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Australian Structured Finance: Credit Analysis In A Digital Ecosystem

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Key Takeaways

- Credit analysis in a digital ecosystem opens up new data sets that will increase S&P Global Ratings' understanding of borrower behavior. However, new data will supplement rather than replace the historical loan performance data that we have observed throughout economic cycles in credit decision making.
- In Australia, digital disruption is most entrenched in "automating" key credit processes to expedite credit decision making.
- New players in the digital ecosystem, including marketplace lenders, have made the most progress in incorporating alternate data sets into their credit decision making, but these new data will need to be observed throughout economic cycles to more accurately predict defaults.

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Digital disruption and the increasing penetration of financial technology (fintech) are transforming the financial services landscape, and the implications are far-reaching. While the effect on asset performance remains to be seen, digital disruption is altering origination, underwriting, and servicing practices across structured finance asset classes.

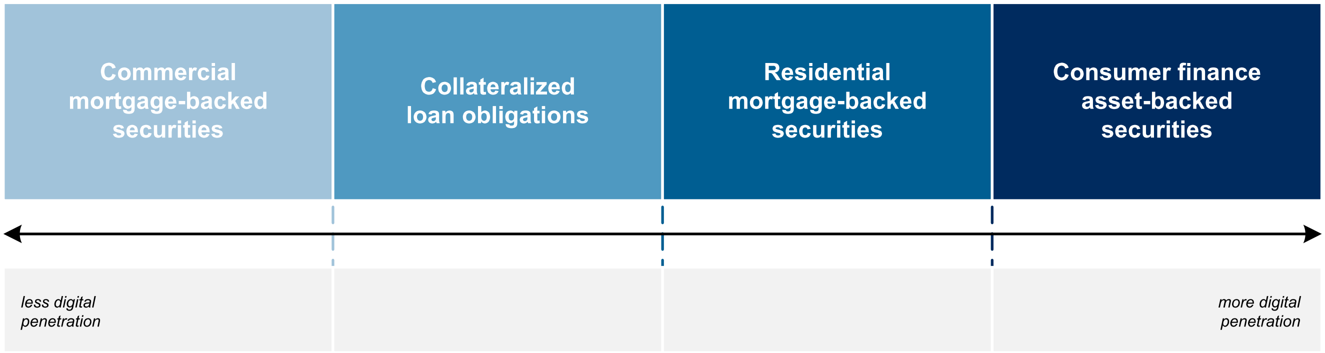
The implementation of a comprehensive credit regime and open banking in Australia will accelerate these developments as the playing field is opened up to new competitors. Digital disruption will accelerate the pace of credit decision making and expand our understanding of borrower behavior. But rather than replacing fundamental credit analysis, we believe it will enhance it.

Where Is Australia On The Digital Timeline?

Asia has rapidly embraced fintech, with the biggest inroads in money transfers and payments. We expect fintech adoption to increase for borrowing as consumers manage more of their lives through digital channels.

Chart 1

Digital Disruption Penetration Across Structured Finance Asset Classes


Commercial mortgage-backed securities
Collateralized loan obligations
Residential mortgage-backed securities
Consumer finance asset-backed securities
less digital penetration
more digital penetration

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For securitization asset classes, digital disruption has made the biggest impact in the consumer finance space, where fintech companies have capitalized on their technological prowess to provide finance to previously underserved markets (chart 1). Fintech is less entrenched in asset classes where loan amounts are larger and credit underwriting is more bespoke. While digital disruption is progressing at different speeds across asset classes, automation is affecting all lenders--the first step on the path to digital disruption. How these changes influence credit analysis will continue to evolve as big data and enhanced analytics expand our understanding of consumer and credit behavior.

Digital disruption is not just altering traditional credit processes, it is also creating new players. Such as marketplace lenders. We have not yet seen rated securitization issuance from a pure fintech marketplace lender in Australia, but such businesses have used securitization in larger offshore markets such as the U.S., providing us with insights into their operations.

Digital Disruption And Existing Players

Origination channels: How entrenched is online lending?

Origination channels are the first step in the credit underwriting process. They drive business growth and product diversity and influence the quality of lending decisions.

