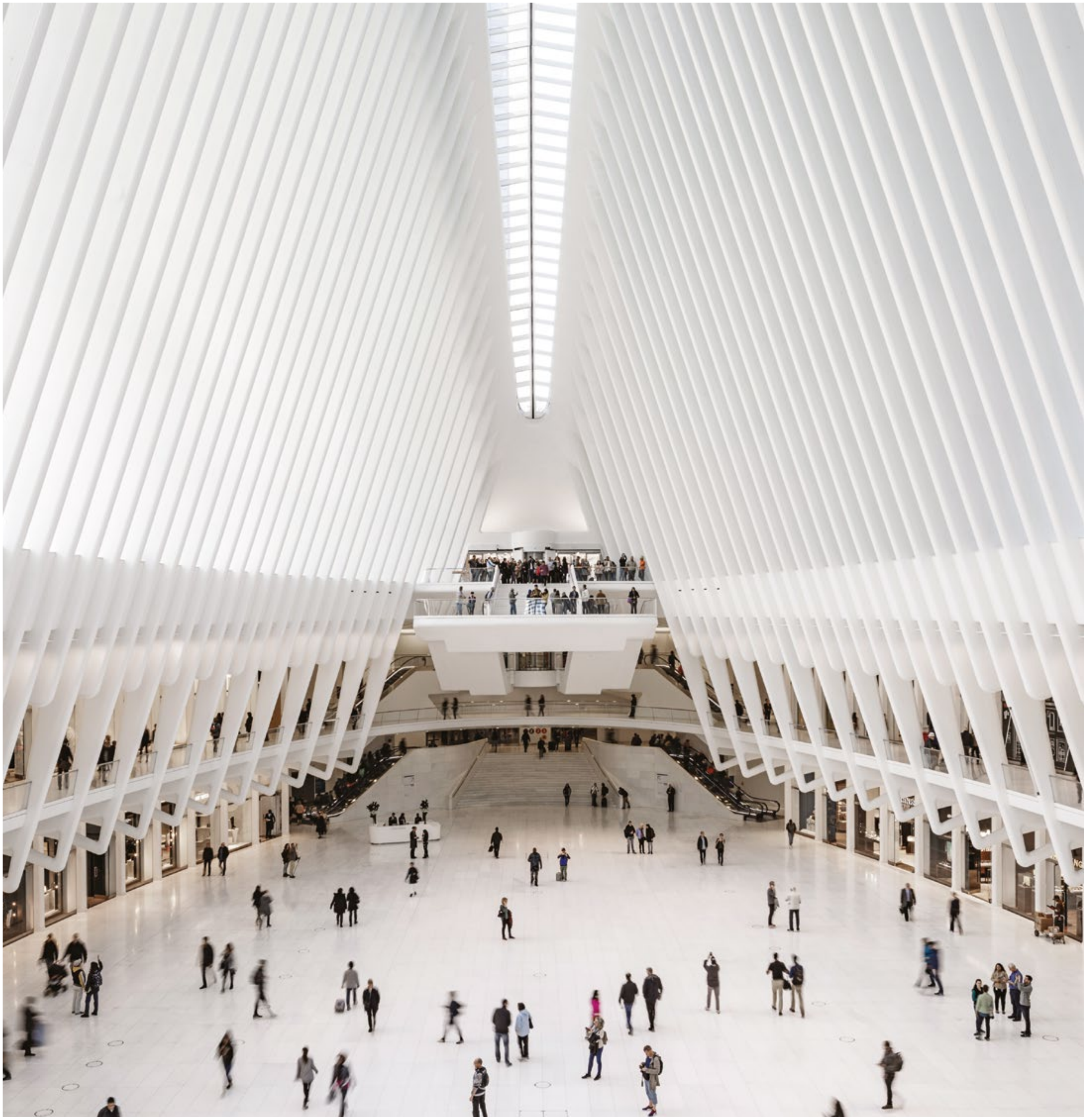
UBS

Crowd Capital Raising

A UBS Group Innovation White Paper



Foreword

In January 2016, coinciding with the annual meeting of the World Economic Forum, UBS published a paper exploring the major technological advances driving the fourth industrial revolution.[1] If steam engines, mass production methods, and the development of our modern IT and communications systems defined each of the preceding eras, the paper asserted that the new age will be characterized by extreme automation and nearly universal connectivity. And just like the first three revolutions, this wave of modernization would be the catalyst for profound change in how individuals, businesses and nations interact with each other.

Since that paper's release, our firm has continued to examine the fourth industrial revolution in greater detail. We've studied the potential of blockchain to massively disrupt and transform the global financial system. We also launched our series of Future of Finance Forums with multi-day deep-dives and subsequent reports on topics like digital identity[2] and intelligent automation.[3] In each case, our goal has been to convene leaders and experts from around the world to more clearly define and understand how these burgeoning fields may impact our society and economy — particularly the financial services industry.

At our latest Future of Finance Forum in New York this past December, we focused our attention on crowd capital raising, and explored the commercial and structural aspects of the growing market for alternative sources and uses of capital. This paper is informed by and continues those discussions by unpacking the various components of this new discipline, explaining its ongoing popularity and suggesting where this market is heading.

Our view is that while the overall marketplace finance industry has seen explosive growth in recent years, there are rising regulatory and economic challenges that need to be navigated, especially in the industry's commercial sectors. Additionally, while we recognize the undeniable advantages of models that are convenient, inclusive and digital, the prospects for crowd capital raising to move from 'alternative' to 'mainstream' financial services is less certain.

This paper considers these issues and is consistent with our ongoing efforts to provide perspective and insights on the important topics and trends shaping our world. We hope you will find it to be thought-provoking, and we thank you for reading.

Axel P. Lehmann	Tom Naratil
Chief Operating Officer	President UBS Wealth Management Americas
UBS Group	President UBS Americas

1 'Extreme automation and connectivity: The global, regional, and investment implications of the Fourth Industrial Revolution' © UBS 2016. Published in January 2016

2 'Digital Identity' © UBS 2016. Published in December 2016

3 'Intelligent Automation' © UBS 2017. Published in January 2017

Table of contents

Introduction

Crowd Capital Raising: key information

6 **Setting the scene**
– Technology
– Markets
– Society

8 **Crowd capital raising explained**
– Investing through the marketplace
– Models
– Current market

12 **Brave new world?**
– Upside
– Downside

16 **Responses to the rise of crowd capital raising**
– Competing
– Partnering
– Owning and developing

19 **Quo vadis? Next steps for crowd capital raising**
– Navigating challenges, the market will grow
– Technology will drive increased sophistication of platforms
– Market turbulence is to be expected
– Regulators will get more involved
– The industry will consolidate as it matures

22 **What we think: The UBS position**

24 **Acknowledgements**

25 **Key findings from the Future of Finance Forum**

Authors

Anthony Clark-Jones
Innovation Manager
UBS Group Innovation

Barry Hurewitz
Managing Director
UBS Investment Bank

Helen Chang
Managing Director
UBS Investment Bank

Jet Lali
Managing Director
UBS Asset Management

Oliver Diener
Managing Director
UBS Switzerland

Veronica Lange
Head of Innovation
UBS Group Innovation

Winfried Gutmannsbauer
Group Managing Director
UBS Wealth Management

Introduction

At UBS, we are conscious that monitoring, and in some cases creating trends in financial services is crucial to providing our clients the best possible products and services.

And as we are always interested in ways to connect our clients and our clients' capital to attractive investment opportunities, a growing area of interest is something we call 'crowd capital raising' (CCR).

CCR – a prominent sub-category of the broader, rapidly growing marketplace finance industry – connects sellers of capital or equity to borrowers or investors via online platforms without (at least ostensibly) involving a traditional financial intermediary, such as a bank.

Since its inception over a decade ago, the volume, geographic and economic reach of CCR have grown exponentially. Given the speed and fragmentation of the field, it has become challenging to exhaustively classify the industry's components – although we do offer some help on this later. And as many market participants globally are private enterprises, it is testing to comprehensively estimate total market size. Nevertheless, based on the latest industry and academic sources, we estimate the CCR market is currently worth in the region of USD 400 billion, project this to grow to around USD 1 trillion by 2020, and strongly feel there is potential for a lot more.[4]

Structurally, the CCR industry has a fundamental separation between 'equity' and 'debt'. On the equity side of the market, sellers advertise, via a marketplace platform, a share of equity in their emerging enterprise in exchange for investors' capital. And for 'debt', lenders invest their money with borrowers in the form of a loan, again via an online marketplace.

For understandable reasons, debt is by far the dominant category: debt transactions are empirically-based, much more transparent, based on borrowers' credit scores, very scalable and can be (re)packaged into ratable securitized products. Debt can also offer investors a clear and fixed (percentage) return on their capital, and some platforms help with liquidity in the event of early repayment.

Conversely, investing in early stage enterprise does not offer these de-risking characteristics: buying equity is far more speculative. Overall, market growth is directly related to risk and as such lending has taken precedence, especially as traditional sources of credit were severely limited after the global financial crisis.

But why has the market in general grown recently, and so quickly? In our view, it is a function of complimentary factors. Converging financial pressures, technological developments and social trends have created the conditions for the concept to take hold and for its market take off: we explore this in detail later.

