consumer credit regime to the platforms, so that borrowers can also benefit from advice referral and creditworthiness assessment obligations as well as a right to withdraw. Due diligence obligations in the selection of borrowers by the platforms are recognised in France and partially in the Netherlands, while in the UK platforms simply need to disclose their selection criteria to the public and warn about the need to conduct additional due diligence before investing, unless a creditworthiness assessment obligation exists on the platform or institutional crowd-lenders under the applicable consumer credit law.

Investment-based crowdfunding

The wide variations in national practices concerning IB-crowdfunding not only derive from different business models, but also from regulatory differences, particularly with regard to key concepts such as 'investment product', 'financial instrument' and 'investment service'.

(a) A first approach to IB-crowdfunding is framed in terms of securities regulation. Some countries, like the Netherlands (E. van Kranenburg, 2014), apply securities laws to crowdfunding activities and require IB-platforms dealing with financial instruments to hold a MiFID license and fully comply with the relevant regime. Other countries do not enforce MiFID and/or the prospectus requirements with respect to IB-crowdfunding, either because the products offered by platforms are not considered as financial instruments (e.g. profit-participation loans in Germany and silent partnerships in Austria) or a general exemption exist for brokers not handling client money (Germany) (Peter Mayer and Robert Michels, 2015).

Moreover, answers as to which investment service is performed in IB-crowdfunding might differ among countries, also depending on business models, with variations in terms of capital requirements, conduct rules, liability rules and available exemptions. As regulators suggested, the service of reception and transmission of orders would better suit IB-crowdfunding (ESMA, 2014), but other services could also fit depending on the business model adopted, such as execution of orders, placement without firm commitment, investment advice (France: AMF and ACP, 2013, 9) and operating a multilateral trading facility-MTF (Belgium and Luxembourg: Oliver Gajda et al., 2014).[62] In some cases, also the management of a collective investment scheme might be identified.

(b) A second approach includes ad-hoc regimes for IB-crowdfunding. However, the countries that have adopted a special regime show relevant differences as to the approach followed and the solutions adopted. To start with, the UK introduced a special regime for IB-crowdfunding in 2014, which however reflects the approach previously followed by the UK financial authority under the laws generally applicable to IB-crowdfunding (FCA, 2013). In principle, IB-crowdfunding is regarded as a regulated activity, the type of which depends on the business model adopted and may not even coincide with one of MiFID's activities, being subject to a lighter regime (e.g. financial promotion and 'arranging deals in investments' when intermediaries only bring together an issuer with potential sources of funding). Moreover, the tied agent exemption is applicable under Art. 29 MiFID to platforms acting as agents of an investment firm and therefore under the latter's responsibility.

Italy and France dedicate a non-MiFID regime to IB-crowdfunding exploiting one of the exemptions foreseen by Art. 3 of the Directive. The Italian law on equity crowdfunding implicitly considers the same as reception and transmission of orders, while French law defines crowdfunding services as investment advice. In Spain, the law on crowdfunding assumes that the same does not fall under either banking or investment services regulation, rather reserving a legal monopoly to crowdfunding platforms. Portuguese law similarly considers crowdfunding services relative to financial instruments as non-MiFID activities, however (unlike Spanish law) it allows banks and investment firms to offer crowdfunding services (G. Ferrarini and E. Macchavello, 2016).

62. The MTF qualification was rejected by ESMA for the lack of multiple buyers and sellers: ESMA, 2014.

Nonetheless, common trends are identifiable. Most national laws do not apply the Prospectus Directive and MiFID to crowdfunding, rather designing tailored obligations. Some of them also foresee new dedicated providers (as in Italy, France and Spain), while others do not (UK, Austria, Germany). The new dedicated providers are however restricted in terms of permissible products and activities, as they are not allowed to offer other investment services and to hold clients' money or securities unless they have been authorised as payment institutions. The authorisation process is rather simple, generally consisting of checks about managers and shareholders and a minimum initial capital, possibly as an alternative to professional insurance. In addition, platforms are subject to the supervision of a financial markets authority. Most regimes also allow traditional financial institutions to conduct crowdfunding operations (except for Spain), however extending to them the special crowdfunding requirements, in addition to the general ones.

Ad hoc regimes for IB-crowdfunding are mostly focused on disclosure obligations about the platform, its risks and costs, and past performance, special warnings and other business conduct rules (fair conduct and efficient orders management), but generally do not foresee prudential requirements (except for the UK). Many countries have also introduced limits to the sums investible by retail investors, while professional investors, HNWIs or legal persons and sometimes people receiving regulated advice find no limitations. Such limits are generally referred to investments per project and per year, per issuer and per platform, or only per issuer, with some limits depending on income. Limits are often set also with regard to the amount that each issuer can obtain through the platform or on a given platform or in general through crowdfunding platforms. Investor tests or appropriateness assessment are required only in some countries, while in France platforms, being investment advisors, need to perform a suitability assessment.

