CHAPTER FIFTEEN

REBUILDING GLOBAL ACCEPTANCE OF U.S. MORTGAGE ASSETS

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LOANLOGICS

Under-capitalized companies once made millions by just dropping a line and catching a loan. This brings to mind a story that occurred when visiting Branson and Eureka Springs, which was a regular event for my young family when we lived in Tulsa, Oklahoma. In the summer of 1993 we decided to return home via the back roads on U.S. 65 from Branson, where we saw a sign for Dogpatch, an amusement park based on cartoonist Al Capp's Li'l Abner series. We decided to check it out.

We followed the road through Harrison then headed south on AR 7. We drove to the entrance. We wondered, is this place open? In fact, it was its last day before closing for good. Essentially, we had the park to ourselves. What stood out was the fishing pond. Our children dropped lines and immediately caught fish in the overstocked trout pond. One child cried and another smiled from ear to ear. They all ate their catch at the restaurant nearby that cleaned and cooked the fish they caught. What a deal!

At the peak of the mortgage industry, mortgage loan officers (MLOs) basically took orders. Just like my children fishing at the pond in Dogpatch, they dropped a line and they had a fish. No MLO was paid on future performance. The lender processed the loans and paid the MLO well. The lender could afford it because of the servicing-released premiums paid by aggregators. The lender had little incentive to make sure the loan performed, save a three- to six-month Early Payoff or Early Default price adjustment or repurchase, while the investor was too removed from the process to assure quality.

> *"In the simplest terms, what went wrong in the subprime mortgage market is that the people responsible for making loans had too little financial interest in the performance of those loans, and the people with financial interest in the loans had too little involvement in the how the loans were made."*
> - August 1, 2007 from The Pipeline article "Six Degrees of Separation"
> by Andrew Davidson

Aggregators found Wall Street willing to pay premium prices to feed the appetite for securitization, and their related derivatives, because of investors' demand for yield and predictable payments. Wall Street sliced and diced the loans into pieces that satisfied various investors' duration needs with as much certainty as practical, along with structures that rating agencies highly rated. Investors trusted the process and the data, yet both were flawed.

Sadly, misalignment of interest, and unclear roles and responsibilities reigned among all the stakeholders, including various regulators. Regulators implemented policy goals of the executive and legislative branches with little regard to the credit consequences (compounding the effect of loosening various credit factors), or of the magnitude of the manufacturing risk, i.e., the risk of a defective loan due to failures in underwriting, compliance, or documentation from the loan's origination or servicing.

Lopsided interests lead to complacency, greed, and carelessness. Each party along the way did their part, made their money, and yet the asset lived on with the risk transferred and none of those parties with a meaningful interest in loan performance. If representations and warrants were given, it was with woefully scant capital to back them up. The system implied that the buyer or the various guarantors would take care of problems due to manufacturing defects or fraud. Just like the implied guarantee of the United States Government (aka the American Tax payer) backing up the GSEs.

The mortgage collapse was a systemic failure, so it requires systemic repair. The industry changed, but leadership practice remained the same. Industry leaders focused on their respective entities whether in business or government became the weakest link in the mortgage system. To repair and restore investor confidence, particularly overseas, in the U.S. mortgage market requires total quality management of a segmented system.

THE SEGMENTATION OF MORTGAGE FINANCE

Specialization brings scalable market efficiency, but to avoid systemic failure requires every specialist to do their part right. Quality is truly job one, to borrow the phrase intrinsic to the Deming Continuous Improvement Cycle.

The legacy management style of the mortgage process was not conducive to the new segmentation that expanded with the bifurcation of servicing from origination as a result of *SFAS 122: Accounting for Mortgage Servicing Rights* in 1995. Managers were geared towards knowing the process within their respective organizations, and subjectively underwriting loans through knowledge of their customers, with the anticipation that the originator would collect the payments, that is, be the servicer.

