Policy and Internet

The Need for an Innovation Principle in Regulatory Impact Assessment: The Case of Finance and Innovation in Europe

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Many of Europe's economies are hampered by a waning number of innovations, which in part is attributable to the European financial system's aversion to funding innovative enterprises and initiatives. Specifically, Europe's innovation finance ecosystem lacks scale, plurality, and risk appetite. These problems could be addressed by new and creative approaches and technologies for financing dynamism in the economy, such as crowdfunding and general financial technology or "FinTech" innovation. However, these novel approaches may be held back by regulation that focuses on stability, avoiding forum shopping, and preventing fraud, to the exclusion of other interests, particularly ignoring innovation and renewal. This article argues that this could be addressed by adopting an "innovation principle" in regulatory impact assessment: prioritizing regulatory approaches that serve to promote innovation while also addressing other regulatory aims. Two case studies are presented to illustrate this approach.

KEY WORDS: finance, innovation, crowdfunding, risk, regulation

Introduction

It cannot be said that innovation just falls from the sky. It is not distributed proportionately or randomly around the world or within countries, or found disproportionately where there is the least regulation or in exact linear correlation with the percentage of gross domestic product spent on research and development. Innovation occurs in contexts and frameworks, in cities and countries, and perhaps most importantly of all, in the greatest proportion in ecosystems of innovation or clusters like Silicon Valley and Cambridge/Boston in the United States, and Berlin, Tallinn, and Cambridge in the European Union (EU). It is occurring more and more in emerging economies like South Korea, Singapore, China, and Brazil; and this is by plan, not accident (Atkinson & Ezell, 2012). Innovation is a "team sport." Leadership and its impact on innovation, whether in an organization or in a geographical location, is important because of the collective nature of the process, and is just starting to be analyzed as a component of innovation (Hill, Brandeau, Truelove, & Lineback, 2014).

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This article will consider how environments conducive to innovation could be created and fostered by a holistic policy incorporating the introduction of an "innovation principle" during the process of regulatory impact assessment of legislation that could influence the potential for innovation in the economy or in nonmarket sectors. In particular, its application in regulatory impact assessment in relation to financing innovation and to innovation in finance will be addressed.

Why is the role of finance important in promoting innovation, and more broadly a dynamic economy? The role of finance in enabling the development and implementation of new ideas is vital; as the physicist Phil Anderson (Gertner, 2012, p. 154) has said, "Never underestimate the importance of money." Schumpeter (1942) wrote, "[the] process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in and what every capitalist concern has got to live in." An economy's dynamism depends on innovative competitors challenging, and if successful, taking the place of complacent players in the markets. These newcomers need capital to grow at multiple stages. Mazzucato (2013a, p. 863) stated that "regulation of financial markets must go hand in hand with policies that are aimed at innovation and industrial policy." In the postfinancial crisis environment, a great deal of attention is being given to ensuring that financial regulatory frameworks ensure financial stability, as well as the prevention of regulatory arbitrage and consumer fraud. While these are important, even essential, aims, they can be achieved in ways that impinge on innovation, or in a neutral manner, or in ways that promote innovation. It is vital for the health of our economy and for our social cohesion that we choose the approaches that best serve to promote innovation.

Background: Innovation, Financing, and the Role of Policy

What Do We Mean by Innovation?

A definition of innovation and the type(s) of innovation under discussion is an important starting point. First of all, the innovation addressed in this article is not confined to science or the production of new commercially marketed products (Fagerberg, Mowery, & Verspagen, 2009). Research can be considered an input to innovation, along with human capital, but it is not sufficient in and of itself to ensure innovation and a dynamic economy.

The OECD (2010) defines innovation as "the implementation of a new or significantly improved product (good or service), process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations." Eugene Gordon, a Bell Labs development scientist, observed that "if you have not manufactured the new thing in substantial quantities, you have not innovated; […] if you haven't found a market, you have not innovated" (Gertner, 2012, p. 109). Adding this supplementary observation to the definition for the purposes of this article is to be wholeheartedly welcomed. An innovation must function in the real world in order for it to be characterized as such.

Impediments to Financing Innovation in Europe

To set the scene, there is widespread concern that proportionately less is being invested in research and innovation in North America and Europe than in the past, that dynamism is lagging in these economies, and that the number of breakthrough innovations developed has also fallen in recent years. As the investor Peter Thiel has observed in relation to the incremental nature and lower ambition of recent innovations compared to the great technological progress that took place in the twentieth century up to the late 1960s, "We wanted flying cars, instead we got 140 characters."[1] Most of the low hanging fruit of innovation in areas like information and communication technology (ICT) and transport has been plucked, while the sectors most ready now for innovation are more challenging and state-entwined ones like the civil services, education, healthcare, cybersecurity, and energy/climate change.

Several of these areas enjoy synergies with defense spending in open democracies, and the experience of the Defense Advanced Research Projects Agency in the United States shows how a defense budget can be invested in ways that have very positive outcomes for the innovative capacity of the economy at large. Wise public and private investments in cybersecurity could meet current needs and lead to such a longer-term success story in the EU. However, it is clear that European innovation can't just be funded by government defense spending.

