



DISCUSSION PAPER

PAYMENT CARDS CENTER

An Overview of Credit Card Asset-Backed Securities*

Mark Furletti

December 2002

***Summary:** On Friday, October 25, 2002, the Payment Cards Center of the Federal Reserve Bank of Philadelphia held a workshop that focused on credit card asset-backed securities. Mark Adelson, head of structured finance research at Nomura Securities International, led the workshop. A veteran analyst of the ABS market, Adelson has written numerous articles and special reports on securitization. During the workshop, Adelson explained the growth, pricing, and mechanics of credit card asset-backed securities. He also discussed some key issues currently facing ABS markets. This paper supplements material from Adelson's presentation with additional information on the development of credit card ABS and the securitization process.*

* The views expressed here are not necessarily those of this Reserve Bank or of the Federal Reserve System.

FEDERAL RESERVE BANK OF PHILADELPHIA

Ten Independence Mall, Philadelphia, PA 19106-1574 • (215) 574-7220 • www.phil.frb.org

Introduction

Credit card asset-backed securities (ABS) were first issued in 1987. Since that time, the credit card ABS market has become the primary vehicle by which the card industry funds unsecured loans to consumers. Given the significance of credit card ABS, the Payment Cards Center encourages research in this area and is working to promote an understanding of securitization's impact on industry profitability, safety, and growth. Toward that end, the Center currently sponsors Joseph Mason of Drexel University, one of the Center's visiting scholars, in his research of credit card asset securitization.¹

In addition to sponsoring research in this area, the Center invited Mark Adelson, head of structured finance research at Nomura Securities International, to lead a credit card ABS workshop. Adelson is a veteran analyst of the ABS market, having worked for a rating agency and as an attorney specializing in mortgage-backed securities transactions. During the workshop, Adelson discussed the details of credit card asset-backed securities, including their growth, pricing characteristics, and deal structures. He concluded by noting several issues currently facing the credit card ABS market.

This paper supplements material from Adelson's presentation with additional information on the development of credit card ABS and the securitization process.

The Market for Asset-Backed Securities

Adelson began the workshop by describing the size and scope of the entire asset-backed securities market. As of June 2002, the ABS market was made up of \$6.6 trillion in tradable

¹ Professor Mason has authored the following two working papers on credit card ABS-related topics: "What Is the Value of Recourse to Asset-Backed Securities? A Clinical Study of Credit Card Banks," and "What Drives Credit Card Securitizations and Sales?" Both of these papers can be found on his web site at <http://www.lebow.drexel.edu/mason/>.

securities.² About 70 percent of these assets, or \$4.5 trillion, were mortgage-based, including mortgage-backed securities, collateralized mortgage obligations, and real estate mortgage investment conduits. Government-sponsored secondary market lenders, such as Fannie Mae, Ginnie Mae, and Freddie Mac, issue the majority of MBS. Over \$1.4 trillion, or about one-fifth of the securitized asset market, is composed of asset-backed securities that are not collateralized by first mortgage assets. The underlying assets of these securities include student loans, mobile home loans, vehicle loans, home equity loans, and credit cards. Approximately 30 percent, or \$400 billion, of this \$1.4 trillion market is composed of credit card loans.³

Unlike most of the underlying asset types in the ABS market, credit card loans do not have a fixed payment amount or amortization period. Mortgages, auto loans, student loans, and home equity loans typically have a pre-determined term (e.g., five years, 10 years, 30 years) over which a stipulated loan amount is spread for the purpose of calculating monthly payments. Credit card loans, however, can be paid down or added to as customers desire — as long as they make a minimum monthly payment (typically 2 percent of the balance) and stay within their assigned credit limit. Credit card ABS, therefore, are unusual among other types of ABS in that the securities' underlying assets can completely "turn over" every few months (e.g., the balances of customers who are paying off their accounts can be replenished by customers who are building balances through purchases and balance transfers).⁴

² There were \$3.1 trillion in U.S. Treasury securities outstanding as of September 30, 2002 (The Bond Market Association).

