BRAMSHILL INVESTMENTS
May 2023

MONTHLY INSIGHTS

A Closer Look at Auto ABS and Investment Opportunities

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801 LAUREL OAK DRIVE STE 300 · NAPLES, FL 34108 · 239.920.7310 · WWW.BRAMSHILLINVESTMENTS.COM

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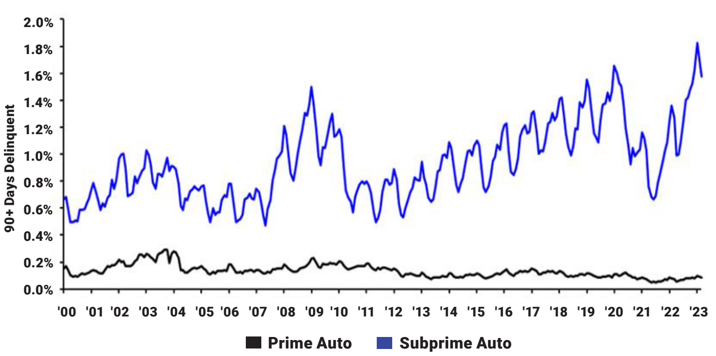
A Portion of U.S. Consumers Seem Stressed Out, So Is This What Everyone is Looking for as the Canary in the Coal Mine?

A Closer Look at Auto ABS & Investment Opportunities

Subprime Auto Loan Borrowers Are Acting More Stressed Than They Did During the Great Financial Crisis

Despite the resilient employment numbers in the U.S. economy, it's difficult to ignore the fundamentals of certain asset types we constantly monitor, most specifically subprime auto loans. Looking back at historical auto loan delinquencies since 2000, in the chart below, prime auto loans performed relatively well during the Great Financial Crisis ("GFC"), whereas subprime auto loans spiked from ~0.5% in the first half of 2007 to ~1.5% by the beginning of 2009. The subprime auto loan delinquency rate recovered back down to a post-GFC low of ~0.5% in the middle of 2011, but then gradually creeped higher towards ~1.6% by the beginning of 2020 (pre-COVID). COVID-19 related stimulus payments, from the U.S. Government, assisted in dropping the delinquency rate back down to ~0.7% in the middle of 2021. However, now that the subprime borrowers are facing a tremendous amount of headwinds from higher cost of living, higher interest rates, and no further stimulus payments from the U.S. Government, their delinquency rates in the first quarter of 2023 have been experiencing new highs (with a peak since of ~1.8% as of the end of February 2023) since the beginning of 2000.

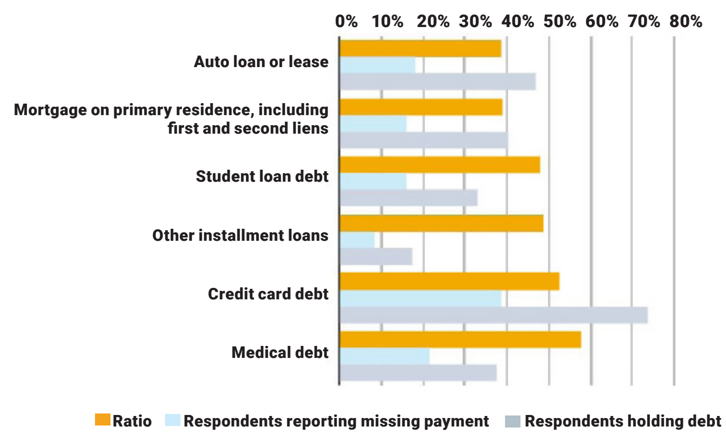
90+ Delinquencies in Both Prime and Subprime Auto Loans



Sources: J.P. Morgan U.S. ABS Research (Note: Subprime Auto is referred to as Non-Prime Auto in research)

What's interesting about their poor performance is that U.S. borrowers have repeatedly demonstrated that they are more likely to skip payments on medical debt and credit card debt versus missing payments on their auto loan/lease or primary residence. The chart below shows that auto loans/leases have the lowest ratio of missing payments over the six months prior to January 2023 compared to the percent of respondents holding each type of debt at such time. This helps explain why prime auto delinquencies continue to hold up well.