Fintech companies are using their sophisticated platforms to expand customer networks and develop detailed borrower profiles based on customers' data. This gives them a clear advantage over the financial services incumbents, which often have cumbersome legacy systems, and enables them to target their market share expansion and be more agile in their scope and coverage. With Open Banking and Comprehensive Credit Reporting (CCR) on Australia's doorstep, the penetration of fintech companies will only increase as they gain access to more of borrowers' financial data.

Direct consumer to lender online originations are most entrenched in the consumer finance lending space This will continue as the marriage of big data and sophisticated analytics, propelled by pervasive web-based platforms, opens up new customer segments that banks traditionally have shied away from.

One example is small-business lending. Small businesses typically have found it challenging to access finance, particularly without providing real estate as security. The deployment of sophisticated technology platforms and access to more customer data will enable lenders to lower the cost of credit-risk assessments and allow more comprehensive risk analysis for pricing, thereby improving borrowers' access to finance.

As lending volumes increase for these previously underserved markets, securitization could be used as a funding tool, particularly for nonbanks or pure fintech companies that do not have a deposit base. Securitization issuance collateralized by loans to small to medium-size enterprises (SME) traditionally has been limited in Australia because lending volumes for this loan type historically have been quite small, but we believe this could change.

While online origination channels are common in the unsecured consumer finance space, broker-originated residential mortgage lending remains the norm in Australia, making up around 50% of total residential mortgage lending. The lower penetration of direct online mortgage origination in Australia partly reflects the higher short-term costs of investing in new technologies and digital platforms compared with expanding broker networks to increase market share.

Origination channels for residential mortgage lending are not immune from digital disruption, however. Many lenders are upgrading existing front-end systems to better interface with brokers' systems to reduce loan application processing times.

Does Digital Origination Reduce Credit Risk?

There is inherent credit risk in involving third parties in lending origination. This is because the information provided by third parties can be falsified. The involvement of brokers and third-party originators in the Australian residential mortgage-backed securities (RMBS) sector is limited to the referral of borrowers to lenders, with brokers performing more of an intermediary role between the lender and borrower. Credit decisions generally are made centrally, and third parties are not involved. However, third parties can provide borrower information to lenders, leading to a risk of broker fraud if appropriate procedures are not in place to verify the accuracy and completeness of the information provided. Online lending partly alleviates this risk because it removes the involvement of third parties in the credit process.

The risk of falsification of information is not absent in a completely digital origination environment because borrowers can still provide false information. Verification procedures to manage this risk are still necessary, even in a completely digital origination environment. The proliferation of digital security verification technology will help to reduce this risk over time.

Underwriting In A Digital Ecosystem: Old Versus New Data

The quality of lenders' underwriting can affect the performance of loan portfolios and loss experience. Access to more data and the use of artificial intelligence (A.I.) and machine learning to unlock new data insights will drive better underwriting over time. This could result in a more accurate prediction of defaults and potential losses.

Historical observations on loan performance throughout an economic cycle inform most probability-of-default calculations and credit risk score methodologies. This is because the availability of historical loan performance data on key borrower and loan attributes such as loan-to-value ratios, borrower type, employment type, and loan seasoning throughout economic cycles has enabled meaningful correlations to be derived between loan characteristics and key economic variables. These observations are important for loans with longer weighted-average lives, such as residential mortgage loans, given borrowers' prolonged exposure to economic cycles.

The use of new data and deployment of sophisticated data analytics to provide new insights will increase our understanding of borrower behavior and credit risk, and should result in a more accurate prediction of defaults. Borrower behavior is dynamic, and changes throughout an economic cycle. Data observations on borrowers' behavior obtained during relatively benign economic conditions might not be indicative of how borrowers are likely to behave during an economic downturn.

As correlations are established between new data sets and key economic variables, greater risk differentiation and credit profiling will enable more risk sensitive pricing. In the interim, the ingestion of new data will be used alongside the more traditional forms of credit risk analysis.

For many mortgage lenders, digital inroads in underwriting are currently focused on driving efficiency gains to reduce loan application processing times. This is being achieved through automating credit decision making for loans with a lower credit risk. These initiatives enable originators to increase their lending volumes by reducing the amount of time spent on manual credit checks for low-risk loans.