³ Federal Reserve Statistical Release G-19 estimated that total consumer revolving unsecured credit, the majority of which is in credit card loans, was \$712 billion as of July 2002. Approximately three-fifths of this is securitized.

⁴ In the jargon of the securitization industry, the distinction is one of deals backed by "liquidating pools" and those backed by "revolving pools." ABS issuers generally securitize long-maturity assets, such as mortgage loans and auto loans, as liquidating pools. In contrast, short-maturity assets, such as credit card receivables and trade receivables, are securitized as revolving pools. Liquidating pools simply amortize. Revolving pools receive replenishment as new assets replace old ones that have been repaid or that have defaulted.

Adelson explained that annual issuance of new credit card ABS grew almost 160 percent from 1991 to 2001 (\$25 billion to \$58 billion). Despite slower growth in most card issuers' portfolios, Adelson noted, card ABS issues will likely set another record in 2002.

The Process of Securitizing Credit Card Assets

The creation of credit card ABS is considered one of the most important financing innovations in the card industry's brief history. Although the technology is relatively new to card loans, the process of securitizing loans (e.g., conventional mortgages) has been around for over 30 years.⁵

The process of securitizing credit card receivables is very similar to that of securitizing mortgages and other loan obligations. A card issuer sells a group of receivables to a trust. The trust then issues securities backed by those receivables. To illustrate, consider a card issuer that makes credit card loans to a group of 100 customers. Each customer maintains a card balance of \$1000. The card issuer decides to securitize these customers' receivables by grouping their balances together and creating a \$100,000 "package." This package is sold to a trust, or "special purpose entity," created solely to buy the loans from the bank. Once the package is in the trust, the trustee creates bonds (i.e., securities) that are backed by the \$100,000 of credit card loans and sold to investors in blocks.

The Trust Structure

The trust structure plays a vital role in the transaction. When a corporation typically issues a bond, the bond's collateral or "backing" is the assets of the corporation. For example, if a large credit card issuer issued a standard corporate bond, and the issuer failed, the bondholders

⁵ Leland C. Brendsel, "Securitization's Role in Housing Finance: The Special Contributions of Government-Sponsored Enterprises," in Leon T. Kendall, ed., A Primer on Securitization (MIT Press, 1996), p. 19.

would have a general claim on the business assets of the company. Other creditors would also share in the bondholders' general claim.

In contrast to standard corporate bonds, the trust structure of ABS is intended to insulate ABS investors from the corporate credit risk of the issuer.⁶ The ABS trust structure is designed to isolate the assets from the issuer so that if the issuer goes bankrupt (or becomes the subject of a receivership or conservatorship), the securitized assets will not be part of the bankruptcy estate. Thus, the trust is said to be "bankruptcy remote." Although bankruptcy remote structures have not always been inviolate, the rating agencies and the financial markets continue to place high confidence in their effectiveness.⁷

In virtually all cases, a credit card ABS issuer structures its securitization to achieve a sale of the underlying receivables for accounting purposes.⁸ In this way, the issuer can remove the assets it places in the trust from its balance sheet. The benefits of removing assets are discussed in the next section.

Over the past decade, the complexity of the trust structures employed by issuers has increased dramatically. In the late 1980s, issuers typically set up a "stand-alone" trust that housed a single pool of credit card receivables each time they wanted to securitize a group of card loans. Innovations in trust structures, such as master trusts and issuance trusts, have enabled issuers to lower issuance costs, issue more efficiently, strategically time issuance, and increase the appeal of ABS issues to the investment community.⁹

⁶ Mark R. McKessick, "Asset-Backed Securities 101," Denver Investment Advisors, October 1999.

⁷ Alexander Dill and Letitia Accarrino, "Bullet Proof Structures Revisited: Bankruptcies and a Market Hangover Test Securitized Investors' Mettle," Moody's Investors Service, August 30, 2002.

⁸ Financial Accounting Standards Board, "Statement of Financial Accounting Standards No. 140, Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities," September 2000, ¶¶ 9a-9b. Marty Rosenblatt et al., "Securitization Accounting Under FASB 140," Deloitte & Touche, 2d ed., 2002, pp. 8-10.

