A Bird Eye (Re)view of Key Readings

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This section of the journal indicates a few and briefly commented references that a non-expert reader may want to cover to obtain a first informed and broad view of the theme discussed in the current issue. These references are meant to provide an extensive, though not exhaustive, insight into the main issues of the debate. More detailed and specific references are available in each article published in the current issue.

On the determinants of FinTechs and competitive environment

The term **FinTech** (also Fintech or Fin-tech) is a neologism originated form the words 'Financial' and 'Technology' and describes Internet-based technologies -e.g. cloud computing or mobile Internet- with established business activities of the banking industry -e.g. money lending or transaction banking- (Gomber et al., 2017).[19] Such innovations may disrupt existing structures and blur industry boundaries, facilitate strategic disintermediation, and revolutionize how non-financial firms demand financial services and how financial firms supply credit and products (Philippon, 2016).[20] The sector has

19. The digital transformation of the financial sector and the society forces authorities to provide a regulatory framework that includes and promotes new digital value positions, thus benefiting customers and creating efficiency gains in the market. The different transformations of the financial sector can be categorized into those affecting the *infrastructure*, the *banking products*, and the *distribution* or customer relationships (González-Páramo, 2017).

20. The increased international focus on financial inclusion is also contributing to the fast pace of regulatory development for digital financial services (DFS hereafter), since these products may foster

recently attracted the attention of regulators, industry participants, customers, and scholars alike (Arner et al., 2016). Besides, increased regulatory burdens might favour the emergence of **shadow banking** (Buchack et al., 2017). In fact, these banks provide credit to underserved and higher-risk borrowers who, otherwise, would be excluded from the traditional banking sector, although these loans are usually poorly performed. According to Buchack et al., FinTech companies provided around the third part of bank loan origination for shadow banks in 2015. In addition, FinTech lenders are able to make use of **big-data** to better screen borrowers and set interest rates that better predict *ex-post* loan performances (Rajan, 2015). Contrarily, other studies demonstrate that FinTech lenders might offer more expensive credit than non-FinTech lenders (FSB, 2017). However, consumers' willingness to borrow costly FinTech lending, it might also reflect that they are offering other convenient services (Philippon, 2015).

An issue in the regulatory debate is whether and how FinTech will affect **financial stability** (Demertzis et al., 2017, Vives, 2017). For instance, FinTech payment services providers have not currently chosen to undertake traditional banking activities, and at the same time, they have not yet reached the scale to become systemic. Still, regulators should monitor changes in the structure and risk of the financial service industry (Carney, 2017). Regulators and scholars are concerned about the emergence of relatively less sound institutions, and some of them escaping prudential supervision, thus reducing financial stability (Boot, 2016; DNB, 2017).

The concept of **crowdfunding** comes from the concept of crowdsourcing, which involves the 'crowd' to obtain funds, ideas, feedback, and solutions to carry out an entrepreneurial activity (Belleflamme et al., 2014). Kleemann et al (2008) defines **crowdsourcing** when a profit-oriented firm outsources essential tasks for the making or sale their products to the public –the crowd- in form of an open call on the Internet aimed at attracting the attention of their customers to contribute to the firm's production process. From the financial point of view, crowdfunding may be related to bootstrapping finance.

economic growth. Policymakers should look beyond their traditional policy targets of promoting safe and efficient financial systems. Financial inclusion will be strengthened when regulators focus on the design of consumer demand. The financial inclusion-DFS tandem represents a new regulatory frontier for financial regulators to ensure access to financially excluded -or unbanked- and protection to financially included -or banked- (Buckley and Malady, 2015).

This form of financing consists of using external sources of funds such as bank loans, business angels or venture capital, amongst others (see Bhide, 1992; Bofondi, 2017; Cosh et al., 2009; Ebbe and Johnson, 2006). An emerging literature on **reward-based crowdfunding** identifies the factors driving a campaign's success such as project-level quality signals (Mollick, 2014), narrative (Marom and Sade, 2013), the use of social media (Thies et al., 2014; Hong et al., 2015), stretch goals (Li and Jarvenpaa, 2015), project creator social capital (Colombo et al., 2015) and reputation (Li and Martin, 2016). Kuppuswamy and Bayus (2017) extend the literature proposing that investors support crowdfunding projects when they believe that their contribution will be socially relevant.