And as the industry has scaled and matured, it is continuing to experience widespread structural change. While in the mid-2000s the original peer-to-peer (P2P) marketplaces were just that – platforms that matched peers with peers – the capital now being deployed through the world's leading CCR platforms is increasingly offered by institutions – hedge funds, insurance companies, private equity and banks.[5] For example, in 2010 no loans through Lending Club – one of the industry's most prominent platforms – contained institutional money. But at the end of 2015, institutional capital formed 80% of Lending Club's loans and represented over USD 50 billion.[6]

This paper explores marketplace finance, and in particular CCR from a number of angles: we examine the industry, outline some of the more popular business models, chart its history and evaluate the services provided against those traditionally offered by incumbent financial services organizations.

We also offer our perspective on the future. Compared to other financial services where speed, cost, convenience and flexibility have likewise been improved, we think CCR shows high potential but will need to navigate regulatory challenges to achieve it. And considered alongside the expansive rise of online, adaptive platforms, growing preference for digital services and dramatic reductions in new products' adoption rates, we feel justified in exploring how the future might play out and if and how organizations like our own could take a more active role.

---

4 UBS research based on the latest industry and academic sources, e.g. Cambridge Centre for Alternative Finance as of April 2017

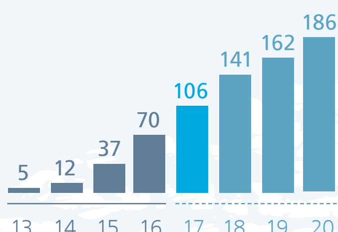
5 For example, 'The Disappearance of Peer-To-Peer Lending' by Nav Athwal © Forbes Media LLC. First published on October 14, 2014.

6 'How has Lending Club's investor base changed?' © LendingClub Corporation. Data as of December 31, 2015

Crowd Capital Raising: key information

US and Canada

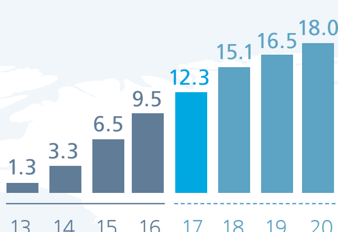
Total market size (USD billions)



$105.6b

Europe

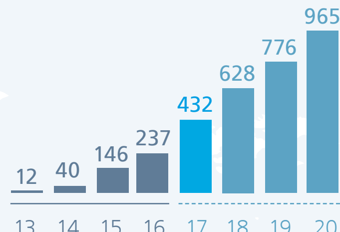
Total market size (USD billions)



$12.3b

Global

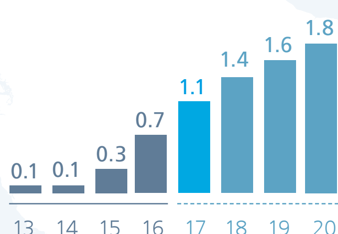
Total market size (USD billions)



$432b

LATAM

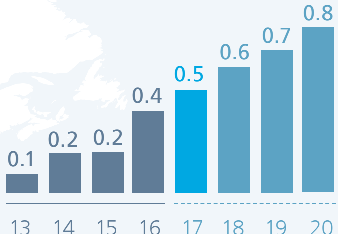
Total market size (USD billions)



$1.1b

Middle East and Africa

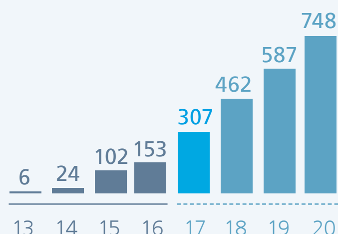
Total market size (USD billions)



$0.5b

China

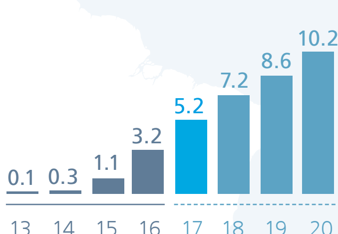
Total market size (USD billions)



$307.3b

APAC ex. China

Total market size (USD billions)



$5.2b

—— Actual ------ Projected

Key benefits

- Compelling response to constrained credit environment
- Digital: Convenient, low cost, flexible terms, smart-device friendly
- Validation for borrowers / issuers re. their business plans and prospects, with added network effects
- Potentially above average returns versus traditional investments
- Access into emerging opportunities at a level usually too early for traditional intermediaries

Selected opportunities

- Point-of-sale finance
- Education finance
- Niche platforms with superior underwriting knowledge / capabilities
- Partnering models with established financial institutions
- Marketplace mortgages

Risks & constraints

- Fraud and mismanagement
- Liquidity risk re. secondary markets
- Rising default rates / possible loss of principle
- (Untested) effects of rising interest rates
- Advisory capabilities re complex / large transactions

Likely challenges & obstacles

- Tightening of regulations
- Trust of investors regarding rising default rates
- Offering compelling returns through the full credit cycle
- Acquiring enough 'good' borrowers (debt) and compelling opportunities (equity)
- Platform bankruptcies through market consolidation

CAGR: Compound annual growth rate

	2013	2014	2015	2016	2017	2018	2019	2020	CAGR 13-16	CAGR 17-20
US and Canada	4.5	11.7	36.5	70.1	105.6	141.0	162.0	186.3	149.0%	70.2%
LATAM	0.1	0.1	0.3	0.7	1.1	1.4	1.6	1.8	131.0%	62.2%
UK	1.0	2.7	5.4	7.5	9.8	12.1	13.2	14.5	95.7%	46.5%
Europe (ex.UK)	0.3	0.6	1.1	2.0	2.5	3.0	3.3	3.6	83.0%	42.4%
Middle East and Africa	0.1	0.2	0.2	0.4	0.5	0.6	0.7	0.8	74.0%	36.3%
China	5.6	24.3	101.7	152.5	307.3	462.1	586.8	748.1	264.0%	101.4%
APAC (ex. China)	0.1	0.3	2.1	3.2	5.2	7.2	8.6	10.2	183.0%	84.5%
Totals	**11.6**	**39.9**	**146.4**	**236.5**	**432.0**	**627.5**	**776.0**	**965.1**	**140.0%**	**63.4%**

Source: UBS research based on the latest industry and academic sources e.g. Cambridge Centre for Alternative Finance as of April 2017

Setting the scene

Since the beginning of financial services, one of the main roles of banks has been to bring together borrowers and lenders.

Banks have generally done this in two ways: taking deposits and using the funds to lend to individuals and businesses they thought creditworthy (traditional bank lending), or acting as a bridge to bring borrowers and lenders together (for example when helping companies issue equity or debt). Whatever the role, banks have traditionally been the necessary – and generally the only – intermediaries for this purpose.

This role is now being challenged. CCR platforms are providing alternative means for borrowers and lenders to meet and transact, facilitating these financial exchanges in online marketplaces. And although a quirk of this growing industry is less-than-established terminology, "Components of marketplace finance" goes some way to unpacking the complexity, as well as showing the relationship between the overarching 'marketplace finance', the underlying business models, and what constitutes CCR.

Whatever people exactly call it, we are clearly experiencing a marked change in the relationship between capital and investment. Our view is that, like in other industries, this change has, and is, being driven by a convergence of important trends in technology, financial markets and society as a whole. Before we get into the details, it makes sense to look at this background.

Technology

We are well aware of the technological advances that are reshaping most aspects of our lives. Digital communications, connectivity, data analytics and intelligent storage capabilities have dramatically increased our ability to access information and act on it quickly. It has also enabled companies to offer sophisticated services via online platforms.

The advantages of digital platforms are abundant: in almost all cases they offer lower cost, much higher convenience, and easier access to on-demand services, with everything in one place. They make it easier for consumers to compare offerings and offer flexibility beyond what was practically, previously possible. And the relatively lower cost of entering markets also makes it easier for entrants to compete. Typically this gives consumers more choice, and importantly for incumbents, it can make client relationships less sticky, as the convenience and flexibility also makes it far less onerous for clients to do business elsewhere.

'Digital' has disrupted a number of industries, from travel to publishing and music to movies, particularly through the widespread 'route-to-market' offered by connected smart devices. And it is now on its way to transforming financial services, including lending and providing access into early-stage enterprise. In particular, developments in artificial intelligence (AI) such as machine learning and other advanced analytics capabilities, are providing techniques to develop better, automated ways of profiling, matching borrowers to lenders, and – crucially – evaluating risk.

Markets

While technology is clearly a key facilitator of marketplace finance, it is by no means technology alone that is driving the market. The industry has also grown from changes in banking regulation and financial markets since the global financial crisis.

The antecedent source of much today's marketplace finance business was banks. But given the financial crisis forced widespread deleveraging, and with it a severe 'credit crunch' especially in the retail and small-to-medium enterprise (SME) sectors, smaller borrowers have needed other options. And while some lending has resumed, banks have since faced far tighter regulations in their business units requiring leverage and risk. In short, the higher capital requirements mandated by regulators, as well as the higher capital spend required to adhere to regulations, have reduced the pool of capital available to lend.

> “While still relatively small in comparison to global lending, CCR's market is highly likely to develop further, especially as the trends that have fueled the rapid scaling and worldwide growth seem poised to continue. Digitization and standardization open up the lending market to non-bank investors, enabling them to challenge banks' traditional business model as sole providers of risk, liquidity and tenor transformation”
>
> **Oliver Diener**
> Managing Director, UBS

These factors, as well as in some cases tighter restrictions on who banks can lend to, have made lending to consumers and SMEs relatively more difficult and often unattractive. For these smaller borrowers, this became inconvenient if not suffocating to their needs and aspirations, as regardless of the financial crisis, their demand for capital remained unabated, and perhaps even increased. Naturally, as traditional sources could no longer provide it, those in search of capital looked elsewhere: CCR platforms, enabled by digital technology, have grown as an alternative.

