Driving Into Debt

The Hidden Costs of Risky Auto Loans to Consumers and Our Communities

FRONTIER GROUP

TexPIRG | Education Fund

Driving Into Debt

The Hidden Costs of Risky Auto Loans to Consumers and Our Communities

TexPIRG Education Fund

Frontier Group

WRITTEN BY:

R. J. CROSS AND TONY DUTZIK
FRONTIER GROUP

ED MIERZWINSKI AND MATT CASALE
U.S. PIRG EDUCATION FUND

FEBRUARY 2019

ACKNOWLEDGMENTS

The authors wish to thank the following people for their thoughtful review of this report: Rebecca Borné, senior policy counsel at the Center for Responsible Lending; Tom Domonoske, attorney with Consumer Litigation Associates; Scott Le Vine, assistant professor of urban planning at the State University of New York, New Paltz; Giulio Mattioli, research fellow in transportation planning at Technische Universität Dortmund University; Sarah Jo Peterson, principal at 23 Urban Strategies; Ira Rheingold, executive director of the National Association of Consumer Advocates; John Van Alst, staff attorney with the National Consumer Law Center; and Alan Walks, associate professor of geography and planning at the University of Toronto. Thanks also to Meryl Compton and Gideon Weissman for their contributions to this report and to Susan Rakov of Frontier Group for editorial support.

The authors bear responsibility for any factual errors. The recommendations are those of TexPIRG Education Fund. The views expressed in this report are those of the authors and do not necessarily reflect the views of our funders or those who provided review.

TexPIRG | Education Fund

With public debate around important issues often dominated by special interests pursuing their own narrow agendas, TexPIRG Education Fund offers an independent voice that works on behalf of the public interest. TexPIRG Education Fund works to protect consumers and promote good government. We investigate problems, craft solutions, educate the public, and offer citizens meaningful opportunities for civic participation. For more information, please visit texpirgedfund.org.

PIRG CONSUMER WATCHDOG

For more than 40 years the PIRG Consumer Watchdog team has been educating consumers about how to protect themselves in the marketplace, remove dangerous products from store shelves, and end exploitative financial practices.

FRONTIER GROUP

Frontier Group provides information and ideas to build a cleaner, healthier and more democratic America. We address issues that will define our nation's course in the 21st century – from fracking to solar energy, global warming to transportation, clean water to clean elections. Our experts and writers deliver timely research and analysis that is accessible to the public, applying insights gleaned from a variety of disciplines to arrive at new ideas for solving pressing problems. For more information about Frontier Group, please visit www.frontiergroup.org.

Layout: To the Point Collaborative, tothepointcollaborative.com

Cover photo: maybaybutter at iStock

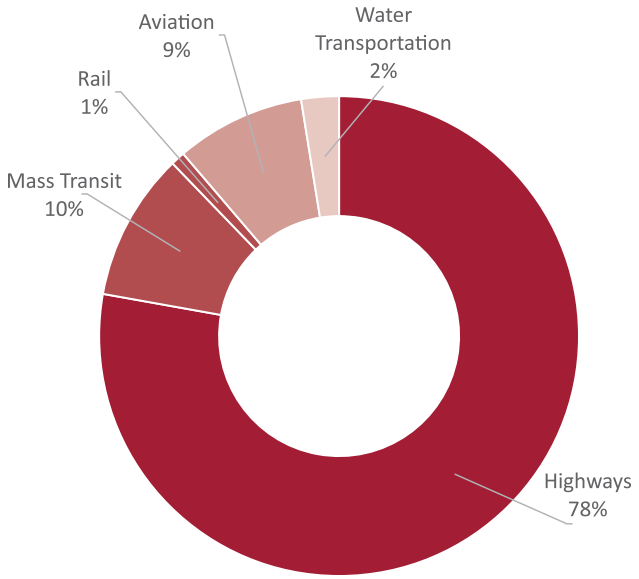
Contents

Executive Summary

IN MUCH OF AMERICA, access to a car is all but required to hold a job or lead a full and vibrant life. Generations of car-centric transportation policies – including lavish spending on roads, sprawl-inducing land use policies, and meager support for other modes of transportation – have left millions of Americans fully dependent on cars for daily living.

Car ownership is costly and often requires households to take on debt. In the wake of the Great Recession, Americans rapidly took on debt for car purchases. Since the end of 2009, the amount of money Americans owe on their cars has increased by 75 percent.[1] A significant share of that debt has been incurred by borrowers with lower credit scores, who are particularly vulnerable to predatory loans with high interest rates and inflated costs.

FIGURE ES-1. GOVERNMENT CAPITAL INVESTMENT IN TRANSPORTATION SINCE 1956[4]



Americans' rising indebtedness for cars raises concerns for the financial future of millions of households. It also demonstrates the real costs and risks imposed by our car-dependent transportation system. Americans deserve protection from predatory loans and unfair practices in auto lending. Americans also deserve a transportation system that provides more people with the freedom to choose to live without owning a car.

Owning a car is the price of admission to the economy and society in much of America.

- Access to a vehicle is necessary to reach jobs and economic opportunity in much of the nation. Even in the nation's most transit-oriented metropolitan area, New York City, only 15 percent of jobs are accessible within an hour by transit, as opposed to 75 percent within an hour's drive.[2] Other cities with less robust transit systems have even fewer jobs accessible via transit.
- Auto dependence is the result of generations of public policy. Since 1956, highway spending has accounted for nearly four-fifths of all government investment in the nation's transportation system.[3] (See Figure ES-1.) Meanwhile, the embrace of single-use zoning and sprawl-style development separates people from jobs and other necessities, making access to an automobile all but mandatory for the completion of daily tasks.

Owning a car is expensive and drives millions of households to take on debt.

- Transportation is the second-leading expenditure for American households,

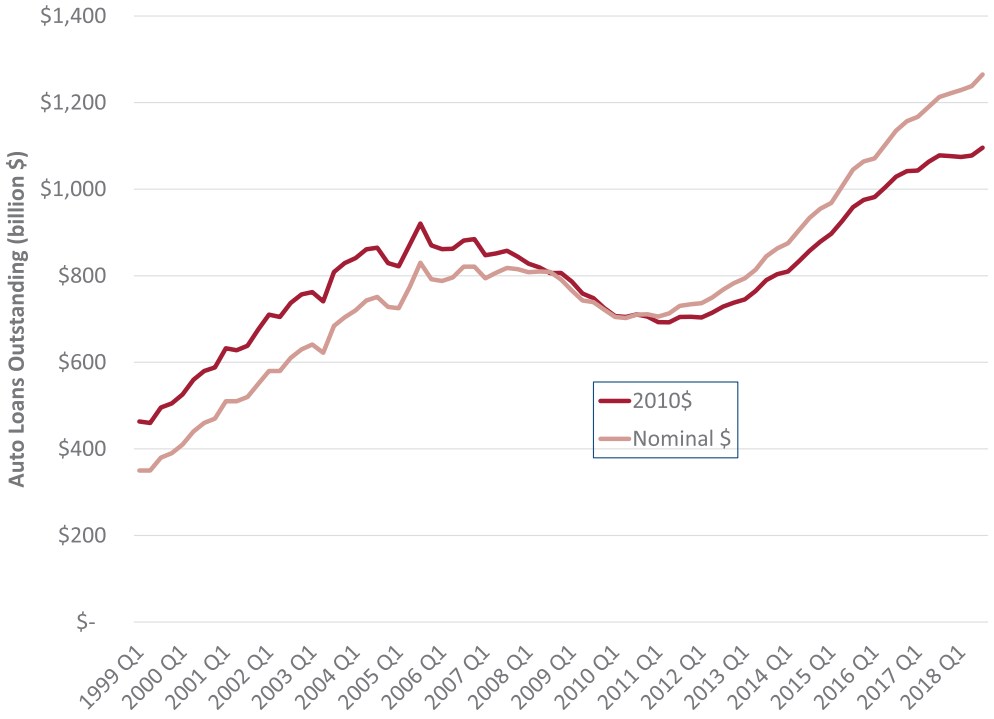
behind only housing.[5] Approximately one hour of the average American's working day is spent earning the money needed to pay for the transportation that enables them to get to work in the first place.[6]

- More Americans carry auto debt, and they owe more on their loans, than ever before:
  - There were 113 million open auto loan accounts in the United States in the third quarter of 2018, up from 81.4 million in early 2010, a 39 percent increase.[7]
  - Currently, 85 percent of all new car purchases in the United States are financed, up from 75 percent in 2009. In addition, 53 percent of all used car purchases are financed, up from 46 percent in 2009.[8]
  - Americans owed $1.26 trillion on auto loans in the second quarter of 2018, an increase of 75 percent since the end of 2009.[9]
  - The amount of auto loans outstanding is equivalent to 5.5 percent of GDP – a higher level than at any time in history other than the period between the 2001 and 2007 recessions.[10]

Auto borrowing varies by income, age and location across the United States.