Recent research is pointing towards **equity crowdfunding** as an alternative form of entrepreneurial finance (Hornuf and Schwienbacher, 2017a). Equity crowdfunding (also referred to as investment-based crowdfunding, securities-based crowdfunding, and crowdinvesting) is a subcategory of crowdfunding in which companies issue financial securities to satisfy their capital needs. Empirical research on equity crowdfunding is still embryonic, since this segment is recently approachable to the 'crowd' in some jurisdictions like the United States or lacked specific regulation (Hornuf and Schwienbacher, 2017b). Fundraisers in some jurisdictions offer equity shares in a private limited liability company, for instance in platforms like Crowdcube or Seedrs in the UK, or Bergfürst in Germany (Vismara, 2016). Before the campaign goes online, the start-up and the platform agree on a valuation of the company, and the founders must decide the amount of capital they want to raise. Depending on the valuation and the capital needs, the platform provides a standard contract, so that the 'crowd' could participate in the future cash flows of the company. The 'crowd' generally hold mezzanine financial instruments which ranks between ordinary shares and ordinary liabilities. Some authors have described the size, growth and geographic distribution of markets (Vulkan et al., 2016; Günther et al., 2017). Interestingly, financial literature is growing towards the **dynamic effects** of equity crowdfunding. Information flows amongst individual investors are a determinant factor in equity investment process. Vismara (2017) finds that the evolution of investment in the early stages determinate the probability of success of an equity crowdfunding campaign. The existence of dynamics within campaigns

has been overlooked in previous literature.[21] Furthermore, Block et al. (2017) demonstrate that start-ups can generate credible information when updating new developments of the projects, e.g. funding events.

Despite the growing importance of crowdfunding markets and their perception as markets of the future, understanding of their functioning is still limited. The central issue of **peer-to-peer (P2P** hereafter**) financing** is the absence of formal intermediaries. The seminar literature establishes how **incentives** address investors' behaviour to draw implications for financial markets. Theoretical research builds on the concept of **information asymmetry** that may result in agency problems (Holmstrom and Tirole, 1997).

An important challenge for P2P finance is understanding how players screen borrowers when allocating credit. Whether a person defaults on loan is driven by incentives which reflects complexities and idiosyncrasies of human behaviour (Cumming et al., 2015; Dhar and Stein, 2016; Iyer et al., 2015).[22] This screening process has traditionally been conducted by the banking industry that creates **'hard information'** such as credit scores, completed by using sophisticated models based on payment history along with verifiable information. Technological advances have allowed P2P platform users to assess creditworthiness of their peers (Li and Martin, 2016).[23] These platforms provide nonstandard – or **'soft information'** – about borrowers. The cornerstone of P2P platforms is that lending decisions are based on collective choices of several individual investors drawing conclusions on their own experience. The downside is that they usually have limited experience in assessing borrowers' creditworthiness due to soft-information is self-reported, thus outperforming the credit scores in terms of predicting default (Iyer et al., 2015).[24] Liberti and Petersen (2017) reconsider the concept of hard- and soft-information in banking

21. The firsts days of a campaign are found to be very different from the rest. Agrawal et al. (2015) demonstrate that friends and family, whom may invest for different reasons, support part of the investment in the first days of the campaign. Besides, Hornuf and Schwienbacher (2017a) also find that peer investment effects are stronger after the first seven days.

22. See Cumming et al. (2015) for a broad literature review.

23. Lin et al. (2013) demonstrate that entrepreneurial social capital plays an essential role in setting P2P lending market and venture capital. In this line, Burtch et al. (2013) and Lin and Viswanathan (2016) suggest that cultural differences and geographic distance are two determinants in on-line P2P lending. Accordingly, Agrawal et al. (2011) find that on-line platforms seems to eliminate distance-related economic frictions, but not social frictions such as family or friends.