Similarly, investors have also been feeling the squeeze. ‘Traditional’ asset classes – equities, funds, bonds, hedge funds – have suffered recently, encouraging those seeking yield to look ever farther afield. CCR platforms, which in many cases delivered superior returns over the past several years, have increasingly caught their attention – with money invested by individuals, and progressively from institutions.

Society

There are also a number of societal trends that have influenced the development of alternative sources of capital, and in particular, CCR platforms.

The exponential growth of connected smart devices and apps has meant that in many cases target times to serve current and potential customers have been dramatically reduced. Demand for speed, access and services when and how they are required has seen personalization-as-standard across many economic sectors. All of this has added to the increasing acceptance of digitally-based business among ever-wider sections of the economy, and for ever-more important tasks.

Financial services have not been immune to this trend. People are becoming gradually more used to significant money-related activities online (beyond mere e-banking). And while they, rightly, may have reservations about trusting entrants with their money, maybe due to necessity, and perhaps due to the trust implications experienced by banks during and after the global financial crisis, there seems to be a willingness to consider alternative financing and investing options.

In the following sections, we explore our theme of CCR in more detail, charting its growth, comparing its benefits relative to traditional sources of capital and outlining how the next years might play out.

To further add context, some sidebar sections offer wider details to consider: "It just came outta nowhere...or did it?" charts and explains the growth of Exchange Traded Funds (ETFs) and compares it to CCR; "That's so last year!" offers perspective on where and how adoption rates of new products and services are dramatically falling; and 'Social Club 2.0' further outlines the digitization and socialization of financial transactions and what this means.

Considered together, we aim to further highlight how converging trends in technology, financial markets and society have facilitated the growing marketplace finance industry, and particularly CCR within it.

Crowd capital raising explained

Although on the surface, CCR might look relatively simple, expansion of volumes, geographies and regulations have added underlying complexity.

Investing through the marketplace

At UBS we are most interested in the prominent sub-category of marketplace finance we call 'crowd capital raising' or CCR. This covers all instances where one, both or all parties, via an online platform, aim to raise capital or generate a financial return from deploying it, excluding the market for reward-based crowdfunding and the like.

Although the reward-based crowdfunding space kick-started the industry, and has seen massive growth itself, this is not our primary focus, as it does not fall under the definition of CCR. It is important to point out that CCR platforms now typically deploy institutional capital through their digital means, and looking more closely at ownership structures across the world and the career experience of key executives, institutions have clearly moved in. One result here is that the 'peer-to-peer' terminology commonly used in reference to this industry is somewhat questionable. Typically, peers do not lend to peers, and a key difference to their analogue antecedents is that the operations, distribution channels and general business models in the CCR sector are far more digital.

Models

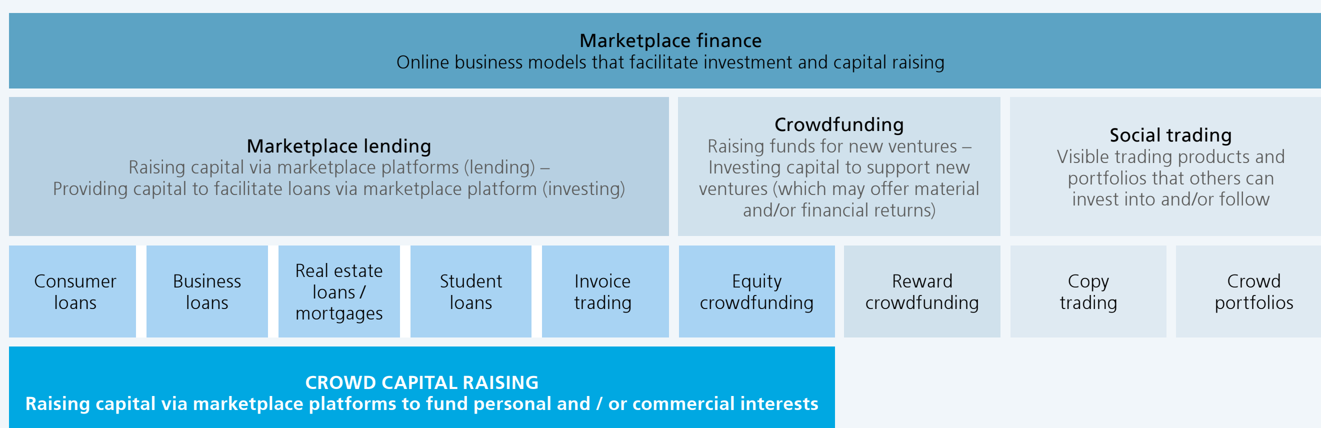
Marketplace finance traces its roots to the early 2000s with the appearance of crowdfunding sites like ArtistShare, Indiegogo, and Kickstarter. These were not lending sites per se: instead, they allowed individuals to contribute money to other individuals for a specific purpose, generally in exchange for some reward. For example, if you gave money to a musician, you might be mentioned in the release notes to their album; to a startup, you might get a free or reduced-price version of the new product.

In 2006 (originally) P2P lending sites like Lending Club in the US began to appear. These platforms more closely resembled traditional capital raising, in that individuals exchange capital with other people or businesses in return for either a share in the business (equity) or a promise of a return of the capital plus interest (debt).

And whereas in the beginning, platforms offered one service e.g. retail loans, it is now commonplace to find marketplace finance platforms that offer a variety of products and investment opportunities to an array of participants – consumers, sophisticated investors, family offices, enterprises, governmental organizations – as well as long-established financial services organizations such as banks, insurance companies and pension funds.

Although, on the surface, this industry might seem straightforward, to address some of the underlying complexity, 'Selected models of crowd capital raising' outlines prominent business models.

Components of marketplace finance



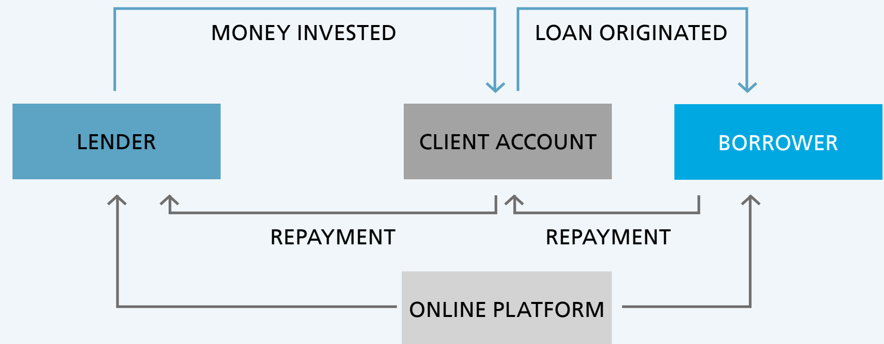
Crowd Capital Raising models	Description	Examples
Consumer loans	Mostly unsecured personal loans from individuals and institutions to individuals	Fixura, Harmoney, Kokos, Landbay, Lending Club, Lu.com, Zopa, Renrendai, Prosper
Business loans	Secured and unsecured lending from consumers and institutions to mainly small-to-medium sized enterprises (SME) with trading accounts	P2BInvestor, PPDai, Funding Circle, LendingLoop, Renrendai, Growth Street
Real Estate loans / mortgages	Direct and indirect investment into property, sometimes via the sale of a registered security, or debt-based transactions secured on real estate	LendInvest, RealtyShares, RealtyMogul, Peer Street, LendingHome, Fundrise
Student loans	Students at accredited colleges / universities receive funding for the costs of their education	CommonBond, SoFi, LendKey, GreenNote
Invoice trading	SME businesses sell today at a discount their future-dated 'accounts receivables' to consumer and institutional investors (who at the later date receive the full value of the invoice minus fees)	MarketInvoice, Platform Black, Invoice Fair, InvoiceInterchange, Funding Invoice
Equity crowdfunding	Early stage enterprises sell registered securities in their business to retail and (occasionally) institutional investors	AngelList, CrowdUp, CrowdCube, CrowdFunder, EarlyShares, MicroVentures, Investdor, Seedrs

Other models	Description	Examples
Reward crowdfunding	Early stage enterprises promise a good or a service (but not financial reward) at a later date in exchange for capital to fund their business	JustGiving, Kickstarter, Indiegogo, GoFundMe, Crowdfunder
Copy trading	Traders can copy specific strategies of others, apportioning an amount of their funds to the account of the copied investor thereby exactly following trading instructions	eToro, Darwinex, FX Copy, ZuluTrade
Crowd portfolios	Passive portfolios of products such as equities and / or ETFs, constructed by the crowd and through advice of members, provided as investible products	Motif, Kapitall

Selected models of crowd capital raising

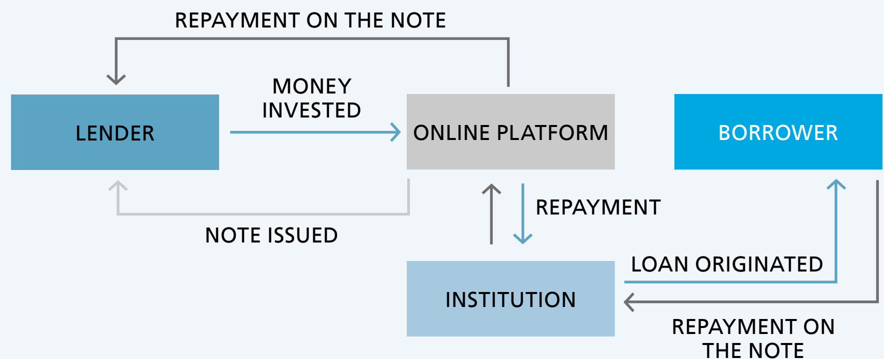
Segregated account

'Original' lending platform that matches borrowers with lenders. The transaction takes place directly between the parties. All funds are held in segregated account/s, with minimal intervention from the platform. Further to matching borrowers and lenders, platforms may provide other services like collecting repayments, initial credit screening and value-add business advisory services



