



Breaking the Balance Sheet



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Introduction



“The [immediate impact] of the disintermediation of financial services... has been most heavily felt in areas of the banking value chain that benefit from the automation and simplification of high-volume processes.”

Digitalization and rapid technological innovation has been disrupting the Financial Services industry over the last few years. Complex regulatory and legal environments initially helped delay this disruption. However, the 2008 financial crisis saw the onset of a number of key trends (e.g. increased regulation, banks’ withdrawal from certain segments of the market, the arrival of “big-data,” etc) that have subsequently underpinned the expansion of technology-enabled financial services providers – or “Fintech” firms – offering alternative products and services that increasingly compete with traditional bank offerings.

The disintermediation of financial services is a phenomenon that has – or is starting to – affect the entire suite of products and services in banking. However, the immediate impact has been most heavily felt in areas of the banking value chain that benefit from the automation and simplification of high-volume processes.

Consider a simplified spectrum of banking products: on one end there are the customized, high margin, relationship-driven products or “high-touch low-volume” services that cater to clients with complex financial needs – for example large corporates, institutions and high net worth individuals. On the other end of the spectrum are low margin, commoditized, mass-market products or “low-touch high-volume” services offered to individuals and small businesses.

It is in the “low-touch high-volume” end of the spectrum that we are seeing increasing competition from emerging players. Importantly, these Fintech firms are using a multitude of strategies to disrupt these areas, many of which we will explore in more detail in the subsequent parts of this paper.

Today, 65%¹ of retail bank clients in the US interact with their banks through multiple channels, including self-service, online and mobile platforms. The use of branches to conduct banking activities is declining as customers broaden their communication with banks through online and mobile channels.²

As banks gradually adapt to shifting consumer habits, customers are fast becoming comfortable with minimizing human interaction when conducting financial transactions. This

Figure 1: Technology is accelerating the automation of low touch point / mass products

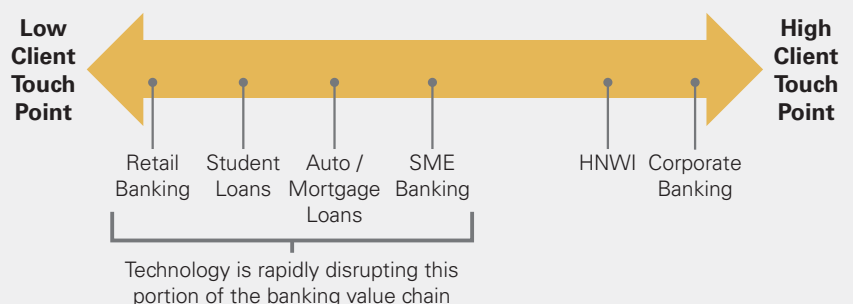
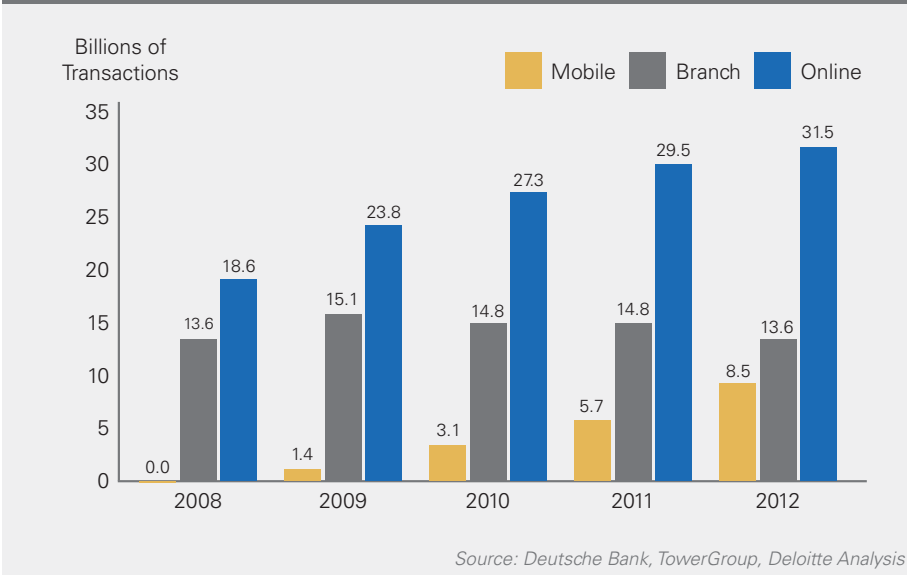


Figure 2: Channels for Banking Transactions in the US



venture-capital investments⁴. There has been increasing interest from angel investors, emergence of accelerator and incubators, increased venture capital and private equity financing, M&A activity and several successful IPOs in this space. Lending Club, the poster child of this industry, raised \$865 million on the NYSE in December 2014 at a valuation of \$8.5 billion, hitting the record for the biggest tech IPO in the US in 2014.

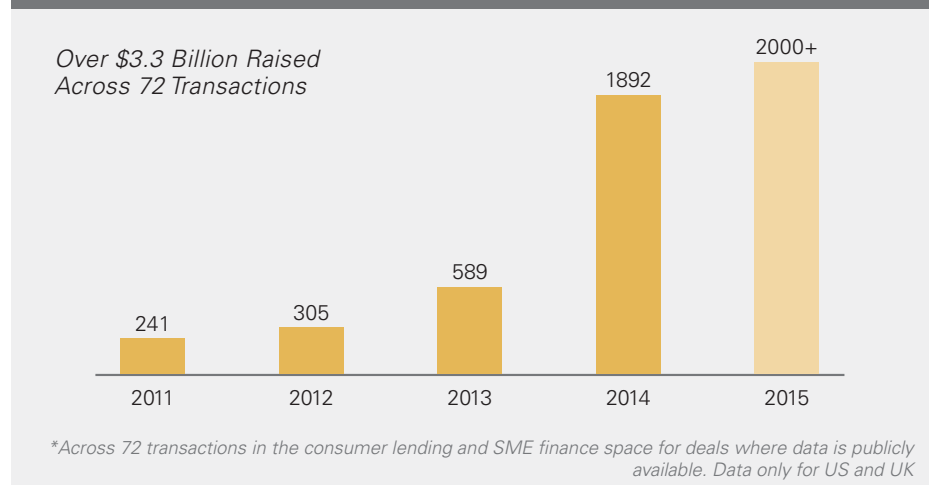
We recognize that there are hundreds of Fintech companies that are developing innovative solutions to compete with traditional financial services across the entire banking value chain. Whilst we at Apis consider the broad spectrum of innovative Fintech players as potential investment opportunities, this report will focus on alternative business models that are disrupting banks' function as an

intermediary between deposits and loans. We believe that this is the most primary function of a bank, and constitutes the core relationship a bank has with its client base. Finally, it is in this area that disruption will be most prevalently felt by banks – for example in the US, net interest income contributes more than 60% of a bank's total operating income.

is also raising expectations from services provided via digital channels. New Fintech entrants are leapfrogging banks by using technology to improve customer experience and product offerings – providing faster, seamless, more accessible and often times more affordable services than what banks offer through their online-offline channels. Customers looking to simplify their banking activities are attracted to the fully online and automated environment and simple, single-purpose products offered by new entrants. This disruption is taking place much more rapidly in the highly commoditized areas of banking that are amenable to automation – such as retail banking, SME banking, and niche consumer finance products. As such, this paper will focus on these three asset classes primarily given they represent – in our view – the beachhead on which these Fintech firms will build long-term customer relationships.

Although the new breed of emerging financial technology start-ups might be small (currently, less than ~1%³ of total unsecured consumer and SME lending in the US, for example) and currently lack the clout to take on the traditional banks, their value proposition is not going unnoticed by investors and entrepreneurs, alike. Investment in Fintech companies grew by 201% globally in 2014 (\$12.21 billion), compared to 63% growth in overall

Figure 3: Recent Deal Activity in Alternative Lending (\$mm).



Introduction

Figure 4: Where is FinTech Innovation Happening?



Our goal in this paper is to:

- Develop insights into how emerging Fintech players in developed markets are disrupting core banking services;
- Assess how likely these business models are likely to transition to key emerging markets and;
- Understand what the implications are for banks in emerging markets.

We begin with a deep dive into the business models of alternative lenders players in developed markets to provide insights into how they are differentiated from traditional banks and what factors are driving their competitive advantage. We then develop a framework identifying key drivers that are enabling the success of these models in developed markets. Next, we apply this framework to select developing countries and create a scorecard to rank each country based on how susceptible its banking industry is to disruption by Fintech players. Finally, we look into some examples of players in emerging markets and wrap-up this report with an analysis of implications this has for banks in global growth markets.



The Rise of Alternative Lending in Developed Markets

Technology enabled alternative lending solutions have proliferated in developed markets. In the US, marketplace lending has doubled every year since 2010 and in 2014 approximately \$12 billion worth of loans were originated through alternative platforms. Borrowers across different segments of the credit spectrum have started to take advantage of simplified application processes, competitive interest rates and quick loan approvals and funding that marketplace lenders have to offer. The majority of the activity has occurred across three verticals: unsecured consumer lending, small-to-medium business loans and student loans. In this section we consider each of these product verticals independently and discuss some of the leading players in each.

A. Consumer Loans

In the US, in 2014, roughly \$7 billion of unsecured consumer loans were issued through online platforms. While this translates to less than 2% of the total US unsecured consumer credit market (\$845 billion), loan issuance via alternative platforms has grown by over 45 times since 2010. Lending Club and Prosper lead the US market for alternative lending in the personal loan space.

Figure 5: US Marketplace Lending has had the Most Traction in Consumer Unsecured and SME Lending thus far

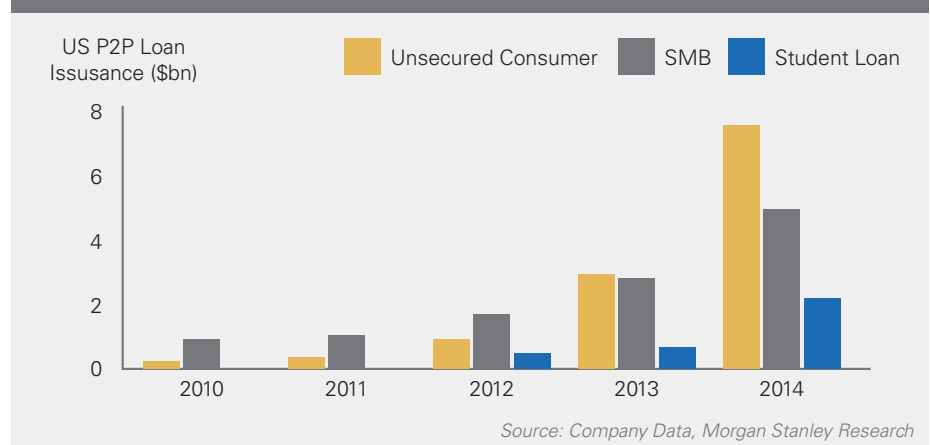


Figure 6: Marketplace Lending: Loan Issuance Volumes in the US

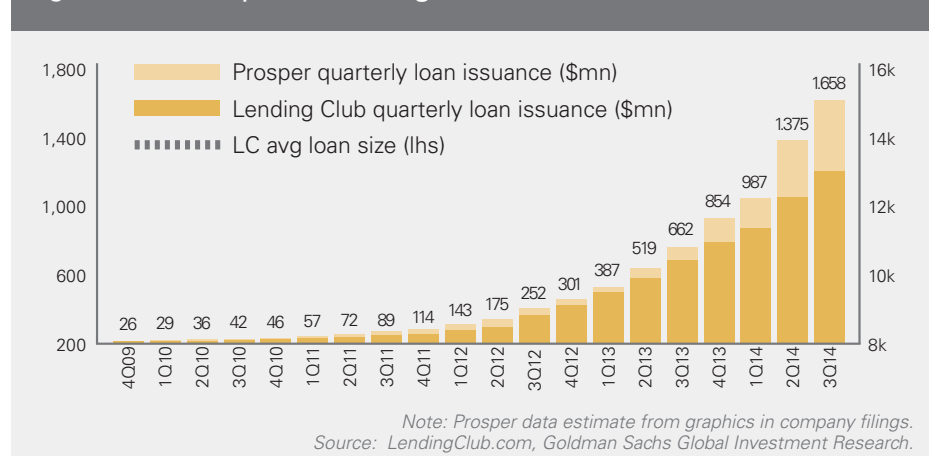
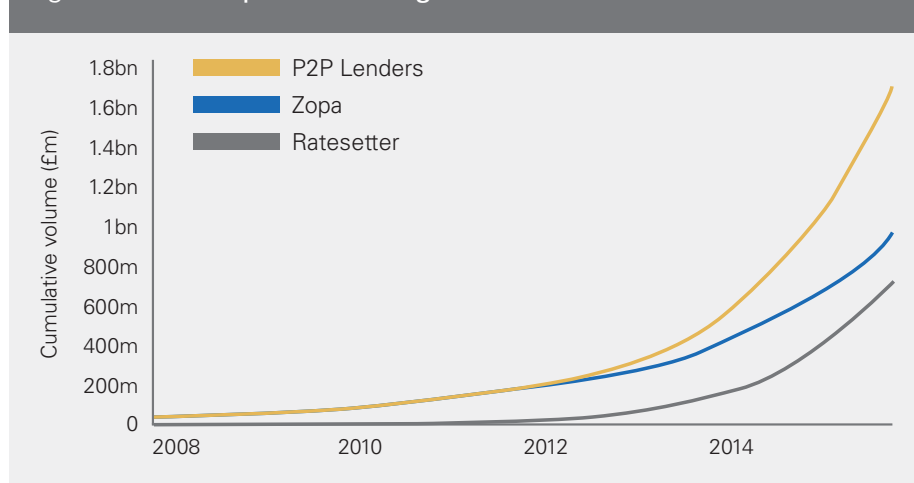