⁹ Matthew Murphy and Michael R. Dean, "ABCs of Credit Card ABS," Fitch, IBCA, Duff & Phelps, April 2001, pp. 4-6.

Credit Ratings, Stress Tests, and Credit Enhancements

Before the assets in the trust are put into security form and sold to investors, the card issuer contracts with a credit rating agency to establish a bond rating for the issue.¹⁰ A bond rating is an opinion from a rating agency of the credit quality of the subject security. Bond ratings are typically expressed by a series of letters (e.g., AAA, AA, BBB, C).¹¹ Triple-A rated securities, which have the lowest risk of default, must be structured to withstand severe economic stresses and still pay investors 100 percent of their principal with interest. Lower rated securities (e.g., AA, BBB, B) have a relatively higher risk of default and may not be able to repay investors under severe economic conditions. Differences in default risk are reflected in a bond's coupon. As such, a bond with a triple-B rating pays a higher coupon than one with a triple-A rating.

In credit card ABS, issuers typically structure an ABS deal so that it has more than one rated "class" of bonds. For example, an issuer may structure a \$750 million deal such that it issues \$650 million in bonds with a triple-A rating, \$50 million in bonds with a single-A rating, and \$50 million in bonds with a triple-B rating. In such a case, an issuer will have to pay a higher coupon to investors in the lower-rated classes than to investors in the triple-A class, since investors in the lower-rated classes are exposed to a higher risk of default. Subordinating the claims of some classes of bondholders to the triple-A bondholders serves the purpose of "enhancing" the credit quality of the most senior class. Such enhancements are discussed in more detail at the end of this section.

In determining a bond's rating, credit rating agencies examine performance variables such as the issuer's underwriting standards, cardholders' credit scores, and loan interest rates. They also

¹⁰ A credit rating agency is a private firm in the business of expressing opinions about the creditworthiness of governments, financial structures, corporations, and other businesses and investments. The three rating agencies active in U.S. ABS markets are Standard & Poor's, Moody's Investors Service, and Fitch IBCA. (Definitions in this paper are taken from www.ABSNet.net.)

¹¹ Fitch and S&P employ a rating scheme that uses capital letters in combination with pluses and minuses (e.g., AA-, BBB+). Moody's capitalizes only the first letter in its rating scheme and adds numbers to the end of the rating for additional gradations (e.g., Aa1, Baa2). Ratings below B-/B3 generally indicate severe financial distress or default. Figure 1 has rating scales for all three agencies.

perform a variety of "stress tests" on the underlying credit card portfolio assets. Using computer models, the rating agencies simulate the effects of economic "shocks" on a card portfolio's performance. They observe the conditions and circumstances under which a credit card ABS deal can no longer pay investors back their full principal and interest.

To illustrate how portfolios and card assets react to economic stresses, Adelson presented a model of a hypothetical credit card ABS deal. The \$100,000 deal was structured to last nine months, with investors beginning to receive back their principal after three months. Adelson showed how, under normal economic conditions, this deal would easily repay investors principal and interest.¹² He then applied a series of stresses to this deal and modeled their effects. Ultimately, he concluded that credit card deals are well-structured securities able to withstand the effects of multiple, simultaneous shocks.

Figure 2 details the four stress tests that Adelson applied to the hypothetical deal. In the first test, Adelson examined what happened when the portfolio experienced a rapid increase in chargeoffs (i.e., credit card loan defaults). Even though the default rate reached 20 percent, he concluded that the deal could end as planned with investors receiving their principal investment plus interest. The second and third tests assumed that the chargeoff rate increased, the payment rate decreased (i.e., cardholders made smaller or fewer payments), and the yield declined (i.e., issuers could not impose the same levels of finance charges and fees from customers). Although

¹² It would also repay the most subordinated portion of the issue. Adelson's hypothetical deal used the simplifying assumption that the issuer retains a subordinated piece of the principal component of the securitized receivables. In most real deals, this is not the case. In a typical deal, the primary subordinated interest retained by the issuer is limited to the finance charge portion of the securitized receivables. In the jargon of the industry, the issuer retains the right to the "excess spread" from its securitizations. Excess spread is a subtle – but extremely important – way in which the issuer retains most of the economic risks and benefits of the securitized receivables, even though it has "sold" them for accounting purposes. In addition to the excess spread, the issuer in a typical credit card securitization retains an interest in the principal component of the receivables (the "seller's interest"), which is subordinated for purposes of absorbing dilution but not for purposes of absorbing credit losses.