SFAS 122 was issued in May 1995 while SFAS 125 was issued in June 1996. In essence, the purpose of capitalizing originated mortgage servicing rights (OMSR) was to equalize the accounting playing field among the origination channels, namely, wholesale (brokers), retail (MLOs), and correspondent (lenders). There was fear that the retail channels would not be able to raise capital to fund the growth of OMSR, and it would force retail originators to sell more of their production to the correspondent investors, who were predominately money-center banks.

The extension of credit followed a very old yet proven model of "know the customer" and apply the three C's of credit, namely, capacity, character, and collateral, or the five Cs of credit, namely, capacity, character, collateral, capital, and conditions. Managers used qualitative and quantitative measures. Buyers (investors or aggregators) rewarded sellers (lenders and wholesalers) for volume and percentage of applications that closed. Accordingly sellers offered their employees (and their brokers, in the case of wholesalers) incentives along the same lines.

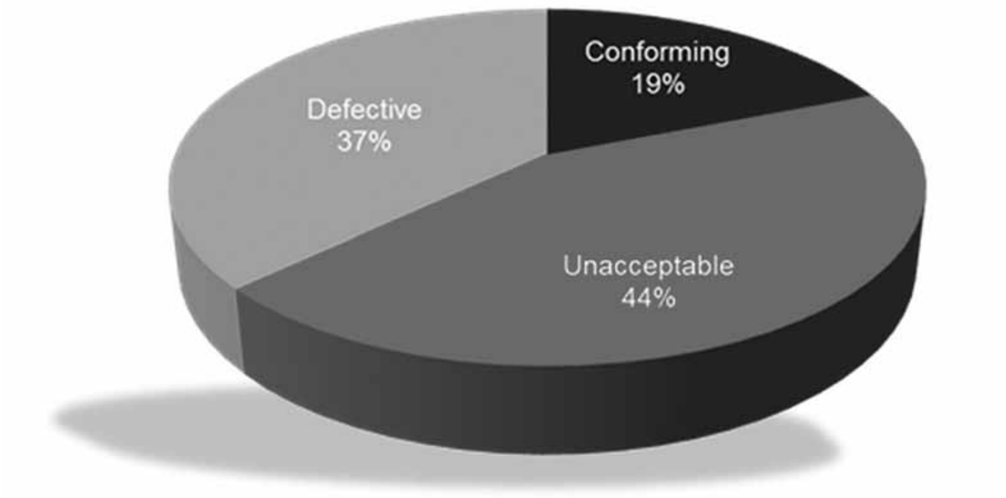
Systemic quality went begging for attention. The manufacturing, selling, and servicing of loans in an increasingly segmented process appeared safe, sound, and stable because the loans performed. Yet the seeds of the destruction of mortgage banking were being sown in the midst of success.

SEEDS OF DESTRUCTION

The manufacturing process grew increasingly more complicated with multiple vendors and lenders touching the loan. The strong macro economy that began in the mid-1980's with inflation fighting by the Volcker Fed and modestly sound fiscal policy due to presidential leadership and Congressional cooperation, coupled with the expansion of leverage by businesses and consumers, led to lower and lower interest rates and higher and higher housing values. Increasing collateral values hid the fatal flaws of the mortgage-credit system.

Wholesale and correspondent lending began growing as mortgage-backed securities (MBS) grew in the 1980's. The profit margin on MBS in the early years fed the need for volume, so third-party originations (TPOs) became a way that well-capitalized institutions, principally large depositories, could acquire more loans and obtain a loan-pricing edge due to volume, while gaining economies of scale in servicing the loans. The increase in segmentation and specialization required a new way of manufacturing quality mortgages. But instead of changing quality-control processes to assure 3-sigma (99.7%) confidences in the quality of loan data, process, and compliance, industry leadership relied on the old model of random inspections, i.e., post-closing audits to discover systemic risk and, if necessary, create action plans to change the system.