Figure 7: Marketplace Lending: Loan Issuance Volumes in the UK



Similarly, in the UK, 2014 consumer loans issuance by online marketplaces totalled £547million⁵ (US\$852.6 million). While a much smaller market than the US, the UK has also seen a strong growth of nearly 100% yoy in 2015. Zopa and RateSetter dominate the consumer lending market in the UK.

Products offered by alternative lenders are similar to personal instalment loans offered by banks – typically offering fixed rate, amortizing, short-to-medium term loans in the \$35,000 range. However, more than 83% of Lending Club's borrowers, for example, report using their loans to refinance existing loans or pay



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Lending Club



Lending Club exemplifies the alternative lending model for consumer loans. It is the largest online marketplace in the US. While its core offering is the personal loan product, it has also expanded into education, medical and small business financing. 75% of LendingClub's loans are funded by institutional investors. After several rounds of venture capital financing, LendingClub listed on the NYSE in December 2014 and was the first marketplace lending platform to go public. In 2014, Lending Club originated \$4.4 billion of loans and has issued over \$6 billion since it was founded in 2007.

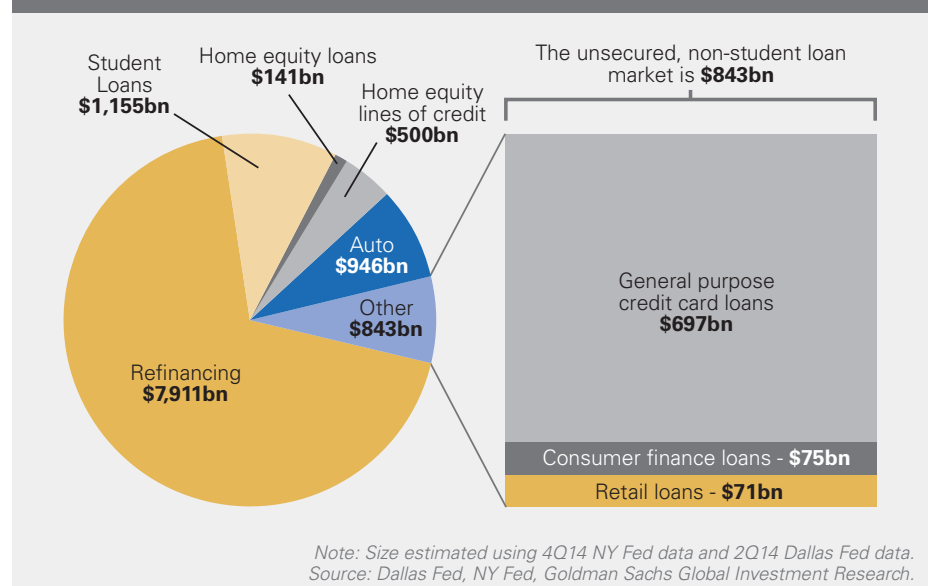
Figure 8: Lending Club Products

	Use	Size	Term	Security	Average APR	Repayment	Target Borrower	Funding Model
Personal Loan	Credit Card Refinancing	\$1k - \$35k	3 - 5 years	None	11.38% - 15.55%	Fixed, monthly payment automatically deducted from account / Option to pay by check for additional fee / No prepayment penalty	Prime Borrower: FICO 660+	Loans issued by partner bank are purchased and sold on to third-party investors. Small business loans are currently under Custom Loan Program - not offered on marketplace and only to private investors
	Debt Consolidation							
Business Loan	Home Improvement	\$15k - \$300k	1 - 5 years	Personal Guarantee. For >\$100k, lien on liquid business assets	14 - 19%		> \$75k in annual sales and 2 years in business	
	Major Purchase							
	Other							
	Debt Consolidation							
	Refinancing							
	Inventory Purchase							
	Equipment Purchase							
	Working Capital							

off their credit cards. This demonstrates how marketplace lenders in the consumer finance space are trying to capture a specific opportunity in debt refinancing / consolidation given their price advantage over traditional sources in the same segment. The high penetration of existing unsecured consumer credit in the form of high interest credit card loans in the US and UK, suggests that capturing even a small share of this segment can lead to large volumes for alternative lenders.

Figure 9 illustrates the existing depth of revolving credit card loans in the US, providing players such as LendingClub and Prosper an opportunity to refinance high-priced outstanding debt.

Figure 9: US Consumer Credit Market



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Zopa

Zopa is the UK's first marketplace lender. It was founded in 2005 and focuses exclusively on consumer lending. Since 2005, Zopa has issued £787 million of loans. 75% of Zopa's loans are funded by retail investors. Zopa offers its lenders a 'Safeguard Fund', to protect against potential borrower defaults.



Figure 10: Zopa Products

	Use	Size	Term	Security	Average APR	Repayment	Target Borrower	Funding Model
Personal Loan	Credit Card Refinancing Home Improvement Major Purchase Other	£1k - £25k	Short: 2 and 3 years Long: 4 and 5 years	None	7.40%	Fixed, monthly payment automatically deducted from account / No prepayment penalty	Typically super prime borrowers	Lenders decide risk and term, and system matches the money across different borrowers, with no more than 2% exposed to a single borrower

Figure 11 illustrates the existing depth of revolving credit card loans in the US, providing players such as LendingClub and Prosper an opportunity to refinance high-priced outstanding debt.

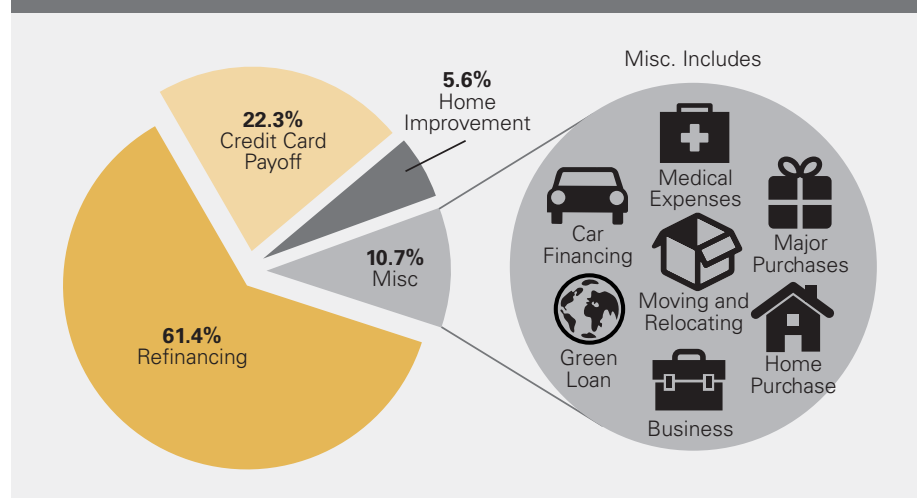
B. Small Business Financing

In the US, online marketplace lenders captured about 2.1% of total loan issuance to small and medium sized enterprises (SMEs) in 2014, roughly \$4.6 billion of lending. A Morgan Stanley study estimates that online marketplace lending to SMEs can reach \$47 billion and capture 16% of total SME loan issuance (\$294 billion) market.

In the UK, online lending volumes to small businesses totalled £749 million in 2014 and by the end of 2015, the UK alternative finance market is expected to provide over £1 billion worth of finance to over 7,000 SMEs⁶, equivalent to 2.4% bank lending to SMEs (£42 billion).

In both markets, online lenders have started to address a critical financing gap for SMEs. SMEs were hit hard by the 2008 financial crisis when banks' appetite for SME lending began to dampen. Furthermore, the complexities related to underwriting SME loans due to large information gaps, heterogeneity in the types of businesses and differing purpose of funds vis-à-vis the small size of loans that they seek and limited collateral, make SME lending a more complex and costly business for banks. Since 1995, banks started shrinking their SME loan books, leaving a significant financing void for small business owners. Access to capital, even

Figure 11: LendingClub Loans - Use of Proceeds



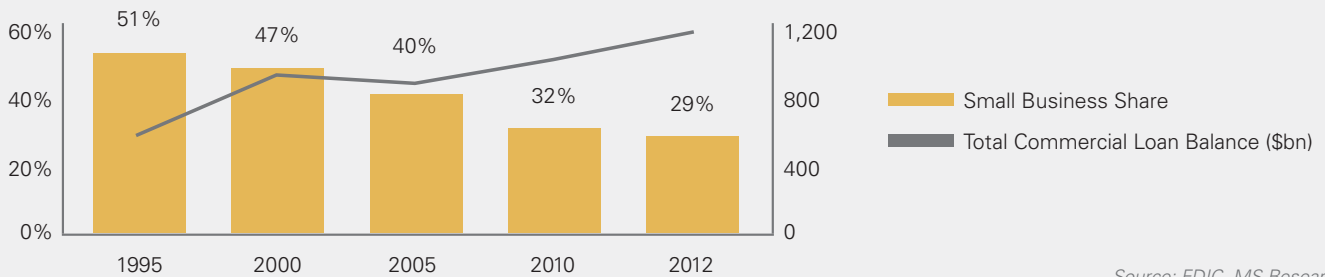
for some of the most profitable small businesses, has been one of the largest impediments to SME growth. The exhibit below shows how this financing gap has increased over the years, and allowed a vibrant marketplace to take shape online, filling a void in small business finance.

New Fintech firms (e.g. OnDeck and Kabbage) have stepped into this gap by finding novel ways to automate lending decisions to SMEs in ways that banks have not been able to. For example, a number of these companies allow SME's to connect a broad-range of business software (e.g. accounting tools, merchant acquiring platforms, etc) in order to provide a more holistic view of business cash flows that underpin credit decision engines.



The Rise of Alternative Lending in Developed Markets

Figure 12: Small Business Loans as a % of Total Commercial Loans in the US



Source: FDIC, MS Research

OnDeck

is the largest, US-based, SME-only focused online lending platform and has a unique funding model. It started off as a balance sheet lender when it was founded in 2007 and in 2014 executed the first securitization for SME loans from online lending. The company originated \$1.1 billion in loans in 2014 and is expected to issue an additional \$1.9 billion in 2015.