Consider the following example of excess spread: Suppose a credit card portfolio produces a gross yield of 18 percent. Suppose further that 1) the portfolio is financed by issuing securities that pay a coupon of 6 percent, 2) the servicing fee on the portfolio is 1 percent, and 3) losses from defaults consume 6 percent.

these events delayed the repayment of principal, the deal remained intact, and investors were eventually made whole. In the final test, Adelson assumed that chargeoffs increased, payment rates decreased, yields decreased, and the size of the pool of assets declined.¹³ Under this final series of combined stresses, the deal ultimately fell apart, and investors were not repaid their entire principal investment with interest.

Rating agencies frequently use stress tests similar to the ones described by Adelson to evaluate a bond's underlying cash flows. Even if a deal breaks before the full stress of a depression-like scenario is applied, issuers can still obtain a triple-A rating by enhancing the structure of the deal. They do this by providing bondholders with additional guarantees or incentives beyond entitlement to the cash flow generated by the underlying card assets. These guarantees or incentives are called "credit enhancements." Credit enhancements can take many forms. As mentioned earlier in this section, an issuer might subordinate some bondholders to others by creating different "classes" of bonds within the same ABS deal. In this way, if there were a problem with repayment, the highest class of bondholders (e.g., triple-A) would be repaid before the lower classes (e.g., single-A, triple-B).¹⁴ Alternatively, an issuer might buy an insurance policy from a third party to insure against a shortfall in principal payments to investors. This form of credit enhancement is called bond insurance.

Overall, credit enhancements allow an issuer to bolster the creditworthiness of a deal (or particular classes of securities issued in a deal) and to expand the pool of potential investors. Once a security obtains a triple-A rating, issuers can attract large institutional investors, many of whom seek ERISA-eligible (Employee Retirement Income Security Act) securities.

The excess spread would be calculated as 18 percent - (6 percent + 1 percent + 6 percent), or 5 percent. If default losses on the portfolio increase, the excess spread will decline dollar-for-dollar.

¹³ The pool can shrink if assets are leaving the pool (e.g., through chargeoffs or customer payments) faster than they are entering it. Issuers can typically increase the pool by encouraging customers to make more purchases or transfer balances. Issuers are also allowed to add new accounts to the pool to increase its size. In this fourth scenario, the issuer is unable to do either.

Issuance and Pricing

After the issuer and the credit rating agency agree on the terms and structure of the deal, the issuer works with an underwriter to bring the bonds to market. This includes pricing the bonds and marketing them to investors. Like all other bonds, credit card ABS have a maturity date at which the investor is to be repaid his or her principal investment and a coupon/interest rate that is used to calculate how much the trust promises to pay the investor each month until maturity.

The coupon of a credit card asset-backed security is typically tied to the rate of an index (e.g., LIBOR¹⁵). For example, in October 2002, the Fleet Credit Card Master Trust II issued \$750 million in floating-rate credit card asset-backed certificates. The triple-A rated portion of this issue was priced at one-month LIBOR plus 14 basis points. Interest on the bonds accrued monthly. If one were to purchase \$50 million of these bonds and hold them for one month, assuming that one-month LIBOR was equal to 1.70 percent, he or she would earn \$76,667 in interest ($\$50 \text{ million} \times (1.70 \text{ percent} + 0.14 \text{ percent}) / 12 \text{ months} = \$76,667$).