- Over the last decade, auto debt per capita has been growing fastest among the oldest Americans (those age 70 and older) and slowest among the youngest Americans (those aged 18 to 29). Auto debt per capita among those 70 and older increased by 73 percent between 2007 and 2017, compared with 16 percent among those 18 to 29.[12] Americans aged 40 to 49 owe the most on auto loans per capita – an average of more than $7,000 per person.
- Lending to residents of low-income neighborhoods has bounced back since the recession, with loan originations increasing nearly twice as fast for

FIGURE ES-2. AUTO DEBT OUTSTANDING[11]



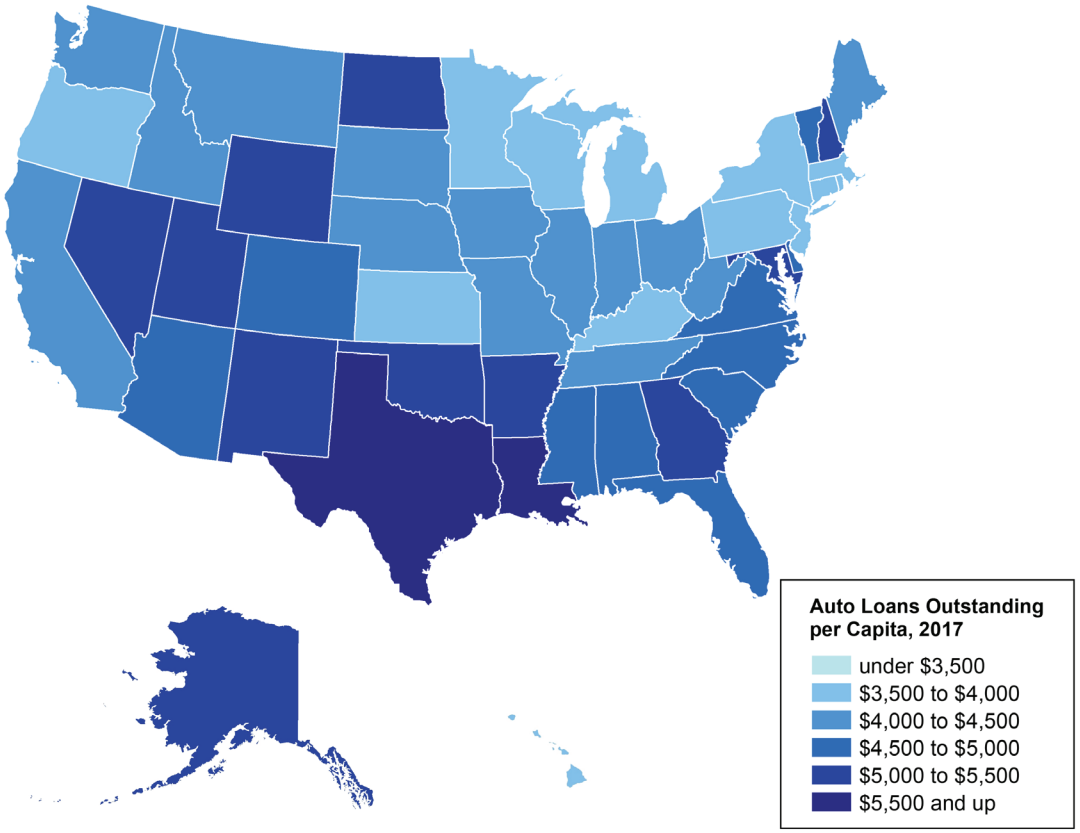
residents of low-income neighborhoods than residents of high-income neighborhoods since 2009.[13]

- Residents of Texas owe far and away the most on auto loans per capita of any state in the country, with average auto debt of just over $6,500 in 2017.[14] (See Figure ES-3.)

The loosening of auto credit after the Great Recession has contributed to rising indebtedness for cars, increased car ownership, and reductions in transit use.

- Auto lending rebounded from the Great Recession in part because of low interest rates (fueled by the Federal Reserve's policy of quantitative easing) and a perception by lenders that auto loans had held up better than mortgages during the financial crisis. As one hedge fund manager noted in a 2017 interview with *The Financial Times*, during the recession, "[c]onsumers tended to default on their house first, credit card second and car third."[16]
- A 2014 report by the Federal Reserve found that a consumer's perception of interest rate trends had as strong an effect on the decision of when to buy a car as more expected factors like unemployment and income.[17]
- Low-income borrowers are particularly sensitive to changes in loan maturity according to a 2007 study, suggesting that the longer loan terms of recent years may have been an important spur for the rapid rise in auto loans to low-income households.[18]
- A 2018 study by researchers at the University of California, Los Angeles, tied the fall in transit ridership in Southern California to increased vehicle availability, possibly supported by cheap auto financing.[19]

FIGURE ES-3. OUTSTANDING AUTO DEBT PER CAPITA BY STATE, 2017[15]



The rise in automobile debt since the Great Recession leaves millions of Americans financially vulnerable – especially in the event of an economic downturn.

- Americans are carrying car loans for longer periods of time. Of all auto loans issued in the first two quarters of 2017, 42 percent carried a term of six years or longer, compared to just 26 percent in 2009.[20] Longer repayment terms increase the total cost of buying an automobile and extend the amount of time consumers spend "underwater" – owing more on their vehicles than they are worth.
- Many car buyers "roll over" the unpaid portion of a car loan into a loan on a new vehicle, increasing their financial vulnerability in the event of job loss or other crisis of household finances. At the end of 2017, almost a third of all traded-in vehicles carried negative equity, with these vehicles being underwater by an average of $5,100.[21]
- The increase in higher-cost "subprime" loans has extended auto ownership to many households with low credit scores but has also left many of them deeply vulnerable to high interest rates and predatory practices. In 2016, lending to borrowers with subprime and deep subprime credit scores made up as much as 26 percent of all auto loans originated.[22]
- Auto lenders – and especially subprime lenders – have engaged in a variety of predatory, abusive and discriminatory practices that enhance consumers' vulnerability, including:
  - Providing incomplete or confusing information about the terms of the loan, including interest rates.[23]
  - Making loans to people without the ability to repay.[24]
  - Discriminatory markups of loans that result in African-American and Hispanic borrowers paying more for auto loans.[25]
  - Pushing expensive "add-ons" such as insurance products, extended warranties and overpriced vehicle options, the cost of which is added to a consumer's loan.[26]
  - Engaging in abusive collection and repossession tactics once a consumer's loan has become past due.[27]

Americans should not face crippling debt or abusive practices in the marketplace to secure the transportation they need. By strengthening consumer protections for auto borrowers and expanding transportation options, local, state and federal governments can protect households from the financial vulnerability created by automobile debt.

To protect consumers in the automotive marketplace, policy-makers should limit abusive, predatory and discriminatory auto sales and lending practices, including by:

- Closing loopholes that allow auto dealers to charge excessive interest rates;
- Enforcing existing protections against fraud;
- Prohibiting discriminatory loan markups;
- Requiring lenders to determine ability to repay before issuing a loan;
- Addressing the inherent conflicts of interest present in indirect lending through auto dealers, and expanding options for responsible lending to low-income Americans.

To expand transportation options and enable more Americans to live without owning a car, policy-makers should:

- Increase public transportation service, with a particular focus on services that provide job access;
- Improve conditions for people who walk or bike;
- Incentivize carpooling, and encourage the deployment of shared mobility services such as carsharing that reduce the need for personal car ownership;
- Adopt land use and economic development policies that encourage the location of homes and jobs in areas accessible to public transportation.

Introduction

HENRY FORD IS WIDELY CREDITED with popularizing the automobile. But at least some of the credit belongs to a much less well-known automotive pioneer: John Jakob Raskob.

Ford's innovations, including the adoption of assembly line production, made his Model T relatively cheap compared with other vehicles on the market. But even the cost of a Model T (roughly $20,000 in today's dollars) was out of reach for many early 20th century Americans.[28]

In 1919, Raskob, an executive at General Motors, established the General Motors Acceptance Corporation, or GMAC, a financing unit that provided consumers with loans to buy new cars. By obtaining a loan through a financing firm like GMAC, consumers could drive a car away today and pay the cost over time.

Thanks in part to its willingness to extend credit to customers (something Ford refused to do until 1928), General Motors emerged during the 1920s as America's leading carmaker. By 1930, three of every four new cars sold in America were bought on credit.

Over the past century, cars and credit have gone together like ice cream and apple pie. Indeed, financing is now, along with service, one of the main sources of revenue for car dealers. Auto dealers don't make much money selling cars – they make money selling *loans* to buy cars.

Credit is just as critical to would-be car buyers. In fact, a 2014 study by Federal Reserve economists found that consumer perceptions of interest rate trends profoundly shape consumers' willingness to jump into the car market.[29]

Credit provides many Americans with the means to obtain a car of their choice. But it is also an invitation to trouble.

The need to own a vehicle to function in most communities leaves many Americans – especially low-income Americans – vulnerable to predatory practices. Auto lenders not only hold the keys to a vehicle, but in much of America, they also hold the keys to employment, education and recreation – all the good things of life that a century of auto-focused transportation and land use policies have put outside the effective reach of people who do not drive or do not have access to a car.

This white paper tells the story of the dramatic boom in auto credit that followed the Great Recession and explores its implications for the transportation system and for consumers. It also highlights one of the hidden dangers of America's approach to land use and transportation – an approach that virtually mandates costly car ownership as the price of admission to the economy and society.

Early 20th century Americans associated automobiles with freedom. In the early 21st century, however, many Americans do not have the freedom *not* to own a car. That lack of freedom puts many Americans' financial futures at risk, even as it harms our environment and our quality of life.

Innovators like Henry Ford and John Jakob Raskob sparked the growth of the automobile industry a century ago. It will take a new group of innovators – in both the public and private sectors – to create a transportation system with more choices, and real freedom, for more Americans.