Digital Disruption And Debt Serviceability

Debt-serviceability assessments are a key component of credit underwriting, particularly for residential mortgage lending. At present, lenders' debt-serviceability calculations vary in comprehensiveness and often provide an incomplete picture of borrowers' true financial situations. The implementation of CCR is likely to change this. CCR will require banks to record customer data, such as repayment history, credit limits, and types of credit accounts, which will be available to other lenders. Having access to data on borrowers' financial commitments and the deployment of data science to analyze it will enable lenders to make a more accurate assessment of expenses, resulting in more prudent underwriting. It will also facilitate greater consistency in debt-serviceability assessments and reduce lenders' reliance on indexes such as the Household Expenditure Measure that can lead to expenses being understated.

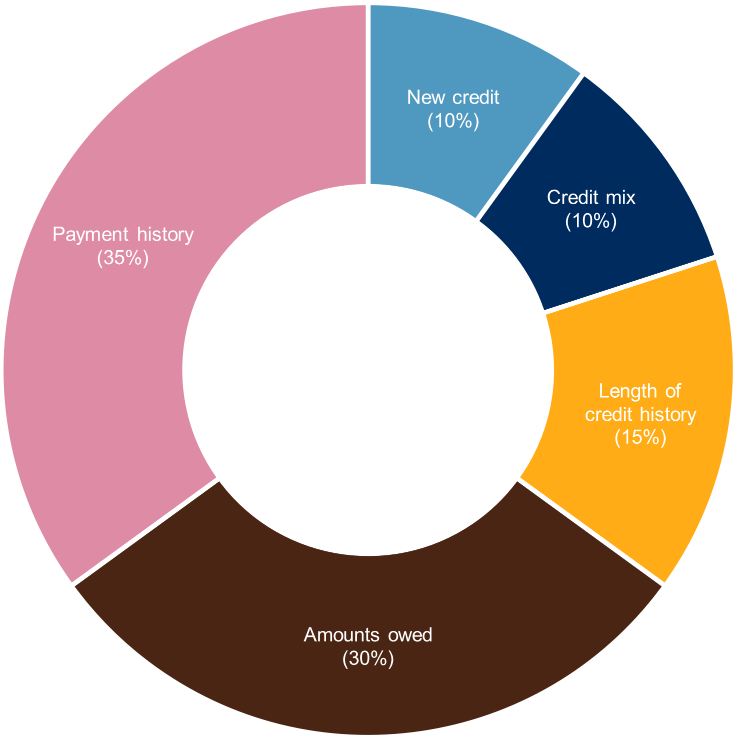
Greater access to borrowers' financial data should also improve the scalability of lending operations. Credit decision-making processes often rely on staff making additional checks to complete borrower credit assessments, depending on the complexity of the credit and the bespoke nature of a loan or borrower. Access to more data will reduce lenders' reliance on more manual checks. This will make operations more scalable and reduce the risk of deterioration in lending standards during periods of strong growth, when headcount might not keep pace with lending growth.

Will digital disruption pave the way for a FICO-style system in Australia?

The move toward a positive credit-reporting regime through the implementation of comprehensive credit reporting could pave the way for the adoption of FICO-style scores, as used in the U.S. A FICO score is an assessment of a borrower's repayment capacity, using statistical methods and weights (chart 2).

Chart 2

FICO Score Breakdown



Source: myFICO.