Adelson provided an overview of ABS pricing and discussed the influence of the following four factors on price: default risk, liquidity risk, optionality, and "convenience." Since debt securities are subject to default, the likelihood and severity of default are factored into the price of the bond through a credit risk premium. Investors require a higher credit risk premium for bonds with underlying obligations that have a higher default risk. Bond issues that have a lower default risk are priced closer to the index rate and have "tighter spreads." Conversely, an ABS that is considered risky will have "wider spreads."

¹⁴ As mentioned previously, the coupon rate that issuers pay investors depends on the class of bond that an individual investor holds. The highest class receives the lowest coupon (since it is least exposed to default risk), and the lowest class receives the highest coupon (since it is the most exposed to default risk).

¹⁵ The London Interbank Offered Rate (LIBOR) is the interest rate at which banks offer to trade Eurodollar deposits in the London market. LIBOR is fixed once a day for a series of maturities. One-month LIBOR has become a widely used benchmark in the ABS market, particularly for floating rate ABS (www.ABSNet.net).

Generally, investors prefer securities that are easily sold at a reasonable price. For this reason, they prefer larger markets to smaller ones and active markets to dormant ones. Such conditions make it easier for investors to "liquidate" bond positions (i.e., sell them to other investors). Large, active markets also allow investors to track trading prices and calculate securities' market values. Those who issue bonds with very limited markets must pay investors a liquidity premium that compensates for the difficulties an investor might face if he or she wants to find a buyer for the bond or calculate its value. As such, bonds with smaller markets generally have wider spreads.

Most loans that mortgage lenders make to consumers allow for the prepayment of principal without penalty. Adelson described this as an "option" that consumers have essentially to "buy back" the bond they issued on their homes. For investors, the embedded option in the underlying assets of a mortgage-backed security can threaten to prematurely end the security's term. If this happens, investors face "reinvestment risk" and are forced to replace the security with another asset that may have a lower investment yield. The extent to which a security is subject to pre-payment risk is reflected in its price. Securities with underlying assets that have a higher likelihood of early repayment have wider spreads.

When investors are considering whether to buy an asset-backed security, Adelson indicated that they consider the security's "convenience." Specifically, investors examine the security's structure in relation to their own investment goals. Some bond structures, he said, are more "convenient" and better positioned to meet a particular investor's needs. In determining a bond's convenience, investors examine the frequency of cash flows associated with the bond, the way that the bond pays back principal (all at once or incrementally over time), and the complexity of the bond's terms. Spreads are wider for bonds that have structures or repayment terms that are unusual, difficult to model, or hard to understand.

Adelson illustrated how these four factors influence the secondary market price quotes of different types of asset-backed securities. He gathered representative spread data in July 2002 for

credit card, automobile, mobile home, and mortgage ABS. Figure 3 is a graph of these results. Adelson expressed the relative price of these securities in basis points above the swaps and displayed prices by average life.¹⁶ He pointed out that credit card loans have the tightest spreads among the different securities. This indicates that investors, weighing each of the four pricing factors, perceive credit card ABS as requiring a lower premium (i.e., coupon) than other types of ABS. Adelson explained that credit card ABS generally have lower default and reinvestment risk than other types of ABS and have a relatively "convenient" deal structure. Mobile home loans, however, are perceived very differently. Adelson noted that a problem in the manufactured housing sector with loan quality has driven the spreads of mobile home ABS to higher levels relative to card ABS. He also noted that the embedded option in home equity loans that can result in early repayment makes the average life of home equity ABS more volatile than credit card ABS. This contributes to relatively wider spreads among home equity-based securities.

As previously stated, in virtually all cases, a credit card ABS issuer structures its securitization to achieve a sale of the underlying receivables for accounting purposes. Despite this, the issuer continues to "service" the accounts. In exchange for servicing the accounts, the trust pays the issuer a servicing fee. The services provided typically include mailing customers their statements, answering phone calls, and collecting past-due balances. As a practical matter, accounts transferred to the trust are serviced no differently from accounts that issuers retain on their own balance sheets.