We face a situation where funding is urgently needed for the real economy, to produce jobs and growth, particularly in the form of long-term "patient" capital. The European Commission's (2014b, p. 2) "Communication on Long-Term Financing of the European Economy" emphasizes that long-term financing "is *patient*, in that investors take into account the long-term performance and risks of their investments, rather than short-term price fluctuations. This long-term perspective acts in a counter-cyclical manner and promotes financial stability."

Phelps (2013) wrote that "A country's dynamism also depends on the pluralism of views among financiers," and it is clear that the EU could benefit from a more diverse and pluralistic finance sector landscape oriented toward the real economy and innovation. Economists such as Phelps and Mazzucato have decried the observable, increasingly short-term perspective dominating in business and finance, with the outcome that the availability of private long-term "patient capital" has decreased, producing significant drawbacks for innovative enterprises (Mazzucato, 2013b, 2013c) with investors' median holding period for shares having now fallen to 10 months (Christensen & van Bever, 2014). Christensen and van Bever further wrote in "The Capitalist's Dilemma" (2014, p. 62) that "despite historically low interest rates, corporations are sitting on massive amounts of cash and failing to invest in innovations that might foster growth."

This shortage of funding is particularly acute in the EU, where the financial ecosystem is bank-dominated. It is characterized by lending a majority of its funds to households, as well as by a depleted industry and sector-specific skills base in lending and risk management. To cite a national example, 90–95 percent of financing in Estonia comes from banks, with relatively little coming from capital markets; however, pension funds are rapidly growing and there is much money available. Only 6 percent of their money is currently being invested in Estonia so there is great potential to support local innovative enterprises with this money.[2] Especially now, as a reaction to the markets having priced risk too low before the financial crisis, risk is being priced too high in Europe. This is starving innovation efforts of private financing at a time when many public funding sources are suffering from the cuts implemented in state budget austerity programs. Many small and medium sized enterprises (SMEs) and startups in the EU are faced with the so-called "financing gap," resulting in a deterioration in public financial support, access to loans, trade credits, and equity investments (European Commission and European Central Bank, 2013).

We find as well examples of a gradual withdrawal from financing of risky innovation. The former Industrial and Commercial Finance Corporation was founded in 1945 by the Bank of England to fund small and medium-sized companies. In the 1980s, renamed 3i, it maintained a regional office in Cambridge Science Park and as a part of the Cambridge innovation ecosystem funded enterprises that were spun out from the University of Cambridge. However, by the 2000s it had retreated from early stage financing (Kirk & Cotton, 2012).

The formulation and implementation of financial sector policies aiming to open up the innovation landscape must be high on the agenda of European policymakers. Mazzucato (2013a, p. 856) has written, "From a policy-making point of view, it is crucial to consider how the 'eco-system' of financial institutions can 'broaden out' the innovation landscape rather than close it down, as is currently the case in many sectors." Of course, the policies addressing financial institutions and the promotion of innovation cannot be considered in isolation; they are intertwined.

The Need for New Policies in Europe

While welcoming any coming deepening of banks' industry and sector-specific skills, and adaptation of their credit evaluation mechanisms to better analyze the innovation potential of enterprises, this will not be sufficient to close the "financing gap" faced by innovative enterprises. Mazzucato (2013a, p. 852, 2013b, 2013c) wrote "As traditional profit maximizing banks fear the kind of fundamental uncertainty underlying innovation, innovation has often had to be funded by alternative sources, such as venture capital, business angels or public funding bodies, including state investment banks."

An alternative source of capital often purported to be the most natural fit for innovation is venture capital. Venture capitalists (VCs) invest in enterprises in return for an equity stake. For example in the Barclays Techstars FinTech Accelerator Programme in London, VC Techstars takes a 6 percent equity stake in the 10 FinTech startups selected for its 3-month long accelerator program.

VC funding is often characterized as "very long-term" investment, of 3–7 years. However, this is not sufficient or patient enough to go through all the stages of developing a completely new technological breakthrough. In the example of a discussion that I had about mHealth, Lifestyle, and Well Being Apps with a VC in Boston, his decision on whether to *consider* investing would be negative if the app were to be classified as a medical device (signifying necessary Food and Drug Administration approval) while a nonmedical device app could be further considered for funding. That said, VCs are the largest investors in medical technologies in the United States. "In 2010, for instance, US venture capitalists invested $2.3 billion in 324 medical device startups" (Zenios & Denend, 2011).

VCs will typically analyze the personnel of the startup, the scientific merits of its technology, and the potential market size. The greater the risk that they perceive in the investment, the greater the size of the market they wish to see to compensate for it. In regard to remote health monitoring technologies, problematic issues for VC and corporate investors are that "The size of the target market may not align with the capital necessary to overcome the risks, risks may extend the time to exit and exit options are limited" (Zenios & Denend, 2011). Social benefits that are to be provided by such technologies are also significantly undervalued by these investors.

