Texans Help Drive National Increase in Auto Loan Debt

By Wenhua Di

ABSTRACT: Despite strong economic growth in recent years, Texas auto loan delinquency rates have risen to levels approaching those seen just after the Great Recession. A recent drop in the subprime share of auto loan originations—typically involving less-creditworthy buyers—suggests delinquency rates are likely to fall. However, risks remain elevated because of factors including longer loan duration and young borrowers' increasing student loan indebtedness.

Consumers take on debt during good times for a range of purchases, including autos. During the shale oil boom that followed the Great Recession, Texans bought large numbers of cars and light trucks. Real per capita auto loan debt increased substantially, more so in Texas than in the U.S. *(Chart 1).*[1]

Meanwhile, delinquency rates—those loans 90 days or more past due—never reached prerecession lows during the recovery. Instead, they began rising nationwide, including in Texas, beginning in 2015.

The recent increase is somewhat perplexing, given the end of the oil bust in 2016 and a strong state economy since 2017, during which historically low unemployment rates have pushed up wages.[2] The increases in the number and average balance of auto loans and rising delinquencies have raised concerns about consumers' ability to repay and the impact on the economy.

Passionate Vehicle Owners

Texans love their vehicles—essential for transportation across the sprawling state. Driving costs are relatively low because of inexpensive gasoline, ample parking and less congestion compared with other large states. Meanwhile, alternative modes of transportation are less abundant.

Texans spend more on vehicles than residents of other states partly because of relatively lower home prices. Per capita consumer debt was $43,660 in Texas and $50,090 in all 50 states as of the end of 2018, based on the Federal

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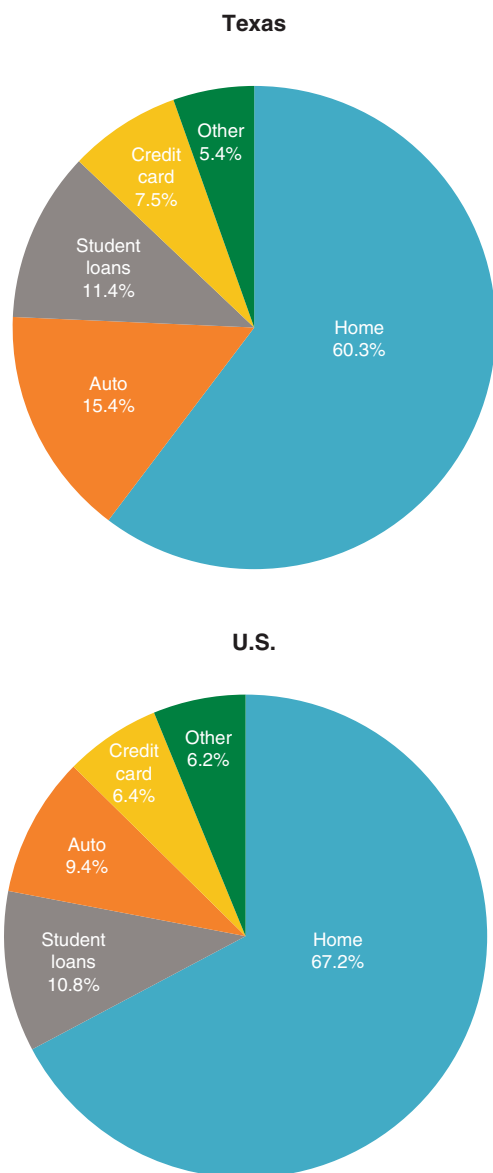**CHART 1** Auto Loan Balance, Delinquency in Texas Exceed U.S.
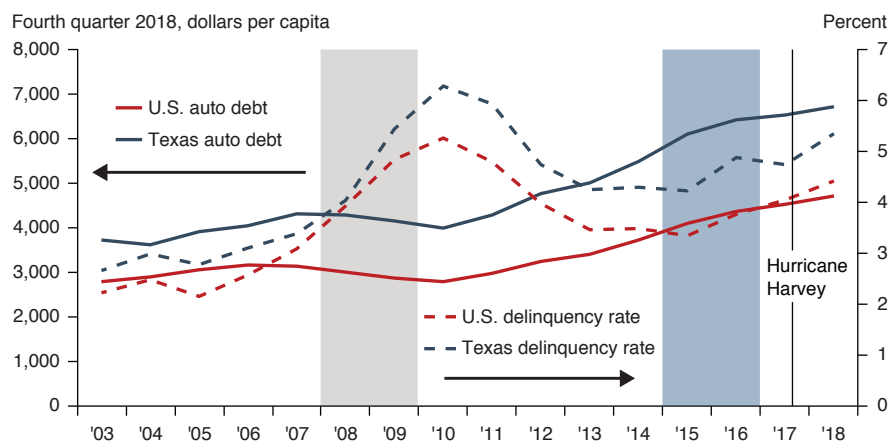
NOTES: Loans were deflated using consumer price index for new vehicles. Gray bar indicates U.S. recession; blue bar shows recent oil bust.
SOURCE: New York Fed Consumer Credit Panel /Equifax.