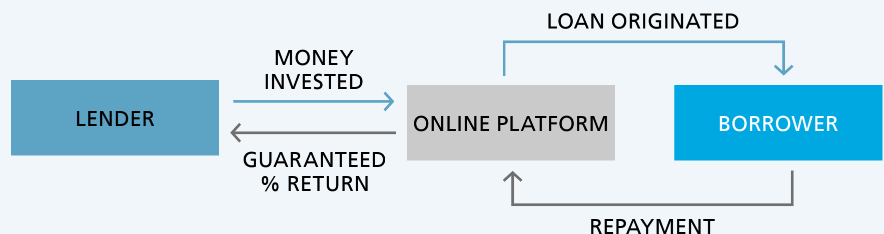
Notary

Platforms facilitate collective investments into multiple loans. Borrowers sign up and have their credit checked, and the loan is publicized accordingly. Investors choose to invest wholly or partially in any number of loans on offer. Once a borrower's offer has been fulfilled, they receive a loan from an accredited institution (e.g. a bank). The platform then issues a security to all lenders subscribing to the loan, with the default risk shifted from the institution (e.g. bank) to the lender/s



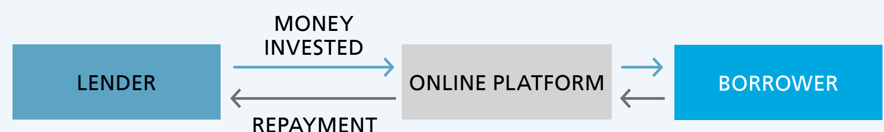
'Guaranteed' return

Platforms receive capital from investors and loan it online to credit-checked borrowers. Platforms guarantee the investor a fixed return and collect all repayments from borrowers



Equity crowdfunding

Platforms provide access to investors into early-stage enterprise, whereby relatively small amounts of capital are invested in return for equity and sometimes products / services from the enterprise in question. All risk is assumed by the investor, with potential future returns reliant on distribution of profits, stock appreciation and / or the enterprise being bought-out. Increasingly, platforms are becoming meeting places for social and business connections – skills and experience exchanges – as well as early indicators of 'the next big thing'



Current market

CCR is expanding fast, with average global year-on-year growth rates around 140% since 2013; and this is projected to continue. Although the industry is currently fragmented and dispersed, our best estimate is that by 2020 the global market for crowd investing will be worth close to one trillion US dollars.[7]

CCR can also be considered a truly global industry, with the market in China already the largest and growing the fastest, but with significant volumes and growth seen from the US, the UK to APAC as a whole.[8] The market is not only large, but also comprises a number of regulatory and commercially-driven models, such as those we have illustrated.

Growth, as well as challenges, while widespread, seem to be driven by comparable factors in every region. A look at China provides a good example of what is happening at the forefront of the market.

China has both the second largest and still one of the fastest growing economies in the world.[9] It also has the largest and fastest growing market for e-commerce, as well as hundreds of millions of people looking to invest and/or deploy capital. This has among other things created an enormous appetite to fund or realize entrepreneurial expansion.[10]

In addition, China has the largest number of internet users in the world, a remarkably active and well-functioning social and business-media environment, and high smart device penetration.[11] While not explicitly driving the use of CCR platforms, these dynamics further contribute to facilitating the expansive growth of the sector.

Also enabling development of the Chinese market has been the country's hitherto relatively light-touch regulation. Whereas in the UK, for example, the regulator engaged early and encouragingly with the marketplace finance sector, the explosive growth in China has gone largely unmonitored (although this is now changing).[12]

Last, and fundamentally, a factor which has proven to the rapid expansion of the market in China is the ownership structure of the platforms and the conglomerates they are part of. The influence of companies such as Alibaba, Tencent (owner of WeChat) and Ping An Insurance is not just limited to just Chinese commerce, but extends to how their customers and others organize their lives.

In China, as with other markets, the demand for capital, and returns on it, is fuelling the marketplace finance machine, especially in light of diminished traditional sources. The seamless and convenient experience offered by compelling digital offerings via smart devices is then the de facto route to market. And with these factors converging in a permissive regulatory environment, growth has been widespread and exponential.

"Crowd lending business models will face the same obstacles as traditional lenders, namely, balancing credit quality with competitive pricing, rising interest rates and increasing customer acquisition costs. Added to this will be the regulatory scrutiny associated with retail crowd funding. The opportunity lies in simplifying the process for investing in yield while meeting regulatory disclosure requirements."

John D'Agostino, DMS Governance
UBS Future of Finance Forum participant

---

7 UBS research based on the latest industry and academic sources e.g. Cambridge Centre for Alternative Finance as of April 2017

8 From 2013-2016, the Chinese market grew from approx. USD 5.5 billion to over USD 150 billion – a compound annual growth rate (CAGR) of approx. 265%. Over the same period, the US market grew with a CAGR of almost 150% to approx. USD 35 billion, and the UK with a CAGR of just under 100% to approx. 7.5 billion. See 'Crowd Capital Raising: key information' on page 5.

9 Based on information published by The World Bank on www.worldbank.org as of April 2017

10 'Harnessing Potential – The Asia-Pacific Alternative Finance Benchmarking Report' © University of Cambridge Judge Business School. First published in March 2016

11 'Smartphone Ownership and Internet Usage Continues to Climb in Emerging Economies' by Jacob Poushter © Pew Research Center 2016. First published on February 22, 2016

12 'China internet finance crackdown targets fly-by-night operators' by Gabriel Wildau © The Financial Times Limited 2017. First published on April 21, 2016

Brave new world?

We see that CCR is growing rapidly. But the industry is still young and in many ways untested. Specifically, we have not seen the industry ride out a complete credit cycle and so cannot bank on its longer-term resilience. With this in mind, in this section we explain what we believe are the relative merits of CCR finance as a capital source and investment opportunity.

Upside

Lower cost and better prices. CCR platforms tend to have much lower operating costs than banks. Thanks to the lack of physical footprint and legacy operating costs, as well as the use of digital technology, they can offer far greater operating efficiency than traditional sources of capital, passing on these savings in the form of better prices.

Wider range of investments. CCR platforms can offer access into compelling investments not generally available to the wider public, e.g. funding early-stage enterprise, and do so at smaller ticket sizes. This is generally not possible through traditional banking channels.

Access for under-served borrowers. CCR platforms offer an alternative source of finance to groups who are typically under-served by traditional financial channels – for example, minority groups, women, and those in cutting edge industries that require specialist knowledge to adequately evaluate investment propositions.[13]

Digital experience. Perhaps the most significant advantage over banks and other traditional forms of lending and borrowing is that CCR platforms are digital. This enables a far faster, far easier and generally more compelling user experience compared to what banks have traditionally offered. Typically the whole process with marketplace platforms takes place online. With credit ratings plus the pairing of lenders and borrowers increasingly delivered via advanced, cloud-based analytics, there is usually no human interaction and a decision can be delivered in minutes (rather than weeks or months). Given some capital from banks is available at similar prices to what can be found via platforms, the digital, speed and convenience factors cannot be underestimated as contributing towards growth.

Lower capital requirements. CCR platforms are usually not subject to capital requirements as they typically do not hold any loans they originate on their balance sheet. From this, there are also no levies charged to belong to public deposit guarantee schemes (although this does mean that investors' deposits are not guaranteed).

Validation for borrowers. Crowd platforms offer validation for emerging and established enterprises. For example, an oversubscribed round of equity crowdfunding for a start-up is a positive signal that 'the market' backs the enterprise to gain (further) traction. Similarly, if an established SME is raising capital through the crowd, the crowd can provide an evaluation of its current business or feedback on the intended use of the capital relative to wider market.

Networking and support for borrowers. Given some platforms – e.g. equity crowdfunding – connect buyers and sellers of capital for entrepreneurial progression, the platform also has a networking effect whereby information and expertise is connected to enterprises if and where it is required. Platforms can, and many do, provide ancillary support to borrowers, for example business plan development and other mentoring.

Downside

Adverse selection. As alternatives to traditional lending, platforms are of interest to those who cannot get credit through traditional channels. It is therefore possible these platforms pick up a larger proportion of riskier borrowers.

Resiliency risk. Given the relative lack of track-record of many platforms in relation to banks, it is difficult to predict how CCR platforms would fare through a full credit cycle, or in the event of interest rates returning to historically average levels. For example, would the institutional money increasingly deployed through platforms revert to more traditional asset classes if interest rates increase? With the relative lack of track-record, there is also risk of collapse of a platform through mismanagement, which could prove detrimental to the industry and – due to unclear systemic risks – potentially to the wider economy.[14]

Acquisition of good borrowers. While in the early years many commentators suggested the biggest challenge for platforms was the risk appetite of investors – the 'sellers' of capital – it is actually the finite supply of 'good borrowers' that is a bigger constraint. Most CCR models rely on a steady supply of good quality borrowers of capital

– this could be prudent consumers, SMEs repaying business loans or start-ups actually offering a return on equity – to provide a return to investors, to keep default rates low, and to ultimately retain interest in using their services.