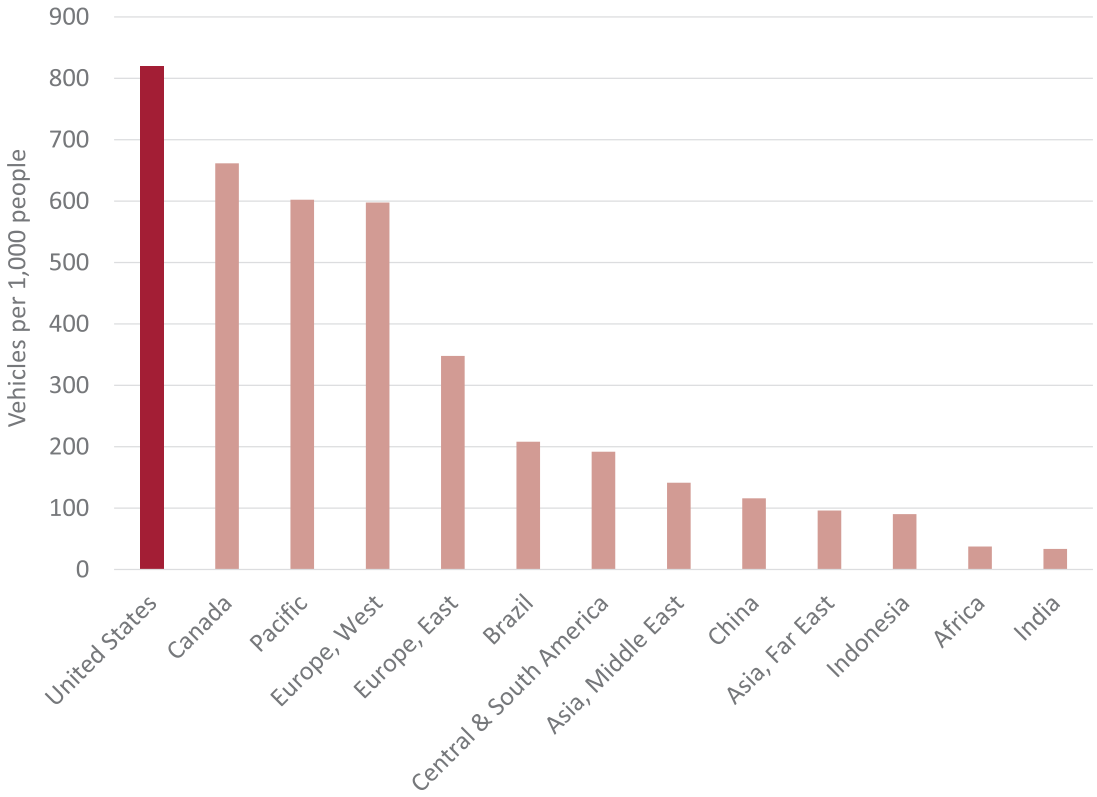
U.S. Public Policy Drives Most Households to Own Cars

OVER THE LAST CENTURY, America's suburbs, cities and towns have been built in ways that make it difficult or impossible to live without access to a vehicle. As a result, car ownership is nearly universal in the United States, with 91 percent of all U.S. households having access to at least one car.[30]

Ownership of a car is often a lifeline that gives Americans access to employment, shopping, education and recreational opportunities. Currently, about 86 percent of U.S. workers commute to work by automobile. In non-metropolitan areas, 91 percent of workers commute by car. Even in principal U.S. cities within metro areas, which frequently have better access to transit options, 78 percent of residents rely on their car to get to and from work.[31]

Americans own more vehicles per capita than residents of other major countries around the world, including relatively prosperous countries such as Canada and those in western Europe. (See Figure 1.)

FIGURE 1. VEHICLES PER CAPITA, UNITED STATES VERSUS OTHER COUNTRIES/REGIONS[32]



Americans' dependence on cars is no accident, and it is not exclusively the product of a "love affair with the car." Rather, it has been shaped by the confluence of numerous government policies that have left many Americans with few practical transportation options.

Highway Spending

Car dependence is partly a consequence of the existence of a vast highway network largely available for free and paid for by taxpayers, coupled with historical underinvestment in other modes of travel. The first federal funding program for highway construction was enacted in 1916.[33] The construction of the Interstate Highway System cemented the place of automobiles and trucks as the centerpiece of America's transportation strategy.[34]

Since the creation of the Interstate Highway System, government funding has consistently prioritized automobiles over other modes of mobility. Between 1956 and 2014, 78 percent of all government capital expenditures on transportation went toward highway construction and maintenance.[35] (See Figure 2.)

Incentives through the tax code also encourage the construction and use of infrastructure for private vehicles. For example, the federal income tax exclusion for commuter parking represents a tax subsidy of $7.3 billion per year for those who drive to work and park.[37]

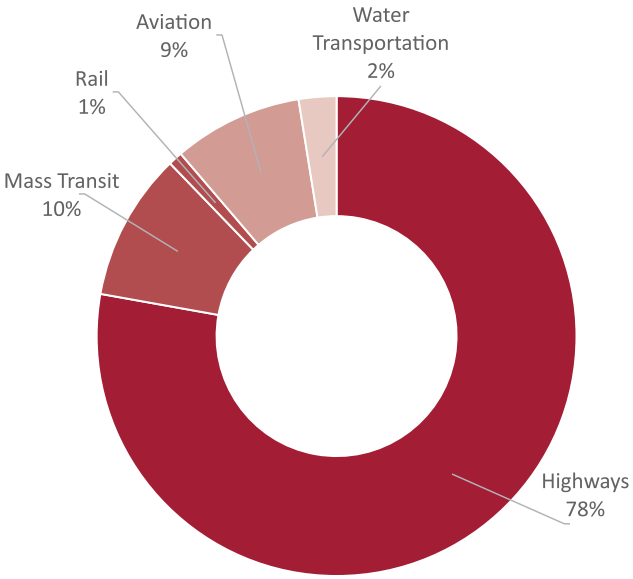
Land Use Policy and Sprawl

The dramatic expansion of the nation's highway system helped fuel the expansion of suburban and exurban areas, with homes and jobs increasingly dispersed from the urban core. Over a span of 30 years, from 1960 to 1990, the population of America's suburbs increased by 50 percent while the population of central cities declined.[38] The spread of people and jobs across newly built suburbs dramatically altered the nature of the American commute in ways that bred car dependence. In 1960, roughly two-thirds of all commutes began or ended in central cities, which often have the most robust transit service. By 2000, that figure had fallen to 38 percent.[39]

In addition, the introduction of single-use zoning across the U.S. laid the groundwork for car dependence. Zoning codes designated residential, commercial and shopping areas as distinctly separate entities, requiring Americans to use cars not just to get to work but also to complete mundane daily tasks like picking up a quart of milk at a store.[40]

Compact development with denser residential construction and mixed-use buildings could create communities in which car ownership is less necessary. However, city, state and federal policies – often well-intentioned – have long encouraged car-dependent sprawl-style development and erected barriers to development in compact cities.

FIGURE 2. GOVERNMENT CAPITAL INVESTMENT IN TRANSPORTATION SINCE 1956[36]



Allocation of Street Space

In the early part of the 20th century, urban streets were used by a variety of transportation modes. The introduction of high-speed automobile traffic – along with the demand for ample land for parking – changed the ways in which American streets were used in ways that privileged the automobile.

A 2014 study found that only 2.4 percent of street space in San Francisco was devoted to bus-only or bike-only lanes – this in a city in which private automobiles account for fewer than half of all trips.[41] Parking also consumes vast amounts of urban land. A 2015 study estimated that 14 percent of the incorporated land in Los Angeles County consists of parking for automobiles.[42] Dedication of street space to high-speed automobile traffic and parking makes the use of other modes of travel – especially active forms of transportation such as bicycling and walking – inconvenient, unpleasant, unsafe or even impossible, reinforcing automobile dependence.

Lack of Available Alternatives

In many areas of American metropolitan areas, modes of travel other than driving functionally do not exist. Even in those places where public transit is present, it may not be frequent or fast enough to serve as a viable option. In the New York City area, for example, 75 percent of jobs are accessible with a 60-minute drive, while – despite being the most transit accessible city in the country – only 15 percent of jobs can be reached with a 60-minute transit trip.[43]

America's relationship with the car has been shaped by public policy. By creating communities and transportation systems in which access to a car is the key to economic success, educational advancement, sociability, fun and the ability to meet basic daily needs, public policy has also created a reality in which the significant financial burden of car ownership is imposed on nearly everyone.

Car Dependence Forces Millions of Americans into Debt

TRANSPORTATION IS THE second-largest expense for American households after housing.[44] The average American household spends more than $4,000 a year on vehicle purchases, nearly $2,000 on fuel and motor oil, and nearly $1,000 a year each on vehicle insurance and repairs.[45] No matter how you count it, owning a car is expensive.

America's transportation system and land-use patterns force most people to own a car. Americans have increasingly taken on debt in order to achieve vehicle ownership, often leaving themselves financially vulnerable. A 2018 study of Canadian cities found that low-income households in more auto-dependent neighborhoods carried higher levels of auto debt.[46]

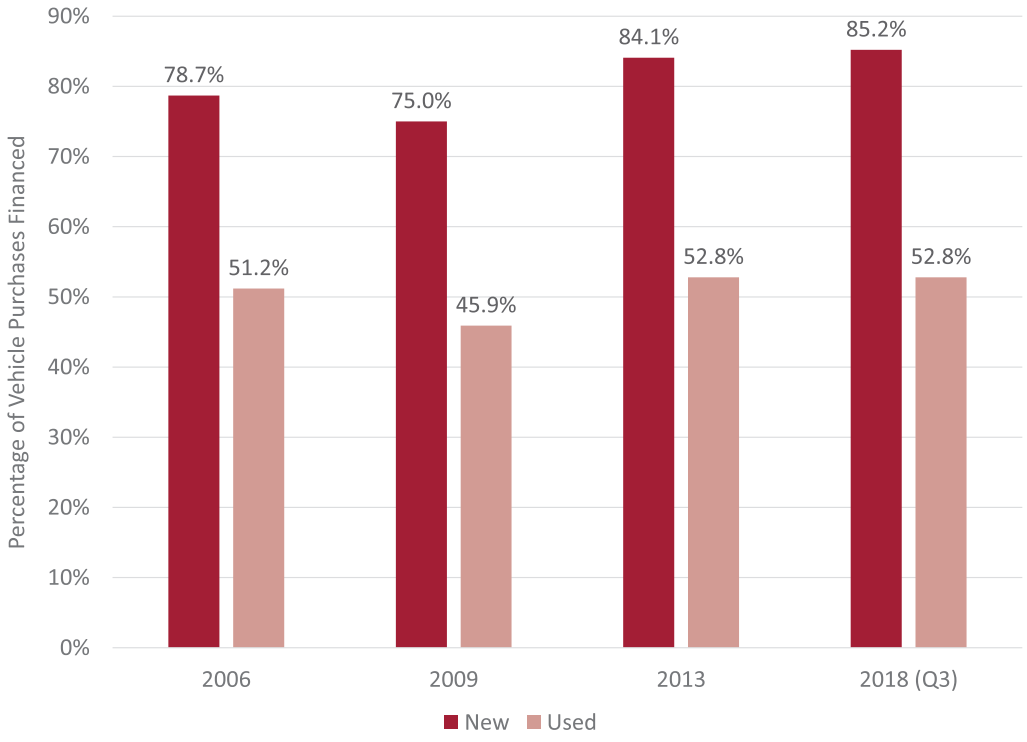
Today, more Americans carry auto debt than ever before. The amount of auto debt outstanding is at an all-time high. And, when compared with the size of the economy, the only period in American history when auto indebtedness was greater than it is today was in the early 2000s during the run-up to the financial crisis.