CHART
2
Auto Loans Bigger Piece of Debt Pie in Texas than U.S.

Texas

- Home 60.3%
- Auto 15.4%
- Student loans 11.4%
- Credit card 7.5%
- Other 5.4%

U.S.

- Home 67.2%
- Student loans 10.8%
- Auto 9.4%
- Credit card 6.4%
- Other 6.2%

SOURCE: New York Fed Consumer Credit Panel/Equifax, fourth quarter 2018.

Reserve Bank of New York Consumer Credit Panel/Equifax data.

But Texans on average have a greater share of their debt in auto loans, which accounted for over 15 percent of per capita consumer debt, second only to mortgage debt *(Chart 2)*. Since 2003, this percentage in Texas has re-mained at least six percentage points higher than that of the nation.

Among all consumers in Texas with a credit report, about 45.6 percent held auto loan debt; the average balance was $17,106. Nationally, 38.1 percent of consumers had auto loans, and the average balance was $13,595. About 5.3 percent of auto loan debt in Texas was 90-plus days past due, 0.9 percentage points higher than nationally.

Subprime Loan Delinquency

While Texans may borrow more to buy their cars and trucks, the delinquency rate is driven higher by the performance of subprime borrowers—those with an Equifax risk score below 620—rather than the amount of the loan. Subprime loans account for over 95 percent of delinquencies (90-plus days past due) in the state and nation. Subprime borrowers accounted for about 28 percent of the outstanding auto loan balance in Texas, compared with 22.4 percent nationally.

Texas has larger young, low-income and immigrant populations, lower health insurance coverage and lower average education attainment—all associated with lower credit scores.

The interest rate on subprime auto loans can be five to 10 times higher than that on prime loans, especially for preowned vehicles or loans with longer terms to maturity. The higher interest payment adds to the debt burden for subprime borrowers and contributes to higher delinquencies. With a greater percentage of subprime borrowers, Texas has a higher delinquency rate than the nation.

Auto loan underwriting became less strict following the Great Recession amid efforts to kick start the economy. Loose credit standards were followed by a tightening from 2016 to 2018 and a slowing expansion in subprime auto loan originations—possibly leading to decreasing delinquencies.[3] Delinquency rates—mostly involving debt incurred three or four years earlier—have lagged new subprime auto loan originations in recent years *(Chart 3)*.

Loan Balance and Terms

The increasing cost of vehicles reflects added power and technology along with more safety and environmental features. The average loan amount for new passenger cars has been increasing, exceeding $32,000 in 2018, with an average monthly pay-

CHART
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Texas Delinquency Rise Follows Subprime Origination Increase