Moral hazard. Those platforms that act solely as intermediaries, without investing any of their own capital – and thus have no "skin in the game"– maybe have less incentive to ensure the creditworthiness of borrowers than those platforms that do.

Regulatory risk. The relatively low regulation in the industry is likely to change if and when CCR models become more mainstream, or defaults increase. For example, after a succession of scandals and persistent worries over fraudulent practices, the Chinese market is bracing itself for stricter laws, at least in the short term.[15]

Reputational risk. While lower regulation has offered space to grow for many platforms, it has also offered less protection for investors. The problems associated with some platforms have been widely reported in international media and this has somewhat tarnished the burgeoning reputation of CCR and the business models more generally.[16]

Fraud and criminality. Where the sums of money are large, there are also problematic temptations. With less regulation, deploying capital through CCR platforms is open to fraudulent practices and potential criminality. These platforms can be abused by those who collect funds and then disappear. Fraud can also be perpetrated by platform owners.[17] And in terms of issuing equity, there are relatively little if no controls over how capital is actually used post-transaction.[18] There is also a question over the origins of the sources of capital, especially due to the cross-border nature of many transactions. There could be a situation where the source and/or use of capital is legitimate in one jurisdiction but classed as illegal in another.

(Understandable) lack of transparency. There is a relative lack of transparency on the 'equity' side of the industry – sometimes referred to as 'disclosure risk'.[19] At the time of the capital transaction, start-ups may not be able to provide any financial results, and later may need to 'pivot' their business plans in order to gain traction. That means the invested capital may be used for something completely different to what was initially intended, perhaps contrary to some investors' wishes.

Lack of advisory capability. In the case of more sophisticated forms of capital raising – for example, Initial Public Offerings (IPO) or extremely large sums of capital – CCR platforms are typically not able to provide the advice and expertise required to facilitate, structure and close the transactions in a manner akin to an established investment bank.

Liquidity risk and lack of secondary markets. While they have grown rapidly over the past few years, the total volumes through CCR platforms are still very small compared to the mainstream lending market.[20] That makes it more difficult to develop secondary markets in which lenders can trade their loans with others, for example if they want to need or cash-out early. This lack of liquidity could cause problems for investors and thus platforms themselves. To address this, some platforms have engaged in selling-on loans. But if loans are originated to be sold on, there is then a risk that diligence of credit risk in the first place might be compromised.

13 'IOSCO Research Report on Financial Technologies (Fintech) © International Organization of Securities Commissions (IOSCO). Published in February 2017

14 See, for example, 'China's $7.6 billion Ponzi scam highlights growing online risks' by Matthew Miller and Shu Zhang © Thomson Reuters 2017. First published on February 3, 2016

15 'China P2P lenders braced for regulatory crackdown' by Don Weinland © The Financial Times Limited. First published on January 9, 2017

16 In China, lending platform E'zu Bao collapsed after executives siphoned over USD 7 billion from over 900,000 investors in a Ponzi scheme. 'The Future of Financial Services – Marketplace Lending: the challenges and opportunities posed by alternative lenders' © Chicago Booth. Published in June 2016

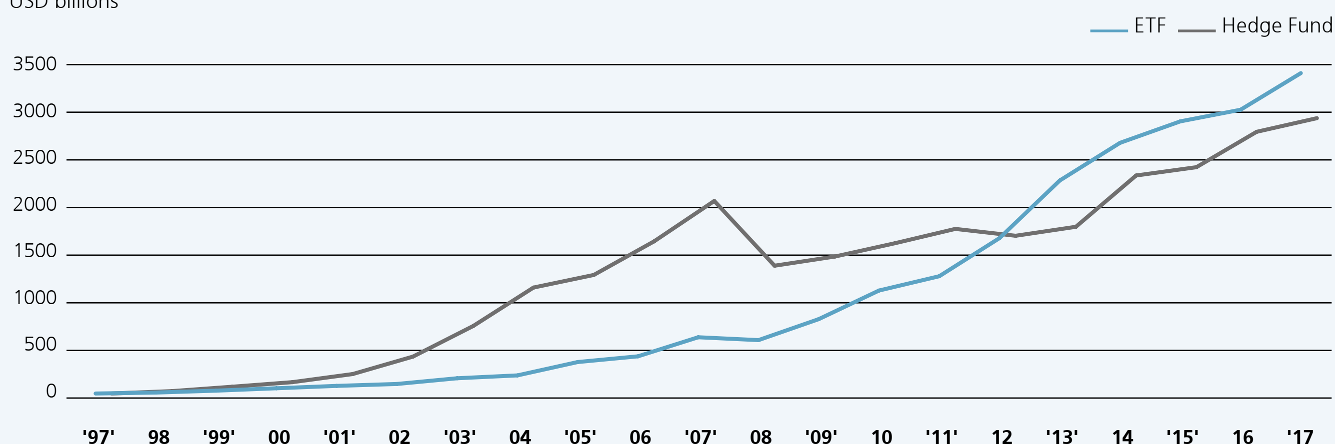
17 Ibid.

18 If capital were, in contrast, raised through a Venture Capital (VC) fund with tranches of capital contingent on a VC executive joining the board of the company and the company meeting a series of milestones, there would be more control over how capital was used

19 International Organization of Securities Commissions (IOSCO), 2017, 'Research Report on Financial Technologies (Fintech)'

20 Whereas we estimate that the global market for CCR in 2020 will be in the region of USD one trillion, today, the market for secured and unsecured lending in just the US is approx. USD three trillion

“It just came outta nowhere!” …or did it?



The rapid growth seen in CCR is nothing new. Consider, for a moment, the Exchange Traded Fund – more commonly known as the ETF. In 1990, Los Angeles-based investment firm Leland, O'Brien and Rubinstein (LOR) contemplated if stocks could be bundled and traded as a single unit; they wanted to put a fund on an exchange. While their idea did not initially gain much traction, largely due to high minimum investments, the idea of placing a fund on an exchange remained.

Over the following years, the concept overcame regulatory challenges and in 1993 came the modern representation of the ETF: Standard & Poor's Depositary Receipts (SPDR) tracking the S&P 500, offered by State Street Global Advisors. Importantly, the SPDR was low cost, convenient, accessible and liquid – ‘average’ investors could buy and sell ETFs as easily as a mainstream cash equity.

From one ETF in 1993, the market grew to 102 ETFs in 2002 and over 1,000 by 2010. In Q1 2017, total assets under management (AUM) reached over USD 3 trillion, spread across more than 270 global providers, and listed on 64 separate exchanges in 51 countries. There is now more money invested in ETFs than in hedge funds, and by 2020, it is estimated that the total ETF market will be worth over USD 6 trillion.[21]

The global ETF market is dominated by three providers: Blackrock’s iShares, Vanguard’s ETFs and State Street’s SPDRs. As of mid-2016, 70% of all ETFs and ETF AUM were aligned to just these three companies; the next largest issuer managed just 3.2%.[22]

EFT growth has been exponential. From an obscure start, there is now an industry that has seen 25% compound annual growth since the early 2000s with no signs of slowing down. Similarly for reasons of cost, convenience and accessibility, the growth in CCR offers a comparable history.

For example, in 2013, the total market size for CCR globally was approx. USD 11.6 billion. In 2014, this grew to just under USD 40 billion, in 2015, USD 146 billion and then in 2016, USD 236.5 billion; over 20x in four years. Given the economic conditions that have fuelled the market are persisting – for example the aversion of traditional lenders to lend to SMEs – could we see continued growth in CCR to mirror that of ETFs?

21 'Exchange-traded fund market set to nearly double by 2020' © Ernst & Young Global Limited. First published on October 25, 2016

22 www.etfgi.com as of March 2017

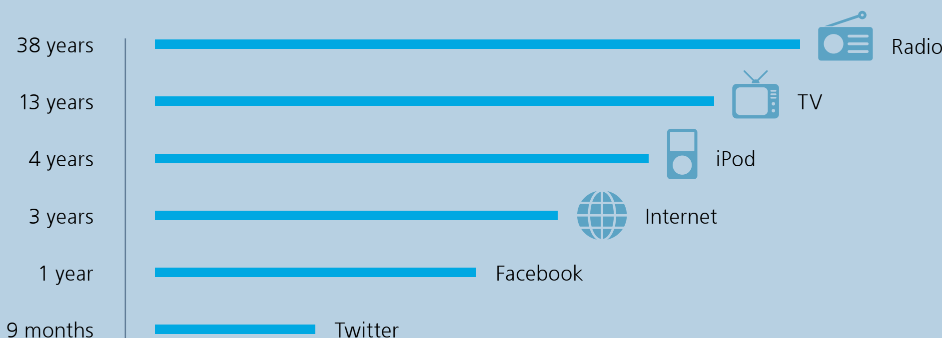
"That's so last year!"

In 1989, a British scientist working at CERN, the European particle physics laboratory, proposed a new way to share information over a computer network. It then took less than seven years for the internet to be used by a quarter of the population of the United States. In contrast to this, for a comparable number of Americans to use electricity it took 46 years, for the telephone 36 years and for the television, 26.

Even though the burgeoning technical infrastructure facilitated the rapid adoption of the internet versus the heavy-lifting of electricity pylons and telephone exchanges, this further illustrates the point that the speed of adoption for new technologies is increasing, primarily spurred by a variety of technological and infrastructural factors.

Technology is changing the world faster than ever

How long does is take for a technology to reach 50 million users?



With increased access – to capital, ideas, information, entrepreneurship – more complimentary digital services, and wide acceptance of smart hardware, customer loyalty is also being challenged, with financial services experiencing this first-hand.