In retrospect, data from HUD, LoanLogics studies, and anecdotes from the GSE reviews of legacy loans originated before the 2007 housing collapse suggest the mortgage system pre-crisis inspired only a 1-Sigma (about 68%) confidence in data quality. Consider the findings from data reported in HUD's Lender Insight from June 2013 in the graphic below:



When the mid-1990's arrived, technology started delivering more of its promise of productivity and scale. Many on the production side welcomed the artificial intelligence from Fannie Mae's Desktop Underwriter, an Automated Underwriting System (AUS) in June 1995. Fannie Mae's stated purpose for its AUS was to support both the wholesale and retail mortgage environments, and it was built to reason and underwrite loans with "incomplete, unverified and conflicting data."

Each specialist providing services in the mortgage process, from the pricing of the loan to the payoff of the loan, implicitly trusted the other specialists, and ultimately the investors trusted the process. This created the perfect storm, involving the three principle areas of risk — namely, interest-rate risk, credit risk, and manufacturing risk — revealing the five systemic weaknesses of:

1. Inadequately defined roles and responsibilities for each specialist
2. Reliance on random quality checks post-closing to produce and maintain confidence in the quality of the loans and integrity of the process
3. Misplaced rewards
4. Lack of "skin in the game"
5. Disregard for ultimate asset performance.

Rebuilding trust throughout the process, particularly with non-government guarantors and investors, is happening, but at a slow pace. Andrew Davidson calls it "The Quiet Revolution". SFIG, Structured Finance Industry Group, is bringing various stakeholders together to produce "A Comprehensive Set of Proposed Industry Standards to Promote Growth in the Private Label Securities Market" via SFIG RMBS 3.0 Green Paper Third Edition November 2015. Other thought leaders have provided insight on the future of mortgage securitization in the USA.

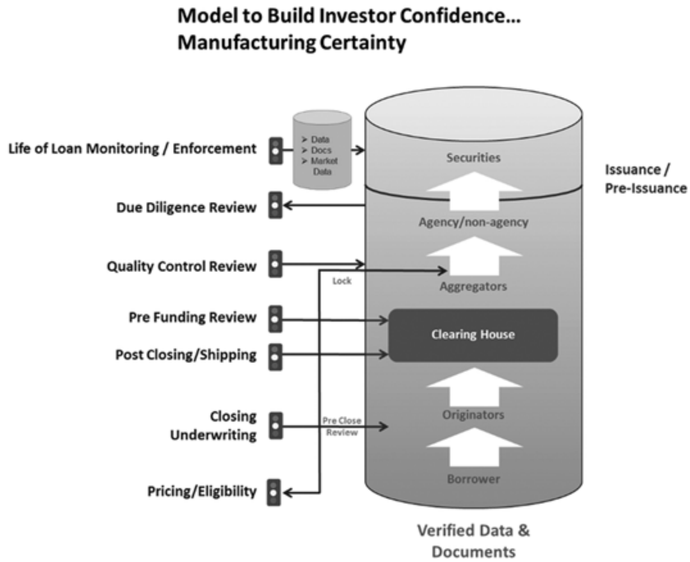
Some positive developments are:

- Credit risk-sharing by the GSEs, which defuses GSE risk and expands the number of alternative risk-takers and stakeholders
- Credit evaluation tools to enhance insight for practitioners helping them to focus resources
- Quality control technology to:
  - Identify defects early in the mortgage process
  - Fix loans before they close
- Understanding of the systemic causes of defects, so action plans can developed to change the process
- Big-data analytical tools
- Tools to monitor the health of portfolio loans and MSR portfolios

Evolving areas are:

- Building loan data supported by the executed documents
- Validating the loan data and documents to:
  - Create clarity
  - Support decisions with a permanent record
- Verifying the loan data outside and independent of the origination system
- Instant access to data bases to verify borrower data
- Tools to give correspondent lenders or brokers transparency into the defects to fix before closing or purchase
- A repository of all validated and verified loan datum, which LoanLogics calls LoanFacts™
- Creation of a legal structure for stakeholders to securely and confidently access the data for various reasons while maintaining borrower privacy, data integrity, and data security

> *"The quiet revolution is underway. There is new data, new technology and new risks. The revolution has just begun. The changes in the origination process, GSEs and evaluation of credit risk are just a few dimensions of the revolution."*
> December 11, 2015 from the article *The Quiet Revolution* by Andrew Davidson.