Most Used Cars and Nearly All New Cars Are Bought on Credit

The high cost of car ownership forces many Americans to borrow in order to have reliable access to a car, with the share of Americans in debt for their vehicles climbing over time.

In the third quarter of 2018, 85 percent of all new car purchases relied on financing, com-

FIGURE 3. PERCENTAGE OF NEW AND USED CAR PURCHASES THAT ARE FINANCED[48]



pared with 75 percent in 2009. The same trend has occurred in the used car market as well, despite lower sticker prices than those for new vehicles. In 2009, 46 percent of used cars were bought using loans; by the third quarter of 2018, 53 percent of used car purchases were financed.[47]

Outstanding Auto Credit Is at an All-Time High

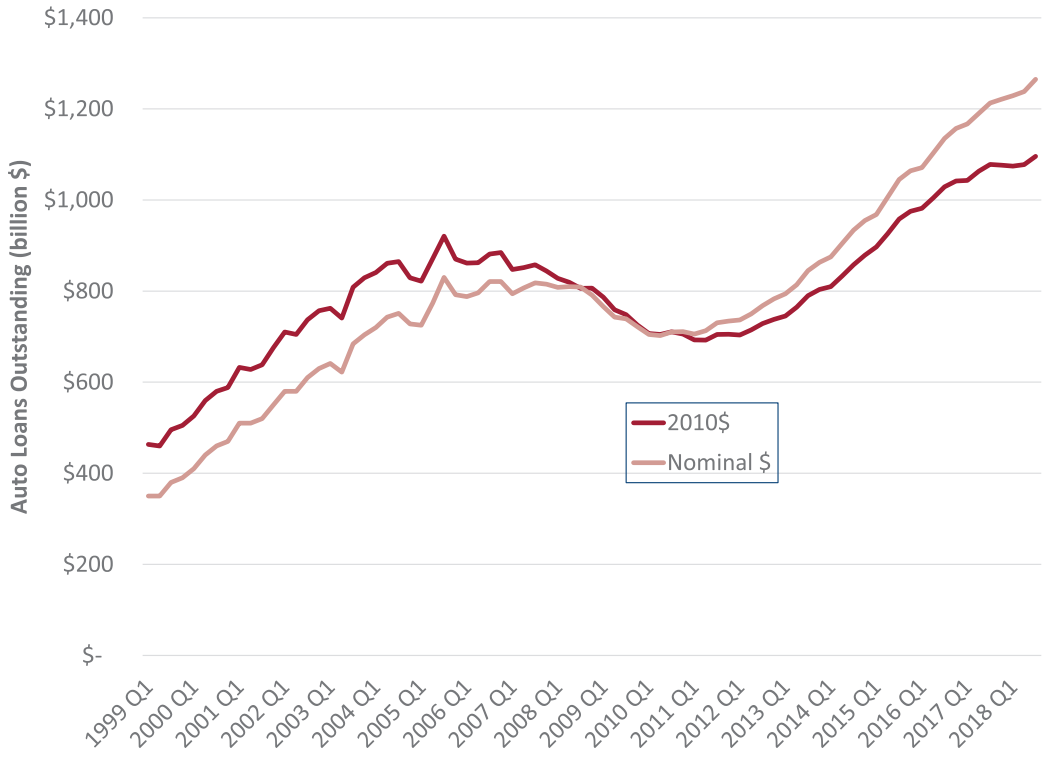
In the last decade, borrowing for car purchases has risen dramatically in the United States. By the third quarter of 2018, Americans owed $1.26 trillion on auto loans, an increase of 75 percent since the end of 2009 (51 percent when adjusted for inflation).[49] The amount owed by the average American on their car loans increased from $2,960 in 2003 to $4,520 in 2017, an increase of 53 percent in nominal terms and 33 percent when adjusted for inflation.[50]

Compared with the size of the U.S. economy, outstanding auto debt is larger now than at any time other than the period between the 2001 and 2007 recessions, at 5.5 percent of gross domestic product.[52] The auto industry is notoriously cyclical (illustrated by Figure 5, next page) as consumers buy vehicles in good times and put off purchases at times of high interest rates and economic uncertainty.[53] Recent economic expansions, however, have coincided with higher levels of auto debt as a share of GDP.

More Americans Have Outstanding Car Loans than Ever Before

Taking out a loan for a car has become an increasingly common option for achieving car ownership. Between the end of 2010 and the third quarter of 2018, the number of auto loan accounts increased by 39 percent, from 81.4 million to 113 million.[55]

FIGURE 4. TOTAL AMOUNT OF U.S. AUTO DEBT (NY FED DATA)[51]



In mid-1999, there were approximately 18 auto loan accounts open for every 100 Americans. By mid-2017, that figure had nearly doubled, to 34 accounts per 100 Americans.[57]

FIGURE 5. MOTOR VEHICLE LOANS OUTSTANDING AS SHARE OF GDP[54]

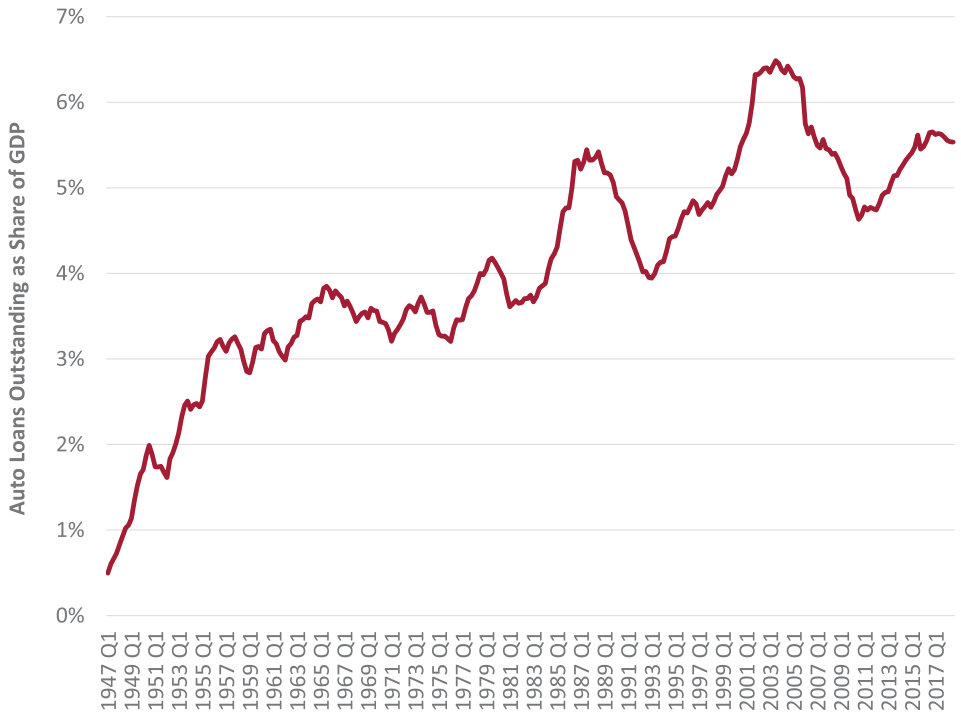
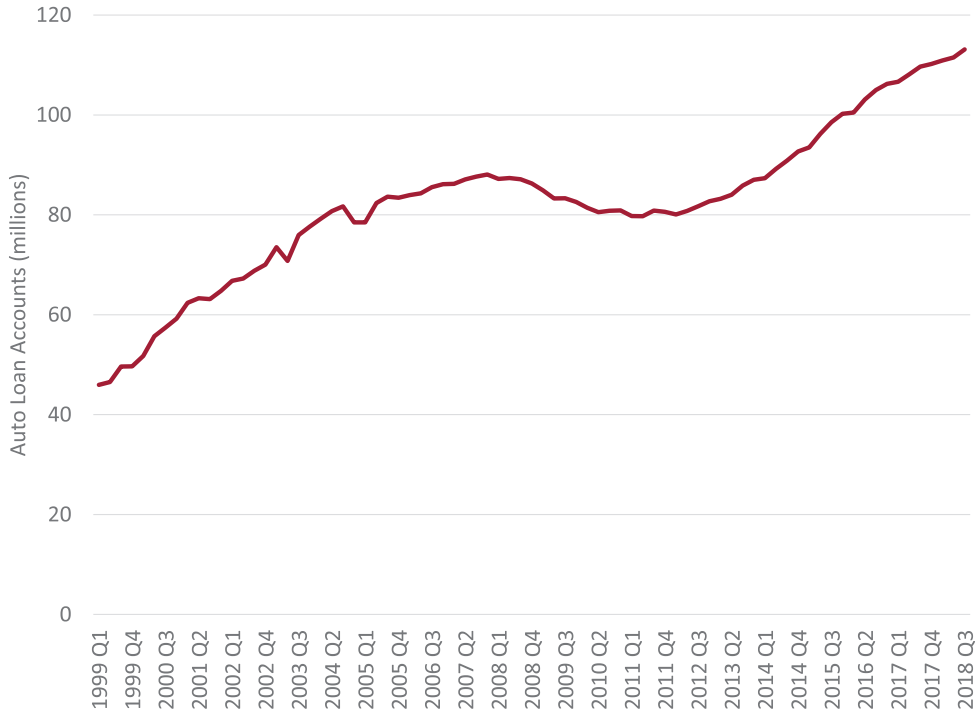


FIGURE 6. NUMBER OF AUTO LOAN ACCOUNTS[56]



Auto Indebtedness Varies by Income, Age and Location

The rise in auto debt has not been uniform across the country. Residents of low-income neighborhoods, as well as older Americans, have experienced the biggest increases in auto indebtedness in recent years.