Percent   Percent
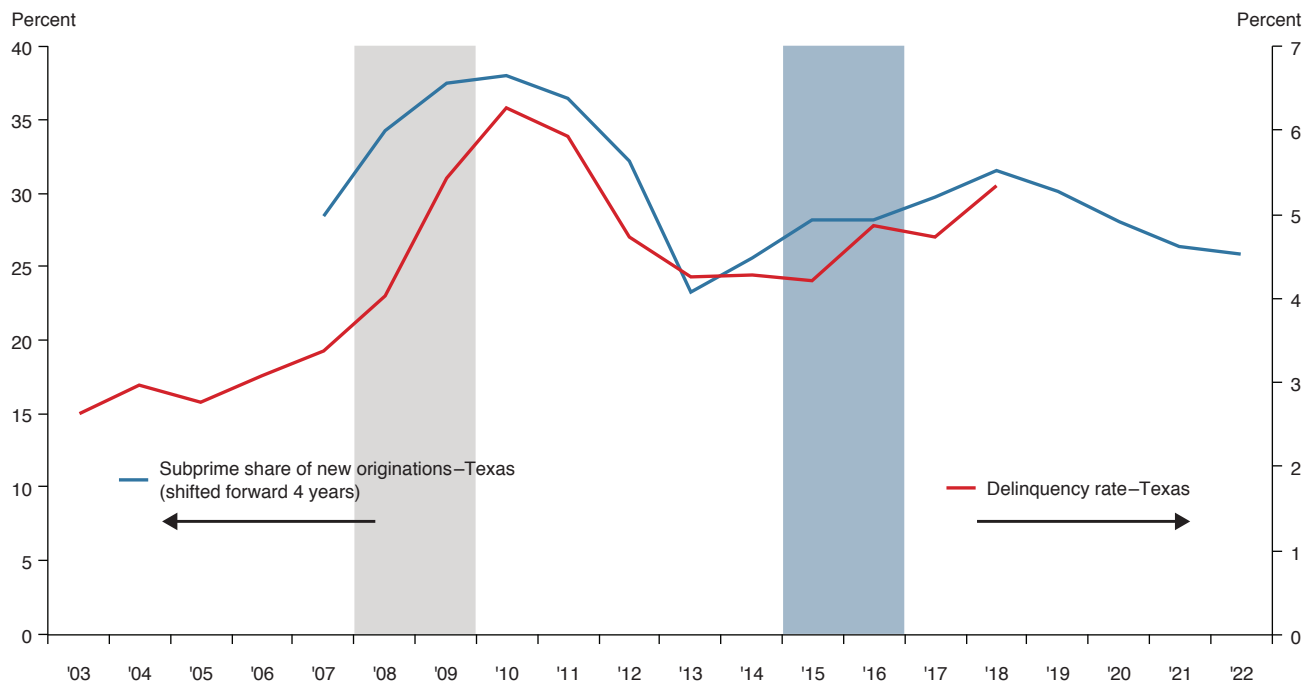
NOTES: The subprime share of new originations is shifted forward four years. Gray bar indicates National Bureau of Economic Research recession. Blue bar shows recent energy slump.
SOURCE: New York Fed Consumer Credit Panel/Equifax.

ment over $550.[4] About 85 percent of new-car purchases were financed in fourth quarter 2018, compared with 54 percent for preowned vehicles.[5]

Auto-loan balances are just one indicator. Consumers with prime credit and higher income may have access to lower-interest loans and can afford expensive cars, while those with lower income or higher loan interest rates for an inexpensive car can often find it difficult to manage the payments.

Car buyers with lower income and/or higher debt are often offered longer loan terms with the benefit of lower monthly payments. Average maturity of new-car loans at finance companies (weighted by amount financed) has increased by seven months in the past 10 years, from 59.5 months in fourth quarter 2008 to 66.5 months in fourth quarter 2018.[6]

Studies show that auto loans with longer terms tend to have higher delinquencies. Texas leads the nation in auto loans with the longest aver-age term to maturity.[7] Longer terms generally come with higher loan rates and a greater chance that the market value of the car will be lower than the loan balance down the road, which increases default risk.

Lender Performance

Subprime borrowers are more likely to obtain a loan from an auto finance company rather than the two other main types of lenders—banks and credit unions. Auto finance companies are typically more lightly regulated and issue many of the risky loans.[8] Finance companies originated about 49 percent of outstanding auto loans in Texas at year-end 2018, compared with 46 percent nationally. These loans have accounted for about 64 percent of subprime auto loans for a decade, though these finance company loans remain below prerecession levels.[9]

Despite the role of auto finance companies in subprime lending, their share of the Texas market does not directly contribute to the state's higher auto loan delinquencies. In fact, auto finance companies' loan share has declined as delinquencies have increased.

Not all auto finance companies target subprime borrowers. These nonbank finance firms do not take deposits and usually use various strategies to raise capital, build partnerships and handle credit risks. They specialize in auto lending and provide loans to a wider range of consumers than banks and credit unions.

While some of these finance firms lend to consumers with subprime credit scores, others offer appealing loan products to super-prime borrowers. For example, "captive" nonbanks, finance companies owned by auto manufacturers, offer buyers with prime credit extremely low interest rates with shorter terms.