4. Policy approaches to crowdfunding

In a forthcoming paper, my co-author and I suggest some policy guidelines for the promotion and regulation of marketplace investing in the CMU (G. Ferrarini and E. Macchiavello, 2018). In line with the UK regulatory model, IB-crowdfunding should basically remain subject to investment services regulation, as also argued by ESMA in its 2014 opinion, while LB-crowdfunding should fall under a new harmonized regime tailored on its specificities, taking however into account the similarities with IB-crowdfunding. Indeed, several provisions should be common to both types of crowdfunding and create a consistent regulatory framework, possibly catching all types of marketplace investing (along the UK model of regulation).

IB-crowdfunding

IB-crowdfunding no doubt implies some form of intermediation between issuers and investors. However, in order to fall under MiFID, the relevant service should refer to a financial instrument. The financial instruments most frequently issued through crowdfunding are 'transferable securities' such as shares or bonds (dubbed as 'mini-bonds' when issued by SMEs). Nevertheless, in some member States IB-crowdfunding relates to forms of equity participation that are not considered as financial instruments under national interpretations of MiFID. The absence of a financial instrument in principle bars such type of crowdfunding from qualifying as an investment service under MiFID I and II. Clearly, the instruments issued are functionally similar to shares, even though they cannot be defined as transferable securities. From the perspective of investor protection, substance should prevail over form and the absence of a transferable security should not be relevant. We suggest therefore that MiFID should be amended so as to clarify that the concept of financial instruments also includes instruments other than transferable securities, when they are offered to retail investors on a marketplace investing platform. This would extend the scope of MiFID also to platforms where silent-partnership participations and accounts receivable are sold to investors.

Moreover, in order for an investment service to be performed, the digital platform should not restrain its activity to the mere listing or generic promotion of investment opportunities, but offer a facility for the execution of transactions between issuers and investors. If this happens, the type of investment service performed needs to be identified. As argued by ESMA, the reception of orders from investors and the transmission of the same to issuers is the service or activity most likely carried-out by IB-crowdfunding platforms, in the absence of regulatory constraints (ESMA., 2014). However, the subscription of financial instruments through the platform might even account as execution of orders when the platform acts on behalf of clients to simplify procedures and investor relations management. ESMA further argued that the service/activity of investment advice is generally not part of the crowdfunding model. However, depending on how platforms present their clients' projects, they might in fact make recommendations constituting investment advice.

From a policy perspective, MiFID is flexible enough to host IB-crowdfunding in any of the specifications found in practice. The definition of the relevant service as either brokerage, execution of orders, investment advice or placement will mainly depend on the type of agreement entered into by the parties, which is sometimes determined *ex ante* or at least influenced by the applicable national law. The applicable MiFID regime will depend on the type of service rendered through crowdfunding and be proportionate to the same. In principle, therefore, MiFID II does not need to be amended to reflect more clearly crowdfunding activities. However, level 2 provisions might offer useful criteria for identifying the type of investment service which is offered in practice in a more harmonised way across member States and to introduce partial facilitations based on the proportionality principle in the presence of special warnings and limits to the investible sums and to the sums obtainable by crowd-investees.

A different question is whether and to what extent issuers should be bound by disclosure duties in investment-based crowdfunding. In a previous paper, I argued that given the small size of issues crowdfunding offers are generally exempt from prospectus requirements and that this is justified on policy grounds given the transaction costs of disclosure and the type of offerees in crowdfunding transactions (G. Ferrarini and A. Ottolia, 2013). Similar arguments are fully developed by recent scholarship suggesting that while crowdfunding poses real risks for funders, neither the classical regulatory techniques of securities or consumer law provide an effective response (Armour and Enriques, 2017, who do not consider however the investment services approach to crowdfunding followed in this paper).

LB-crowdfunding

LB-crowdfunding shows clear differences to traditional banking, to the extent that the platform operator does not undertake the credit and other risks (such as interest rate and liquidity risks) of the lending activities performed on the platform, and does not collect deposits. The platform operator is a 'transparent' intermediary, rather than a 'opaque' one like a bank. Its activity is essentially that of a broker intermediating loans between individuals (or professional investors) who lend money on the platform and individuals (or firms) who borrow money from them. Also the risks run by the platform are mainly of an operating character, while the platform's clients bear the credit and other risks of the lending transactions.