While the Barclays Techstars FinTech Accelerator Programme, with the participation of a big bank—Barclays (who is not taking equity stakes in the startups)—has drawn plaudits, other FinTech startups in London have expressed great reluctance about going to VCs for funding. They and Angel investors are seen by many as being very greedy, demanding a significant equity stake from naïve entrepreneurs for relatively small investments. Furthermore, while some VCs and Angels can greatly help with advice and networking, the quality of the advice given is seen as varying greatly between different VCs and Angels. There is wariness in this entrepreneurial community of risking destruction of one's enterprise by going to the VCs for financing. So a conclusion can be that while there certainly has been a positive experience with the financing and advice from VCs for many startups, in Silicon Valley and for Techstars alumni from New York for instance, VC is not a sole panacea for the financing gap experienced by innovative enterprises in the EU, and not all VCs are created equal.

There is a need to stimulate other complementary sources of finance to fund the entrepreneurial and innovative economy. Without that petrol of money, the engine of the new technology economy will simply stall and come to a halt.

The Innovation Principle in Regulatory Impact Assessment

New Approaches and Technologies for Funding Innovation

Where will these new complementary sources of finance come from and how will these funds be disbursed in the real economy? The Internet has made it possible to fund innovation in new ways like crowdfunding, which is itself an innovation in finance. New approaches made possible by the Internet such as other FinTech (technology-enabled financial innovation) initiatives could provide depth and a plurality of perspectives fostering innovation in financial services and in the economy as a whole. Other alternative players like the shadow banking sector that are less directly based on the Internet can provide additional diversity.

In the spirit of renewing the economy on the basis of creative destruction, there is no reason to think that financial institutions should be immune to disruptive innovation produced by new entrants and made possible by the Internet that offers completely novel ways of saving, insuring, loaning, transferring, and investing money. Equally, the form of money itself has not been, and need not be, protected from change, again made possible by the Internet. Virtual currencies will not be addressed in any detail in this article but they form an intriguing part of the FinTech sector with great potential for, among other things, disintermediating online payments currently undertaken with credit and debit card services.

The aforementioned additional and different sources of funding could serve to diversify and dynamize the EU's financial sector and consequently invigorate its economy, particularly in terms of innovative enterprises. New possibilities have arrived and the time has come to integrate them into the overall financial frameworks in a manner that does not neuter their creativity or lower their potential to revitalize the economy. There are potential synergies of these new approaches with macro-prudential policies focused on ensuring the stability of financial systems including their cross-border aspects, not just individual institutions. Such new funding models could harness the instantaneous cross-border capabilities provided by Internet-based platforms and help to remedy the retreat of bank capital behind national borders since the financial crisis.

That promise is still waiting to be fulfilled. The results from the European Commission's public consultation on Crowdfunding, which ran from October 3 to December 31, 2013, show however that currently only 38 percent of crowdfunding lending and investment platforms are functioning across borders (European Commission, 2014c, p. 8). It is clear that these platforms have huge potential for cross-border lending and investment. This is where the innovation principle, especially at the European level, comes in.

Another sector at the crossroads of potential finance for innovation and creative approaches to finance itself is that of shadow banking. Regulating shadow banking is currently high on the policy agenda in the EU and worldwide after the financial crisis as part of reforming and stabilizing financial services. The Financial Stability Board (2011, p. 1) has defined shadow banking as the system of "credit intermediation involving entities and activities outside the regular banking system." They estimated the system to have grown to a size of $60 trillion in 2010.

The European Commission's (2013) "Communication on Shadow Banking—Addressing New Sources of Risk in the Financial Sector," sets out the goal of limiting the systemic risk arising in shadow banking. Diminishing risk and possibilities for regulatory arbitrage between the regulated banking sector and the unregulated shadow-banking sector are underlined in the Communication. Direct granting of loans is highlighted as being particularly worthy of concern in the Communication, but one could also consider that this could also be seen as an especially welcome aspect of shadow banking if it would result in opening up new, less risk-averse sources of funding in Europe.

In evaluating any framework intended to prevent systemic risks and regulatory arbitrage, attention should be given that it not inadvertently cut off financing for innovative enterprises, especially new high tech startups, nor should it magnify the retreat of capital behind national borders. The Communication states that, "The shadow banking sector should not be seen solely in terms of the risks that it poses; it is also essential to acknowledge the important role that it plays within the financial sector. It constitutes an alternative financing channel that is essential to the real economy, particularly at a time when traditional actors in the banking system are reducing financial support" (European Commission, 2013). Elsewhere in the world, China in its draft regulations on shadow banking considers that it is a constituent of development and innovation, and emphasises that it can help finance the real economy while also monitoring the attendant risks (Rabinovitch, 2014). It would not be wise for the EU to choke off funding for the real economy while China and other competitors provide more of it. However, it is interesting to note the recent moves of the regulatory authorities in China in relation to crypto-currencies where a great drop in trade in Bitcoin was precipitated by their actions, indicating their ability to break a market, at least in the short-term, where they perceive unacceptable risk.

It is clear that economic policymakers concerned with the renewal and competitiveness of their economies need to address risks arising from the flows of finance but also need to ensure that sustainable growth sectors of the economy are able to access funding. It is time for a new perspective grounded in an "innovation-friendly" philosophy and regulatory approach to emerge.