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In the absence of a FICO-style score, residential mortgage-backed securities (RMBS) criteria in Australia rely on a wider range of borrower characteristics, such as employment status, documentation, seasoning, and interest type, to determine foreclosure frequency adjustments. Until recently, credit reporting to credit bureaus was limited to "negative information" such as defaults and overdue payments. This provided limited data to assess a borrower's risk profile. With the implementation of mandatory comprehensive credit reporting, major banks and large authorized deposit-taking institutions (ADIs) will be required to provide credit data on eligible accounts. Other ADIs not subject to CCR are incentivized to supply credit information to credit bureaus because they will not receive information unless they provide credit data. The extent to which this data can be used to calculate FICO-style scores will depend on a number of factors, most important of which is the quality of the data provided. Data cleansing is a fundamental component of meaningful data analysis and is often the most time-consuming stage. This is because lenders typically capture and record data in different ways. Cleansing the data so that it can be captured in a way that enables meaningful comparability can be a challenge. The widespread adoption of a FICO-style system would also require the scores to be determined and calculated by an independent third party. Credit bureaus such as Equifax already provide credit scores based on the data they collect, but lenders still primarily use credit bureaus to check for negative credit events, not as a key determinant of a borrower's overall credit worthiness. While such a system would not be a panacea for poor underwriting, more data and wider access to this data, combined with sophisticated analytics, could enable enhanced FICO-equivalent-style scores to be more universally adopted by lenders in credit decision making.

Loan servicing in a digital ecosystem

Loan-servicing platforms are the central nervous system of banks. Downtime and system issues are key operational risks that the banks must actively manage. Digital inroads in this space have largely focused on achieving greater automation because systems have become more end-to-end. The application of A.I. and machine learning to loan servicing could reorient servicing toward being more proactive rather than reactive. Loan-servicing systems currently track payments and initiate a series of responses when a payment is missed. With access to more data points in a system, A.I. and machine learning could predict changes in borrowers' behavior, which would enable lenders to step in earlier and customize a solution to a borrowers' financial situations before they miss a payment. A digital servicing ecosystem would also facilitate scalability, particularly for more bespoke loan products such as nonconforming loans, small to medium-size enterprise loans, and microfinance products, for which loan servicing is typically more labor intensive.

What new risks does this create?

With new advances come new risks. More complex web-based platforms are vulnerable to cyber attacks. In addition, portability and back-up servicing risk increases as banks and fintech companies become more reliant on a shrinking number of critical systems. A key operational risk that is analyzed in RMBS transactions is how successfully a loan-servicing operation can be transitioned to another lender or mortgage servicer. More complex systems and platforms based on algorithms might be more difficult to transfer if new employees lack the technical expertise to understand them, especially if the development of these systems is improperly documented.

More broadly, an important regulatory and stakeholder risk is the ability to audit and interrogate credit decision making or servicing platforms that are driven by machine learning and A.I. This risk needs to be actively managed to ensure digital platforms driven by A.I. and machine learning don't become a new type of "black box."

Legal And Regulatory Considerations In A Digital Ecosystem

Data is fast becoming a company's most valuable commodity. The protection of data and ensuring that safeguards are in place to protect against improper use are important legal and regulatory considerations. Given the increasing breadth and depth of data flows within and across organizations, the risk of data breaches is increasing the need for greater regulatory oversight in data management and sharing.

Regulations governing the privacy and portability of data will continue to shape the digital landscape for fintech companies and traditional financial service players. These regulations will become as important as traditional regulations in the competitive positioning of firms and how they conduct their day-to-day operations.

In a securitization context, digital governance will become an increasingly important aspect of a company's overall risk management framework. Cyber security and data privacy policies will become an integral part of a company's risk management and governance framework.

Digital Disruption And New Players

Digital lenders, or fintech companies, are relatively new players in the financial services landscape. Digital lenders are nonbank lenders that offer loans to consumers or businesses through online channels. They use technology to increase operational efficiency, enhance their risk analysis, and improve the borrower experience. These lenders have unique funding models, with capital provided by investors, credit facilities, securitizations, or balance sheet cash. Digital lending is most entrenched in the personal loan, small and medium enterprise, and student loan spaces.