Therefore, from a functional perspective, the firms active in LB-crowdfunding should be regulated similarly to investment brokers and so similarly to firms running IB-crowdfunding platforms. However, when the platform is given discretion as to the investment of clients' money in loan transactions, the relevant service is rather similar to that of a portfolio manager. In fact, the lenders do not choose their borrowers directly, but instruct the platform to choose the same and lend them money according to criteria specified *ex ante* (such as the rating of clients, the number of transactions, their maturity, etc.). To the extent that discretion is exercised by the platform, the same should be regulated similarly to portfolio managers. Moreover, when the platform collects money from clients without resorting to a third-party payment services provider, some of the requirements provided for payment institutions (such as those on client money segregation for payment accounts) should be applicable to ensure the diversity from the bank business.

Also the different nature of the products dealt with on LB-crowdfunding platforms should be taken into account, for loans generate needs for investor protection somehow different from those concerning financial instruments. To be true, transferable securities could in theory be issued also for LB-crowdfunding, which is actually the practice in the U.S., where loans granted to individuals (P2P) or firms (P2B) are first securitised and then sold to clients of crowdfunding platforms. Such a practice makes the two types of crowdfunding very similar and both subject to SEC jurisdiction. However, the analogy between IB- and LB-crowdfunding is strong even when the latter does not foresee the issuance of transferable securities, but the investors get slices of loans collectively extended by them through the platform. Building on this analogy, UK law treats the two types of crowdfunding similarly, broadly applying the same rules to them (disclosure and conduct of business rules, client money protection and minimum capital requirements) but restricting, in the case of

IB-crowdfunding, the types of investors allowed given the greater riskiness and illiquidity of the instruments offered to them and extending to crowd-borrowers, in the case of LB-crowdfunding, relevant consumer protection measures.

The regulation of LB-crowdfunding platforms could be modelled on MiFID II regulatory framework for investment firms. The licencing regime should be similar and a mutual recognition system should also be adopted, in view of the formation of a EU market in alternative finance. Furthermore, the prudential requirements should be modelled on the types of services for which a licence is sought, which generate different investor protection needs depending on whether brokerage and/or advice and/or management services are offered to crowd-funders. Capital adequacy requirements should be proportionate to the risks undertaken by the platform. To the extent that the platform operator does not undertake the risks typical of lending, the capital requirements should be mainly tailored on operating risks.

Moreover, platforms and their operators should be soundly organized and governed, so as to reduce the risks of their activities to investors. Reference to the criteria presently in force for other intermediaries and also for trading venues (such as those included in MiFID II and CRD IV) should offer a model for tailoring the governance and organization requirements of marketplace investing firms. As anticipated, clients' money protection should largely depend on whether the platform is allowed to keep the money and/or assets of clients, in which case tools like segregation of assets and the relevant regime should be resorted to. If payment services are offered, the relevant provisions of the Payment Services Directive should apply. In addition, guarantee funds could be set-up and made mandatory for platforms to the extent that they can incur in liabilities towards clients.

MiFID II approach to conduct of business rules should be followed in the sense that, once more, the applicable duties – such as those of care and loyalty, diligence in borrowers' selection and checks, and conflicts of interest management - shall depend on the type of service offered and of investor contacted (professional or retail). In addition, limits should be introduced as to the amounts of money that retail investors are allowed to lend through the platforms, along the national requirements presently in force in some member States. Mandatory disclosure should cover both the platform and its operator and the investments offered on the same. Special disclosure criteria should be provided for the loan portfolios offered to investors on platforms managing the same on investors' behalf.

5. Expanding the scope of enquiry: payment services and PSD 2

In this section, I consider the EU Payment Services Directives as an example of regulation facilitating the disruption of traditional banking by FinTechs and promoting competition between payment services providers in Europe.

PSD 1

Directive 2007/64/EC on payment services (PSD 1) was adopted to further the proper operation of the single market in payment services through legal harmonisation. Indeed, the payment services markets of the Member States were organised separately along national lines and the legal framework for payment services was fragmented into 27 national legal systems. PSD 1 was intended to establish a modern and coherent legal framework for payment services at Community level and to support the Single Euro Payments Area (SEPA), a major payments industry initiative aimed at eliminating differences between domestic and cross-border payments within the euro area (European Commission, 2012). The Directive tried, in particular, to ensure a level playing field for all payment systems, in order to maintain consumer choice, safety and efficiency. It also aimed to ensure the coordination of national provisions on prudential requirements, the access of new payment service providers to the market, information requirements, and the respective rights and obligations of payment services users and providers (A. Janczuk, 2016).

PSD 1 has established a single licence for all providers of payment services which are not connected to taking deposits or issuing electronic money. It introduced, therefore, the new category of 'payment institutions', by providing for their authorisation subject to a set of strict and comprehensive conditions. The latter include prudential requirements proportionate to the operational and financial risks faced by such bodies in the course of their business. These requirements reflect the fact that payment institutions engage in more specialised and limited activities than banks, thus generating risks that are narrower and easier to monitor and control.