Borrowers Missing Payments Compared to Holding Such Debt

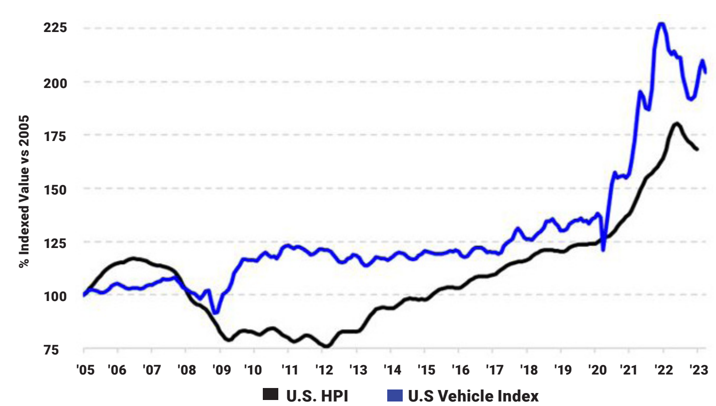


Source: BofA Global Research, SurveyMonkey

Auto Loans Have Larger Balances and Longer Terms

As we look at the various factors that are potentially causing such weakness in the subprime auto Asset-Backed Securities ("ABS") sector versus other sectors, it's important to note how much the nominal value of used vehicles have increased over the past 20+ years. Although many other goods often become more economical over time (such as flat-screen televisions and mobile phones), used vehicle values have grown at a very rapid rate since the GFC. However, used vehicle values exploded at an unsustainable growth rate resulting from the COVID-19 related stimulus payments and supply chain issues causing insatiable demand coupled with unprecedented inflationary conditions.

U.S. Home Price and Used Vehicle Indices (Indexed to the Beginning of 2005)



Source: Bloomberg, S&P CoreLogic Case-Shiller 20-City Composite Home Price Non-Seasonally Adjusted), Manheim U.S. Used Vehicle Value Index (Seasonally Adjusted)

The rapid growth rate of used vehicle values was countered by auto originators offering longer terms to suppress the average monthly payment of an auto loan. As shown in the illustrative example below, average subprime loan balances continued to increase and ended up approximately doubling between 2010 and 2023 although U.S. Household Median Incomes ("U.S. HMI") have not (U.S. HMI has increased by approximately 40% from 2010 to 2023).

Illustrative Example of Subprime Auto Payments vs. Household Median Income in a Rising Rate Environment

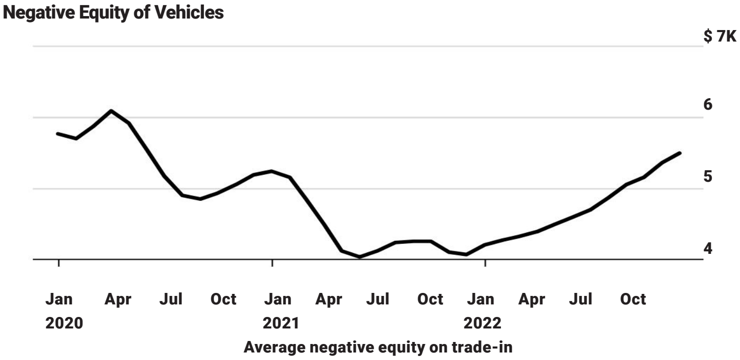
Origination Year	2006	2010	2022	2023
Average Loan Balance ($k's)	15,732	13,851	23,829	25,979
W.A. APR (%)	17.66	18.62	12.54	14.24
W.A. Orig Term (months)	64	66	72	73
Monthly Payment ($)	381	337	473	534
Annual Payments per car ($)	4,574	4,042	5,671	6,408
U.S. Household Median Income ($)	48,201	49,276	70,784	70,784
% of U.S. HMI (1 car per household)	9%	8%	8%	9%
% of U.S. HMI (2 cars per household)	19%	16%	16%	18%

Source: Bloomberg, various ABS securitization offering documents

Negative Equity, Declining Vehicle Values and Rising Rates Are Stressing Borrowers

Granting longer maturities to subprime auto borrowers resulted in the creation of more negative equity during the term of their ownership of their vehicle. Furthermore, the earlier these borrowers trade-in their previous vehicles, the more underwater they will be in their succeeding auto loan causing a downward spiral of larger negative equity.