WHAT WILL THE MORTGAGE INDUSTRY LOOK LIKE IN THE NEXT 10 YEARS?

Artificial Intelligence (AI) will be active in the mortgage space and it will be much more than an AUS. Central to AI success and gains will be a repository, which would be vastly larger and broader than any currently available single repository of mortgage data. All stakeholders and various financial modelers would have various levels of access to this repository of valid and verified data. Transparency will translate into multiple benefits to borrowers.

Will a mortgage still take 30 days for borrowers to close? Technology improvement will approach the change from DOS to Windows 10. Imagine a secondary-market system that supports peer-to-peer and mega pools. Will secondary marketing departments be hedging anymore? Could it be they will only be trading, that is, assigning loans as the borrower locks? Investor needs and borrower demands finally are met in a diverse, deep, and liquid market place. Digital loans become a reality. Transformation of mortgage servicing will finally occur, with readily available data to borrowers and customer-friendly ways to manage escrows, correct errors, and make requests for help.

Key Challenges

What will transparency look like? Will legislation and regulations be a hindrance or bright line? Will GSEs be friend of foe to future innovation when they are no longer in the center? How will the significant tax revenues collected from all levels of government be realigned? Will the early versions of transparency end up being rolled back to a whiter shade of opacity? Will systems be fragile or truly robust? How will MLOs, processors, and other workers adapt to a dramatically different workplace and process. How will borrowers react to their credit-worthiness being so readily available? Will they trust or rebel? How much will human cautiousness impede dramatic change? How will diversity and homogeneity coexist? How much will legacy technologies and legal structures fend off change?

A thought leader, industry influencer, and highly successful financial engineer shared a letter with his customers about the status of the mortgage market. Here is Andrew Davidson's perspective as a leading provider of risk analytics and consulting for residential loans and MBS. The letter is entitled "The Quiet Revolution", published on December 11, 2015.

THE QUIET REVOLUTION

In the last five years, the mortgage market has undergone a quiet revolution. In the wake of the subprime crisis in 2007 and the financial liquidity crisis of 2008, the mortgage market coalesced around the traditional roles of the large banks and the GSEs. FHA and Ginnie Mae filled the role of the defunct sub-prime mortgage industry.

Two topics have dominated much of the discussion in the post-crisis years:

- What would it take to "restart" private-label securitization?
- What should replace Fannie Mae and Freddie Mac?

I have lost count of the number of conferences I have spoken at and panels I have moderated on these two subjects. Yet for all the talk, private-label securitization is still at anemic levels and Fannie and Freddie still soldier on in conservatorship.

Despite the lack of movement on these two issues, there have been substantial shifts in the mortgage market over the past seven years. These changes affect all aspects of the business.

On the front end, we have seen the growth of new entrants into the market who offer borrowers a better way to originate a loan. As modern social-network technology spreads throughout the economy, borrowers are impatient with the old, document-intensive practices that involve mailing and faxing stacks of paper. New regulatory requirements such as TRID (TILA RESPA Integrated Disclosure) have created new demands for systems and compliance. In our business, we see greater interest in incorporating analytical tools including prepayment and credit models into the origination process. Non-bank entrants are taking on a greater share of the market, while secondary-market trading is at historically low levels. In this environment, originators want to understand what risks they are creating, not just what price they can sell loans. As a result, we are seeing that our valuation tools, long used on the investment side of the mortgage market, are now attracting greater interest for originations as well.