Unlocking New Approaches and Technologies Via the Innovation Principle

Innovation should be encouraged by policy and legislative frameworks as long as other legitimate interests are not unduly adversely affected. Therefore, the proposal of an "innovation principle" in a letter sent by 12 of the largest investors in innovation in the EU to the Presidents of the European Commission, European Parliament, and European Council, under the auspices of the European Risk Forum (2013a), is relevant to this discussion. In their letter they propose revising the European Commission's Impact Assessment Guidelines (2009) "to require formal evaluation of the impact on innovation and new technology development of new or amended legislation or administrative decisions" (European Risk Forum, 2013a, 2013b). Impact assessment is a procedure conducted by the European Commission, as a manifestation of the "better regulation" concept, to evaluate the positive and negative aspects of policy and legislative proposals that it initiates. Elsewhere, Atkinson and Ezell (2012) have a similar idea, proposing the establishment of an Office of Innovation Review within the Office of Information and Regulatory Affairs in the United States to evaluate how regulatory actions will impact on innovation and how they could enable it.

As Bergkamp and Kogan (2013) have noted, in its "physical world" manifestation, the innovation principle is seen as a counterbalance to what some industries see as the overweening influence of the Precautionary Principle on decisions related to physical risks from products to human health or the environment. The premise of this article is that in the digital world and financial markets, the same type of principle could serve to balance actions aiming to achieve other legitimate interests, which if viewed uncritically could hinder innovation or in any case not encourage it. The introduction of such a principle into impact assessment procedures could be considered in the implementation of an EU innovation policy as well as be assessed at national and regional levels.

The European Risk Forum (2013a) observed in its letter that in relation to the promotion of innovation, the EU has concentrated more on funding than on the effect of the regulatory environment on innovation. While it is true that much attention has been devoted to the Framework research programs, it should be acknowledged that efforts have also been made to introduce impact assessment and better regulation procedures to improve the business and entrepreneurial climate in the EU, including that of the innovation-driven economy. However, that does not mean that further improvements cannot, and should not, be made. An example of thinking broadly about innovation law and policy, in a U.S. context, is Atkinson and Ezell's (2012) recommendation that an Office of Globalization Strategy be set up with the task of systems thinking about the design of U.S. trade policy, particularly in relation to tackling innovation mercantilism.

A more holistic innovation policy, aggregating regulation, business policy, and promotion of innovation should be forged by the European Commission through being proactive, using legislation and standards to enable innovation, utilizing innovation-friendly policy stances and explicitly considering the impact on innovation as part of the regulatory/policy impact assessment procedure. Possibilities for public/private collaboration, if in line with the Guidelines on State Aid to Promote Risk Finance Investments (European Commission, 2014a), should be part of this endeavor to promote innovation. This article will consider two cases where just such an approach could prove to be beneficial.

Case 1: Regulating Crowdfunding in the United Kingdom and Europe

Crowdfunding is a mechanism whereby a large number of investors or lenders provide funding for a business or campaign, usually via an online platform. Crowdfunding utilizes the Internet and exists in multiple forms, from donations to loans to equity investments. The amounts invested by individual investors may be very small and the technology makes multiple minimal investments possible. However, there is no upper limit to how much can be invested. Investors will usually receive shares in the business or initiative that they invest in, though sometimes they may receive merchandise. Crowdfunding investments may provide higher returns than other alternatives and could also be part of a diversified portfolio of investments. Businesses, especially innovative startups or SMEs, may see crowdfunding and peer to peer lending (P2P) as a way to access funding that banks and VCs may not offer them, or to access funding on better terms than those offered by the VCs, for instance. It followed up with a "Communication on Unleashing the potential of Crowdfunding in the European Union" on March 27, 2014 (European Commission, 2014c). The Communication emphasizes that, "There is great potential in crowdfunding to complement traditional sources of finance and contribute to the financing of the real economy" (European Commission, 2014c).

The U.K.'s Financial Conduct Authority (FCA; 2014a, p. 6) attributes growth in the crowdfunding sectors to two key factors: "technological innovation and the financial crisis, which has led to constraints on lending by traditional credit providers to the real economy." These constraints on financing the real economy have been highlighted earlier in this article, and they are even more acute in some other EU countries. When such online platforms operate facilitating loans peer-to-peer or peer-to-business, the FCA (2014a, 2014b) calls them "loan-based crowdfunding platforms." In the U.K. Budget presented on March 19, 2014, the Government extended Individual Savings Account eligibility to peer-to-peer loans, representing a new opportunity for loan-based crowdfunding platforms and for pensions savers looking for alternatives. There are also investment-based crowdfunding platforms on which investments such as nonlisted/traded debt or equity securities or units in an unregulated collective investment scheme can be purchased. These platforms are regulated by the FCA in the United Kingdom and need to receive authorization. The newly published FCA rules are addressed later in this article.