These captives regained popularity during the recovery from the Great

Recession and have more than half of the market share of new-car financing.[10] All types of auto lenders may also use similar strategies to attract potential borrowers.[11]

Oil Bust and Hurricane Harvey

Statistical modeling of auto loan performance helps explain how the oil bust years and Hurricane Harvey in 2017 influenced Texas auto loan delinquencies. In this exercise, the serious delinquency rate is modeled as a function of loan origination locations and the interactions of the event years (which take into account occurrences such as the oil slump of 2015–16 and Hurricane Harvey in 2017) with affected states or counties. The model controls for the percent of auto loans originated to subprime and near-prime borrowers, borrower age, average amount borrowed and percent of lender types.[12]

The "serious delinquency rate" is defined as the percent of loan balance that was not current and more than 90 days past due. The analysis is done separately at the state level for the whole nation and at the county level for Texas, drawing on aggregated data from 20 percent of the New York Fed Consumer Credit Panel/Equifax database (equal to a 1 percent population sample). The county-level analysis was limited to counties with 50 or more auto loans in the sample.

Relative to the rest of the nation, Texas has a higher auto loan delinquency rate, and the gap with the U.S. has widened slightly since 2016. The trend is similar for other oil-producing states, such as Alaska, North Dakota and Wyoming. The top 10 oil-producing counties in Texas as a group also had higher auto loan delinquencies during the oil bust years.

The model shows that the 29 counties in Harvey's path have not experienced significantly worse auto loan performance since the storm. Storm effects may be only temporary and, therefore, don't lead to debt behavior change. Alternatively, flood and auto insurance and other assistance programs available to storm victims alleviate some repayment challenges.[13]

CHART 4 Subprime Growth Outpaces Total Outstanding Auto Securities

Percent, year/year
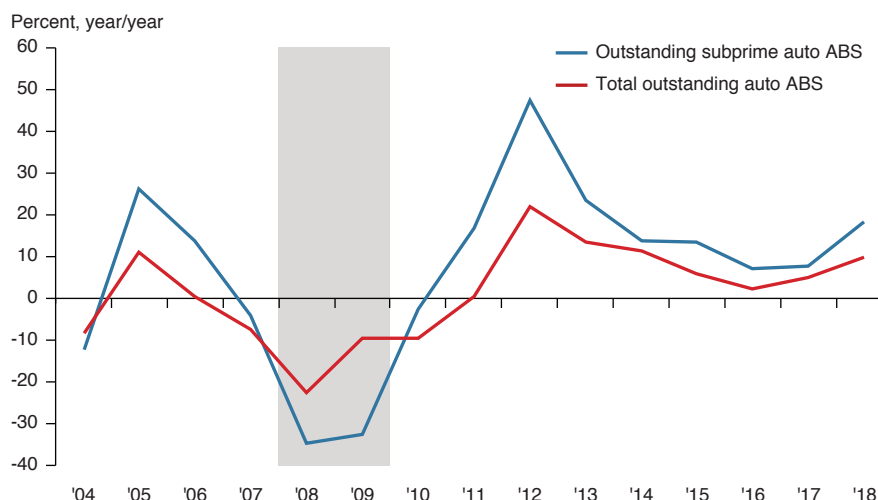
NOTES: Gray bar indicates National Bureau of Economic Research recession. ABS refers to asset-backed securities.
SOURCE: Securities Industry and Financial Markets Association.

Consistent with previous studies, the model results suggest that two factors are associated with a higher probability of delinquency—a lower credit score and younger borrower age. Conversely, loan balance and lender type are not definitively related to delinquencies.

Asset-Backed Securities

Despite a shrinking share of subprime auto loan originations in recent years, the secondary market of subprime auto-loan-backed securities remains relatively strong. Auto lenders, especially nonbanks, typically raise capital through collateralizing auto loans in the secondary market. Pools of individual loans are bundled together into asset-backed securities (ABS) and split into groups, or tranches, of varying credit quality. They are subsequently sold to investors.

Auto ABS carrying high credit risk—usually groups of nonprime loans—are attractive to fixed-income investors seeking yield above that offered by more conventional bonds. The issuance of auto-note securities accounted for 20.8 percent of all issuance of ABS in 2018, rising in recent years and exceeding prerecession levels.