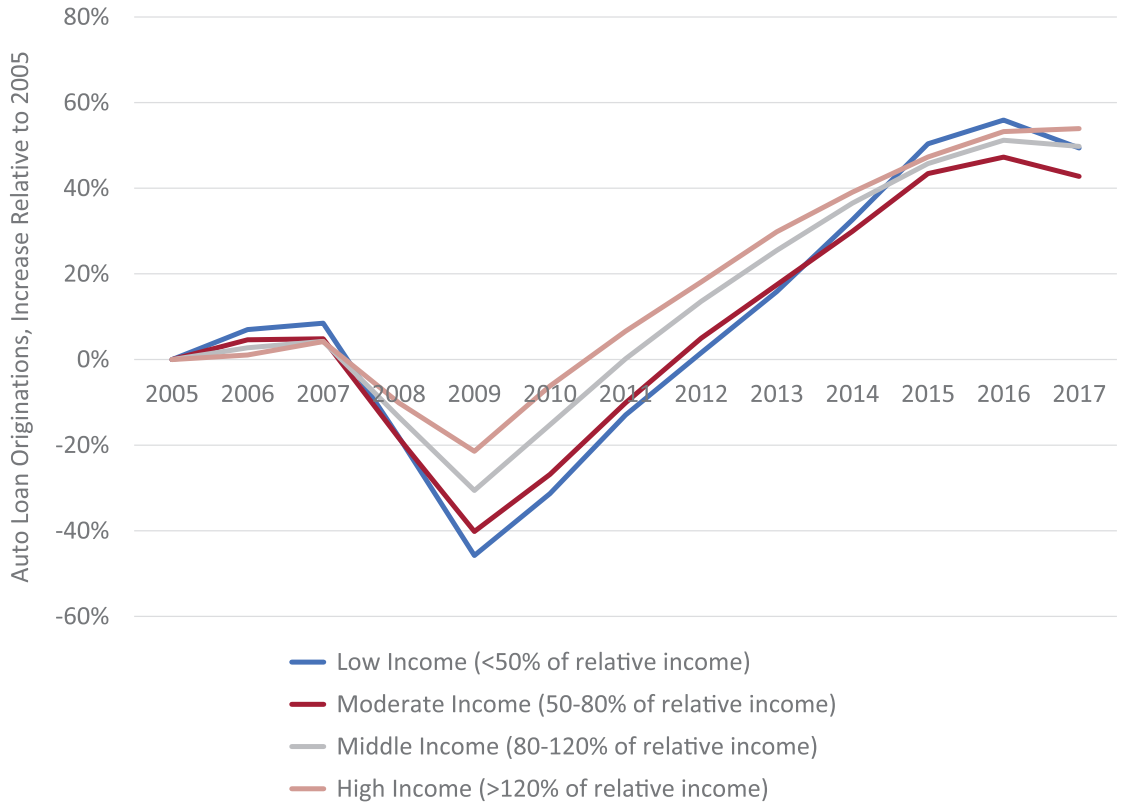
BY INCOME

In 2017, more auto loans were originated to residents of middle-income neighborhoods ($265 billion) than to residents of higher-income neighborhoods ($200 billion), according to data from the Consumer Financial Protection Bureau (CFPB).[58] While residents of low-income neighborhoods borrow far less for car purchases ($18 billion of loan originations in 2017), originations have increased faster for those consumers than any other group since the Great Recession, erasing the dramatic decline in auto lending to low-income consumers during the recession. Since 2009, borrowing by residents of low-income neighborhoods has increased nearly twice as quickly as borrowing by residents of high-income neighborhoods. By 2017, loan originations in low-income neighborhoods had increased by 49 percent relative to 2005, an increase roughly in line with the rise in borrowing among higher income groups. (See Figure 7.)

BY AGE

The amount of auto debt Americans hold also varies by age. Perhaps unsurprisingly, people in the peak driving age groups between 30 and 59 years of age hold the most outstanding auto debt, with 40- to 49- year-olds holding an average of $7,000 of auto debt per capita. Older Americans, who are less likely to drive, and younger Americans, who are less likely to own a vehicle of their own, owe the least on auto loans.[60]

FIGURE 7. AUTO LOAN ORIGINATIONS BY NEIGHBORHOOD MEDIAN INCOME[59]



Over the last decade, however, auto debt has been increasing fastest among the oldest Americans, those aged 70 and above, who hold 73 percent more auto debt per capita than they did in 2007. The rise in auto debt among older Americans is consistent with a broader phenomenon described by the Federal Reserve Bank of New York as the "graying of American debt," in which indebtedness for older Americans has increased across the board relative to younger Americans.[61] Increasing debt may also be leading to an increase in the rate of bankruptcy filings among older Americans.[62]

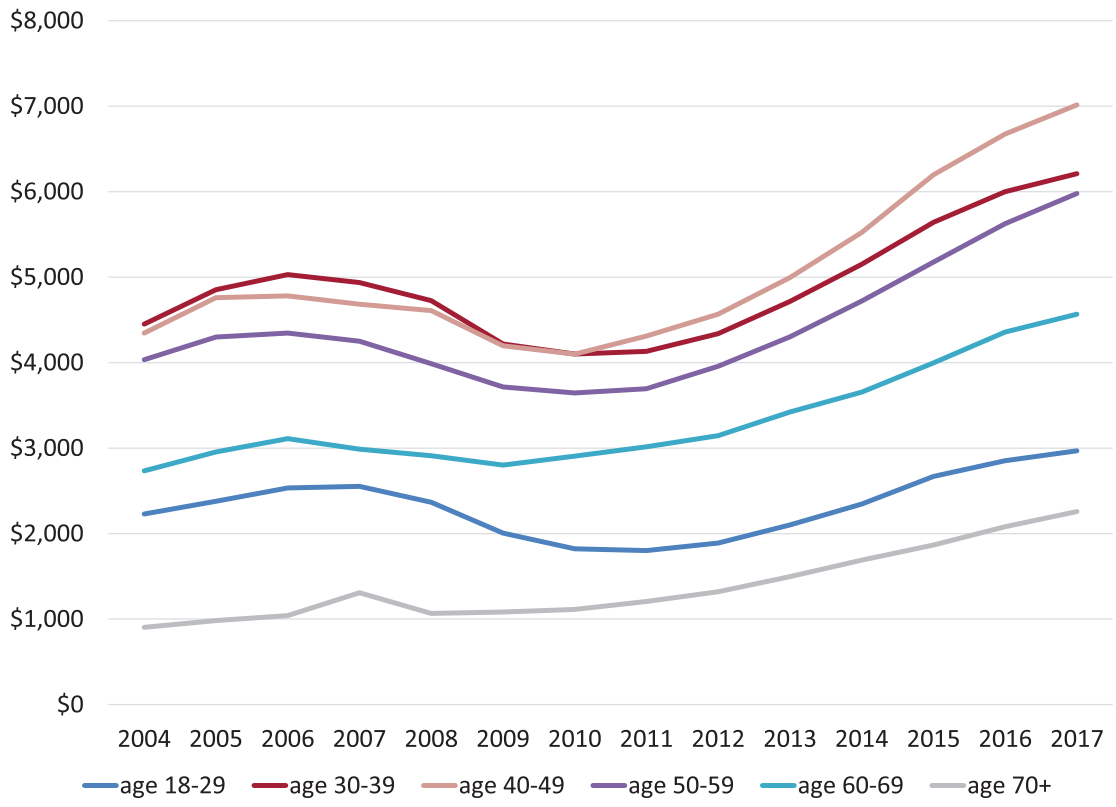
By contrast, auto debt has grown least quickly among the youngest Americans, those aged 18 to 29. Between 2007 and 2017, the amount of auto debt held by the average young adult increased only 16 percent in nominal terms, and actually *decreased* relative to inflation. Auto borrowing fell more dramatically among younger Americans than older Americans during the Great Recession, while borrowing among both groups has rebounded in the years since the recovery began. (See Figure 8.)

BY STATE

The growth of auto lending has also not been uniform across the country.