Overall, the European Commission (2014c) cited a predicted figure of 1 billion Euros as the amount raised by all forms of crowdfunding in 2013. These amounts pale in comparison to retail bank lending but are significant in the light of business angel and venture capital financing in the EU, comparable to what business Angels invested and more than 10 percent of the financing coming from venture capital, according to figures cited in the aforementioned Commission Communication (European Commission, 2014c). Loan-based crowdfunding platforms have showed impressive growth in the United Kingdom, raising "£480 million in 2013, of which: £287 million was loaned to individuals, an increase of 126 percent compared to 2012, £193 million to businesses, an increase of 211 percent compared to 2012, and Investment-based crowdfunding platforms raised £28 million in 2013, an increase of 618 percent compared to 2012" (Nesta, University of California, Berkeley, & Cambridge University, 2013).

One of the reasons for regulatory concern is that there are considerable risks for investors in crowdfunding or P2P: fraud, loss of their entire investment due to the high rate of failure of startups, dilution of the investment, complications due to divergences in antimoney laundering legislation, challenges in protecting intellectual property, platform failure, lack of equal access to information, and the absence of a secondary market. Some EU member states such as Germany, the

Netherlands, and Belgium, have published guidelines on crowdfunding while Italy has enacted regulations on equity crowdfunding. France is introducing regulations, which are placing emphasis on the role of an advisor. Italy, interestingly, is aimed specifically at funding defined innovative startups.

Early movement on regulation has also taken place in the United Kingdom, where the FCA published a policy statement on March 6, 2014 and investor protection rules came into force on April 1, 2014 for crowdfunding websites with the goal of producing "fair, proportionate, media-neutral regulation," calibrated to the current crowdfunding market (FCA, 2014a). The FCA will review implementation of the rules by the end of 2014 and plans to conduct a complete postimplementation review of the crowdfunding market and regulatory framework in 2016 to evaluate whether more follow-up is needed.

The rules aim to "ensure investors have clearer information about the risks and require crowdfunding platforms to have safety nets in place in case of running into financial difficulties" (Dunkley, 2014). The rules are an example of an "innovation friendly" regulatory approach in that they are intended to be proportionate to the state of development of the market and not to overburden it with regulation and requirements while keeping it under surveillance with the "threat of (more) regulation" in the background if the light-touch approach does not work. The jury is still out as to whether they will have achieved this aim, as the rules have already been criticized from both sides of the spectrum by some as being too heavy-handed and by others for being too lax. Those who think it too lax believe that the threat of fraud is great in this sector and that without a more interventionist and protective approach, scandals could sink crowdfunding, while those favoring an even lighter touch point out that it is a young sector that could have the cost-effectiveness of its model undermined by having to deal with the regulatory burden being imposed.

The rules address loan-based crowdfunding with a regime intending to protect consumers, primarily with a disclosure-based regime, and to promote competition in their interest. Transparency is the rules' modus operandi with them requiring provision in a fair and clear manner of all information that a consumer could need to make a fully informed decision. A loan repayment strategy is also required of crowdfunding platforms; however, investors lending through crowdfunding platforms will not be able to claim compensation, in the event of a loss, from the Financial Services Compensation Scheme. This was a conscious decision by the FCA and could have the effect of limiting future potential investments in these crowdfunding platforms, because of consumer hesitation to risk their funds. This provision, like the rest of the rules, would be assessed this year and reviewed in 2016.

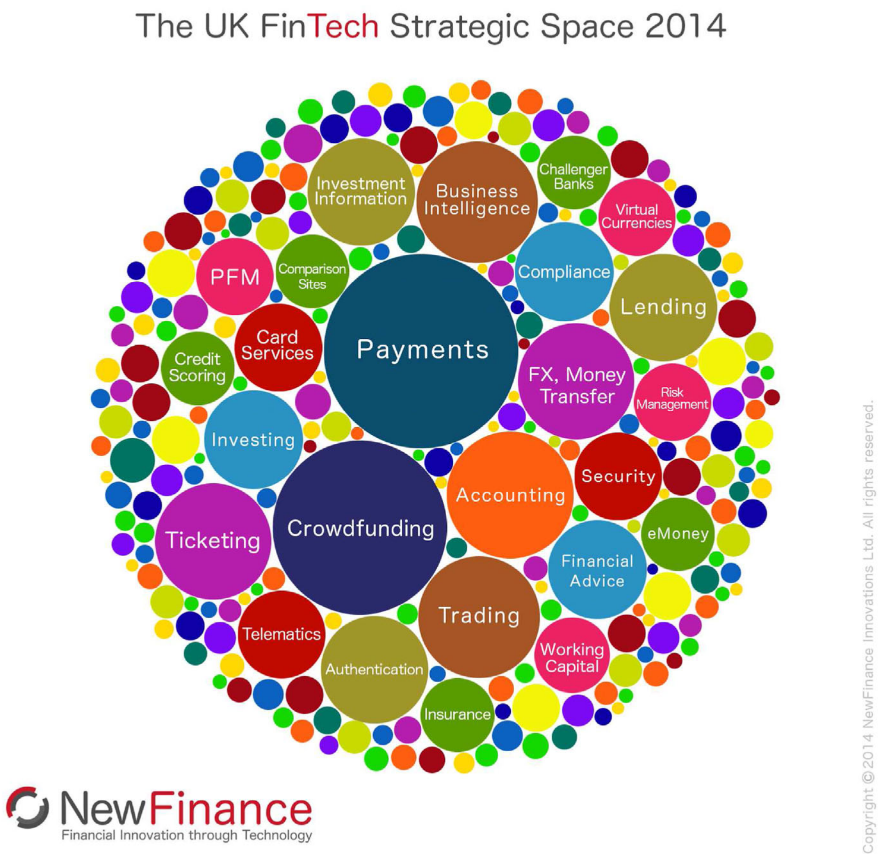
The FCA confirmed that loan-based crowdfunding platforms would have to abide by the bulk of FCA provisions relating to conduct of business rules, client money protection, and dispute resolution rules, and the requirement that reasonable steps be taken by firms to ensure that the existing loans continue to be administered even if a platform goes out of business. However, the FCA took account of comments that existing capital requirements might be excessive in some instances and therefore amended their approach, agreeing that some loan-based crowdfunding platforms should be subject to lower capital requirements.