PSD 2

Directive (EU) 2015/2366 on payment services (PSD 2) was adopted following a review of PSD 1 showing that significant areas of the payments market, in particular card, internet and mobile payments, remain fragmented along national borders. Many innovative payment products or services did not fall within the scope of PSD 1. In general, 'it has proven difficult for payment service providers to launch innovative, safe and easy-to-use digital payment services and to provide consumers and retailers with effective, convenient and secure payment methods in the Union' (4th considerandum of PSD 2). As argued in a Green Paper preceding the adoption of PSD 2, SEPA should be a springboard to creating a competitive and innovative European payments markets with particular regard to on-line or internet payments (e-payments) and mobile payments (m-payments) (European Commission, 2012, 2).

No doubt, after the adoption of PSD 1 new types of payment services have emerged, especially in the area of internet payments (G. Gimigliano, 2016). Moreover, technological developments have given rise to the emergence of a range of complementary services, such as account information services, which provide the user with aggregated online information on one or more payment accounts held with one or more payment service providers and accessed via online interfaces of the account servicing provider (28th considerandum). Another new type of service are payment initiation services where the provider offers comfort to a payee that the payment has been initiated in order to provide an incentive to the payee to release the goods or deliver the service without undue delay (29th considerandum). As a result, the list of payment services in Annex 1 to PSD 2 includes both payment initiation services (No. 7) and account information services (No. 8). The former is defined as 'a service to initiate a payment order at the request of the payment service user with respect to a payment account held at another payment service provider'. The latter means 'an online service to provide consolidated information on one or more payment accounts held by the payment service user with another payment service provider or with more than one payment service provider' (Article 4, 15 and 16, PSD 2).

One of PSD 2's core provisions concerns the access of payment institutions to accounts maintained with a credit institution: "Member States shall ensure that payment institutions have access to credit institutions' payment accounts services on an objective, non-discriminatory and proportionate basis. Such access shall be sufficiently extensive as to allow payment institutions to provide payment services in an unhindered and efficient manner" (Article 36). As a result, customers will be allowed to initiate payments at their bank via authorized Third Party Providers (TTPs), such as payment initiation services providers (PISP) and account information service providers (AISP) to whom the bank will be obliged to open its account interfaces (Deutsche Bank and PPI, 2016) through 'application programming interfaces' (APIs) (PwC, 2016).

Other provisions relate to PISPs and AISPs. First, member States must ensure that a payer has the right to make use of a PISP to obtain payment services (Article 66 (1) PSD 2). Moreover, when the payer gives its explicit consent for a payment to be executed, the account servicing payment service provider (AS PSP) shall perform all actions in order to ensure the payer's right to use the payment initiation service (Article 66 (2) PSD 2). Second, member States shall ensure that a payment service user has the right to make use of services enabling access to account information (Article 67 (1)). The AISP shall provide services only where based on the payment service user's explicit consent and access only the information from designated payment accounts and associated payment transactions, without requesting sensitive payment data linked to the payment accounts (Article 67 (2)). Moreover, the AS PSP shall communicate securely with the AISP and treat data requests without discrimination (Article 67 (3)).

6. Conclusions

In this paper, I have tried to show two main policy approaches to FinTech regulation in Europe. The first is exemplified by crowdfunding regulation. Investment-based crowdfunding in principle falls under MiFID I and II, although national regulations are still fragmented in practice and a number of member States have adopted ad hoc regimes substantially deviating from the MiFID's provisions. Loan-based crowdfunding is mainly regulated at national level with supervisors making reference to either banking or payment regulation or to ad hoc provisions which are in some countries common to investment-based crowdfunding. Given the variety of national approaches, I have suggested that EU reform should harmonize the regulation of both types of crowdfunding under a functional approach, which should be essentially grounded on securities regulation principles.

The second approach is exemplified by payment regulation. Both PSD 1 and PSD 2 are aimed not only to protect the clients of banks and payment institutions, but also to promote competition between the payment services providers and to integrate the EU payment markets. PSD 2 in particular is intended to cover new types of payment services (such as payment initiation services and account information services) and the relevant institutions, and to open access to the payment accounts held by the clients of the latter institutions either at banks or other payment institutions, once more promoting competition in this area and the development of new services in the area of e-payments and m-payments.

The two approaches analysed in this paper show that FinTech does not always deserve radical reforms. In some cases, existing financial regulation can be adapted to FinTech innovation without extensive amendments, as in the crowdfunding area. In other cases, deep changes are needed, such as the ones briefly analysed in EU payment regulation, which has undergone profound restructuring in a relatively short time span given the rapid technological developments occurred in the last ten years. In all cases, regulators must solve a difficult trade-off between the lowering of transaction costs which is enabled by the new technologies and would suggest deregulation in the relevant areas, and the protection of either investors or users of the new services which is granted by regulation.

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