Figure 13: OnDeck Products

	Use	Size	Term	Security	Average APR	Repayment	Target Borrower	Funding Model
Line of Credit	Manage Cash Flows	up to \$20k	6 mos	None	35.00%	Fixed weekly payments automatically deducted from bank account	> \$200k in annual sales and 1+ years in business. FICO 600+	Warehouse lines of credit, securitization, whole loan sales to institutional investors
Term Loan	Buying Inventory Hiring New Staff Marketing	\$5k - \$250k	3 - 24 mos		53%	Daily or weekly payments automatically deducted from bank account	> \$100k in annual sales and 1+ years in business. FICO 500+	

Kabbage

Kabbage has an innovative platform that targets online merchants. It is one of the newer players in the market. Founded in 2010, it provides online businesses revolving lines of credit. In 2014 it launched a consumer lending platform called Karrot.



Figure 14: Kabbage Products

	Use	Size	Term	Security	Average APR	Repayment	Target Borrower	Funding Model
Personal Loan	Manage Cash Flows Working Capital	\$2k - \$100k	6 mos - funds can be drawn as often as once a day, and repaid amounts drawn again	None	68.00%	1/6 of balance repaid per month for 6 mos	Online merchants. FICO 550+	Warehouse lines of credit



The Rise of Alternative Lending in Developed Markets

C. Student Loans

While most activity has been in the personal finance and SME space, new entrants are applying similar marketplace/online lending models across other verticals. The student loan market, in particular, has gained traction with over \$3 billion in issuance in 2014 by SoFi and CommonBond. With over \$1.2 trillion of outstanding student debt, the largest market for student loans is in the US with volumes

having grown seven to eight fold between 2013 and 2014 alone.

Outside of student loans, a few players have also emerged in the mortgage and auto loans space. However, loan originations in these verticals have yet to achieve meaningful volumes. These transactions tend to be more complex, of higher value and in many cases non-bank originators (e.g. mortgage originators) already play a substantial role in distribution.

SoFi

Founded in 2011, SoFi (Social Finance) is a marketplace lender that has primarily focused on student loan refinancings in the US and recently entered new verticals such as mortgages and consumer loans. SoFi targets young professionals and recent university graduates. It originated \$1.4 billion of loans in 2014, and is expected to issue \$4.0-4.5 billion in 2015.



Figure 15: SoFi Products

	Use	Size	Term	Security	Average APR	Repayment	Target Borrower	Funding Model
Personal Loan	Manage Cash Flows Working Capital	\$5k - \$100k	3, 5 or 7 years Fixed or Variable	None	35.00%	Fixed monthly payments Discount of 0.25% for AutoPay No prepayment penalty	Prime borrowers. Young graduates. FICO 700+	Warehouse lines of credit, securitization, whole loan sales to institutional investors
Mortgage	Purchases of primary owner-occupied residences and second homes	Min 10% downpayment	7, 15 or 30 years	Yes. But no private mortgage insurance	Varies according to level of downpayment and term			
Student Loan	Student Loan Refinancing MBA Loans	\$10k to full amount of education loan	5 - 20 years	None	5.88%			

Prodigy

Prodigy Finance targets the international MBA and other post graduate student population and finances students' tuition and other education related expenses through schools' alumni networks. It was founded in 2007, and since then has disbursed over \$86 million in loans.



Figure 16: Prodigy Products

	Use	Size	Term	Security	Average APR	Repayment	Target Borrower	Funding Model
Student Loans	Finance MBA Education	Depends on MBA program, but covers tuition and education expenses	7-10 years, Variable Rate	None	Depends on MBA program Representative APR of 8.3-8.8%	Fixed monthly payments No prepayment penalty Payments made through thirdparty payment processors - TransferWise and WorldPay	International students enrolled in MBA programs	SPV issues pools of university specific bonds on Irish Stock Exchange. Funded by alumni investors and other accredited investors



The Rise of Alternative Lending in Developed Markets

D. Key Success Factors

Our analysis of alternative lenders' business models in key segments of banking – consumer and small business finance – have helped us identify factors that give alternative lenders a competitive advantage over traditional banks. Advancements in the use of technology has been the key enabler in all aspects – whether it has helped reduce costs, provide better means to underwrite credit, tailor offerings to borrowers or maintain robust risk management processes. Here is a look at each of these factors and how they have enabled alternative lenders to start playing a significant role in banking.

- **Asset-Light Operations & Low Regulatory Burden Provide Cost Advantages:**

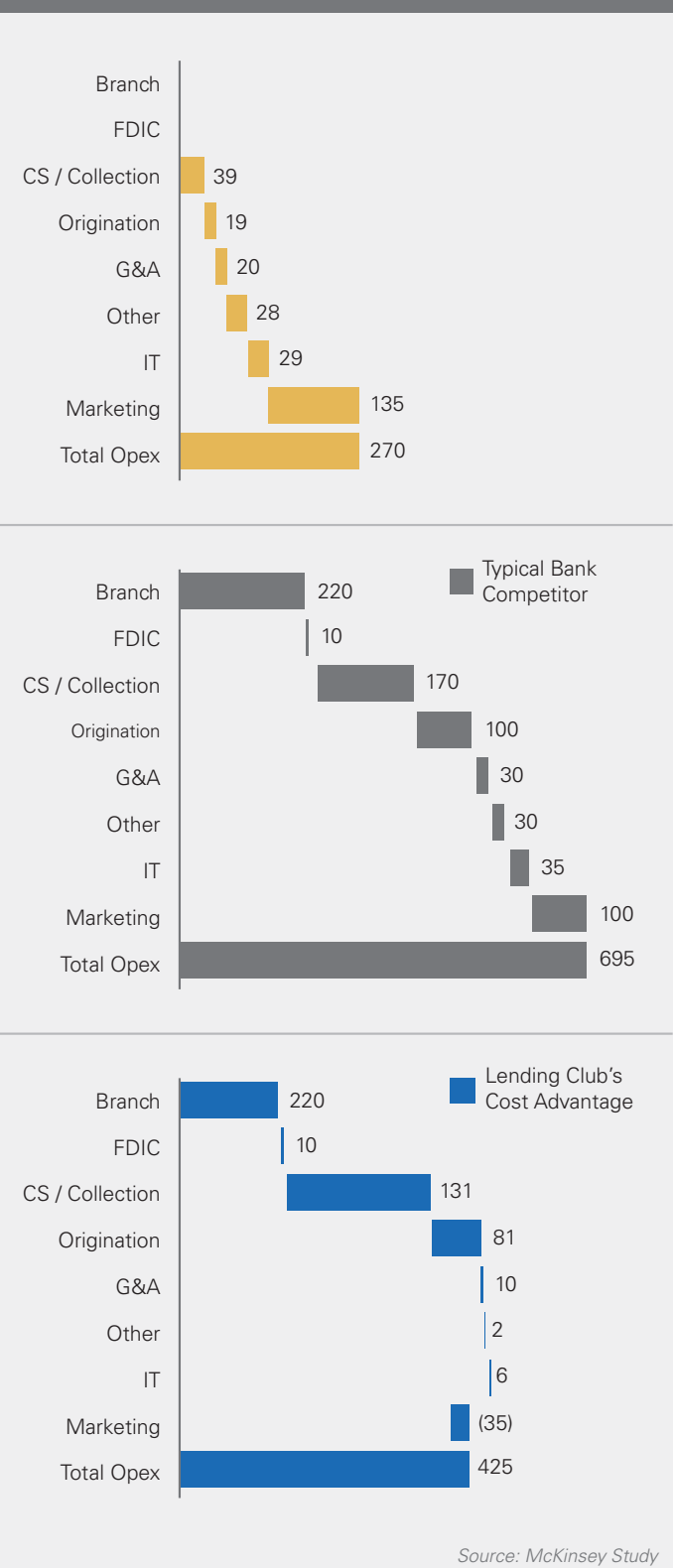
Online lending platforms have turned lending from manual, branch-centric and labour-intensive back office operations into automated exchanges, giving alternative lenders a significant cost advantage over traditional banks. Alternative lenders benefit from a lower cost structure than banks by using automated, end-to-end integrated online technology rather than physical branches and labour intensive underwriting and collection processes. Furthermore, alternative lenders are not regulated as deposit-taking institutions, reducing the administrative burden and costs of complying with bank regulations – albeit this is a small proportion of the overall cost advantage.

Using Lending Club – the most mature of the online lending platforms – as an example, a McKinsey study shows that this cost advantage translates to an over 400 bps savings in operating expenses (as a percent of loans outstanding). Approximately 50% of this difference is due to cost savings associated with the lack of expensive branch networks, and a further 30% from more detailed credit scoring and collections mechanisms. It is Apis Partners' view that as borrowers and investors become increasingly comfortable with alternative lenders as a valid source of securing consumer finance, these advantages are likely to embed themselves in more strongly (e.g. marketing costs will reduce for alternative lenders, branch costs will be need to be spread over fewer customers, etc).

- **Capital Arbitrage Allows Competitive Pricing for Borrowers and Higher Return on Equity for Investors:**

Most online alternative lenders operate using a marketplace model, perfectly matching assets and liabilities between borrowers and investors without taking any credit risk. This allows them to be more 'capital efficient' than incumbents that operate under the traditional fractional-reserve banking system and are thus required to hold high – and increasing - levels

Figure 17: Marketplace / P2P Cost Advantage (Opex / Total Balance Outstanding, in bps)

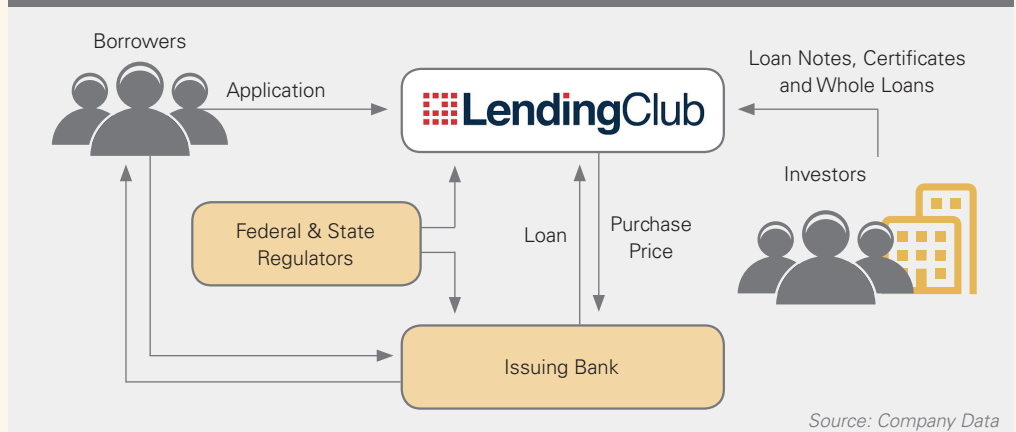


The Rise of Alternative Lending in Developed Markets

Lending Club's Loan Issuance Mechanism:

Lending Club and other US-based marketplace lenders that provide consumer finance partner with banks to meet the legal and regulatory requirements of issuing consumer loans. Lending Club issues its loans through WebBank (which earns a monthly fee based on loan issuance volume) an industrial bank chartered in the state of Utah. WebBank – or the Issuing Bank - “originates” the loans with Lending Club then purchasing the loan from the Issuing Bank, these loans are then “sold” as notes to institutional investors according to their underlying risk rates. In the long run, marketplace lenders plan to issue loans under multi-bank partnerships.

Figure 18: LendingClub's Funding Model



of capital against their assets. This capital advantage allows marketplace lenders to be more competitive on rates they offer to their borrowers. Case in point, the borrowing rate offered to A* credit category borrowers by Zopa was 170 bps⁷ lower than the median rate of leading banks in the UK. Similarly, in the US, borrowers on Lending Club are able to get loans at rates that are 300-400 bps⁸ better than what they could get either from banks or credit card companies.

The analysis in figure 19 is an example of how marketplace lenders can achieve this simply because of their ability to leverage their balance sheet more than traditional banks. Lower capital restrictions allows alternative lenders to increase their financial leverage, achieving higher returns on equity despite having lower – or comparable - net interest margins and return on assets. The example below is for illustrative purposes, and it should be noted (as also highlighted above) that expense ratios actually differ between banks and non-banks.