The average Texan owed just over $6,500 on his or her auto loans in 2017, nearly twice as much as the average resident of New York State, according to data from the Federal Reserve Bank of New York.[64] Indeed, the average Texan owed a full $1,000 more in auto loans than the average resident of any other state. Texas, Louisiana, Georgia, Arkansas and Wyoming were the top states for outstanding auto loans per capita. The District of Columbia, New York, Wisconsin, Connecticut and Rhode Island had the

FIGURE 8. AUTO DEBT PER CAPITA BY AGE[63]

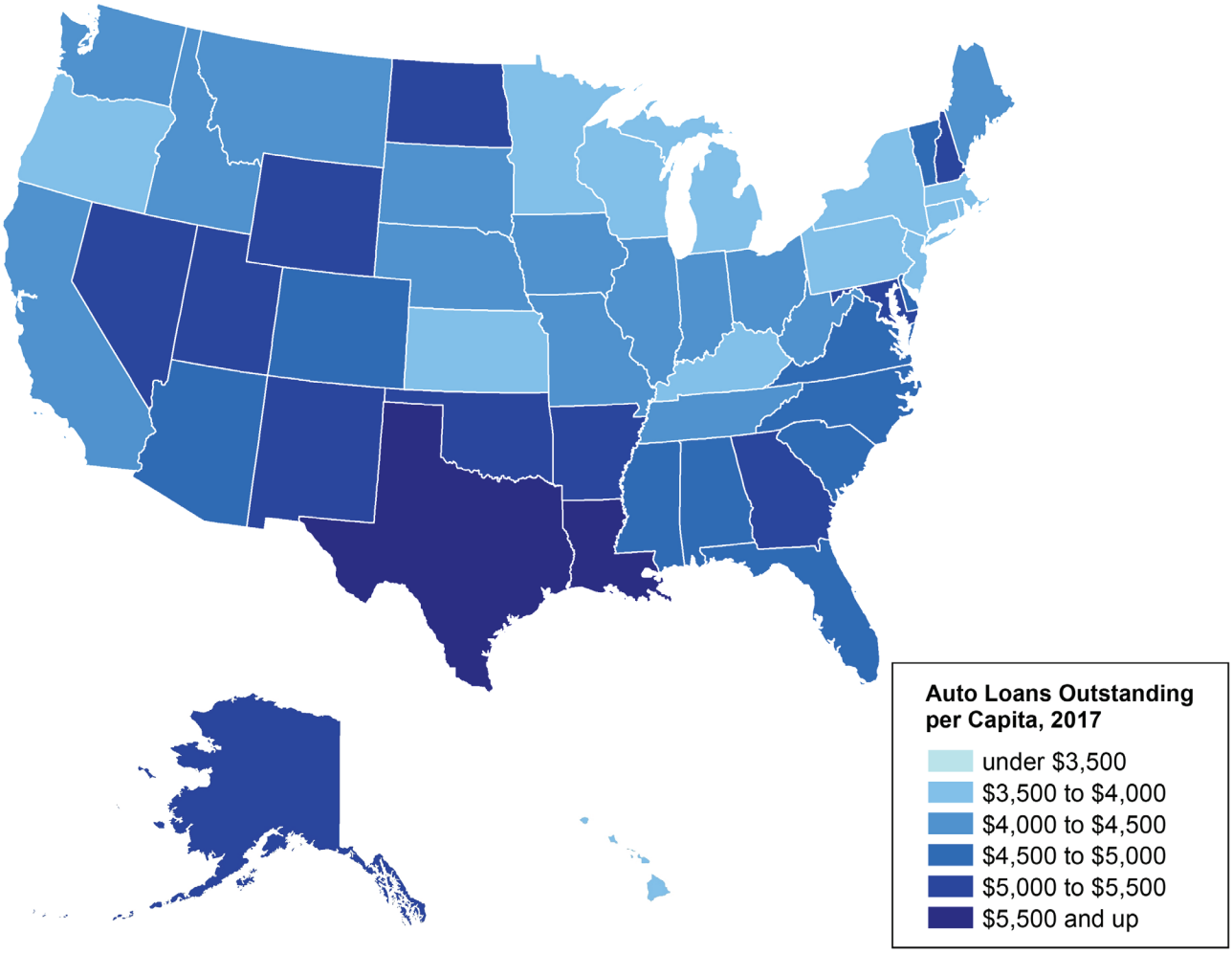


lowest amount of auto debt outstanding per capita. High levels of per-capita vehicle ownership and the popularity of more expensive vehicle styles such as trucks and SUVs may be contributing factors to differing levels of auto debt exposure across states. (See Figure 9 below.)

Americans carry more auto debt than ever before and indebtedness continues to increase. Compared to the size of the overall economy, auto debt is higher than it has ever been with the exception of the years leading up to the financial crisis. More Americans hold outstanding auto loans than ever before. And among certain groups of Americans – particularly older Americans – auto debt is rising even more quickly than it is for the general population.

The rise in auto debt is at least partly the result of historically low interest rates in the wake of the Great Recession and looser lending standards. And the implications for consumers and for the transportation system are significant.

FIGURE 9. AUTO LOANS OUTSTANDING PER CAPITA[65]



Low Interest Rates and Loose Credit Have Fueled the Auto Borrowing Boom

AS THE AMERICAN ECONOMY recovered from the Great Recession, more Americans had the resources and the confidence to incur financial obligations such as borrowing for a car. But an array of actors – from the Federal Reserve to Wall Street investors to lenders to car dealers – have also worked to make financing the purchase of a new or used car easy and attractive. Low interest rates, longer repayment terms for loans, and the expansion of auto lending to borrowers with low credit scores have all helped to fuel the rise in auto borrowing.

The Role Lenders Play in the Auto Finance Market

Consumers can borrow for a car in one of two ways:

- Seek a loan from a bank or credit union.
- Finance the purchase through a dealer, which often then arranges for financing on the customer's behalf.

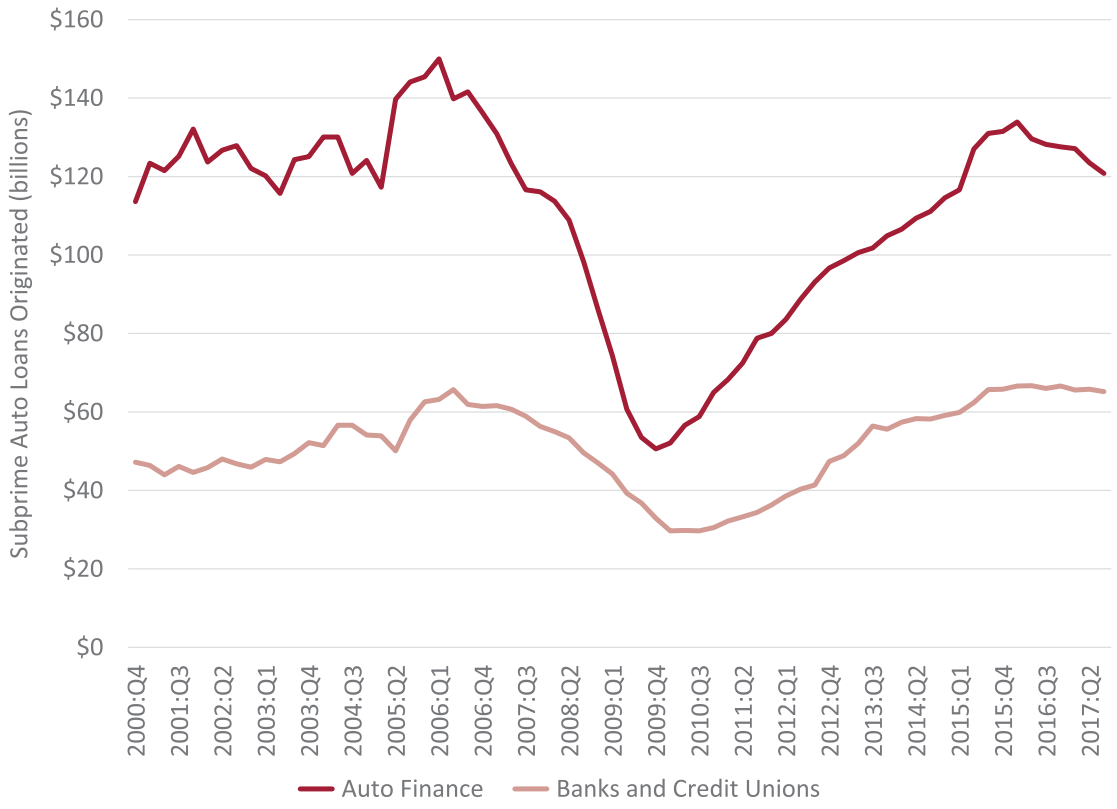
Seeking a loan from a bank or credit union often results in better terms for consumers. Banks or credit unions only profit from the loan itself, while financing a loan through a dealer creates additional opportunities for dealers to profit, often at consumers' expense.

Financing obtained from a dealer is often technically not a loan but rather a retail installment sales contract between the buyer and the dealer. The dealer then typically sells the contract to a lender – either a "captive" lender owned by the manufacturer (such as Ford Credit or Toyota Financial Service) or a bank, credit union or finance company. Some used car dealers – called "buy-here, pay-here" dealers – finance consumer purchases themselves.

Consumers who work diligently to negotiate a lower price on a car may not think to do the same with financing arranged through a dealer, even though the latter can be far more profitable for a dealer, and more costly for a consumer over the long run. Financing a purchase through a dealer empowers the dealership to select the lender, much as a mortgage broker serves as a middleman during the home-buying process.[66] Dealers often mark up interest rates for consumers, recouping the difference as profit.[67] According to the Center for Responsible Lending, buyers with dealer-financed cars in 2009 alone will end up paying $25.8 billion in interest over the life of their loans due to these markups.[68] Dealers may also sell and finance add-on services of little value to consumers that further pad the dealer's profits.

In the market for consumers with low credit scores, auto finance companies are dominant players, originating approximately two-thirds of all loans to borrowers with credit scores under 660.[69] (See Figure 10.)