Whereas before, a client physically travelled to a branch, spoke to a service colleague or advisor, filled out sometimes complex paperwork and over time built up a relationship of trust, it is now far easier to switch banks, or to access the products and services traditionally offered by banks: while it's more convenient to access products and services, it's also easier to switch between them, or find something new.

The mega-trends of access, digital and connected smart devices have challenged customer stickiness, and with it wider sociological views on 'how it is' and how 'it should be'. The term 'disruption' and 'disintermediation' have been born out of this trend –a digital entrant offering a more convenient, lower cost and altogether more compelling product or service against incumbent and analogue traditionalists. This is happening in financial services, with CCR one example of the on-going socialization and digitization.

Source: UBS data through collaboration with McKinsey

Responses to the rise of crowd capital raising

The traditional capital-raising sector is still significantly larger than the crowd market, and while CCR platforms do represent a challenge to the status quo, the incumbents in this space certainly have significant means to react – as some already have.

Competing

One response is to compete directly with CCR platforms, which established financial institutions can do in a number of ways.

Incumbents, for example, could start their own, in-house platform. Perhaps an opportunity for specific players who focus on wealth management, a bank could create a marketplace for equity or debt investments, or both. This could be used as an alternative asset class for the bank's clients, and with time be offered to a broader range of investors. As well as the associated revenue generation opportunities, this would offer the bank an opportunity to further explore digital services to clients, which could be leveraged elsewhere. If results are not in line with expectations, however, it could be detrimental to client and investor relationships and ultimately the brand.

Banks could also make use of the cutting-edge technology utilized by platforms, for example regarding the application and approval process. This affords flexibility to applicants (and recipients) of capital, and enables reaching relatively quick decisions without having to be physically present. Better analytics could also help banks to serve a wider cross-section of society, as deeper risk models developed by CCR platforms could actually be used to compete against them by adequately serving marketplaces' customers.

Similar developments might also be possible when it comes to advanced credit scoring. Banks could profit from this, particularly through considerable proprietary data on their customers supplementing publically available information.

With the opening up of APIs[23], which makes it easier for financial institutions and third-parties to share data, banks could also gain far greater insight into such things as the cash flow of SMEs. This could allow them to more quickly and accurately evaluate the creditworthiness of businesses on an on-going basis –a potentially attractive proposition as analytics-driven entrants like Growth Street have shown.[24]

Similarly, banks can learn from CCR platforms how to create better online experiences, combining the speed and convenience of digital interactions with their more sophisticated and broader selection of products and services. And regulatory developments, such as the second Markets in Financial Instruments Directive, commonly known as MiFID II, will increase investor protection in Europe, align financial regulation across the European Union (EU), increase transparency and competition across financial markets, and introduce reinforced regulatory and supervisory powers. Particularly relevant for CCR, MiFID II will enhance clients' safety with regards to the money that can be invested, as well as lowering the barriers to entry to operate in markets traditionally monopolized by incumbent financial services.

Partnering

Banks, however, need not only compete with entrants. As we have seen in other areas of fintech, market entrants often look to partner with incumbents, and incumbents are looking to partner as well.

There are many areas where interests might overlap. For example, incumbents have the customers and the customer information at a scale that many CCR marketplaces do not and will struggle to gain. On the other hand, incumbents have found it difficult in the past to monetize or otherwise make optimal use of this data, and may be looking for opportunities to diversify their offerings and methods.

This makes ground for natural cooperation, and indeed we are already seeing it:

---

23 An API is an Application Programming Interface. Amongst other advantages, APIs make it possible for different computer systems to 'talk' to each other, share information and transact

24 https://www.growthstreet.co.uk/about-us

OnDeck and JP Morgan. Partnering with OnDeck, JP Morgan has facilitated several million loans to SMEs, with OnDeck having the technology and infrastructure to complete the underwriting far more quickly.

Kabbage and Santander, ING and ScotiaBank. In April 2016 Santander UK publicized its partnership with Kabbage. For Santander's SME clients this offers quicker access to credit, and for Kabbage an entry into the UK market – one of the most developed markets in terms of CCR. Other partnerships that Kabbage has secured include tie-ups with ING to provide credit to ING customers in Spain, and with ScotiaBank to do the same in Mexico and Canada.

Avant and Regions Bank. In April 2016, Avant began a partnership with Regions Bank, a top 20 bank in the US. Regions Bank is leveraging Avant's platform to offer unsecured loans to its current customers. Regions Bank makes the loan to the end borrower and pays Avant a fee to use its technology platform. While there is a lot of commentary on how marketplace finance is competing directly with traditional banks, this partnership is an example of how a bank can leverage a solution that already exists and so offer its current customers a better experience.

Lending Club and Alibaba. In 2015, Lending Club announced a product called 'Alibaba.com e-Credit Line powered by Lending Club,' where U.S.-based business buyers can apply for the working capital they need when purchasing goods from China-based suppliers on Alibaba.com.

We particularly think that lowering the costof customer acquisition will likely be a key driver of platform success. As more platforms have entered the market, they have competed for the same set of customers and have seen their customer acquisition costs increase. We expect to see more partnerships announced as the platforms seek to build scale, lower customer acquisition costs and expand distribution.

These will likely include:
- **Affinity partnerships** such as those used by credit cards in the early days of their market
- **Tech. partnerships** e.g. Lending Club / Alibaba, Lending Club / Google, and Zopa / Uber, where the CCR platform inserts itself into another marketplace
- **Data integration partnerships** that help enhance underwriting
- **Lead generation agreements** e.g. LendingTree, CreditKarma, Moneysupermarket

Owning and developing

There has also been a rise in financial services developing (ostensibly) stand-alone platforms. For instance, in 2011, China Development Bank lauched Kai Xin Dai, and Ping An introduced Lu.com. Later, KBC, headquartered in Brussels, developed Bolero Crowdfunding, with this closely followed by Rabo&Co from RaboBank, and then Nordea Crowdfunding from NordeaBank. The investment in this space continues to see activity, as for example, Commerzbank is building a marketplace lending platform called 'Main Funders'. We predict that more CCR platforms will follow.

Social club 2.0

Our economies and societies becoming more connected and 'social' is not simply people using social media – it's far more fundamental. "There are 6 billion mobile subscribers around the world, of which 2 billion are smart phone users, and this number is expected to double by 2020. When 3 billion people are connected, they communicate and research very differently; they also socialize, share, build communities, cooperate, crowd-source, compete and trade in ways and on a scale that has no analogy in the analogue world."[25]

Facilitated by online meeting places – marketplaces and platforms – volume, frequency and velocity of communications and capital is challenging long-established social and economic norms. Now anyone (with a connected smart device) can instantly create and broadcast content to an audience of billions. Similarly, the connectivity underpinned by social platforms is over-spilling into financial transactions.

Consider, for example, the Chinese tradition of hongbao (red envelope). Although physical red envelopes are still commonplace over Chinese New Year, the explosive growth of digital red packets illustrates growing socialization and digitization outside of purely personal relationships. Taking just one platform – WeChat – 14 billion red envelopes were sent on Lunar New Year's Eve 2017 alone[26], with 46 billion (digital) red envelopes sent in total over the 2017 New Year period – up from 32 billion in 2016 and around 3 billion in 2015.[27]

Global research firm Ovum thinks the value of mobile-based payments could top USD 270 billion worldwide in 2019, with hongbao just one example of the astounding reach of transactions of money and information between individuals who were previously relatively disconnected and under-served.

While considering the growth in socialized payments is in itself challenging, considering the likely impact on financial services is more so: smart device use equals an increasingly popular and widespread channel to connect and transact with clients, and more clients are opting for mobile and digital services to raise and deploy capital; exactly the expertise and experience that CCR platforms offer.

Moreover, as significant growth is witnessed in new, entrepreneurial money, much of it derived from cutting-edge development and astute use of technology, what comes with this by definition is the knowledge to harness and preference to utilize technology – whether this be for financial ends or otherwise.

---

25 'The Future of the Professions : How Technology Will Transform the Work of Human Experts' © Richard Susskind and Daniel Susskind 2015. Published by Oxford University Press

26 'Alibaba and Tencent inspired by "Pokémon Go" in red envelope wars' by Yuan Yang © The Financial Times Limited. First published on January 29, 2017

27 'WeChat users sent 46 billion digital red packets over Lunar New Year – Xinhua' by Ryan Woo © Reuters. First published on February 6, 2017

Quo vadis? Next steps for crowd capital raising

The complementary factors that have given rise to CCR are continuing to shape the industry's progress.

Navigating challenges, the market will grow

In our view, there will be continued interest in CCR on the part of investors, particularly if platforms continue to offer above average returns. In a low-yield environment, and with the market maturing, this will likely attract even more sophisticated individuals and institutional capital looking for diversification and alternative sources of portfolio performance. Newly wealthy entrepreneurs, who have typically made their money in digital enterprise, are also likely to be attracted to such platforms: already digitally savvy, they are usually less averse to risk, and risk in the digital space.

At the same time, we can expect these platforms to become increasingly attractive to mass-market investors, for example those with less than two million US dollars to invest and who, among other things, may be looking for new opportunities in early stage enterprise. By offering loans or access to start-up enterprises, and by offering relatively smaller ticket sizes, CCR platforms will likely be able to cater to this market in ways traditional banks (currently) tend not to. Similarly, we think there is an opportunity for such platforms to cater to younger investors, in particular millennials and other early adopters who tend to naturally prefer digital offerings.[28]

We can expect new markets for CCR platforms as well. In emerging markets such platforms may ‘leap over’ banks as their digital solutions are convenient, lower cost, and easier to implement and use.[29] Platforms are also likely to set their sights on more sophisticated areas of capital raising, for example initial public offerings (IPOs), where margins today are still attractively high. We think that any platform that can reduce the friction in the IPO process and attract the talent needed to structure and execute complex deals will likely gain traction.