This has raised concerns about a crash similar to one involving the residential mortgage-backed security market preceding the Great Recession. Investors' appetites for yield provides lenders, who subsequently bundle the car notes in an ABS issuance, incentive to extend loans to borrowers with lower credit ratings. The outstanding subprime auto ABS has steadily risen since the recession ended *(Chart 4)*.

However, auto ABS differ from mortgage-backed securities in several respects that make them an unlikely trigger for the next economic downturn. First, auto loans generally have lower prepayment risks for lenders and investors. Second, auto loans make up a much smaller share of consumer debt than mortgages, and the auto ABS is a relatively small part of the total liabilities.

Third, it is easier to repossess a car than to foreclose on a house, especially with the availability of technologies to track vehicles. In addition, given the overall improving credit quality, auto loan delinquencies may not continue increasing if borrowers make responsible purchases based on their payment capacity.

Still, the increase in subprime auto ABS merits attention. During the Great Recession, there was a sharp decrease in credit supply.[14] The impact of an

	Texas			U.S.		
	Q4 2003 Born in 1973	Q4 2010 Born in 1980	Q4 2018 Born in 1988	Q4 2003 Born in 1973	Q4 2010 Born in 1980	Q4 2018 Born in 1988
Auto Loan Borrowing						
Number of borrowers (thousands)	116	138.8	177	1,375	1,459	1,871
Percent auto borrowers of all	39.9	40.7	47.4	36.4	35.8	43.1
Average auto debt (2018 dollars)	10,413	9,931	12,670	9,227	8,704	10,381
Percent with vehicle loans ≥$30K	16.1	20.0	29.8	11.9	14.0	18.4
Creditworthiness and Auto Loan Performance						
Average Equifax risk score	622	637	643	648	654	662
Percent subprime	49.8	43.6	39.1	35.6	35.5	31.6
Percent current	90.6	88.9	90.3	92.5	90.7	91.7
Percent 31–60 days past due	4.0	3.6	3.2	2.9	2.9	2.7
Percent 61–90 days past due	0.8	0.8	1.1	0.6	0.8	1.0
Percent 90+ days past due	1.3	0.8	0.5	0.9	0.8	0.7
Percent charge-off	1.4	4.7	4.0	1.8	3.6	3.1
Auto Lender Types						
Percent bank	14.5	18.6	20.8	25.6	24.6	20.8
Percent credit union	20.4	24.7	23.8	17.6	24.1	26.7
Percent auto financing company	56.6	50.7	51.4	50.7	46.0	49.0
Other Consumer Debt						
Percent with mortgage	42.9	37.4	28.6	46.7	40.9	29.8
Percent with student loan	19.1	33.1	36.5	20.6	38.9	40.5

SOURCE: Author's calculation based on 20 percent of New York Fed Consumer Credit Panel/Equifax auto loan trade line year-end data.

auto loan crisis (if one were to occur) on investors and the financial system would not be of the same magnitude as the mortgage meltdown. However, if a downturn occurs, investors would not receive expected returns as risky auto loan borrowers default.

Auto Loan Borrowers

Much has been written about the latest generation of young adults and how their behavior differs from that of their predecessors. They are more educated but struggle with greater student loan debt, marry later and delay home purchases.

Comparing average 30-year-old auto loan borrowers with past cohorts of 30-year-olds provides insight into changing behavior. Table 1 presents the borrowing and repayment experience for auto loan borrowers of three birth cohorts—those born in 1973, 1980 and 1988 who subsequently turned 30 in 2003, 2010 and 2018—in Texas and in the nation.

The number and share of 30-year-olds obtaining auto loans has sub-

stantially increased. Nearly half of 30-year-old Texans held auto loan debt in 2018, compared with 40 percent in 2003. The real value of the average loan balance has risen by more than $2,000 since 2010.

The share of borrowers taking out a loan exceeding $30,000 (in 2018 dollars) has nearly doubled. Despite improved credit scores and the drop in subprime share, auto loan performance has changed little, from the oldest cohort to the youngest. Consistent with the overall trend, more Texans

borrow from banks or credit unions than from auto finance companies.

Relative to the nation, a greater percentage of 30-year-olds of all three cohorts in Texas have auto loans, and more have balances exceeding $30,000. The average Equifax risk score in Texas has increased from earlier cohorts, but the youngest cohort remains 19 points lower than the comparative national figure.