The GSEs are still the central players in the mortgage market, despite loud cries for their elimination. Most in the industry recognize that removing Fannie Mae and Freddie Mac, even with a well-designed replacement, would probably create more risk than allowing them to continue. While the GSEs have continued to exist, they have undergone a major structural shift. With the decline in their retained portfolios and the growth of the various forms of credit risk sharing, Fannie Mae and Freddie Mac now act much more as aggregators and distributors of risk than as the bearers of credit risk. In fact, virtually all of the prepayment risk and more than half of the credit risk of newly guaranteed conventional mortgages is now borne outside of the GSEs. The GSEs have raised in excess of $25 billion that stands in front of the taxpayer in bearing credit losses. This amount now exceeds the amount of credit-risk capital that the GSEs would have been required to hold under the pre-crisis credit standards.

The impact of this change is significant. It means that the bulk of the credit risk is no longer managed by a small cabal, but instead is spread more widely. To achieve this goal, Fannie Mae and Freddie Mac have dramatically increased their disclosure of credit data by providing loan-level data on prepayments, defaults, losses, and recoveries. As modelers, we welcome the new openness and have harnessed the new data to enhance our modeling of mortgages.

The new credit risk sharing transactions also allow us for the first time to link the credit analysis of conventional loans to market pricing. As a result, we have been able to extend the risk-neutral analysis we derived for prepayments from the TBA market to risk neutral analysis of credit using the pricing of CAS and STACR transactions. Using this analysis, we can better evaluate the role of mortgage insurance, reinsurance, debt capital markets, and equity capital markets in bearing the risk of the mortgage market.

Investors in mortgages, especially bank investors, have seen substantial changes in how they must evaluate and manage their mortgage portfolios. The adoption of Dodd-Frank has led to a greater focus on the evaluation of potential losses in mortgage portfolios. Stress tests are the primary vehicle that have forced firms to have better models of losses under a variety of scenarios. Traditional incurred-loss models based upon roll-rate analysis of delinquent loans are insufficient to forecast losses over the term of the stress tests. Banks and other investors will face even greater challenges in assessing their portfolios when FASB adopts the proposed changes in the loan-loss reserve rules. As a result, loss forecasting will change from a short-term exercise to a life-of-loan exercise. This change will necessitate a major shift in how firms evaluate credit risk.

We suspect that in the new environment, credit analysis will be evaluated in a manner similar to how prepayment risk has been measured and managed for servicing portfolios since the adoption of FAS-91 and subsequent pronouncements. Dynamic prepayment models replaced static assumptions that the servicing industry had used to report valuations; we are already beginning to see a similar shift from roll-rate models based on current delinquencies, to more dynamic models such as my firm's LoanDynamics Model that can forecast loan losses over a variety of economic scenarios.

The quiet revolution is underway. There is new data, new technology, and new risks. The revolution has just begun. The changes in the origination process, GSEs, and evaluation of credit risk are just a few dimensions of the revolution. During the next few years, we shall see the continuation of these trends and emergence of new players and new structures. Whatever change may bring, three components of the mortgage market will remain at its foundation: the mortgage market will continue to be about borrowers, home values, and economic forces. These three components are at the heart of all of our research and products.

I look forward to facing the challenges of today and tomorrow with you.
(Reprinted by permission of Andrew Davidson.)

FUTURE ROLE OF THE GSES

From 1980 to 2005, the Government Sponsored Enterprises (GSEs) essentially replaced the Savings & Loan industry. The idea was that few could manage the flow of mortgage credit better, with less volatility than many, particularly, if the few were implicitly backed by the U.S. government. The percentage of GSE and government guarantees grew to about 50% and stayed in a 40 to 60% range after 2000. The lowest point was during the accelerated housing boom of 2003 - 2007.

Since the advent of the credit crisis, or Great Recession, in 2007 through 2015, which saw the "end" of the Great Recession and return of stability to U.S. housing values, the federal government guaranteed or insured over 90% of all residential mortgage loans. It was done through Fannie Mae, Freddie Mac, Ginnie Mae, USDA, Veterans Administration, and Federal Housing Administration. Additionally, the Federal Reserve supported the active MBS TBA market through its MBS purchase program and retained MBS portfolio. At times it accounted for over 50% of the MBS TBA market and over 10% of the total US outstanding mortgage debt. The Consumer Finance Protection Agency scrutinizes lenders and third-party vendors while the Federal Housing Finance Authority pushes the government-sponsored agencies to transform the secondary market.