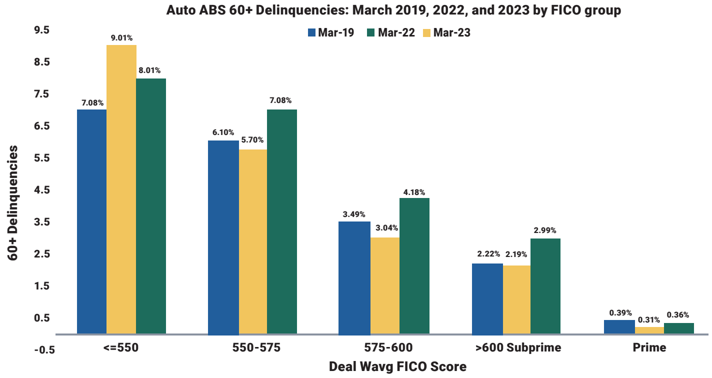
Negative Equity of Vehicles



Source: Bloomberg (3/1/2023 – Car Debt Piling Up with More Buyers $10k Underwater on Loans

As inflation continues to increase the cost of living for all U.S. Consumers, it is very apparent to us that it is negatively affecting subprime borrowers (who tend to have lower credit scores and lower incomes) more harshly than others. As you can see in the chart below, the credit scores ("FICOs") under 600 have risen much more dramatically than those with credit scores above 600.

Subprime Auto ABS 60+ Delinquencies Are Above Pre-COVID Levels



Sources: Intex, deal documents, Morgan Stanley Research

Conversely, the lower the credit score a borrower has generally results in a higher Annual Percentage Rate ("APR"). As can be seen from the illustrative example below, the higher the auto loan APRs are in a portfolio, the higher the probability that such cohort of borrowers are at least 60 days delinquent. As the U.S. Federal Reserve Bank continues to hold rates higher for longer to combat inflation, we foresee this weakening performance in subprime auto continuing to deteriorate.

Illustrative Example of Subprime Auto Performance of an Auto ABS Issuer's Outstanding Deals Selected from Various Years by APR

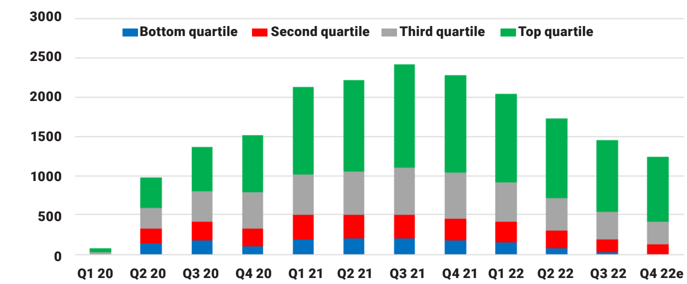
APR	2017		2018		2019		2020		2021		2022	
	% of Current Balance	61+ Delqs (%)	% of Current Balance	61+ Delqs (%)	% of Current Balance	61+ Delqs (%)	% of Current Balance	61+ Delqs (%)	% of Current Balance	61+ Delqs (%)	% of Current Balance	61+ Delqs (%)
Total (%)	100.00	3.03	100.00	3.13	100.00	3.24	100.00	2.41	100.00	2.01	100.00	1.51
24.1-28	0.30	8.82	0.40	9.45	0.50	9.00	0.50	2.99	0.20	10.79	0.10	8.24
20.1-24	4.80	3.6	5.70	4.64	5.60	6.15	5.40	5.19	2.80	4.41	1.90	3.67
16.1-20	20.50	4.33	21.60	3.81	19.00	4.19	19.70	3.23	11.90	3.35	10.10	2.78
12.1-16	32.80	3.25	35.20	2.99	33.00	2.72	28.60	2.18	31.20	2.35	30.20	2.02
8.1-12	26.70	1.97	26.60	2.65	34.70	2.97	29.20	2.2	39.80	1.49	40.30	1.04
4.1-8	11.40	2.43	8.40	2.59	5.40	1.89	12.90	1.27	12.50	0.95	15.50	0.63
0.1-4	3.50	2.15	2.00	1.29	1.80	1.15	3.60	1.33	1.70	0.99	1.80	0.67

Sources: J.P. Morgan Research Auto ABS Loan Tape Rewind (Feb 10, 2023)

Losses Are Looming

As the level of excess savings continues to drop from its peak in the middle of 2021, we anticipate a greater percentage of U.S. Consumers will run out of excess savings leaving them more susceptible (i.e. life event such as a major medical expense or job loss) to miss payments and become delinquent on their outstanding loans. Illustratively, you can see from the chart below, the bottom quartile has already drained their share of the total excess savings. The second-most bottom quartile should be the next to completely drain their excess savings soon, and so on up the quartiles.