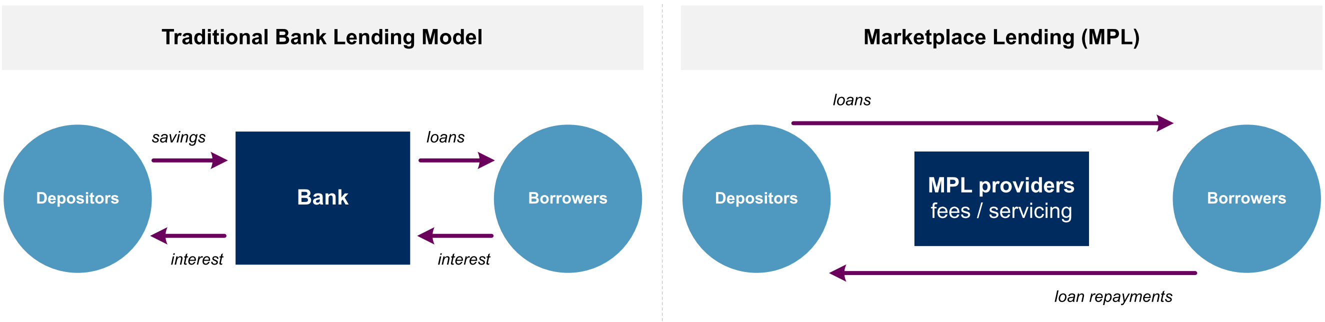
Digital lenders' funding models

Digital lenders generally utilize three types of funding models to finance their loans: marketplace, also known as peer-to-peer (P2P) lending; balance sheet; and bank channels.

The term "marketplace lending" evolved from P2P lending. In P2P lending, lenders act as intermediaries between loan applicants and investors by matching borrowers and investors via their platform (chart 3) and exporting all credit risk to the investor. Marketplace lenders derive their revenues from origination and servicing fees, and are highly dependent on external funding and loan growth. Third-party retail and institutional partners usually fund these loans.

Chart 3

Marketplace Lending Business Model



Source: Deloitte analysis.

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Balance sheet lenders hold the credit risk from loans they originate instead of exporting it to investors, which is a more traditional model in banking. These lenders' sources of funding include bank loans, warehouse lines of credit, and cash flow from operations. Several balance sheet-based lenders are increasingly relying on securitizations to more efficiently manage capital.

Bank channel lenders allow the bank partner to directly connect and fund loans with approved borrowers via their digital platform, such as using a white-label service. These lenders are more like conduits and do not take on credit risk. They may receive upfront fees for selling their technology to a bank or collect revenue on a per-loan basis.

Automated underwriting

Digital lenders widely use machine learning to analyze large quantities of traditional and alternative data. While digital lenders are the new data pioneers in incorporating "alternate data" into credit decision making, an old-versus-new data debate is still relevant because this is a relatively new sector and collateral performance has not yet been observed throughout economic cycles. According to the U.S Treasury Department, "Machine-learning models ... would generally suffer from the absence of past credit-cycle data to 'train' the model."

What about alignment of interest in a digital lending space?

Not all funding models equally incentivize credit discipline. Some marketplace platform providers might have no direct exposure to the credit risk of the loans made through their platforms because they don't hold the loans or otherwise retain an interest in them. The risk instead is transferred to loan purchasers via the sale of loans through the platform. For these lenders, the risk of less-prudent underwriting and collections practices is more elevated than for lenders that hold or retain an interest in the loans that they originate and service. In addition, the potential deceleration of loan growth would likely limit revenue, which is based upon origination fees, and, in turn, could lead to operational difficulties for the marketplace platform provider.

Marketplace lenders came under scrutiny in 2016 for the moral hazard potential in this funding model. Since then, more marketplace lenders have been demonstrating greater risk retention and alignment of interest by increasing the volume of loans held on balance sheet. Growth in securitization activity and associated risk retention practices have also increased loan balances at these companies.

Marketplace lenders in Australia have not yet utilized the securitization markets for funding. In the U.S., total marketplace securitization issuance since September 2013 is US$41.9 billion across 134 transactions. In the largest segment, consumer loans, there have been 85 transactions, totaling US$23.1 billion (source: Bloomberg, PeerIQ).

Digital Disruption Will Enhance Credit Analysis

Digital disruption will continue to alter the securitization landscape. Credit decision making will become faster as automation becomes the norm, but new data sets will need to be observed over longer periods of time to determine how they affect loan performance and borrower behavior throughout an economic cycle. While new advances come with new risks, digital disruption and the new insights that come with more data will enhance credit analysis.

Related Research

- 2018 US Digital Lending Market Report, S&P Global Market Intelligence

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