Investment-based crowdfunding is also addressed by the FCA rules and, unlike the loan based platforms, in a media neutral manner. They were drafted in light of the observation that there is an elevated degree of risk involved in investments in nonreadily realizable securities on an investment-based crowdfunding platform. These securities may be both difficult to value and to sell on a secondary market and do not involve underwriting. Therefore, the FCA (2014a, pp. 35–42) has decided that due to these risks, only sophisticated investors should be targeted. This threatens to exclude smaller investors from both the risks and opportunities found in this market, confining the possible gains to, and helping to entrench, an economic elite. Some respondents in the public consultation were concerned that such an approach could have a negative impact on competition and innovation, and this would seem to be a point on which the innovation principle could be invoked to ensure that the measures as implemented did not unduly hamper digital innovation while seeking to achieve legitimate ends. The FCA rules foresee crowdfunding being promoted only to professional clients, corporate finance contacts or venture capital contacts, sophisticated or high net worth retail clients, and with the amount invested limited to 10 percent of a retail client's net investible assets unless he or she has taken advice or has the pertinent knowledge. When advice is not provided, the FCA proposes that the appropriateness test, in accordance with COBS 10, is observed, whereby firms need to check if their clients have the knowledge needed to understand the risks.

Crowdfunding is a newcomer to the financial industry and there should be great caution in regard to taking action that could close it down or raise high barriers of entry for new firms. Competition in the interests of the consumer and of entrepreneurs looking for funding should be encouraged as much as possible. At the same time, minimum standards of due diligence or disclosure are not set, and there is little in the way of reporting required on performance, so consumer protection is an important aspect. Consequently, such issues are sure to arise in the future and may need to be addressed during the planned review of the rules. Such an approach is consistent with being ready to step in if abuses do, or threaten to, arise while leaving space for new ideas to gain traction rapidly, without being overburdened by regulatory requirements at an early stage.

Case 2: Regulating London's Emerging FinTech Community

An area in which the interests of financing innovation and innovation in the financial sector coincide is that of the FinTech entrepreneurial community. Keeping with the theme of Schumpeterian creative destruction, the financial sector is one seen as being particularly ripe for disruptive innovation, given its current profits and lax competition. Technology-driven disintermediation of many financial services is on the cards, and FinTech is the term used to denote the various sectors of technology-enabled financial innovation (see Figure 1).



Source: Eddie George, New Finance Innovations Ltd. (2014).

Figure 1. Technology-Enabled Financial Innovation.

The aforementioned crowdfunding/crowdinvestment is often classified as a subset of the diverse FinTech sector, which includes many other entrepreneurial activities as shown in Figure 1. A particularly active FinTech ecosystem is the one in London, in and near the City and in Canary Wharf. "As the global centre of financial services and a tech hub, London gives FinTech entrepreneurs access to an unparalleled pool of talent, from developers to product managers to compliance officers to sales."[3] It is characterized by the presence of global banks, plentiful tech and banking talent, government support and dialogue with the regulator "just down the street" from the developers. Eric Van der Kleij, former head of Tech City, now of Level39, the Canary Wharf-based technology accelerator space for finance, retail, and future cities technology companies, points to the financial crisis, new regulatory drivers on transparency, and recognition of risk across different asset classes as other aspects of the environment that are conducive to the growth of FinTech.[4] The strong engagement of private sector investors is another positive in London/Canary Wharf. Level39 is a private investment initiative in Canary Wharf and is aiming to capitalize on the synergies between its launch strategy in FinTech, the retail resources in Canary Wharf for piloting initiatives and a smart cities strategy for the development. The opening up of its application programming interface to developers selected for its FinTech Accelerator at Innovation Loft in London by Barclays Bank is seen as another pioneering step by one of the serious players in global banking.