Given the above, it would be short-sighted to assume that the federal government will remove its regulatory grip on the mortgage market. The majority of tax payers, elected officials, think tanks, and regulators see the folly of complete nationalization of the U.S. mortgage industry, and conversely they fear the volatility of a free market. Expect the following:

- A single GSE security
- The roles of both Fannie Mae and Freddie Mac will continue to move away from mortgage ownership and 100% credit guarantees to risk sharing and standard setting
- The common security platform becomes reality and will be controlled and regulated by the GSEs
- The roles and responsibilities of each (if both survive) expand in areas of illiquidity in residential and multifamily housing
- Certain areas will be privatized, which will probably center around technology and security platform support

The GSEs will fight to be part of or even completely control the repository. Of course, the GSEs are the investor of record for much of all the outstanding mortgage debt in the U.S., so it would useful for them to continue to open up their database to the private sector. It would be their data and the data their servicers have that would be the initial historical record for the repository.

The structure and control of the repository will be the epic battle for the future of mortgage banking. Let's all hope and lobby that it will be controlled and operated in the private sector by those dedicated to improving the transparency, accuracy, and quality of consumer loan commerce. As part of business being held responsible to the public good, a remnant of the GSEs would serve as an appropriate and capable regulatory watch dog.

In the meantime businesses must not starve on the way to a utopian mortgage banking future of instant reliable data and seamless digital transactions. The new, evolving, and difficult process to comply with regulations offers opportunities for lenders and other market participants to reduce costs, increase transparency, improve loan quality, enhance borrower experience, and maximize returns. The cost reductions and higher returns come when investor confidence grows because loan quality is improved, and the proof of that improvement is transparent.

ABOUT THE AUTHORS

Brian Fitzpatrick is President & CEO of LoanLogics, and oversees all operations of the company. He is a demonstrated leader with particular expertise in mortgage technology and business process outsourcing solutions.

Mr. Fitzpatrick has raised industry-wide awareness of how technology plays a key role in the production and measurement of loan quality and performance. He is an adept spokesperson for LoanLogics, participating on many industry panels, and has authored and been quoted in numerous articles and white papers discussing document processing, data filtering and business rules technologies. He also has received frequent industry recognition, most recently being awarded HousingWire's 2015 Vanguard Award™ which recognizes C-level and business unit executives whose leadership is moving the housing finance market forward, each and every day.

Fitzpatrick has held various senior management positions with several of the nation's largest technology and business process outsourcing firms within the mortgage and financial services industry. These include CEO of Aklero Risk Analytics, Inc., one of the merged entities that formed LoanLogics, President of Lydian Technology Group, which was the nation's leading provider of business infrastructure and integration technology for the mortgage industry, President of WellFound Decade Corporation, CEO of Decade Systems Corporation, and Senior Vice President of Sales for GHR Systems.

Les Parker is the Senior Vice President of Strategic Business Development at LoanLogics. His responsibility includes strategic initiatives and managing business activity of its Life of Loan Monitoring module of LoanHD®. LoanLogics acquired Parker &

Company in September, 2013. For twenty years the company's offerings included risk management technology, budgetary tools, mortgage servicing rights valuations, MSR accounting tools, and trading advice. Parker's mortgage banking experience spans executive vice president and chief operating officer and various production positions. He served a director of the largest private issuer of CMOs in the 1980s.

Parker graduated from San Diego State University in Finance, Global University in Ministerial Studies and the School of Mortgage Banking. At age 29 he became a Master Certified Mortgage Banker, the highest designation conferred by the Mortgage Bankers Association of America. He has written numerous articles and has made various presentations on an array of mortgage banking topics for organizations including: Fannie Mae, Mortgage Bankers Association, National Mortgage News, and Chicago Board of Trade (CME). Parker is regularly quoted and interviewed in industry media. E-mail him at les.parker@loanlogics.com.