- **Underwriting Based on Non-Traditional Data and Advanced, Predictive Models:**

Alternative lenders are employing more innovative means for credit assessment than traditional banks. Unlike banks, which primarily rely on data from credit bureaus, alternative lenders are able to draw novel insights on borrowers by using new and multiple sources of data such as digital footprint (e.g. the device being used to log the loan request from), online presence (e.g. Zopa checks applicants' activity on online gambling sites), social

Figure 19: Ability of Non-Banks to Lever Up Offers Significant Advantage

	Bank	Non-Bank Institution
Revenue Yield	18.0%	17.0%
Less: Cost of Funds	(1.3%)	(2.5%)
NIM	16.7%	14.5%
Less: Net Charge Offs	(4.0%)	(4.0%)
Risk-adjusted NIM	12.7%	10.5%
Less: Expensive Ration	50%	50%
Less: Taxes	30%	30%
Return on Assets	3.0%	2.3%
X Leverage	10x	20x
Return on Equity	30.5%	45.5%

Note: Revenue - Interest + Fees / Source: Morgan Stanley Research.

media accounts (e.g. social media for identity verification) and even behavioural data such as how much time prospective borrowers spend deciding on the amount of loan to request.



The Rise of Alternative Lending in Developed Markets

Figure 20: Time Spent in Loan Application used as Behavioural Data

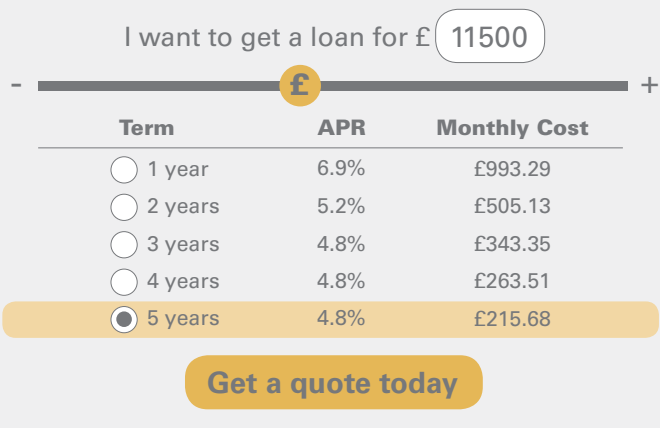


Figure 21: Non-Traditional Sources of Data

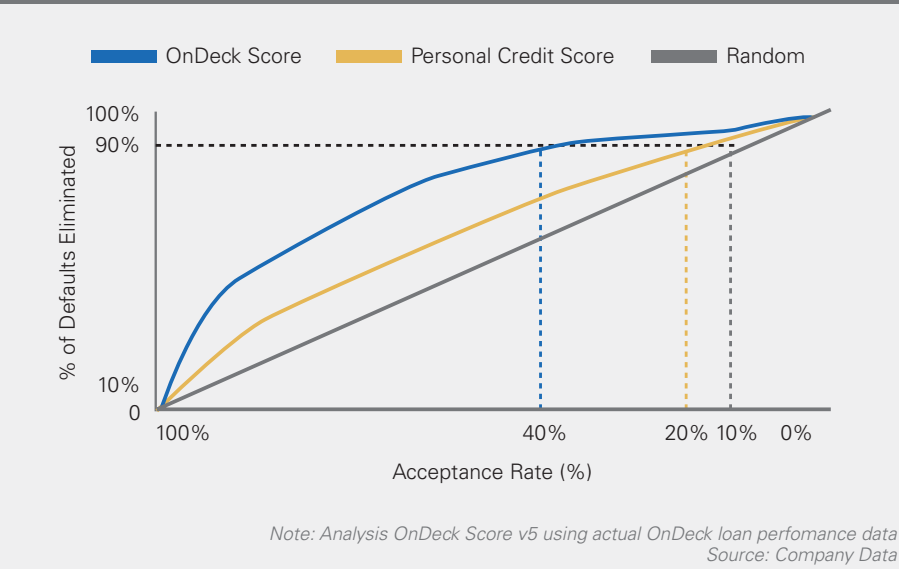


This advantage is especially visible with SME lending, where standardized methodologies for analysing business risk have been limited or have not provided sufficient detail. Traditional lenders rely primarily on owners' personal credit histories as a primary indicator of small business' creditworthiness. Using novel sources of data (for example, sales volumes from business credit cards or accounting programs) has allowed alternative lenders to gain deeper insights into the underlying business risk and make underwriting decisions that are more reflective of business' operations rather than an owner's credit history. This has also taken away the need to rely on collateral or personal guarantees to extend SME loans.

Access to novel sources of data opens up a new market for alternative lenders who are now able to underwrite loans for borrowers with unconventional backgrounds or that lack prior credit history. Despite being creditworthy many new customers may be turned away by banks because conventional credit bureau data that banks rely on do not capture a borrower's intent or future ability to pay. Alternative lenders, on the other hand, use new data sources to predict creditworthiness more accurately, and in doing so, are able to satisfy unmet demand.

However, unless used in a meaningful way, data means nothing. The proprietary credit models that alternative lenders use to

Figure 22: Marketplace Lending Risk Models Can Outperform Traditional Lending



churn regressions and correlations on the data they collect are just as important drivers of their competitive advantage. The models are not only tested and revised regularly, but their 'machine-learning' ability is able to create a feedback loop that continuously improves the accuracy of the models as more data is collected. As platforms increase in scale, the algorithms are able to collect better loan performance data and improve their credit analysis. As the accuracy of the data and model improves, alternative lenders are able to lower rates to borrowers, widening the pool of borrowers that are able to obtain loans from alternative sources, feeding more data into the system, further driving growth.

Figure 22 demonstrates that by smartly using non-traditional sources of data, marketplace lenders are able to improve



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the quality of their overall loan portfolio accepting more 'good borrowers' and rejecting more 'bad borrowers' than they would if they relied on traditional underwriting processes alone.

- Improved Customer Segmentation & Risk Based Pricing:**

In traditional lending, pricing tends to be segmented into tranches with either limited or slow adjustment for pricing at an individual/ customer level. For example, in the US, while interest rates and credits losses (which determine average net charge offs over which lenders price a spread) have been historically low, average credit card rates to borrowers have not decreased commensurately.

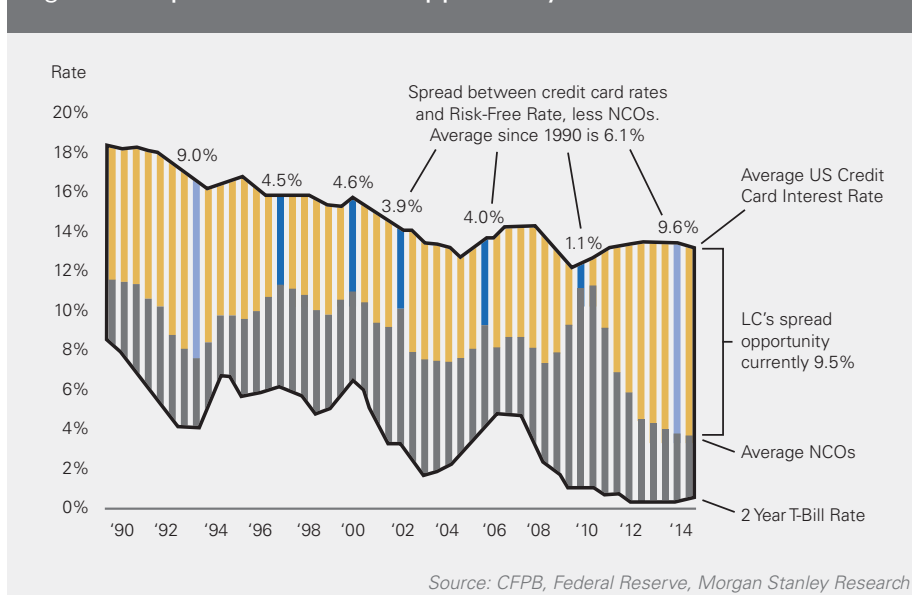
Figure 23 illustrates the 'spread opportunity' for marketplace lending platforms in the US, due to the high interest rates charged on credit cards despite lower interest rates and expected bad debts / net charge off rates.

Banks' in-house pricing models tend to segment customers into a defined number of risk categories and have standardised pricing within those categories. On the other hand, alternative lenders' sophisticated data-driven credit scoring systems allow them to infinitely segment customers and adjust pricing and product offering to the point that makes most sense for that individual customer.

This is especially beneficial in segments where there are significant variances in credit risk and is best illustrated with examples from the student loan segment. US-based SoFi and CommonBond, for example, have capitalized on the US government's 'one-size-fits-all' single interest rate pricing of federal loans. These alternative lenders target 'super-prime' students (FICO scores of above 700) and within that band, apply their own risk-adjusted pricing to offer lower rates to more creditworthy borrowers. Prodigy Finance, another Fintech player in this segment, targets international MBA students and uses factors such as borrower's education history and future earning potential to overcome the limitations that banks face when pricing 'international' risk.

As alternative lenders improve their risk-based pricing models to incorporate both historical and a wider-set of non-traditional metrics, customers can further benefit from lending rates that more accurately reflect their current circumstances and adjust

Figure 23: Spread Differential Opportunity in US Consumer Finance



more rapidly throughout their lifetimes. This in turn will drive customer retention and reduce customer acquisition costs, the single largest expense item for most alternative lenders.

- Technology-Based Platforms Provide Convenience Advantage:**

Borrowers often choose alternative lending platforms because of the convenience and ease of use platforms provide. This is especially relevant in the SME lending space. In a survey conducted by Nesta on the UK alternative finance market, over 90% of borrowers cited speed, ease of use and easier way to get funding as reasons for choosing alternative lending platforms over traditional banks.

On average, small businesses can spend 26 hours on loan applications, contact 2.6 financial institutions, submit 2.7 applications per financing and still have a mere 47% approval rate. Online lenders, on the other hand, allow small businesses to submit applications within 30 minutes, receive immediate credit decisions and fund loans in as little as 7 minutes.

Paperless application processes remove burdensome documentation requirements. Powerful credit scoring models eliminate the need for long in-person meetings and manual underwriting process, and instead credit decisions are made within minutes. Automated payments and direct integration with bank accounts allow immediate funding.

The automated processes also make it easier for borrowers to



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obtain repeat loans. OnDeck, for example, provides existing borrowers access to new loans as soon as 50% of existing balances are repaid. The integrated platform and the real-time risk models ensure that the new underwriting process is entirely automated from the front-end, providing SMEs easy access to additional financing on an ongoing basis.

- **Growth in new distribution channels provide new routes to access customers:**

Online lenders are expanding their reach by increasingly relying on strategic partnerships and in doing so, lowering their cost base. As online marketplace lending is still in a nascent stage, alternative lenders are investing a significant percentage of their expenses on marketing and distribution efforts, as compared to traditional banks. The cost breakdown for Lending Club, for example, shows marketing expenses reach almost 50% of operating expenses whereas for traditional banks this tends to range in the single digits or low teens.

The main channel for originating borrowers has been direct mail campaigns and in some cases commissioned brokers (for example, OnDeck uses 'Funding Advisors'). However, alternative lenders are diversifying their distribution channels and increasingly relying on strategic partnerships to build scale and lower customer acquisition costs.

Figure 24 shows how origination through strategic partners reduces OnDeck's customer acquisition costs by over 50% compared to other distribution while maintaining a high customer lifetime value.

In certain cases, alternative lenders have been able to eliminate customer acquisition costs completely⁹. Lending Club, for example, has partnered with Alibaba as an exclusive point of

sale financing partner for US SMEs looking to purchase inventory from Alibaba's website, while Alibaba benefits from increasing customer purchasing activity. SMEs can automatically apply for short-term working capital loans through the website. The customer acquisition costs in this partnership is practically zero and repeat sales are more likely because of the seamless integration of the platform on Alibaba's website.

Other examples include SoFi's partnership with the top 100 US universities to attract the most creditworthy borrowers, Zopa's partnership with Uber to help drivers purchase cars, and LendingClub's partnership with BancAlliance (consortium of community banks) to access the SME market. Alternative lenders are also partnering with online lead generators such as CreditKarma in the US and Moneysupermarket in the UK, who provide price comparisons and direct traffic to the most competitive lenders' websites.