FIGURE 10. AUTO LOAN ORIGINATIONS TO BORROWERS WITH LOW CREDIT SCORES (<660) BY LENDER TYPE[70]



Buy-here, pay-here lots keep their lending in-house and play a particularly important role in the subprime market. While the high default rate on loans originated at buy-here, pay-here lots would spell doom for other lenders – currently about a quarter of these customers default on their payments – buy-here, pay-here dealerships charge high interest rates and often add equipment to vehicles to make them easier to repossess and resell.[71] An analysis by the *Los Angeles Times* of the lifecycle of a used car sold on a buy-here, pay-here lot in Kansas City found that the car, with a Kelley Blue Book value of $5,350, was first sold at the buy-here, pay-here lot for nearly twice that price at $11,000. Then, in the span of only three years, that same car was repossessed and resold eight times, each time being sold at double or even triple the car's actual value.[72]

Low Interest Rates Fuel Car Purchases

The financial crash of 2008 left few corners of the economy untouched. The U.S. economy lost a total of 8.7 million jobs during the crash and the ensuing recession, a factor that contributed to a decline of more than 10 percent in purchases of durable goods from 2007 to 2009.[73]

The impact of the Great Recession on the automobile market was even more pronounced; from 2007 to 2009, annual car sales in the United States plummeted by 36 percent.[74]

Looking to jump-start the economy and boost the troubled auto industry, the federal government took several steps to encourage people to buy cars. The 2009 Cash for Clunkers program incentivized customers

to trade in their old cars in the hope that they would buy new, fuel efficient ones. The $2.8 billion program temporarily boosted new car sales during the worst of the recession and spurred car manufacturers – including those that had just been bailed out by taxpayers – to increase new car production modestly.[75] The bailout also extended to captive auto finance companies General Motors Acceptance Corporation (later Ally Financial) and Chrysler Financial, enabling the companies to loosen lending standards, making it possible for more borrowers to obtain financing for a car.[76] At the same time, in an effort to encourage consumers to begin spending again, the Federal Reserve reduced its key interest rate to its lowest point in history.[77]

As the economy regained its footing, so too did car sales; both new and used vehicle sales in the U.S. rose for seven consecutive years.[78]

The low interest rates adopted by the Federal Reserve to help pull the nation out of the Great Recession did not end with the beginning of the recovery. Indeed, well after the economic recovery was underway, the average interest rate for a 48-month auto loan at a commercial bank fell to 4.0 percent in late 2015, the lowest level since at least 1972.[79] Despite the recent rise in interest rates, the commercial bank rate for a 48-month loan at the end of 2017 was still similar to that of late 2012, when the economic recovery was just beginning to gain momentum. (See Figure 11.)

FIGURE 11. INTEREST RATE ON 48-MONTH COMMERCIAL BANK AUTO LOAN[80]

Low interest rates spur auto sales. According to a 2014 report by researchers with the Federal Reserve Bank, consumer perceptions of interest rate trends have an important – and perhaps decisive – effect on consumers' auto purchasing decisions. The authors state:

> "[C]redit conditions are a significant influence on auto sales, *as large as factors such as unemployment and income*. Estimates from the household-level model show that the new car purchases of households that are more likely to depend on credit are particularly sensitive to assessments of financing conditions, and that households are a bit more likely to purchase vehicles when they expect interest rates to rise in the next year."[81] (emphasis added)

A 2018 analysis reinforced that consumers' car-buying choices are strongly influenced by interest rates. The analysis estimated that a 1 percentage point increase in the interest rates faced by consumers and manufacturers resulted in a decline in car sales of 112,500 in the first year after the increase.[82] (Other research suggests that higher income consumers are more sensitive to interest rates and lower income consumers more sensitive to the length of time permitted for repayment of the loan).[83]

In a 2018 study, researchers at the University of California, Los Angeles, (UCLA) found that what determines if a consumer can afford to purchase a vehicle is its "effective price." This price is not the actual sticker price a consumer may see on the windshield of an SUV at the dealership, but rather the amount of money a consumer would have to pay in order to drive the new car home. In short, "vehicles can become more affordable not just if their price declines, but also if financing that price becomes easier."[84]

The effect of interest rates on auto purchasing may be seen in trends during the 2000s. Between the fourth quarter of 2000 and the second quarter of 2004, the interest rate for a 48-month bank loan fell from 9.64 percent to 6.43 percent as the Federal Reserve slashed interest rates to stimulate the economy in the wake of the dot-com bust. During this period of time, outstanding auto loan balances skyrocketed, increasing by 58 percent (in nominal terms) over a period of three and a half years. Interest rates then reversed course, increasing to 7.92 percent in the third quarter of 2007, immediately prior to the beginning of the Great Recession. During this period, the growth in auto credit flatlined, rising by only 10 percent in nominal terms and not at all when adjusted for inflation.[85]

The availability of low interest rates, as well as the perception that interest rates will be higher in the future, are among the leading factors in shaping consumers' willingness to purchase a car now. The low interest rate regime that has prevailed since the Great Recession (until the recent series of Federal Reserve interest rate hikes) has helped to fuel car sales. But other changes in the auto credit landscape have also helped to juice car sales since the end of the Great Recession.

Looser Lending Expands Range of Potential Borrowers

Compared with mortgage loans, repayment of auto loans held up surprisingly well during the Great Recession. "[S]erious delinquencies for auto loans … rose slightly during the financial crisis, though those increases were modest and short-lived," according to a recent report by the credit bureau TransUnion.[86] During the recession, consumers prioritized car payments over payments on other loans, including mortgages, because cars are essential for many consumers to get to work and because it is

easier for lenders to repossess a car than to foreclose on a house.[87] As one hedge fund manager noted in a 2017 interview with *The Financial Times*, during the recession "[c]onsumers tended to default on their house first, credit card second and car third."[88] Technological changes have also made it easier and less costly to repossess vehicles, increasing lenders' comfort level with lending to people with poorer credit histories. (See "Abusive Collection and Repossession Tactics," page 29.)

As a result, lenders have taken several steps in recent years to expand auto lending that would once have been considered too risky, including extending the length of repayment terms, lending at higher loan-to-value ratios, and lending to borrowers without consideration of their ability to repay.

LONGER LOAN TERMS

One way lenders have reduced monthly payments and expanded the range of potential borrowers is by extending the repayment terms on auto loans. Traditionally, a 48-month loan on a new car was standard in the auto industry. Today, according to Experian, the average term of a new car loan is more than 68 months, while the average term of a used car loan is more than 64 months.[89]

Loan terms that would once have been seen as uncommonly long have now become the norm: In 2009, 26 percent of all auto loans carried a term of six years or more; in 2017, the percentage of six-year or longer loans climbed to 42 percent.[90]

Longer loan terms may be justified to some degree by the fact that today's vehicles are driven longer than previous generations of cars and trucks. The average age of a light-duty vehicle on the road increased from 8.4 years in 1995 to 11.6 years in 2016.[91] However, vehicle depreciation typically depends largely on conditions in the marketplace. In 2011, due to strong demand and limited supply of used cars, annual depreciation on a two- to six-year-old used car fell to 8.3 percent, compared with typical depreciation rates of 16 percent prior to the Great Recession. In 2018, depreciation was expected to increase to 17 percent as the torrent of new cars sold over the last six years begins to make its way into the used vehicle market.[92]

So, while longer-term loans result in smaller monthly payments that increase the short-term affordability of a vehicle purchase, the speed with which vehicles depreciate in value leaves more consumers "underwater" on their loans (that is, owing more on the loan than the vehicle is worth), increasing the risk of default and repossession. Longer loan terms also mean more money spent on interest payments in total.

Research suggests that longer loan terms are particularly important in encouraging low-income borrowers to purchase cars, while higher income purchasers are more sensitive to changes in interest rates.[93]

Longer loan terms are also associated with larger loans, enabling consumers spend more on a car while keeping monthly payments low. According to an analysis done by the Consumer Financial Protection Bureau, those taking out six-year car loans borrowed $5,200 more on average than consumers with five-year loans, while loans lasting seven years or longer were on average $12,100 bigger than five-year loans.[94]

Consumers with lower credit ratings are also more likely to have longer loans. The same Consumer Financial Protection Bureau analysis found that the average credit score of a borrower taking out a six-year auto loan is 39 points below that of a borrower with a five-year term auto loan.[95] Because subprime borrowers typically pay higher interest rates on auto loans, the effect of longer loan terms on the total cost of the vehicle over time is magnified.

As a result, consumers with longer-term auto loans are more likely to end up in a precarious financial position on their loan. A borrower with a six-year loan is twice as likely to default as one with a five-year loan.[96] After defaulting, consumers will often have their cars repossessed and suffer lasting damage done to their financial standing.

SUBPRIME LENDING

The recovery from the financial crisis of 2008 featured an expansion of "subprime" auto loans – those to consumers with lower credit ratings or other blemishes on their credit history that suggest they may be more likely to default on their debt payments than other consumers.[97]

In 2007, subprime and deep subprime loans accounted for 23 percent of all U.S. auto debt outstanding; by the end of 2009, only 14 percent of auto debt was subprime or below.[98] The surge in subprime lending during the economic recovery caused that figure to bounce back quickly. By 2016, lending to subprime and deep subprime borrowers made up as much as 26 percent of all auto loans originated that year.[99]

Increasing investor demand for high-yield bonds was among the factors that led lenders to loosen lending standards for car loans. From 2011 through mid-2016, more banks loosened credit standards for auto loans than strengthened them, making it easier for borrowers to qualify for loans.[100]

Some lenders have also engaged in questionable lending practices reminiscent of mortgage lending trends leading up to the 2008 housing market crash, including extending loans to consumers without full consideration of their ability to pay. To find more borrowers whose debt could be bundled into securities and sold on the stock market in high-risk, high-profit bundles, some lending institutions became lax.[101]

For example, in 2017, Santander Consumer Holdings Inc., one of the largest U.S. auto lending firms, was found by Moody's to have verified the income of borrowers on only 8 percent of auto loans it then bundled into $1 billion worth of bonds and sold to investors.[102]

Lenders have, to some degree, ameliorated the risk of making loans that borrowers do not have the ability to repay with technological advances that make it easier for lenders to repossess vehicles of delinquent borrowers more easily than ever before. These technologies include GPS vehicle tracking devices and ignition kill switches that allow a lender to remotely disable a vehicle if a payment is missed.[103] By some estimates, as many as 70 percent of vehicles purchased with subprime financing have one of these technologies installed.[104]

RISING NEGATIVE EQUITY

When a consumer obtains a mortgage to buy a home, lenders verify that the value of the asset is greater than the amount of money being loaned to purchase it. When the value of a loan exceeds the value of the asset (loan-to-value ratio) the borrower is said to be "underwater" or to possess negative equity.

Unlike mortgage lenders, auto lenders often make loans that exceed the value of the car. Auto dealers will often finance "add-on" products such as anti-theft devices and overpriced accessories that add little to the value of the car, as well as insurance products and extended warranties that often provide little benefit. Dealers will also often "roll over" the unpaid balance of a previous loan (the portion that exceeds the value of the trade) to a new loan.