The subprime share has fallen as the average credit score improved—with the pace of improvement faster in Texas. The Texas delinquency rate exceeds that of the nation in those loans 31 to 60 days past due. Charge-offs are also higher in Texas.

Nationally, consistent with previous studies, the share of 30-year-olds with mortgages has declined, while the proportion with student loan debt has almost doubled.[15] At age 30, when many borrowers have been out of college seven or eight years, more than 40 percent of those born in 1988 still held student loans.

In Texas, although student loan debt has not surpassed auto loan debt in the share of total consumer debt, 36.5 percent of 30-year-old auto loan borrowers have student loan debt. The burden to repay student loans can leave auto loan borrowers more vulnerable to an economic downturn and keep homeownership out of reach for longer.

Debt Burden Risks

Texas has historically experienced strong demand for vehicles, with a higher percentage of consumers holding auto loan debt than nationally. The gap in average auto loan borrowing between Texas and the nation is widening, and the delinquency rate spiked in Texas after the oil bust.

With the strong regional economy, recent improvement in overall creditworthiness and the drop in subprime originations, an auto loan crisis is unlikely. However, with the cost of vehicle purchases increasing, and the alarming increase in student loan debt, many borrowers continue to confront elevated risks.

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Notes

[1] Auto or car loans are used interchangeably throughout the article to refer to loans used to finance the purchase of cars and light trucks.

[2] Texas Facing Historically Tight Labor Markets, Constraining Growth, by Christopher Slijk, Federal Reserve Bank of Dallas *Southwest Economy*, Second Quarter 2019, www.dallasfed.org/research/swe/2019/swe1902b.

[3] Net Percentage of Domestic Banks Tightening Standards for Auto Loans, https://fred.stlouisfed.org/series/STDSAUTO.

[4] Auto Loan Debt Sets Record Highs, by Matt Tatham, Experian, July 2019, www.experian.com/blogs/ask-experian/research/auto-loan-debt-study/.

[5] See "State of the Automotive Finance Market," Experian, Fourth Quarter 2018, www.experian.com/content/dam/marketing/na/automotive/quarterly-webinars/2018-q4-safm.pdf.

[6] "Average Maturity of New Car Loans at Finance Companies, Amount of Finance Weighted," Federal Reserve Bank of St. Louis, FRED, March 2019, https://fred.stlouisfed.org/series/DTCTLVENMNM.

[7] "The Perplexing Post-2011 Trends of Longer Maturities and Rising Default Rates of Auto Loans," by Paul Calem, Chellappan Ramasamy and Jenna Wang, forthcoming working paper, Federal Reserve Bank of Philadelphia, 2019.

[8] Auto finance companies were regulated by the state in which they were licensed. Starting in 2015, the federal Consumer Financial Protection Bureau began overseeing large nonbank auto finance companies, which originate 90 percent of nonbank auto loans and leases.

[9] There has been an increase in credit-union-originated loan balances and a decline in bank financing nationally, while the share of loans originated by auto finance companies has remained little changed. In Texas, bank and credit union shares have both increased. Because of the relatively large balance of bank loans relative to other lender types, the share of debt amount from auto finance companies in Texas dropped from 58 percent at the end of 2003 to 49 percent in 2018.

[10] See note 5.

[11] "Auto Lenders Ramp Up Risk to Win More Customers," by AnnaMaria Andriotis and Christina Rexrode, *Wall Street Journal*, June 10, 2018.

[12] The linear regression model is an econometrics method to fit the observed data in a linear relationship between two variables, holding others constant. The fixed-effect model is estimated with robust standard errors clustered at the treatment level.

[13] "Let the Rich be Flooded: The Unequal Impact of Hurricane Harvey on Household Debt," by Stephen B. Billings, Emily Gallagher and Lowell Ricketts, SSRN working paper, July 20, 2019, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3396611.

[14] "Auto Financing During and After the Great Recession," by Ralf R. Meisenzahl, Board of Governors of the Federal Reserve System FEDS Notes, June 22, 2017, https://doi.org/10.17016/2380-7172.2015.

[15] "Young Student Loan Borrowers Retreat from Housing and Auto Markets," by Meta Brown and Sydnee Caldwell, *Liberty Street Economics* (blog), April 17, 2013, https://libertystreeteconomics.newyorkfed.org/2013/04/young-student-loan-borrowers-retreat-from-housing-and-auto-markets.html.