- **Innovative and adaptive collection means:**

Alternative lenders are leveraging their technology-enabled platforms to instil tighter controls and limit losses on the loans they provide. Like most banks, alternative lenders almost always require collections via Automated Clearing House (ACH), where payments are directly debited from borrowers' bank accounts. However, unlike banks, alternative lenders' use of technology gives them the flexibility to collect smaller amounts more frequently and in cases where they work with online merchants or merchants with a high percentage of point of sale (POS) transactions, these players are able to deduct a percentage from regular cash flows, in order to match the company's business cycles (e.g. PayPal Working Capital).

Big data plays a significant role in risk management. Online lenders rigorously track data on repayment trends and collect data on a real-time basis allowing them to react to downturns more quickly than banks who update their risk models on a monthly or quarterly basis. Big data is also used to optimise collections procedures, for example, helping determine which methods to contact which clients and when.

New entrants are also leveraging the constructs of community enforcement (a model that has been successful in the microfinance sector) to mitigate payment default. This is most evident in the student loan segment. Prodigy Finance, for example, displays student profiles online to alumni investors as well

Figure 24: OnDeck's Customer Acquisition Costs (% of Loan Size)



Source: Company Data, Morgan Stanley Research



The Rise of Alternative Lending in Developed Markets

as school administration to increase accountability from social pressures of being party of an MBA community. SoFi uses its community of lenders and borrowers to offer programs such as career coaching, networking events, and entrepreneur support to help improve the financial standing of its borrowers, and in turn, increase the likelihood of repayments.

While these are all aspects traditional banks can recreate, the focus on using data and more adaptive and flexible platforms means that alternative lenders are leading the way in optimizing collections.

E. Product Expansion

Alternative lenders are rapidly entering different verticals of the credit market leveraging the scalability of their existing platforms to provide a more holistic suite of products to their borrowers and diverse range of asset classes to their investors. LendingClub saw that many of its borrowers are also owners of small businesses and in 2014 entered the SME lending vertical. Similarly, Kabbage launched a personal loan platform for its SME

borrowers. In the student loan space, SoFi, expanded beyond student loan refinancings to offer mortgages and personal loans to its target borrowers – recent graduates who are entering a phase in life where they are making their first investments, buying their first homes and starting families. We are seeing the lines blur, and just like the traditional banking model, emerging players are starting to offer a full suite of products to meet borrowers' different financing needs.

Furthermore, we see alternative lenders starting to position themselves as an "Amazon" of Financial Services, with players such as Credit Karma and Kreditech providing platforms that allow customers to manage their financial services requirements on an end-to-end basis. In these platforms, alternative lenders either provide their products directly or work with best-of-breed monoline providers (e.g. remittance, auto-loans, savings products, etc). Over the long-run, this is increasingly a concern for banks as "owning" the customer relationship has been at the core of long-term value creation for a retail bank. Moving towards a product only mentality can further disadvantage banks with their larger cost base, legacy systems and regulatory burden.



How Technological Innovation is Changing the Way We Save and Invest

In the previous section we focused on the asset side of the bank's balance sheet and discussed how the rise of technology-enabled lending platforms have facilitated easier access to capital for borrowers across different segments of the credit market. We now look at the liability side, and how online lending platforms are also providing investors and savers an alternative to placing their money in bank deposits.

Savers have been living in a low-rate environment for several years and have struggled to find savings product that provide 1) liquidity 2) yield and 3) capital protection.

Alternative lending platforms provide savers with higher yielding investment opportunities than savings accounts and other short-term investment instruments offered by banks. In the US, Prosper and Lending Club offer its investors a 6-9%¹⁰ yield pick up over US deposit accounts. Similarly, in the UK, P2P platforms can offer savers a c.3-4% pick up versus rates offered on individual savings accounts.

New players are providing easy access and sophisticated alternatives to deposit and savings accounts with the idea of empowering savers with tools to invest into new asset classes

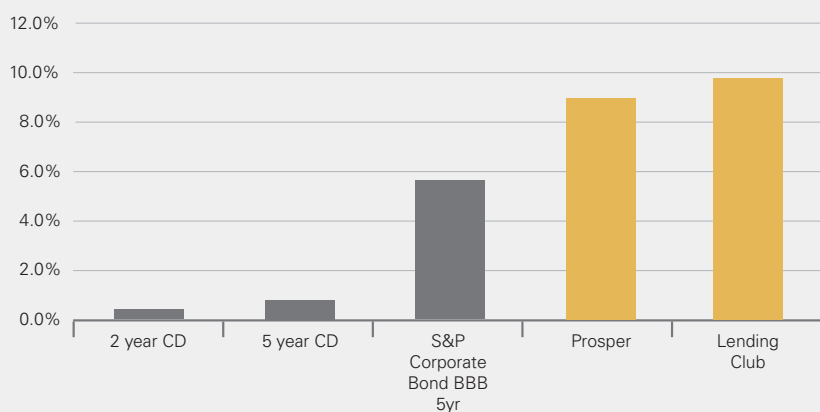
traditionally held by banks. Platforms allow investors to exercise control over their investments by diversifying into a variety of credit grades, yields and durations. At the same time, automated processes allow investors, just as they do with their savings accounts, to invest passively based on preset loan criteria.

Despite these advantages, the savings function that banks offer is more difficult to disrupt because of two essential features of bank deposits: Firstly the promise to keep savers' money safe. That promise is backed by the full faith and credit of governments through agencies such as the Federal Deposit Insurance Corp and the National Credit Union Association (US) and the Financial Services Compensation Scheme (UK). And secondly, in most cases - the provision of instant liquidity, allowing customers to withdraw their deposit from banks at any point in time.

However, we are seeing this evolve as marketplace lenders structure solutions to offer some level of principal protection to their investors. Some examples include:

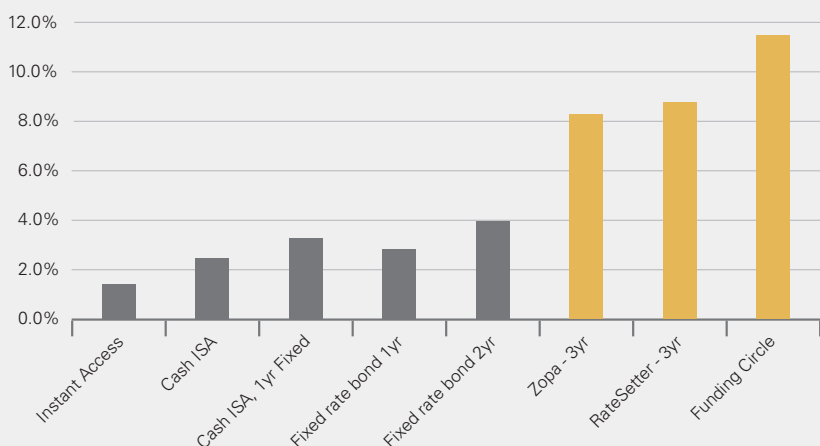
- **RateSetter** and **Zopa** in the UK have pooled provision/ safeguard funds to cover investors against borrowers' default risk. A portion of the total amount lent (usually paid via borrowers' fees) is pooled in a separate account. Should there be a borrower default, the fund can be drawn upon to make affected investors whole. The depth and coverage of the funds are calculated using various metrics such as expected default rate, lending volumes, likelihood of claims, etc and varies from

Figure 25: US: Bank Deposit Rates vs. P2P net yields



Note: 3y expected net yields.
Source: Prosper, Lending Club, Liberum.

Figure 26: UK: Bank Deposit Rates vs. P2P net yields



Note: 3y expected net yields.
Source: Zopa, Funding Circle, RateSetter.



How Technological Innovation is Changing the Way We Save and Invest

platform to platform. Despite most platforms sustaining a coverage of over 100%, these funds cannot be equated to deposit insurance by the state-backed Financial Services Compensation Scheme (FSCS). In fact, a provision fund cannot protect lenders against the platforms' own bankruptcy. RateSetter has a provision fund of £15.5 million (US\$23.7 million) with a coverage of 147%, and Zopa has a fund of £10.3 million (US\$15.8 million) with a coverage of 118%.

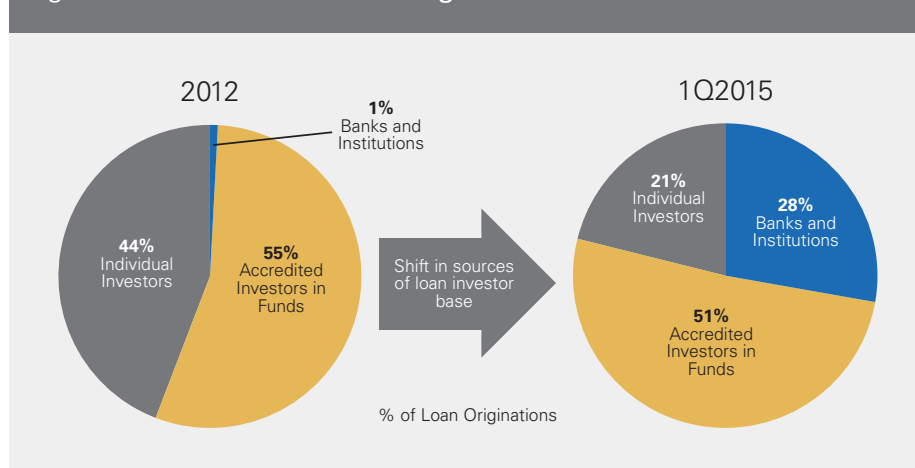
- In the US, **Prosper** has developed a mechanism to protect its investors from losses related to the platform's own bankruptcy. It has done so by creating a special purpose legal entity that is bankruptcy remote and involved in purchasing loan notes from the issuing bank. This entity must follow certain formalities to reinforce its status as a distinct corporate entity from Prosper's main legal entity in order to minimize the likelihood it would undergo the same bankruptcy proceedings as Prosper. Again, unlike FDIC insurance, Prosper has been able to reduce the risk of principal loss but not completely eliminate it.

Whilst mechanisms to address principal security are evolving, investing in loans through marketplace lending platforms, binds investors to the maturity of the loan product. On platforms such as LendingClub and Prosper, investors may be bound to the 3 to 5 year maturities of the loan notes they purchase. However, marketplace platforms have designed ways to provide investors with an opportunity to realize some form of liquidity through partnerships with note trading platforms that allow investors to buy and sell their loans in a secondary market.

Taking Lending Club as an example, when it launched in 2007, there was no way for investors to liquidate their investments before maturity. However, in 2008, LendingClub registered its notes as securities and partnered with FOLIOfn to manage a secondary trading platform for those notes. The trading platform brought liquidity to a new asset class, but understandably with restrictions such as the availability of a willing buyers and willing sellers market. This is in contrast to the instant liquidity provided by deposit and savings accounts from traditional banks.

The question then arises as to whether marketplace lending platforms are providing individuals easy access to investments, to enable a meaningful shift from bank deposit and savings accounts to investment opportunities on the platforms. As can

Figure 27: Investors on LendingClub's Platform



be seen from the Lending Club example below, Lending Club's investor base today has shifted from what used to be primarily retail towards institutional capital.

As marketplace platforms increase in scale and develop better track records, they are drawing in large pools of money from institutions such as hedge funds, pension funds and even banks. While institutional funding is gaining traction across all markets, the US has seen the most rapid shift. In the US, many marketplace lending platforms give priority to investors with larger pools of capital, in essence providing them with a first refusal on loans and enabling institutions first access to the best loans. In the UK, despite the increasing interest from institutional investors, most marketplace platform's algorithms randomly allocate funding between institutional and retail investors. This, and the provision of protection in the form of a safeguard/ pooled provision fund, are the main reasons as to why platforms in the UK are largely retail funded.

Over the medium-term (3-5 years) we are likely to see a continued proliferation of alternative lending products that increasingly encroach on what retail investors would view as "savings accounts." Whilst the provision of products with principal protection and instant liquidity is at an earlier stage for alternative lenders, the lower cost of funding that would be unlocked through addressing these issues and thus accessing traditional retail deposits ensures that these firms are increasingly looking for ways to address these items either directly (e.g. provision pools for principal protection) or through partnerships (e.g. FOLIOfn for liquidity).