We have already seen the rise of niche lending platforms, and we can expect this trend to continue. For example, Initial Token Offerings (ITOs), or Initial Coin Offerings (ICOs) as they are sometimes known, are a new form of raising capital by cutting-edge technology start-ups, whereby the enterprise raises capital in the form of a newly created token which can later be exchanged for a cryptocurrency such as bitcoin or traditional currency.[30] One of the main reasons for some start-ups turning to ITOs is to bypass the rigorous, regulated and time-consuming capital-raising process followed by banks and, for example, Venture Capital firms.

Niche platforms can also offer added value by offering analysis and evaluation to investors on specific markets. A platform dedicated to artificial intelligence (AI) startups might, for example, along with offering insight into which companies are attracting investment, offer educational materials on the technology itself as well as the wider industry.

We may see completely new models as well. One intriguing possibility is point-of-sale financing through the crowd, in which retail consumers 'borrow' money from a crowd-based platform literally at the checkout counter. Another is marketplace mortgages: we consider these options again later.

Technology will drive increased sophistication of platforms

We think that technology will continue to evolve and that it will help CCR platforms become even more sophisticated.

A good example is continued advances in the availability and means of analyzing data. AI capabilities will make it possible for shrewd technology firms to derive ever more powerful algorithms to evaluate borrowers. Perhaps we will also witness social media data becoming more integrated into credit-scoring systems, likely on the back of the development of more robust digital identity capabilities. With such integration into day-to-day lives, there is clear potential for CCR platforms to become more mainstream. It is not beyond reason to think that one day you may find a button for “borrow” alongside one for “like” within social media.

Market turbulence is to be expected

While the technological and social trends outlined bode well for CCR platforms in general, we do not expect the development of the industry to be without its obstacles. It is still a relatively new industry, and we cannot yet comprehensively gauge the potential for systemic risk, especially as the platforms grow in number of transactions and participants.

Anyone who remembers the dotcom bubble that burst at the start of the 2000s will certainly know that new markets and industries can be turbulent. We can expect no less with CCR. And indeed, we have already begun to see it, for example in China[31] and, to a lesser degree, the US.[32]

Regulators will get more involved

Given the growth of the industry and some market turbulence, we can expect increased regulatory scrutiny. In many markets, regulators have been engaged, though regulations remain fragmented with different approaches and levels of control.

While the EU has no overall marketplace finance regulation in effect, the UK, France, Spain and Italy do. The US has no explicit regulation, but marketplace lenders are subject to much of the already existing rules, for example the laws pertaining to consumer protection, lender and broker licensing. The Chinese market, in contrast, has been largely unregulated, though change is likely forthcoming.

Because legal regulations are usually complex and differ significantly from country to country, we think it is currently unrealistic to imagine a global platform run from one jurisdiction. On the other hand, many regulators see business potential in marketplace finance, and seek to support it. In the UK, for instance, the regulator supports marketplace finance as part of its more general support for early stage enterprise. And under provisions of the JOBS Act[33], the US regulator opened up CCR to retail investors, albeit with restrictions.

In our view, although different regulatory bodies are at varying stages of regulation for CCR, we would support an alignment of regional and international frameworks. For example, this could be the development of commonly-agreed principles for regulating all (bank and non-bank-aligned) CCR platforms, with the goal of promoting a level playing field and consistency across jurisdictions. These common regulatory principles could include, for example, agreed standards on issuing licenses to operate CCR platforms and a mutually-agreed code of conduct. Amongst other benefits, we believe that this could enhance trust between all connected parties, and thus work beneficially for the industry at large.

The industry will consolidate as it matures

History teaches us that new industries, after periods of initial growth and fragmentation, with many new entrants vying for market share, eventually reach a period in which the market becomes saturated and we begin to see consolidation. Here too we can expect a similar dynamic, and may already be seeing this begin.[34]

Looking again to China, platforms will soon need to establish resolution plans to guarantee investors' deposits, and also hold investor and borrower funds in segregated custody accounts.

Similarly, while all this is happening in the CCR space, we cannot expect the incumbents – the traditional lenders – to sit still. Indeed, as outlined in the previous section, a crucial factor that will determine how the CCR market develops will be the way in which platforms interact (or not) with established financial services organizations.

---

28 'China tightens money market regulation' by Chris Flood © The Financial Times Limited. First published on January 31, 2016, especially for how Yu'E Bao, owned by Alibaba, attracted over 260 million users in three years, with the majority under the age of 30

29 'IOSCO Research Report on Financial Technologies (Fintech)' © International Organization of Securities Commissions (IOSCO). Published in February 2017. In Tanzania, a mobile phone-based system was used for an IPO subscription. The use of mobile trading also increased investor participation on the national stock market by 42.8% within four months of launching

30 'What Initial Coin Offerings Are, and Why VC Firms Care' by Richard Kastelein © Harvard Business Review. First published March 24, 2017 and 'The TokenFunder Project: Initial Token Offerings as a revolutionary equity crowdfunding platform on the blockchain' © The TokenFunder Project, 2017

31 'China regulators warn that 90pc of peer-to-peer lenders could fail in 2017' by Daniel Ren © South China Morning Post. First published February 19, 2017

32 'Lending Club turmoil takes toll as company posts widening losses' by Sudarshan Varadhan and Heather Somerville © Thomson Reuters. First published August 9, 2016

33 'Jumpstart Our Business Startups Act' © Government of the United States of America, January 2012. Especially see Title III

34 'Here's why 2017 will be a turning point for the UK marketplace lending industry' © Business Insider. First published December 21, 2016

What we think: The UBS position

At UBS, we are monitoring the CCR space and find several areas worthy of continued consideration.

We think that while the market has clearly grown rapidly and substantially, it should be positioned against the total market for lending and equity-related banking activities. This is not to diminish CCR's widespread appeal, it is just to remain as objective as possible alongside the eye-watering annual growth rates, media headlines and cutting-edge technology capabilities.

In our view, what should not be underestimated are the dynamics fuelled by platforms' drive for growth. With their IPOs, the larger, exchange-listed platforms that broadly define the industry have a heightened need to show continually better returns. And as these platforms then require increasing funds to distribute to borrowers, along with institutions requiring yield on their (clients') capital, CCR platforms are clearly a welcome and expanding home for institutional money.

Although it renders some of the terminology questionable, borrowers receiving institutional funds is not an issue per se. However, it does pose some questions that may be difficult for platforms to address. For example, does institutional money buying securitized tranches of loans push an 'originate-to-distribute' model whereby marketplace platforms do not exercise sufficient credit-risk diligence when originating, and then do not maintain adequate risk thereafter? And if platforms become 'just' distribution channels for banks' money, should they not just be absorbed?

Another point of interest is that the institutionalization of CCR is in some respects following other industries.

The change in dynamics from many small sellers (in this case, of capital) to fewer, larger suppliers is a well-established commercial trend. In a recent report from the Office of the Attorney General in New York, it was estimated that roughly 6% of hosts on Airbnb in New York secured 36% of reservations and accounted for 37% of revenue.[35] A similar trend can be seen with eBay, with 'Power Sellers' disproportionately generating the vast majority of revenues through the platform. And other, time-served examples include food retail, apparel, travel, music, and paper-based currency.

As with all platform-based industries, it is intelligent technology that enables growth. Across our economies, the proliferation of digital channels and the exponential growth of connected smart devices have facilitated rapid scaling of CCR markets.

As technology further improves, and in particular the speed and accuracy of credit analytics, we think that it will open the way for other marketplace sectors, for example, through adequately serving typically under-served demographics.

Another potential area is unsecured credit. Assuming a pipeline of sufficient capital is lined-up and the profiling of buyers of retail goods and services is accurate and robust, marketplace finance could rival traditional sources of instant credit – it could disrupt the market currently dominated by credit cards.

The point-of-sale opportunity is particularly well-suited to marketplace finance. Retailers need high approval rates – they want to make the sale. CCR models are suitable through their ability to find investors for a broad range of borrower credit-profiles. And a traditional obstacle to scaling any business – customer acquisition – may also be addressed by retailers helping to acquire customers exactly at the point of sale – all immediate interests are aligned.

Moreover, there is no reason why the widespread financing (and re-financing) of mortgages could not follow the same pattern. Marketplace mortgages could potentially divert billions of dollars per year away from banks. We think that if this begins to happen, it is likely far more banks will take notice of the growth and potential of CCR.

The issue of trust is also core to our business. We think that while platforms have in some cases offered superior returns against traditional investments, any perceptions of lower security when investing through platforms are somewhat justified. In particular, without deposit guarantees and far less regulation, the reports of mismanagement and potential forthcoming failures are not surprising and should be watched closely.

To develop trust, we think that platforms will succeed if they attract a steady flow of 'good' borrowers and service them through widening their supply of funds; any threat of bank disintermediation is based on them doing so.

On balance, platforms could divert safer borrowers from banks through continuing operational (and regulatory) cost advantages, and so offer more attractive prices. And although helpful, the extent to which this would also be enough to persuade mainstream consumers to deposit savings outside traditional structures is not clear, but will likely increase if regulation matures accordingly.