The U.K.'s FCA has instituted the practice of regulatory dialogues with developers in order to provide legal clarity on the status of new initiatives that they are developing, as regulation in this highly monitored sector is potentially a serious barrier to entry and new innovation. One of the factors is that people setting up the FinTech platforms are often coming from an ICT background but are less familiar with financial services regulation. The dialogues with these developers can be characterized as an example of best practice for regulators aiming to both increase compliance and encourage innovation. While the FCA always tries to speak to the interested parties, the limit is their human resources. The FCA is also looking at enabling innovation in a more proactive manner. It has announced Project Innovate, an initiative to assist both startups and established businesses implement innovative ideas in the financial services markets through an Incubator and Innovation Hub.[5]

In discussing the role of state support for such a nascent sector, the foresight and proactive support of the U.K. Government for initiatives like Tech City and the FinTech sector in general have been commented on positively by FinTech startups and investors, with the need for incubators and accelerators being underlined because of the expense of operating in London. However, members of the FinTech community did express concern about the direction that the United Kingdom could take with future policies if the aim was to restrict skilled immigration, which is needed in the ICT and finance sectors, and withdraw from the EU and its internal market. U.K. moves away from openness and toward isolation in these policy areas could damage the talent and investment base of the emerging ecosystem.

While there are strong possibilities to be nurtured in London, substantial FinTech investments and ecosystem development can be discerned in the Nordic countries, Benelux and Germany. In the German-speaking countries, Berlin is the leading startup cluster with substantial activity also being observed in Frankfurt, Munich, and Zurich (Shekhar, 2014). By its nature, this is a sector that can benefit from the EU's Digital Internal Market and make Europe a sectoral global leader. In evaluating possible future FinTech regulation, the innovation principle is a pertinent consideration to take into account in making the choice of the optimal regulatory framework and specific rules. This can be said of the national, European, or global levels.

Conclusions: The Innovation Principle and Future-Proofing Legislation

If proposing EU specific legislation in these areas was to be considered by the European Commission, the proposed initiative would be evaluated by an impact assessment procedure. In the EU, legislative initiatives are put forward by the European Commission ("right of initiative") on matters contained in the Treaty. In 2003, the European Commission introduced impact assessment with the aim of assessing the potential economic, social and environmental consequences of its proposed initiatives.[6] This impact assessment procedure is tasked with collecting and analyzing evidence on the pros and cons of the possible policy and legislative options under consideration on the basis of their potential impact. It is very pertinent to note that a revision of the 2009 Guidelines is ongoing.

Though it is now considered as a part of impacts on technological development and innovation, this article argues that one of the factors that should be considered prominently and systematically in future impact assessments is the effect that the legislative or policy alternative would have on innovation ("the innovation principle"). This should be part of an approach ensuring not only that regulation is clear and proportional so that innovators can easily comply but also of being ready, in appropriate cases, to adapt regulation to enable specific innovations or a class of innovation. This same recommendation can be made to national level procedures evaluating the impact of proposed legislative initiatives. It is important that any analysis of innovation is not reduced solely to evaluating the initiative's impact on research spending, which is just an input into innovation, and which is less relevant to some innovative sectors such as those addressed in the two case studies in this article.

In the aforementioned areas especially, any legislation that might eventually be proposed should be "future proofed" in that it should not lock in, or be predicated on, today's existing technologies, business models, or processes. As the European Risk Forum (2013b) noted in its Background Note 14, "Regulation of risk can also affect the creation and diffusion of ideas," which is a focus of this article. For example, as the European Commission notes in its aforementioned Communication on the subject, new models of crowdfunding could be created in the future. Any pertinent legislation should not protect existing models or try to foresee everything that the private sector might develop at the expense of future innovation in the domain.

Best practice in public consultation and regulatory dialogue should be drawn upon to ensure that regulatory authorities have the inputs that they need to make informed choices. However, it should be underlined that, as much as possible, this should be a two-way conversation with the regulator giving feedback as well to innovators on how their ideas could fit into existing or future frameworks. It is underlined that the "innovation principle" concept should also entail the readiness to change legal frameworks to enable innovation, if this can be done without endangering other legitimate and important aims, based on the information received in this exchange, not only to try to fit innovation into a legal framework. The regulatory review and dialogue mechanisms being utilized by the FCA described in this article are efforts in this direction.

This approach is grounded in not simply abstaining from regulating but selectively choosing when to do so with a view to increasing innovation in the economy and society. For example, the European Commission (2014a, 2014b, 2014c) will map national regulatory developments in crowdfunding to assess whether regulatory intervention is needed to maintain the smooth functioning of the internal market.

When there is a need to regulate or an existing legal framework is to be reviewed, (digital) innovation should be fostered and unleashed while the risks produced by e-based innovations such as high frequency trading, for example, are closely monitored for negative effects like distorting markets or raising high barriers to entry to competitors. If Europe wants to take the innovation-driven economy seriously, innovation needs to be consistently considered in the framework of other policies and the influence that all policies have on the innovation potential of companies, social actors, and the public sector has to be evaluated. As addressed in this article, finance for innovation and innovation in finance are precisely areas that could flourish in the wake of this kind of approach.

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Notes

1. http://www.foundersfund.com/the-future (accessed March 30, 2014).
2. A. Treier, CEO KredEx, interviewed by the author in Tallinn, Estonia, on March 26, 2014.
3. Ismael Ahmed, co-founder of WorldRemit, a money transfer service, quoted in "Fintech start-ups chip away at banks" by Sally Davies, *Financial Times, Companies*, April 14, 2014, p. 21.
4. Interview with the author, April 10, 2014.
5. Financial Conduct Authority, www.fca.org.uk.
6. European Commission, http://www.europa.eu (accessed October 24, 2014).