The Benefits of Securitization

Issuers derive a number of benefits from securitizing receivables. Before the creation of

¹⁶ The term "swaps" or "swap rate" generally refers to the most common benchmark for pricing fixed-rate bonds. More precisely, in the context of an interest rate swap agreement, the term refers to the fixed rate a person would have to pay to receive LIBOR flat (a floating rate), for a specified period of time on a notional principal balance. Swap rates change continuously. At any point in time, current swap rates for various maturities can be displayed on a Bloomberg terminal by typing USSW <GO>.

credit card ABS, issuers had to fund their loans either by borrowing money from banks or taking deposits (e.g., offering consumers checking, savings, or money market accounts). Credit card ABS expand issuers' funding sources to include the broad base of fixed income investors — allowing issuers to diversify their funding base and lower borrowing costs. This additional liquidity source particularly benefits mono-line issuers, such as Capital One, and nontraditional players, such as Target Corporation. Issuers like these have been able to fund rapidly growing portfolios without having to solely rely on other banks or depositors for funding.

Securitization also enables issuers to lower their regulatory capital. Banking regulators require that card issuers set aside a percentage of their assets in reserve for unexpected losses. By taking assets off a bank's balance sheet, securitization lowers card issuers' regulatory capital requirements and frees up capital to support other investments.

Conclusion

Adelson concluded the workshop by commenting on several key issues facing the ABS market. He noted that credit card ABS markets had been shaken over the past few months in the face of heightened credit quality concerns. The most notable example involved the NextBank Master Note Trust. That deal was one of the first of its kind to enter early amortization. That event occurred in July of this year after the performance of the trust's receivables significantly deteriorated and breached a covenant in the governing document, triggering early amortization. This resulted in investors' principal being returned to them earlier than planned. Adelson also noted how the deteriorating quality of First Consumers Credit Card Master Trust resulted in the first ever performance-related downgrade of triple-A-rated, bank-issued credit card ABS.¹⁷ These

¹⁷ First Consumers National Bank (FCNB) is wholly-owned by Spiegel, an international specialty retailer whose product lines include Eddie Bauer and Spiegel Catalogue. FCNB's credit card securitizations involved regular Visa and MasterCard accounts issued by the bank.

and other recent events have challenged the market's assumption that credit card ABS are virtually immune from credit- and performance-related problems.

The removal of securitized assets from issuers' balance sheets is also attracting the attention of regulators and investors. The extent to which issuers use ABS to reduce their balance sheets assists them in lowering regulatory capital and their on-balance-sheet leverage ratio. In a recent research report, Adelson explained his position on this issue. He wrote, "securitization should not result in removal of securitized assets from a company's balance sheet if the company retains risks or benefits associated with the future performance of the assets."¹⁸

Some argue that the ability of issuers to support an ailing trust (e.g., by injecting healthy loans or selling loans into the trust at a discount) is a form of "recourse." Such recourse, they argue, should disallow the assets from being removed from the balance sheet. The OCC, in its 2002-20 Bulletin, "Implicit Recourse in Asset Securitization," noted that "banking organizations deemed to be providing implicit recourse are generally required to hold capital against the entire outstanding amount of assets sold, as though they remained on the books, for risk-based capital purposes." This issue will continue to receive attention as issuers, regulators, and investors settle on the proper accounting treatment of ABS deals.

Regardless of how these issues are settled, it is likely that securitization will remain an important funding vehicle for credit card issuers. Credit card ABS have become a widely accepted asset class that has generally performed well. Despite concerns raised by NextCard and regulators, Adelson believes that the outlook for card ABS is strong. Even if altered by regulation or accounting rule changes, the benefits of securitization to card issuers, investors, and consumers appear to remain compelling.

¹⁸ Mark Adelson and David Jacob, "Thirty Years Later Securitization Is Still Good for America," Nomura Fixed Income Research, March 15, 2002, p. 6. In a credit card securitization, the issuer retains most of the risks and benefits of the securitized accounts through the "excess spread."