Drivers of Banking Disintermediation

The Nine Drivers of Disruption



1. Increasing Regulatory Oversight on Incumbents



2. Deep and Diverse Sources of Liquidity



3. Low-Interest Rate Credit Environment



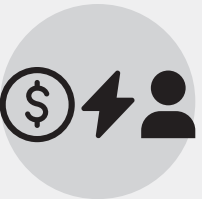
4. Access to Big Data



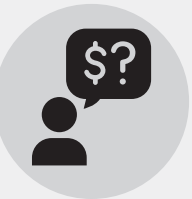
5. High Levels of Online Connectivity



6. Large Millennial Population



7. Efficient Payments Infrastructure



8. Significant Unmet Demand for Credit



9. High Penetration of Consumer Credit

Our analysis of the business models of the emerging Fintech players has helped us identify nine key drivers that have enabled the disruption of one of the most important functions of banking – the intermediation between deposit-taking and lending. The US and UK are currently witnessing the rapid growth of alternative financial services providers who are enabled by technology to take advantage of this perfect storm of opportunities. These drivers are allowing alternative players to innovate solutions and provide borrowers and savers improved end-to-end user experiences, access to financial products, and personalized solutions to better meet their financing and investing needs.



Driver #1: Increasing Regulatory Oversight on Incumbents and Progressive Regulations on Emerging Players

Basel III has - in most cases - increased requirements on banks to improve their capital holdings. Dodd Frank has increased banks' compliance costs. Deposit-taking banks in the US have to comply with FDIC regulations. Increased regulatory oversight on banks since the 2008 financial crisis has made lending to consumers and small businesses a more costly proposition. This has led banks to shrink their balance sheets and allowed new entrants an opportunity to fill the financing gap.

At the same time, regulations on new entrants have been more lenient compared to incumbents. While, the FCA in the UK has taken a measured approach towards fintech players (including minimal capital requirements), overall regulations have been conducive to instilling trust in this nascent sector of finance. In fact, the government itself has shown direct support through actions such as channelling funds to SMEs through online platforms. In the US, regulations around emerging players are still uncertain, enabling online lenders to by-pass the strict regulations imposed on lending institutions, through measures such as partnering with FDIC-insured banks. Regulations in the US are expected to evolve. As a first step, for example, the US Department of Treasury has begun an information gathering process on marketplace lending.



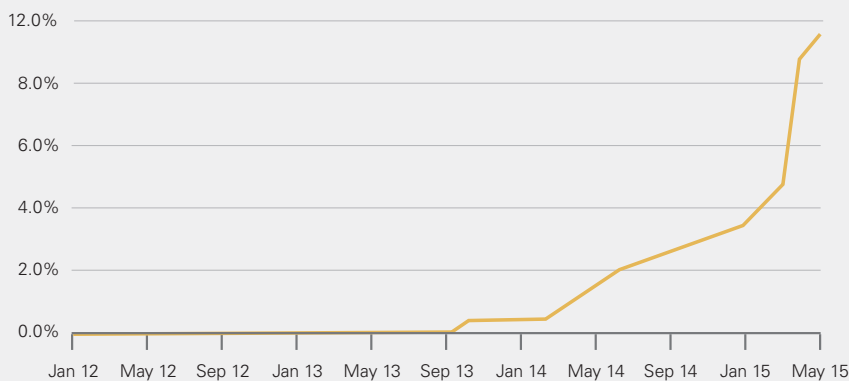
Driver #2: Deep and Diverse Sources of Liquidity

Investor demand for alternative asset classes has provided the liquidity to fund the loans / investment products offered on online platforms. While online lending platforms started off mainly catering to retail investors, institutional capital (including family offices, hedge funds as well as larger institutions) is now the main source of liquidity. Thriving capital markets that can provide deep pools of liquidity and a diverse investor base have been key to ensuring that the range and volumes of instruments offered through the alternative platforms are sufficiently funded. This is



Drivers of Banking Disintermediation

Figure 29: Institutional Fund Flows into Marketplace Lending in US and UK



Source: Company Data, P2PGI, Victory Park, British Business Bank, Morgan Stanley Research



Driver #5: High Levels of Online Connectivity

High internet and smartphone penetration translates to high levels of connectivity. This has had a two-fold impact. First, increased connectivity enables technology-based platforms easier access to information and the ability to gather real-time, 'passive' data from multiple channels. Secondly, increased connectivity provides a platform for alternative lenders to access 'tech-savvy' consumers, essentially reducing the monopoly of the traditional banking branch on financial product sales (for example, through online social media, search engine marketing or online lead generators such as CreditKarma).

critical to driving loan originations (for lending platforms) or assets under management (for investment platforms).



Driver #3: Low-Interest Rate Credit Environment vis-à-vis High Lending Rates

Marketplace lenders have been able to capitalize on the spread differential between what banks charge and a minimum-loss adjusted returns that investors are willing to pay for the risk (the risk free rate plus a premium for the underlying credit risk). The combination of all-time low interest rates, low default rates and high priced outstanding debt have created a 'spread disintermediation' opportunity for marketplace lenders. As loan losses and interest rates rise, marketplace lenders can experience headwinds to growth, with a smaller 'spread' to distribute amongst borrowers and investors. Furthermore, borrower demand could decline in a high rate environment as borrowers might be discouraged to take on additional debt.



Driver #4: Access to "Big Data" Analytics via Deep and Available Traditional Credit and Alternative Data Sources

The accessibility, quality and availability of thousands of data points from various external sources including mobile network operators, public websites, credit bureaus and public records and the ability to convert that data into valuable insights through advanced risk analytics have enabled alternative platforms to better understand consumer profiles and create value by better grading risk, customizing products, creating innovative user experiences and improving the quality of the loan portfolios.



Driver #6: Large Millennial Population Driven By 'Millennial Attitudes'

Millennials are engaging more actively in the use of financial services than ever before – they have higher spending habits, less money to spend and are encumbered with large amounts debt. Millennials also have very distinct consumer preferences and are more socially and digitally connected. Technology-based financial service providers have offered simple, convenient, single-purpose solutions that have appealed to a generation that is reaching its prime working and spending years and expected to have a significant impact on economic activity.



Driver #7: Efficient and Well Established Payments Infrastructure

The ability of online platforms to process and fund transactions with speed and efficiency and tightly control repayment and collection processes through optimized collection processes, electronic funds transfer and automated debits and credits is made possible through the existence of sophisticated back-end payment technologies and support systems. Advanced / modernized payment infrastructure enables automation and seamless transfer of funds between different platform users.



Driver #8: Significant unmet demand for Credit

Underpenetration of bank debt in certain segments of the market provides an opportunity for alternative lenders to bring new products that better meet the needs of consumers and fill that financing gap. For example, SMEs face large unfulfilled



Drivers of Banking Disintermediation

credit needs and banks are often unable to provide tailored solutions to this highly fragmented segment of the market. Online marketplace lenders have been able to tap in to this opportunity by offering products that better cater to SMEs' needs (for example, shorter tenor loans, flexible repayment options to stabilize cashflows, etc) and fill this void.



Driver #9: High penetration of consumer credit

Alternative lenders both in the US and UK have benefitted from a large and highly penetrated unsecured consumer credit market, where a significant portion of the outstanding debt has been in the form of credit card loans. This has provided a meaningful opportunity for alternative lenders to offer replacement products in the form of debt refinancing or consolidation at lower rates. Even capturing a small share of this market has translated to a rewarding opportunity for alternative lenders.

We note that in more developed markets such as the US and the UK, we have seen very distinct drivers that have enabled marketplace lenders to penetrate the consumer or the SME segments of the market. While the opportunity in the SME segment lies in fulfilling the unmet needs of the underbanked, the consumer finance space has been driven by the replacement of high-priced outstanding debt with a lower-priced alternative. In most emerging markets, where SMEs are smaller in scale, this distinction between SME and consumer credit is harder to make. As such, we expect to see one or the other of the 'unmet demand' or 'high penetration of existing debt' driver to prevail.

Figure 30: Title: Millennials as Agents of Change



Apis Scorecard for Banking Disintermediation

We have developed a scorecard to measure how countries fare against each other on the potential for online marketplace lending to disrupt traditional banks in different markets. We have calculated a score for eight developed and emerging market countries against the drivers identified above to understand how ripe the environment in each of those countries is for disintermediation by technology-enabled alternative lenders, relative to one another. Under each category, the countries have received a score of 1 to 100, with a high score implying that the country is more susceptible to disintermediation. Details of the indicators used to calculate the score under each category are provided in the Methodology section.

		US	UK	South Africa	China	Kenya	Indonesia	India	Nigeria
Increasing Regulatory Oversight on Incumbents	<i>Measures the change in bank capital regulations, official supervisory powers and private monitoring over banks between 2001-2012. A higher score implies regulations have become more stringent over time.</i>	91	60	79	78	87	96	100	83
Deep and Diverse Sources of Liquidity	<i>Measures the depth and efficiency of financial institutions and financial markets. A higher score implies more active capital markets and deeper pools of liquidity.</i>	100	63	49	68	13	21	33	8
Spread Opportunity	<i>A proxy for the differential between the risk-free rate and average borrowing rate. A higher score implies a higher spread differential.</i>	77	94	72	90	88	100	94	90
Depth and Availability of Credit and Alternative Data & Big Data Analytics	<i>Measures the availability, accessibility, quality, coverage and potential to collect and analyze traditional and non-traditional credit information. A higher score implies easier access to and availability of data used for credit analysis.</i>	100	96	64	43	15	38	50	39
High Levels of Online Connectivity	<i>Measures connectivity based on Internet and smartphone penetration. A higher score implies higher connectivity.</i>	85	100	48	52	27	31	21	27
Efficient and Well Established Payment Infrastructure	<i>Measures the efficiency and quality of back-end payments infrastructure based on usage of ATMs, electronic payments, mobile phones and debit cards for payments. A higher score implies a more advanced national payment structure.</i>	100	95	42	28	44	13	11	21
Unmet Demand for Credit	<i>Measures the gap in credit for consumers and SMEs, with a higher score implying a greater 'access to finance' challenge. The higher the score, the greater the 'access to finance' challenge in the country.</i>	48	39	78	39	100	62	59	70
High Penetration of Consumer Credit	<i>Measures the penetration of existing household/consumption loans. A higher score implies the larger consumer credit market.</i>	95	67	87	100	14	38	26	13
Large Millennial Population Driven By Millennial Attitudes	<i>Measures the proportion of millennials in each country as well as their spending power. Takes into account both size as well as ability to spend. A higher score implies a larger a larger millennial population with high spending power.</i>	100	82	68	84	71	60	61	58
Overall Score		88	69	59	56	42	41	40	36
Ranking		1	2	3	4	5	6	7	8



Assessing the Scorecard

As expected, the US and UK have ranked the highest on the Apis' Scorecard for Banking Disintermediation. As our case studies and analysis have showcased, these countries have experienced the perfect storm of opportunities that have aligned over the last 5-10 years, allowing innovative business models to capture a small share but significant size of unsecured lending activities.

What is more telling, however, is how developing markets have stacked up against each other. Based on our scorecard, our analysis allows us to group these countries into three buckets:

- **Disruption Hotbeds:** China and South Africa are significantly more advanced than other emerging markets and are likely poised to develop similar types of alternative lending models to what has been seen in the US and UK. Disruption by alternative lenders is primarily driven by the large and digitally advanced population, a significant spread opportunity driven by high-levels of outstanding debt provided by traditional banks, highly active capital markets and in the case of South Africa, a large financing gap across different segments of the market.
- **Disruptive Potential:** Kenya, Indonesia and India are large populous countries with high potential for disruption by alternative financial service providers, but fall behind the 'hotbeds' primarily due to liquidity issues and lagging technologies (payment infrastructures, internet connectivity). This suggests that business models that have unique ways of overcoming these issues (shorter tenor loans, collections via mobile money, etc) could leapfrog and disrupt the traditional banking model in these countries.
- **Laggard:** A narrow payments environment, lack of liquidity and smaller consumer credit opportunity places Nigeria at the bottom of the ladder for banking disruption. Advancement in technological infrastructure and the financial system overall are needed to enable alternative players to thrive in these markets.