Although smaller in market size, and clearly more speculative in nature, we also remain conscious of the potential of CCR for equity-based transactions. While the volume and rate of investment through this space is currently much smaller than the debt side of the market, are there unscalable obstacles why the start-up financing of today could not mature into the IPOs of tomorrow? And looking further in the future, will IPOs remain as they are, and with greater education and exposure, could ITOs become more mainstream?

At UBS, we have a responsibility to our shareholders and clients to innovate and evolve, and so provide the best possible products and services. As we are always interested in ways to connect our clients and our clients' capital to attractive investment opportunities, we are already active in the CCR space.

Among other initiatives, UBS Atrium offers access to an alternative form of mortgage refinancing. The platform matches clients looking for a mortgage on property in Switzerland and Swiss institutional investors seeking solid, long-term financing in the Swiss real estate sector. UBS acts as an intermediary, structures the loan, manages the credit during the entire term, assesses properties and establishes contact between mortgagees and investors. With this arrangement we have the potential to expose a wide cross-section of clients to yields from (crowd) investing in real estate.

Overall, we see some current trends that we think will continue: regulation will likely be stricter for banks than for capital-light marketplace platforms, demand will remain strong from both under-served borrowers and investors looking to diversify and achieve relatively high yields, and business models driven by artificial intelligence – specifically autonomous matching – will help to contain costs, and importantly, facilitate rapid scaling. Alongside our other innovation priorities, we consider the commercial potential this industry offers worthy of further focus.

To move forward, some immediate questions remain: will tighter regulations in China take hold, and how will this shape the industry's largest market? If a key advantage of platforms is their use of advanced data analytics and compelling front-end simplicity, what will it take for banks to develop something similar and merge this with their invaluable client data? How would a rise in interest rates affect the industry? Could internationalizing the industry help to disperse risk and thus enable CCR platforms (and perhaps banks) to service today's relatively unattractive clients? And, perhaps most intriguingly, given the presence of Asian conglomerates such as Alibaba, Tencent and Ping An, can we expect western platforms – Facebook, Google, Apple, Amazon – to capitalize on their profound reach, customers' trust and digital capabilities, and add marketplace finance to their offer?

At UBS we think that the definition of the problems and challenges, and an in-depth scoping of solutions with potential partners is a sensible place to start. This is a key reason for the UBS Future of Finance Forums. At these events, and through the corresponding white papers such as this, we bring together leaders and experts from around the world to look at how the fourth industrial revolution may play out in general, and in financial services in particular.

We hope you have found this paper useful, and would be delighted to continue the discussion.

"We're going to continue to see strong growth in loan origination and asset-backed security issuance, renewed lender consolidation with winners being those with lower funding costs, sustained capital access, and differentiated loan performance; and finally, accelerated investment in analytical infrastructure, including data standardization, verification, validation, superior back-up servicing, and other transparency tools to reduce the cost of sourcing capital across the sector"

Ram Ahluwalia
CEO, PeerIQ
UBS Future of Finance Forum participant

35 'AirBnB in the city' © New York State Attorney General, 2014. Between 2010-2014 approx. 1400 AirBnB hosts accounted for USD 168 million in revenue from 178,000 AirBnB reservations

Acknowledgements

To produce this and our other Future of Finance Forum white papers, UBS is committed to collaborating with leaders and experts from across the fintech ecosystem in each of the respective themes. For this white paper we would like to acknowledge the contribution of those below at the UBS Future of Finance Forum in New York in December 2016.

Alex Dunev
UBS

Apurva Mehta
UBS

Aron Dutta
IBM

Barry Hurewitz
UBS

Bill Fisher
Plum Lending

Bill Robbins
WealthForge Holdings

Bill Ullman
Orchard Platform

Bob Anselmo
UBS

Bob Hill
US Treasury – Office of the Comptroller of the Currency

Christian Henze
Funding Circle

David O' Flaherty
DMS Governance

David Shrier
MIT

Denise Thomas
ApplePie Capital

George Calhoun
Stevens Institute

Jason Jones
Lend Academy

Javier Benson
RealtyShares

Jeff Zinn
ApplePie Capital

John Buttrick
Union Square Ventures

John D'Agostino
DMS Governance

Kavita Jain
FINRA

Kevin Reed
PeerIQ

Lewis Katz
FS Investments

Madelaine D'Angelo
Arthena

Marco Spinelli
UBS

Mathew Dellorso
WealthForge Holdings

Michael Sidgmore
Broadhaven Capital Partners

Michael Zabarankin
Stevens Institute

Nav Athwal
RealtyShares

Neelam Brar
Empress Capital

Nikhil Lele
EY

Patrick Murck
Harvard

Peter Pearce
World Economic Forum

Ram Ahluwalia
PeerIQ

Robert Harles
Accenture

Samuel Ntone-Kouo
Federal Reserve Bank of New York

Scott Ross
UBS

Telis Demos
Wall Street Journal

Tony Conway
Conn. Dept. of Banking

Valerie Kay
Lending Club

Key findings from the UBS Future of Finance Forum

At the UBS Future of Finance Forum in New York in December 2016, 50 leaders and experts from across the fintech ecosystem debated issues on CCR. We found access to small-scale equity and debt is in high demand; price, speed and transparency are compelling; and banks could participate quickly via best-in-class fintechs.

Customer dynamics: Why is this happening?

- Speed of transaction (both equity and debt)
- Transparency of prices; (generally) lower debt prices and transaction fees
- Banks have retreated from 'small' loans (sub USD 5m)
- Access to asset classes not serviced elsewhere; demand is growing

Robustness and viability: Will it last?

- Dependent upon performance through whole economic cycle
- Majority of investors have <USD2m; further growth likely due to high liquidity of small ticket sizes
- High potential in student loans and millennials due to digital offering and scarce availability of ‘traditional’ sources of capital

Business Models / Value Chain: Who participates and where?

- Digital model works for fintechs; banks should copy this if participating or seek to partner
- Banks have the clients and the data, but have not completely figured out how to sustainably monetize in this space. Fintechs can help
- The IPO process is in scope: anyone who can reduce friction and attract top talent to structure and execute will likely capture market share

Risk and regulation: What needs monitoring and by whom?

- Lower regulation on the debt side significant in driving growth
- Fragmented marketplace; an education-based approach would be beneficial
- Need to share risk across the value chain - who takes the lead?
- Systemic risk is a concern due to increasing rate of transactions and number of participants

Summary key findings

- Access provided to equity and debt is servicing healthy demand; banks not participating as much as they could
- Price, transparency and speed offer ease of use and attractive returns, especially for millennials
- Lower regulation fueling growth on the debt-side; concerns over systemic consequences persist and who should bear the risks
- Banks could partner with fintech to quickly synthesize clients, data and best-in-class technology
- Digital offering essential if banks move to participate

This material is prepared by UBS AG and/or its subsidiaries and/or its affiliates ("UBS"). This material is for distribution only under such circumstances as may be permitted by applicable law. It is published solely for informational purposes and has not been prepared with regard to the specific investment objectives, financial situation or particular needs of any specific recipient. The recipient should not construe the contents of this material as legal, tax, accounting, regulatory, or other specialist or technical advice or services or investment advice or a personal recommendation. No representation or warranty, either express or implied, is provided in relation to the accuracy, completeness or reliability of the information contained herein except with respect to information concerning UBS, nor is it intended to be a complete statement or summary of the developments referred to in this material. It should not be regarded by recipients as a substitute for the exercise of their own judgment. Any opinions expressed in this material are subject to change without notice and may differ or be contrary to opinions expressed by other business areas or groups of UBS as a result of using different assumptions and criteria. UBS is under no obligation to update or keep current the information contained herein. Neither UBS nor any of its directors, officers, employees or agents accepts any liability for any loss or damage arising out of the use of all or any part of this material or reliance upon any information contained herein. UBS specifically prohibits the redistribution or reproduction of this material in whole or in part without the prior written permission of UBS and UBS accepts no liability whatsoever for the actions of third parties in this respect. © UBS 2017. The key symbol and UBS are among the registered and unregistered trademarks of UBS. Other marks may be trademarks of their respective owners. All rights reserved.

In providing wealth management services to clients, we offer both investment advisory and brokerage services which are separate and distinct and differ in material ways. For information, including the different laws and contracts that govern, visit ubs.com/workingwithus.

UBS Financial Services Inc., its affiliates and its employees are not in the business of providing tax or legal advice. Clients should seek advice based on their particular circumstances from an independent tax or legal advisor.

The information contained in this article is not a solicitation to purchase or sell investments. Any information presented is general in nature and not intended to provide individually tailored investment advice. The strategies and/or investments referenced may not be suitable for all investors as the appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives. Investing involves risks and there is always the potential of losing money when you invest.

The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives. Principal value and return of an investment will fluctuate with changes in market conditions.

Investors should carefully consider the investment objectives and risks as well as charges and expenses of exchange traded funds (ETFs) before investing. To obtain a prospectus, contact your Financial Advisor or visit the fund company's website. The prospectus contains this and other important information about the ETFs. Read the prospectus carefully before investing. Diversification may not protect against market risk or loss of principal. Share of an ETF are bought and sold at market price (NAV) and are not individually redeemed from the Fund. Brokerage commissions will reduce returns. Index returns are for illustrative purposes only. Index performance returns do not reflect any management fees, transaction costs, or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results.

©UBS 2017. All rights reserved. UBS Financial Services Inc. is a subsidiary of UBS AG. Member FINRA/SIPC.

© UBS 2017. The key symbol and UBS are among the registered and unregistered trademarks of UBS.
All rights reserved.