Figure 1: Rating Scales of the U.S. Ratings Agencies

Rating Scales of the U.S. Rating Agencies																								
Agency	Investment Grade												Speculative Grade											
S&P	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	C	D		
Moody's	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C			
Fitch	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	C	DDD	DD	D

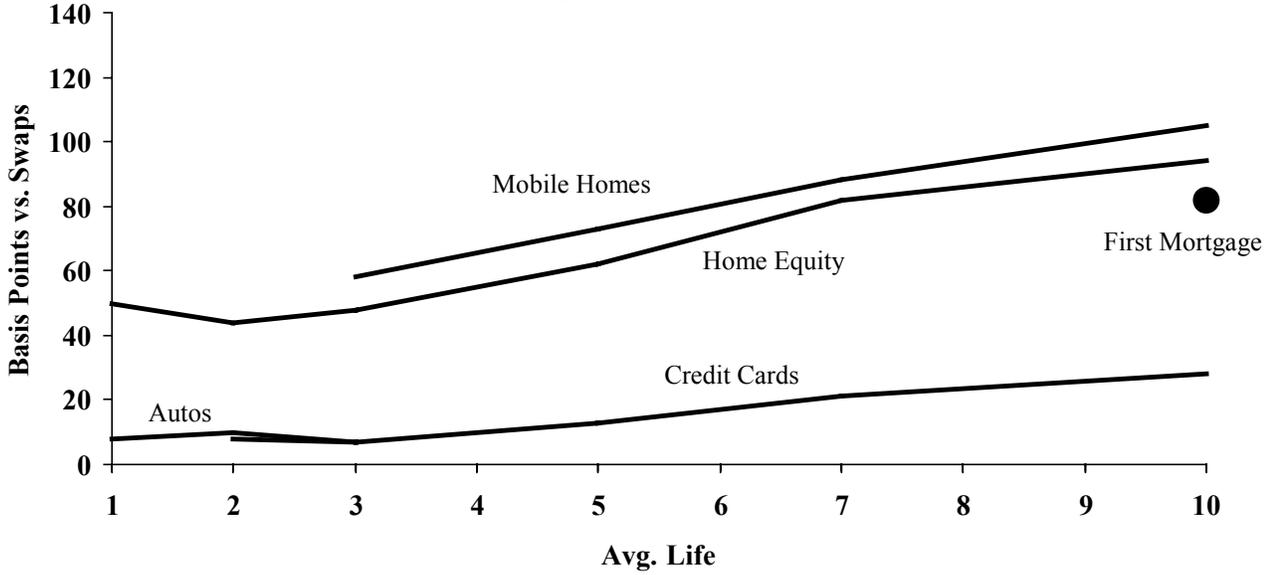
Figure 2: Stress Testing a Credit Card Asset-Backed Security

Indicator	Scenario				
	<i>Hypothetical Deal</i>	<i>Stress Test One</i>	<i>Stress Test Two</i>	<i>Stress Test Three</i>	<i>Stress Test Four</i>
Chargeoffs	Remain stable at 5%	Increase to 20%	Increase to 20%	Increase to 20%	Increase to 20%
Payment Rate	Remains stable at 15%	Remains stable at 15%	Decreases to 7%	Decreases to 7%	Decreases to 7%
Yield	Remains stable at 18%	Remains stable at 18%	Remains stable at 18%	Decreases to 10%	Decreases to 10%
Pool Size	Remains stable	Remains stable	Remains stable	Remains stable	Decreases by 70%
Result	Deal ends as planned after 9 months.	Deal goes into early-amortization and investors are repaid on time.	Deal does not mature on time (takes extra 3 mo.), although investors are repaid.	Deal does not mature on time (takes extra 2 mo.), although investors are repaid.	Deal fails. No one willing to buy assets. Investors are not fully repaid.
Investors Repaid?	Yes	Yes	Yes	Yes	No

Source: Adelson's presentation
 (Note: Shading indicates change from previous scenario.)

Figure 3: Asset-Backed Security Representative Spreads

Representative Spreads July 29, 2002



Source: Adelson's presentation

(Note: First mortgages are represented by a single point because their basic pass-through securities typically are priced against ten-year benchmarks.)