24. This literature builds on theoretical papers that focus on information aggregation through prices (Grossman, 1976; Townsend, 1978; Vives 1993, 1995), and learning on decentralized markets (Duffie and Manso, 2007; Duffie et al. 2009; Wolinsky, 1990).

markets. They consider that hard-information is quantitative and its content is independent of the collection process. Technology has changed the collection process and the way in which information is communicated. This has changed the functioning of financial markets and institutions in favour of soft-information which is mostly qualitative, personally transmitted, and accumulated over time. This change in lending technologies altered the design of financial institutions moving decisions outside the traditional boundaries of the organization. Furthermore, Hildebrand et al. (2017) demonstrate that, in presence of rewards, group leader's bids enhance the **credibility of the projects** and the perception of high quality, afterwards *ex-post* default rates suggest the presence of perverse incentives that make leader behave strategically. Accordingly, Agrawal et al. (2017) demonstrate that syndicates align incentives of equity issuers and follow-on investors, enhancing investors' reputation and performance, which can be used to attract new capital from a global community of investors.

The rising of the 'new economy' based on shared economy and huge amounts of information processing, also called 'big data', opens the debate amongst scholars on the implications for **competition** (Carbó-Valverde, 2017). According to Rifkin (2014), the classical industrial organization theory establishes that lower prices resulting from improvements in technology and productivity will increase competition amongst sellers. Nevertheless, in the long run new players continue to introduce new technology which increases productivity and reduce prices for the similar goods or services. Finally, the monopoly is broken, resulting in intense competition which forces the introduction of ever-leaner technology, and leading each additional unit produced to 'near-zero marginal' costs.[25]

On future challenges for FinTechs

The main challenge seems to be to create a unique environment for banks and non-bank providers under an adequate **regulation** and **supervision**. The introduction of digital technology allows for direct matching between

25. See Carbó-Valverde (2017) for further discussion.

borrowers and investors. However, as discussed above, financing is more than this. Given the complexity of financial services, the control of risk after lending or investment have taken place, the trading of claims if investors need to access liquidity, the management of non-performing loans, and systemic importance of start-ups are aspect to be considered for scholars and regulatory authorities (Dermine, 2016).

Digitalization and FinTech represents an opportunity to reduce marginal costs and gain productivity. They may imply a large **accumulation of intangible assets** which would be difficult to value in capital markets, thus blurring industry boundaries, and creating significant privacy, regulatory and law enforcements (Carbó-Valverde, 2017). Furthermore, the Internet generates a single marketplace -where individuals can engage numerous economic activities- which might raise serious questions of federalism and international coordination (Brummer and Gorfine, 2014).

The lighter regulation of FinTech will have important implications for competition between banks and new entrants such as payment systems and crowdfunding platforms. FinTech are encroaching on the traditional business of banks, despite banks are adapting to the new environment. However, new competitors are able to use 'hard-information' to erode the traditional bank-customer relationship based on 'soft-information'. FinTech competitors stay clear from asking a banking licence and try to skim profitable business from banks. Furthermore, whilst banks have been traditionally focused on business, FinTech are more focused on customers (Vives, 2016).[26] An important question is to what extent existing banks can be at the forefront of new developments, for instance absorbing FinTech players and their innovations (Boot, 2016).

In the EU context, the fundamental question is whether FinTech can disrupt Europe's financial system in a way that promotes the **Capital Market Union**, helps integrate financial system borders and increases financial stability and efficiency. Moreover, a further question is whether the disruption will follow at the European Union level or at the national level (Demertzis et al., 2017; Ferrarini and Macchiavello, 2017).

26. The core business of banks is maturity transformation by collecting short-term deposits and lending long-term. Capital markets, in turn, consists of stocks and bond markets, derivatives, and settlements and payment services. New FinTech business models have the potential disrupt banks offering similar services and act as marketplace organizers. The FinTech transformation could fundamentally change the whole financial intermediation chain (Demertzis et al., 2017).

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