At a micro-level, within individual countries, we observe trends that may allow new entrants to take advantage of certain opportunities or require them to overcome certain challenges:

- The mobile banking market in Kenya, for example, is dominated by Safaricom (c. 80-90% market share). Hence, despite the significant volumes of lending that takes place through mobile channels such as M-Shwari, one player controls the rich pool of data, lowering its score on that scale, and potentially stifling the ability for competitors to arise.
- India has good liquidity relative to other emerging markets, but its poor payment infrastructure and the population's adoption of smartphones causes it to lag behind peers. Nonetheless, Apis believes the market is rapidly changing and these two "obstacles" are rapidly being overcome. For example the Reserve Bank of India (RBI) is focused on driving financial inclusion (e.g. introduction of payment bank licenses, drive to increase ATM access and card issuance, etc), whilst the introduction of \$50-80m smart-phones and recent auctions of spectrum are increasing the penetration of smart-phones.
- Nigeria is facing several challenges in parallel – poor liquidity, low connectivity, limited access to payments mechanisms and low penetration of existing unsecured lending.

Our analysis indicates that alternative lending models are likely to – and in some cases have already – started to play a role in the more sophisticated emerging markets of China and South Africa. Over the medium-term, markets like Kenya, India and Indonesia are likely to give rise to new alternative lending models that are likely to differ somewhat from the US & UK examples due to some of the inherent obstacles in each of these markets. Finally it is important to recognise that our scorecard, like any, reflects a specific moment in time, and that the pace of development in many of these markets is increasing rapidly. As such, Apis believes that companies who are able to acquire customers in these emerging markets in the interim will be able to "ride" the expansion of the local payment systems, deepening of the local pools of liquidity and the increased adoption of smart-phones across the populace over the coming years.

In the following section we consider some of the early business models that have overcome some of the key obstacles outlined above in order to establish profitable alternative lending business models in these emerging markets.



The Case of Emerging Markets



A combination of factors (from regulations to advancements in technology and thriving capital markets) has enabled marketplace lenders to make a meaningful impact on the way people borrow and invest in developed markets. While the US and UK have scored high on our 'scorecard for banking disintermediation' – the factors we have identified are universal and this framework can just as easily be applied to emerging markets. While we have seen a powerful alignment of drivers stack up in the US and UK, this hasn't been the case in less developed countries. Even in emerging markets, the issues we have identified that enable 'banking disintermediation' are relevant. We are seeing innovative business models use unique approaches tailored for the markets that they operate in, to disrupt the traditional saving and lending model of banking.

Case Study: Mobile Financial Services

We take a closer look at Kenya, where our scorecard has ranked the country low on parameters such as the depth and efficiency of capital markets, availability and access to credit data, quality of payments infrastructure and internet and smartphone penetration to support online activity. Despite these challenges, alternative lenders have been able to work around these obstacles to increase financial inclusion in a way the traditional banking has not been able to.

As an example, Safaricom, a Kenyan telecom operator launched MShwari as an extension of M-Pesa mobile banking product, to offer millions of unbanked adults access to a savings and loan product. Initially in collaboration with the Commercial Bank of

MShwari

Africa (CBA), and more recently with Kenya Commercial Bank (KCB), Safaricom's MShwari product has been able to offer low-to-medium value financial services at scale. Since its launch in 2012, MShwari has issued over 20 million loans, totalling US\$277 million to 2.8 million unique borrowers with an average loan size of \$15¹¹. Clients can avail instant loans as small as KSH 100 (less than US\$ 1) for a period of 30 days, which suits a market where there is a large low-income population and a continuous need for short-term borrowing.

Mshwari has been able to build a new economy in a market that lacks the constructs that have otherwise enabled the success of Fintech players in the West.

Liquidity:

While capital markets are almost non-existent in Kenya, Mshwari confronts the liquidity problem by offering shorter dated and micro-sized loans to its customer base. The short-tenor nature of these loans ensures that loans can be cycled many times a year reducing the aggregate balance sheet support required. This pool of loans was small enough to be funded by a single bank, CBA at the outset, which also carried the ultimate credit risk.



The Case of Emerging Markets

Credit Scoring:

Limited credit bureau coverage and the lack of IT connectivity makes access to traditional and alternative sources of credit data more difficult in Kenya. However, MShwari is able to leverage data from Safaricom and uses an advanced algorithm to analyse customers' mobile phone usage (call data records, how long customers have had their phones for, top-up history and demographic data at sign-up) to assess the credit worthiness of borrowers. While the business models we have examined in developed markets rely on customers' online presence for new sources of data, this is an example of how alternative lenders in emerging markets have been resourceful when catering to a less "connected" population.

Collections:

We identified the need for efficient and well-developed payment infrastructures to maintain robust risk management processes. While Kenya ranks low on our scorecard for the quality and efficiency of its payment infrastructure, MShwari, has instead, been able to leverage the ubiquitous mobile money platform of mPesa to facilitate payments and collections of its micro-loans. If a loan is not repaid within the period it is due, the mobile platform sends automated text messages to customers reminding them of their late payment before reporting non-payments to the credit bureau. For a service that caters to a low-income, unbanked population, MShwari has instilled strong risk management practices resulting in NPLs as low as 2.2%¹².

While MShwari is one example, we are seeing business models leverage the mobile-based economy right across several emerging markets to provide alternative financial services. For example, airtime credit service providers are collaborating with telecom networks/ mobile operators to provide airtime 'loans' to the telco's prepaid customers. These companies combine telco data with their proprietary credit decisioning models to offer customized 'unsecured loans' to individual subscribers via SMS / USSD. Once subscribers have developed sufficient credit profiles through their airtime credit histories, airtime lenders are also able to offer instant loans via mobile money platforms.

Examples of Airtime Credit Service Providers:



As mobile banking platforms continue to expand, we expect the products offered through these platforms to evolve from simple, micro-level offerings to more versatile products catering to a wider segment of the demography. We not only expect to see mobile banking platforms offering larger loan sizes and longer terms, but we also expect the target market to expand beyond individuals and SMEs to larger companies. As internet and smartphone penetration increases, mobile banking platforms will merge with smartphone technologies and provide better access to data and improved banking services through smartphone applications.



Implications for Banks

“As consumers needs and preferences evolve and economies increasingly gravitate towards digitization, banks irrespective of the market that are active in will need to adapt to these changes as well...”

The rise of online financial services has become both a driver as well as a detractor for traditional banking. While some markets are more prone to disintermediation by Fintech players than others, as consumers needs and preferences evolve and economies increasingly gravitate towards digitization, banks irrespective of the market that are active in will need to adapt to these changes as well.

Traditional banks have their advantages including a robust capital base, regulatory support, risk management expertise, human capital and the perceived stability in the eyes of consumers that they have garnered from being around longer and weathering multiple credit cycles. Apis believes that rather than a competitive threat, this is an opportune time for banks in emerging markets to leverage their resources and find innovative ways to revisit traditional banking models and meet shifting consumer preferences. We believe that banks in emerging markets will have better chance of avoiding this so-called disintermediation by alternative financial service providers if they take into consideration a few of the following actions:

- **Consider implications of technology in capital allocation decisions:** As Wayne Gretzky famously quipped “skate to where the puck is going to be.” Emerging market banks have the benefit of newer technology infrastructure, smaller branch networks, and a group of customers who are still learning how to engage with the formal financial services landscape. In this light, C-suite executives need to reflect on the dynamics of their local market (e.g. regulation, innovation, current and future

payment archetypes) when making capital allocation decisions. For example, Equity Bank’s investment into its agent network (as opposed to branches and ATMs) has allowed the bank to expand its reach significantly without the requisite capital investment.

- **Leverage your core skill-set and partner with best-in-class providers:** The bank of the future is unlikely to be able to provide its clients a full-suite of services and channels at the level and speed their clients require. As such, it will be key for banks in both developed and emerging markets to focus on the core functions that differentiate them from new alternative lenders. For example: Moven – a digital bank interface – allows banks to white-label its interface and thus move development costs outside of the bank and to a specialist firm able to focus on delivering a seamless customer experience. Similarly, SME lending platforms such as OnDeck, have seen banks become significant sources of liquidity as they focus on partnering with these alternative lenders to provide loans to customers they would not have been able to profitably target in the past.
- **Consider value-added services as a means of expanding data collection:** Traditional banks have had a very narrow view on “data”. However, as alternative lenders have shown the proliferation of digital devices means that banks need to be more proactive in how they collect, analyse and make decisions on the back of client data. Specifically banks need to reflect on the different value of “open-source” data and “proprietary” data. For example: The use



Implications for Banks

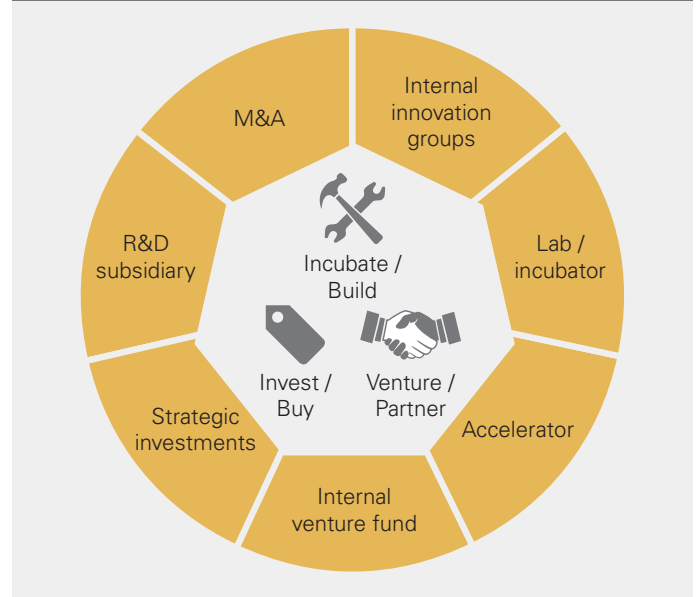
of social networks for credit scoring (“Social Scoring”) is rapidly becoming commoditized and accessible to most banks willing to invest in hiring a development team. At Apis we view this as “open-source” data. On the opposite end of the quantum is “proprietary” data. Traditionally this would be data such as the lending and repayment history that a bank would have on its own customer, however, increasingly banks need to reflect on other “proprietary” data they are collecting such a mobile banking information, device identifications, or even mobile data in the case of banks who have launched Mobile Virtual Network Operators (MVNOs). Banks need to increasingly focus on building their “proprietary” datasets and buying-in best of class “open-source” datasets, collectively these should then be used to simplify the customer experience through pre-approval of loans, etc.

- Manage the customer experience:** Ultimately the success of alternative lenders in developed markets has been largely due to better customer experience (e.g. simpler sales processes, more efficient collections means, faster credit approval) and much less due to pricing differences. As such one of the key lessons emerging market banks can on-board is building their banking platforms around their customers from the outset. Specifically this means the movement away from product silos and towards an “onmi-channel” approach where customers are able to start the purchase decision across any channel (i.e. mobile, internet, call-centre, branch) and are then guided through the process based on the product requirements. For example: Barclays Bank has focused on the “6-clicks” whereby customers are able to identify a product and initiate a purchase within 6 clicks across mobile and internet channels. This speed is either achieved through pre-approval of existing customers for simple products (e.g. overdrafts, credit cards) or through simplifying the sales process to the minimum required to capture the customers’ data and then allow the bank to follow-up at a later date.

At Apis Partners we focus on being value-added investors capable of working with Financial Services firms in order to drive innovation through the use of technology. We can assist emerging market banks in driving innovation in one of three ways:

- Incubate / Build:** Identify the key competencies that need to be retained and built upon within the bank. This can be in the form of an internal business development activity or a ring-fenced internal organization whose allocated funds are not spent elsewhere. Apis Partners is able to bring its broad knowledge of best practices in the Financial Services industry to help banks identify and accelerate ideas for further development.
- Invest / Buy:** Identify strategic investment opportunities that develop capabilities, increase access to new markets and / or amplify synergies that align with banks’ long-term strategy. Apis Partners has an extensive network in Financial Services and able to leverage these relationships to identify investible opportunities.
- Venture / Partner:** Assist in the development of an internal fund or identify partners with whom banks can co-develop business ideas with. Banks have the advantage of capital, infrastructure and brand to support the growth of ventures and start-up ideas or build alliances with innovative companies and Apis’ network with start-ups and entrepreneurs can help banks identify opportunities to scale and leverage innovation outside their own walls.