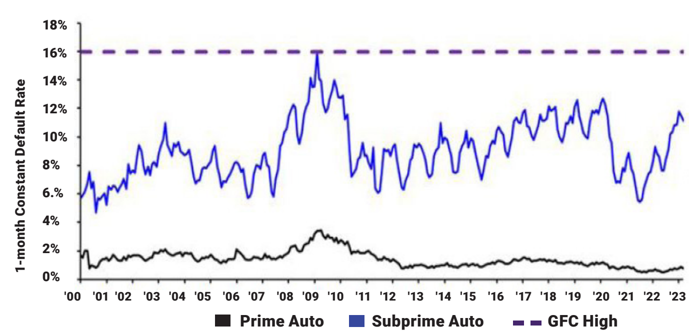
U.S. Consumer Excess Savings by Income Bracket ($BN)



Sources: Macro Strategy Partnership (April 17, 2023) – Excess Savings Revisited, NY Fed

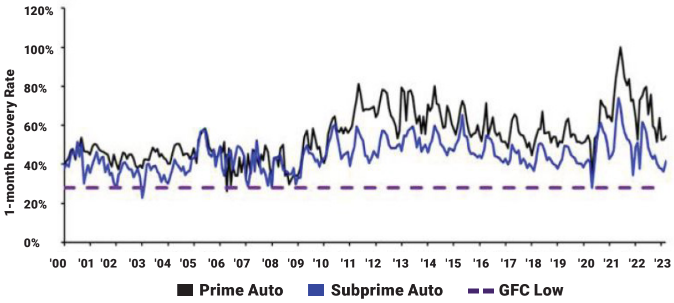
All else being equal and continuing the current path, we are assuming defaults and recoveries will continue to deteriorate more towards levels not seen since the GFC. While some issuers and investors continue to invest at today's fundamental levels, we intend to "skate towards where the puck is headed" and assume potential losses akin to the GFC for not only subprime loans, but for prime loans as well, as we anticipate more potential hardships ahead for the U.S. Consumer.

1-Month Constant Default %



Sources: J.P. Morgan U.S. ABS Research (Note: Subprime Auto is referred to as Non-Prime Auto in research)

1-Month Recovery %



Sources: J.P. Morgan U.S. ABS Research (Note: Subprime Auto is referred to as Non-Prime Auto in research)

By taking all the risks and rewards into account and focusing on loss-adjusted total returns, we expect the following in regards to Auto ABS in 2023:

1) We will remain somewhat defensive and focus on investments that are secured by underlying assets with stronger borrowers such as prime auto and stay higher up in the capital structure and shorter in duration. It is unlikely lower mezzanine/subordinate bonds as well as bonds backed by collateral originated to lower credit quality borrowers will result in risk-adjusted total returns that are compelling as investments. Examples of potential near term investments being 1-2 year duration seniors and heavily cashflowing bonds secured by auto loans and leases returning mid-to-high single digit types of returns.

2) After the fundamentals flow through and "bottom out" (i.e. unemployment increases to the top of the cycle), defaults and recoveries should reach more distressed levels potentially leading to sellers of distressed assets at very attractive valuations. We will look to make opportunistic investments in both senior and subordinate credits and/or lower credit borrowers in subprime auto, credit cards, residential, etc., that offer good risk-adjusted total returns that show promise of high single to mid-teens types of returns.

We believe that all-in-all the backdrop of a weakening economy and a hawkish U.S. Federal Reserve Bank (albeit in the later stages) will be a good foundation for most fixed income, especially in select Structured Products such as Auto ABS, and will help highlight that good asset selection resulting from a repeatable process with a long track record will allow Bramshill Investments to outperform our peers.

About Bramshill Investments

Bramshill Investments is an alternative fixed income asset manager with over $4.43 billion in assets under management as of April 30, 2023.

Founded in 2012 and headquartered in Florida, with offices in California and New York, the firm offers alternatives to traditional fixed income investment management featuring a variety of strategies across various debt and fixed income markets and specializing in preferred securities.

FLORIDA
801 Laurel Oak Dr, STE 300
Naples, FL 34108
P: 239.920.7310

NEW YORK
152 West 57th Street, FL 46
New York, NY 10019
P: 646.993.1648

CALIFORNIA
888 San Clemente Drive, STE 270
Newport Beach, CA 92660
P: 949.614.8031

Contributors:

PAUL VAN LINGEN
Sr. Managing Dir. & Portfolio Manager
30 years experience

ARA BALABANIAN
Managing Dir. & Portfolio Manager
23 years experience

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