References

Atkinson, R.D., and S.J. Ezell. 2012. *Innovation Economics: The Race For Global Advantage*. New Haven and London: Yale University Press, 49–54, 155–56, 162–65, 255, 261.

Bergkamp, L., and L. Kogan. 2013. "Trade, the Precautionary Principle and Post-Modern Regulatory Process: Regulatory Convergence in the Transatlantic Trade and Investment Partnership." *European Journal of Risk Regulation* 4: 493–507.

Christensen, C.M., and D. van Bever. 2014. "The Capitalist's Dilemma." *Harvard Business Review* 92 (6): 62, 68.

Dunkley, E. 2014. "FCA Rules on Crowdfunding Investment." *Financial Times, FT Money* (March 8, 9): 3.

European Central Bank-European Commission. 2013. *SMEs Access to Finance Survey*. http://ec.europa.eu/enterprise/policies/finance/files/2013-safe-analytical-report_en.pdf.

European Commission. 2013. *Communication on Shadow Banking—Addressing New Sources of Risk in the Financial Sector* COM/2013/0614 final, 14.

European Commission. 2014a. *Communication From the Commission: Guidelines on State Aid to promote Risk Finance Investments C(2014) 34/2*.

European Commission. 2014b. *Communication From the Commission to the European Parliament and the Council on Long-Term Financing of the European Economy* COM (2014) 168 final.

European Commission. 2014c. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions: *Unleashing the Potential of Crowdfunding in the European Union*, March 27, 2014, COM (2014) 172 final.

European Commission Impact Assessment Guidelines SEC (2009) 92. 2009. http://ec.europa.eu/smart-regulation/impact/commission_guidelines/commission_guidelines_en.htm.

European Risk Forum. 2013a. Communication 12, The Innovation Principle—Letter to the Presidents of the European Commission, the European Council and the European Parliament, October 2013. www.riskforum.eu.

European Risk Forum. 2013b. *Background Note 14—Innovation and the Regulation of Risk* (2013). www.riskforum.eu, 3.

Fagerberg, J., D.C. Mowery, and B. Verspagen. 2009. *Innovation, Path Dependency, and Policy: The Norwegian Case*. Oxford, UK: Oxford University Press, 3.

Financial Conduct Authority. 2014a. *Policy Statement PS14/4 -The FCA's Regulatory Approach to Crowdfunding Over the Internet, and the Promotion of Non-Readily Realisable Securities by Other Media: Feedback to CP13/13 and Final Rules*. www.fca.org.uk. 5, 6, 35.

Financial Conduct Authority. 2014b. *Supporting Innovation in Financial Services: Call for Input into Project Innovate*. www.fca.org.uk/about/what/promoting-competition/project-innovate.

Financial Stability Board. 2011. *Shadow Banking: Strengthening Oversight and Regulation*. http://www.financialstabilityboard.org/publications/r_111027a.pdf.

Gertner, J. 2012. *The Idea Factory: Bell Labs and the Great Age of American Innovation*. New York, NY: Penguin Books, 18–19, 109, 154.

Hill, L.A., G. Brandeau, E. Truelove, and K. Lineback. 2014. *Collective Genius: The Art and Practice of Leading Innovation*. Boston, MA: Harvard Business Review Press.

Kirk, K., and C. Cotton. 2012. *The Cambridge Phenomenon: 50 Years of Innovation and Enterprise*. London, UK: Third Millennium Publishing, 161.

Mazzucato, M. 2013. "Financing Innovation: Creative Destruction vs. Destructive Creation." *Industrial and Corporate Change* 22 (4): 852, 856, 863.

Mazzucato, M. 2013. *The Entrepreneurial State*. London, UK: Anthem Press, 26–27.

Mazzucato, M. 2013. *Economics Department Lecture*, to the London School of Economics, October 8. www.richmedia.lse.ac.uk.

National Endowment for Science Technology and the Arts (Nesta), University of California, Berkeley, and Cambridge University. 2013. *The Rise of Future Finance, The UK Alternative Finance Benchmarking Report*. www.nesta.org.uk.

OECD. 2010. "The OECD Innovation Strategy" (2010). "Oslo Guidelines for Collecting and Interpreting Innovation Data" (2005). www.oecd.org.

Phelps, E. 2013. *Mass Flourishing*. Princeton, NJ and Oxford: Princeton University Press, 38.

Rabinovitch, S. 2014. "China Aims to Curb Shadow Banking Risks." *Financial Times* (January 7): 5.

Schumpeter, J. 1942, 2009. *Can Capitalism Survive? Creative Destruction and the Future of the Global Economy*, originally published as *Capitalism, Socialism, and Democracy*. New York Harper Perennial: Modern Thought, Harper & Row, 43.

Shekhar, S. 2014. *FinTech Forum DACH* [1st Study of FinTech Startups and Innovators in Germany, Austria, and Switzerland]. Frankfurt am Main, 4.

Zenios, S., and L. Denend. 2011. "Investing for the Safety Net." *Stanford Social Innovation Review* 9 (4): Fall 2011, 4.