Figure 32: Apis’ Approach to Innovation



Scorecard Methodology

We used the set of metrics defined below to measure the impact each of the nine drivers would have in creating a conducive environment for technology-enabled alternative financial services. Within each category, each metric was given equal weightage. For example, under the 'Payments Infrastructure' driver, we calculated scores for four types of payment channels – electronic, ATM, mobile and financial cards and gave equal weight to each sub-category'. Similarly, for the 'Unmet Demand for Credit' category, we calculated scores to measure the relative 'Access to Finance' gap in the Consumer Finance and SME Finance segments and an overall score (equally weighted) for the entire category. Across the nine drivers, we have observed that liquidity, quality of the payments infrastructure in the country, credit gap across different segments of the market, and existing size of the unsecured lending markets play a greater role in driving banking disintermediation. Hence, these drivers were given a higher weight than the remaining categories.

Scores for each country were calculated on a relative basis – we identified the country that had the highest value within each metric (100% score) and the remaining countries were scored on a scale of 1 to 100 relative to the country with the highest value.

The data collected is provided in the following section.

Driver	Indicator	Definition
Increasing Regulatory Oversight on Incumbents	Change in the Index of Bank Capital Regulations	An index developed by researchers at UC Berkeley that measures the stringency of bank capital regulations based on the amount of capital banks must hold and regulations on the nature and source of regulatory capital, using data from the World Bank's 'Bank Regulation and Supervision Survey', carried out by the World Bank between 2001 and 2011. This indicator measures the change in the index between results from the first survey (2001) and the last survey (2011). Larger numbers indicate greater stringency.
	Change in the Index of Official Supervisory Powers	An index developed by researchers at UC Berkeley that measures the degree to which the country's bank supervisory agency has the authority to take specific actions on banks, using data from the World Bank's 'Bank Regulation and Supervision Survey', carried out by the World Bank between 2001 and 2011. This indicator measures the change in the index between results from the first survey (2001) and the last survey (2011). Larger numbers indicate greater power.
	Change in the Index of Private Monitoring	An index developed by researchers at UC Berkeley that measures the degree to which the regulatory and supervisory policies can also shape the ability of private investors to monitor and exert effective governance over banks, using data from the World Bank's 'Bank Regulation and Supervision Survey', carried out by the World Bank between 2001 and 2011. This indicator measures the change in the index between results from the first survey (2001) and the last survey (2011). Larger values indicate regulators have greater power to shape the monitoring of banks by private investors.
Deep and Diverse Sources of Liquidity	Depth of Financial Markets	Measure of the size and liquidity of capital markets in the country. This indicator takes into account the total stock market capitalization and other private debt securities. As a percent of GDP Source: World Bank Global Financial Development Database.
	Depth of Financial Institutions	Measure of the size and liquidity of banks and other financial institutions in the country. This indicator takes into account the total domestic credit provided by the financial sector as a percent of GDP. Source: World Bank Global Financial Development Database.
	Efficiency of Financial Markets:	Measures how efficient financial markets are in intermediating resources and facilitating financial transactions. This indicator takes into account stock market turnover ratio (total value of shares traded divided by the average market capitalization) in each country. Source: World Bank Global Financial Development Database.
Spread Opportunity	Difference between Prime Lending Rate and Risk Free Rate	A proxy for the spread between the average interest rates charged by lenders and a minimum risk-adjusted return expected by investors. The prime lending rate is the interest rate charged by banks to their most creditworthy customers and the risk-free rate is the 10 year government bond yield. Because this measures the rate charged to the most 'risk-free' borrower, the difference between the two serves as a proxy for the spread differential between the lending rate and a 'risk-adjusted' return.



Scorecard Methodology

Driver	Indicator	Definition
Depth and Availability of Credit and Alternative Data & Big Data Analytics	Depth of Credit Information Index	Measures rules affecting the scope, accessibility, and quality of credit information available through public or private credit registries. The index ranges from 0 to 8, with higher values indicating the availability of more credit information. Source: World Bank, World Development Indicators.
	Private credit bureau coverage	Reports the number of individuals or firms listed by a private credit bureau with current information on repayment history, unpaid debts, or credit outstanding, expressed as a percentage of the adult population. Source: World Bank, Doing Business Project
	Global Connectivity Index	Index developed by Huawei that measures and forecasts the digital connectivity potential taking into account a country's investment in the ICT sector in key technologies such as Cloud, Big Data, Internet of Things, Broadband and Datacenters. The index has a maximum score of 100, implying higher 'connectivity' and potential for big data access.
High Level of Online Connectivity	Internet users	People with access to the worldwide network. (per 100 people). Source: World Bank, World Development Indicators.
	Mobile cellular subscriptions	People with mobile cellular subscriptions that offer voice communications. It excludes subscriptions via data. Includes both pre and post paid subscribers. (per 100 people). Source: World Bank, World Development Indicators.
	Fixed (wired) broadband subscriptions	People with to subscriptions to high-speed access to the public Internet, excluding internet access through mobile cellular networks. (per 100 people). Source: World Bank, World Development Indicators.
	Smartphone penetration	Percentage of population that owns a smartphone and can access the internet through their mobile device. Source: GSMA Database.
Efficient and Well Established Payment Infrastructure	Electronic payments	Percentage of population age 15+, who used electronic payments (wire transfers online) in the past 12 months to make payments on bills or to buy things using money from their accounts. Based on survey of a sample population. Source: World Bank Global Findex Database.
	ATM Penetration	Number of ATMs per 100,000 people. Source: International Monetary Fund, Financial Access Survey.
	Made transaction from an account at financial institution using mobile phone	Percentage of population age 15+ with an account at a bank or another type of financial institution who made a transaction with money from their account using a mobile phone in the past 12 months. This can include using a mobile phone to make payments, to make purchases, or to send or receive money. Based on survey of a sample population. Source: World Bank Global Findex Database.
	Mobile phone used to receive money	Percentage of population age 15+ with a bank account, who used a mobile phone to receive money in the past 12 months. Based on survey of a sample population. Source: World Bank Global Findex Database.
	Mobile phone used to send money	Percentage of population age 15+ with a bank account, who used a mobile phone to send money in the past 12 months. Based on survey of a sample population. Source: World Bank Global Findex Database.
	Debit card penetration	Percentage of population age 15+, with a debit card. Based on survey of a sample population. Source: World Bank Global Findex Database.



Scorecard Methodology

Driver	Indicator	Definition
Unmet Demand for Credit	Coming up with emergency funds: not very to not at all possible	Percentage of population age 15+ who report that in case of emergency it is not at all or not very possible for them to come up with 1/20 of GNI per capita in local currency within next month. Based on survey of a sample population. Source: World Bank Global Findex Database.
	Gap between formal and informal borrowing	Calculation: Difference between percentage of population who report borrowing any money from informal sources including friends, family, a private informal lender, store or employer in the past 12 months and the percentage who report borrowing from formal financial institutions. Based on survey of a sample population. Source: World Bank Global Findex Database.
	Ease of getting credit rank	Proxy to measure how easy or difficult it is for SMEs to obtain financing. The Ease of Getting Credit Rank measures the strength of credit reporting systems and the effectiveness of collateral and bankruptcy laws in facilitating lending to SMEs. The metric is part of the World Bank's Doing Business Project, which measures and compares regulations relevant to the life cycle of a small to medium-sized domestic business in 189 economies. The higher the value, the harder the conditions of obtaining credit for SMEs.
	Access to finance as a major constraint	IFC Enterprise Finance Gap Database uses data from World Bank Enterprise Surveys to estimate the number of MSMEs in 177 countries and the degree of access to financial services. This metric is based on a survey of a sample population of SMEs and calculates the percentage of respondents who identify access to finance as a major / severe barrier. US and UK data are from Federal Reserve and British Banker's Association.
Large Consumer Credit Market	Consumer Credit to GNI Ratio	Ratio of stock of outstanding, unsecured loans to individuals to the country's Gross National Income (in 2014 PPP terms). Considers both revolving and non-revolving credit. Does not include loans backed by real estate, mortgage, student loans. The ratio measure the depth of consumer credit in the economy. Source: Euromonitor, Company Information, World Bank.
	Total Consumer Credit (\$bn)	Stock of outstanding, unsecured loans to individuals. Considers both revolving and non-revolving credit. Does not include loans backed by real estate, mortgage, student loans. The ratio measures the volumes of consumer credit in the economy. Source: Euromonitor, Company Information, World Bank.
Large Millennial Population Driven By Millennial Attitudes	Young Adult Population	Percentage of the total population aged 15-24. Source: CIA World Factbook.
	Young adults with bank accounts	Proxy to measure the purchasing power of young adults. Percentage of population between the ages of 15-24 who report having an account (by themselves or together with someone else) at a bank or another type of financial institution. Based on survey of a sample population. Source: World Bank Global Findex Database.
	Young adults that received wages in the past year	Proxy to measure the purchasing power of young adults. Percentage of population between the ages of 15-24 who report receiving any money from an employer in the past 12 months in the form of a salary or wages for doing work. Based on survey of a sample population. Source: World Bank Global Findex Database.



References

1. The Future of U.S. Retail Banking Distribution, McKinsey & Co, August 2014
2. Banking Disrupted. How technology Is Threatening the Traditional European Retail Banking Model, Deloitte LLP, 2014
3. Global Marketplace Lending: Disruptive Innovation in Financials, Morgan Stanley, May 2015
4. The Future of Fintech and Banking: Digitally Disrupted or Reimagined?, Accenture, July 2015
5. Understanding Alternative Finance: The UK Alternative Finance Industry Report, Nesta & University of Cambridge
6. Understanding Alternative Finance: The UK Alternative Finance Industry Report, Nesta & University of Cambridge
7. Disrupting Banking, London Business School Review, Paul C. Jeffery, October 2014
8. Disrupting Banking, London Business School Review, Paul C. Jeffery, October 2014
9. Lending Club, Morgan Stanley Equity Research Report, XX 2015
10. P2P Lending: Opportunity & How to Invest, Liberium, March 2014
11. How M-Shwari Works: The Story So Far, Consultative Group to Assist the Poor, April 2015
12. How M-Shwari Works: The Story So Far, Consultative Group to Assist the Poor, April 2015
13. KopoKopo Company Data





Apis Partners is a PE fund manager focused on Financial Institutions and related Business Services (FS) in growth markets. It is managed by a tried-and-tested team, who have worked together for over 15 years with extensive expertise in FS growth markets and garnered in the leading firms in both private equity and investment banking. From the outset, Apis Partners can count on extensive industry-specialized human capital, resources and an attractive pipeline of investments. In addition to the core team, the operating partner network consists of 20+ financial services professionals, on-the-ground presence in 5 countries and an extended network of 27 partner companies. Apis Partners is the manager of the Apis Growth Fund.

The fund invests in "capital-light" FS companies within growth markets, namely those that are well positioned to benefit directly from favourable demographic and economic trends (2010-2025 growth market consumer spending CAGR of 7% vs. 2% in developed markets), strong structural supply/demand gaps (2.2bn of 2.5bn global unbanked adults live in growth markets) and high financial services growth (2006-10 growth markets

banking assets CAGR of 20% vs. 6% in developed ones), rather than leveraged bets on credit portfolios.

In other words, the Fund's investment pipeline includes companies in payments (processors, remittance businesses, and eCommerce and mCommerce enablers), retail banking and consumer finance (inc. micro-lenders), insurance (inc. claims managers), capital markets and other technology-enabled financial institutions. The Fund's focus is on Africa and Asia, geographies where the team has successfully completed investments over the past decade and where the opportunity to provide capital (financial and human) with favourable high margins in a high growth environment. Africa and Asia showcase similar financial services innovation patterns as these regions continue to transform to meet growth market FS needs.

Apis Partners is an affiliate of Anthemis Group. Anthemis Group is the leading digital financial services investment and advisory firm focused on re-inventing financial services for the 21st century.



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