As a result, the loan-to-value ratio for car loans can often exceed 100 percent. The average loan-to-value ratio of securitized auto loans was 110 percent on subprime loans in 2017; it was 96 percent for prime loans.[105]

More Americans are underwater on their car loans than at any time in recent history. Nearly one-third of all cars traded in during 2017 were worth less than the outstanding balance on the loan used to purchase them, up from 20 percent during the recession year of 2009.[106] The average negative equity on those trade-in vehicles was $5,130, up from $4,075 ten years earlier.[107]

Similar trends have been present in used car markets. One-quarter of all trade-ins in 2016 towards the purchase of a used vehicle carried negative equity, underwater by an average of $3,635.[108]

The consistent rolling of unpaid balances into loans for new vehicles has created what is called the "trade-in treadmill" in which consumers continue to rack up negative equity with every successive trade-in and purchase.[109]

The expansion of auto lending in the last decade has led to financial vulnerability by increasing consumer indebtedness. It has also been accompanied by the growth of abusive and predatory practices by some lenders.

Abusive and Predatory Loan Practices Put Consumers at Risk

THE EXPLOSION OF AUTOMOBILE lending since the financial crisis has left many consumers financially vulnerable, especially in the event of an economic downturn. Some consumers, however, have been left especially vulnerable by deceptive, abusive, predatory and discriminatory loan practices, particularly in the subprime auto lending market.

Excessive Interest Rates

Subprime lenders often charge high interest rates to low income or credit-poor borrowers who see these loans as their only opportunities to buy a vehicle.[110] These interest rates are justified by lenders on the basis of the higher risks that these borrowers present. However, some lenders have exploited loopholes in state usury laws to charge interest rates higher than would otherwise be permitted.

In some states, dealers who finance vehicles themselves (so-called "buy here, pay here" dealerships) are exempt from state usury laws. States with usury limits see a higher proportion of subprime sales made with financing through these dealers.[111] While financial institutions themselves may not be able to make high-interest loans directly, they can participate in them by purchasing high-interest loans from car dealers.[112] In one package of securities offered by Santander Bank, 57 percent of the so-called "indirect" loans from New York state exceeded the state's civil usury cap.[113]

Excessively high rates are problematic for borrowers because they increase the chance that borrowers will default. The consequences of an auto loan default can haunt consumers for years – sometimes decades – through wage garnishment and other means.[114] A 2018 investigative story by the auto industry website *Jalopnik* identified at least one borrower continuing to have wages garnished for payment of a loan incurred on a car that had been repossessed more than two decades earlier.[115]

Misleading and Incomplete Information

Subprime lenders and dealers may provide borrowers with false, misleading, or inadequate information about the cost of a vehicle, the presence of add-on products, or the terms of an auto loan.

The increasing use of e-contracts has opened up new opportunities for abuse, as consumers often find it difficult to review important information in fine print and may not even be confident that the contract they are signing matches the terms of sale agreed to with the dealer. This can allow unscrupulous dealers to sell cars above the agreed-upon price, tack on high-cost add-ons that benefit the dealer, overcharge license fees, sell cars that don't pass emissions tests, or layer on false "government fees."[116] Using e-contracts instead of paper contracts also means that consumers don't have a paper copy to refer to, which makes it more difficult for them to understand and compare

the terms of the agreement or pursue legal action.

Even without e-contracts, dealers can employ bait-and-switch tactics that lure consumers with promises of low interest rates, only to saddle them with additional costs. In 2016, the Consumer Financial Protection Bureau, which has jurisdiction over "buy-here, pay-here" dealers, took action against a Greeley, Colorado, used car dealer that advertised 9.99 percent annual percentage rate financing, only to require customers to purchase add-ons such as a $1,650 repair warranty and a $100 GPS tracking device.[117]

Another way that dealers can take advantage of borrowers with misleading or insufficient information is through "yo-yo" sales.[118] Dealers will first push consumers into a conditional sales agreement rather than a final sale. Then, after the buyer has taken the car home, the dealer will claim that they can't fund the loan and will require the borrower to return the car and renegotiate a new loan that will most likely be to the borrower's disadvantage. Dealers will sometimes tell buyers that the down payment made based on the conditional agreement is non-refundable or that their trade-in vehicle has already been sold, further increasing the pressure on consumers to sign off on the revised agreement.[119]

Lending Without Considering Ability to Repay

In the run-up to the mortgage crisis of the late 2000s, mortgage lenders often made loans without full consideration of the borrower's ability to repay. When the market went bust, these loans frequently went bad. A 2015 study identified widespread overstatement of income on mortgage applications in low-income areas between 2002 and 2005, overlapping with areas experiencing a surge in mortgage credit. Income overstatement was associated with "terrible economic and financial economic outcomes after the boom including high default rates, negative income growth, and increased poverty and unemployment."[120]

Similar practices have been reported in the auto lending sector. In May 2017, Moody's analysts found that Santander, a major player in the subprime auto lending industry, was making little to no attempt to verify borrowers' income.[121] As noted earlier, the report stated that the company only verified borrower income on 8 percent of the loans that were subsequently bundled into $1 billion in securities and sold to investors. Income inflation by dealers and lack of verification on the part of financial institutions harms consumers, who end up getting stuck with cars and payments they cannot afford.

Discriminatory Practices

Discriminatory practices in auto pricing and lending stretches back decades, driven by auto dealers and enabled by lenders. Evidence of possible or confirmed discrimination includes:

- An analysis of more than 3 million loan records, representing loans made between 1993 and 2004, found that African-Americans were charged an average of $300 to $500 more for car loans than white borrowers, with Hispanic borrowers also paying higher markups than non-Hispanic white borrowers.[122]
- Between 1998 and 2006, 11 lenders settled lawsuits related to discriminatory lending practices.[123]
- In 2013, the CFPB ordered Ally to pay $80 million in damages to African-American, Hispanic and Asian and Pacific Islander borrowers harmed by the company's practices, which allowed dealers to charge higher markups for them than for similarly situated non-Hispanic white borrowers. Ally was also required to pay $18 million in penalties.[124]

- In 2015, the CFPB took action against Fifth Third Bank for discriminatory practices that led to thousands of African-American and Hispanic borrowers paying, on average, $200 more for auto loans, with the bank paying $18 million in damages.[125] The bureau also reached a settlement with American Honda Finance in 2015 that required the company to pay $24 million in restitution to minority borrowers and adjust its lending practices to prevent discrimination.[126]
- In 2016, the CFPB reached a settlement with Toyota Motor Credit over practices that led many African-American borrowers to pay $200 more, on average, on auto loans, and Asian and Pacific Islanders to pay an average of $100 more.[127]

Auto lenders have also been accused of similar discriminatory practices in the marketing of "add-on" products (see below). A 2017 analysis by the National Consumer Law Center found that Hispanic-surnamed buyers paid higher markups for service contracts than non-Hispanics in 44 states.[128]

In 2018, Congress passed and President Trump signed legislation revoking the CFPB guidance on indirect (i.e., dealer-arranged) auto lending that had provided notice to lenders that actions like those against Ally, American Honda Finance, Fifth Third Bank and Toyota Motor Credit may occur.[129] This congressional action, while it does not alter the CFPB's statutory authority to address discrimination in auto lending, may make it more likely that discriminatory auto lending practices will go unchallenged.

Bogus and Unnecessary Fees and Products

Subprime lenders and dealerships sometimes find ways to charge inflated or bogus fees or sell consumers expensive "add-on" products that are then added to the initial size of a car loan.[130] The combination of extremely high interest rates and questionable fees results in added financial stress for borrowers.

The National Consumer Law Center divides add-on products into "hard" and "soft" add-ons. Hard add-ons are products that are physically added to the vehicle, such as navigation systems or racing stripes, while soft add-ons often take the form of service contracts or products that promise consumers protection against vehicle damage or theft.[131]

Dealers can steer customers towards overpriced add-on products, sometimes giving the impression that these add-ons are mandatory.[132] These products are often sold in packages that combine add-ons such as "Guaranteed Asset Protection" insurance, vehicle service contracts, credit life and disability insurance, rustproofing, theft deterrent packages and window etching.[133]

In 2018, Wells Fargo was ordered to pay a $1 billion fine for charging more than half a million car loan customers for additional insurance they did not need and for violations related to its mortgage lending business. Approximately 20,000 people lost vehicles as a result of the extra charges. Wells Fargo is also required to provide hundreds of millions of dollars in relief to affected customers.[135]

Inflated fees can add to the initial cost of a vehicle. For example, a dealer working with the financing firm Credit Acceptance was found to be charging unnecessary fees such as a $209 "fees to public officials," when it only cost the dealer about $10 to file the required paperwork with the state.[136]

Lenders can also push borrowers into repayment plans that generate additional

interest and fee income for the lender at the consumer's expense. A report by the National Employment Law Center and the AFL-CIO found that Santander employees pushed clients to add "extensions, temporary reductions in payment plans, and loan remodifications" that increased loan costs.[137]

Abusive Collection and Repossession Tactics

Lenders are within their rights to repossess vehicles for which consumers are unwilling or unable to pay. However, collection tactics by auto lenders can sometimes cross the line into abuse, while the increased ease of repossession due to new technology has turned repossession itself into a business model – one that subjects consumers to unnecessary pain.

In 2014, for example, the Consumer Financial Protection Bureau fined the nation's then-largest buy-here, pay-here dealership group, DriveTime, $8 million for harassing borrowers at work, harassing references supplied at the time of the loan, repeatedly making phone calls to wrong numbers, and providing inaccurate information about borrowers to credit bureaus. According to the CFPB news release about the case, at least 45 percent of DriveTime's loans were delinquent at any given point and the company employed hundreds of collections employees who made tens of thousands of collection calls every weekday.[138]

Some auto lenders have figured out ways to benefit from repossessions at the expense of borrowers. In many repossession cases, borrowers who are "underwater" on their loans end up with an outstanding balance even after the vehicle is repossessed. This enables the lender to collect repossession fees, go after past-due payments, and in some cases, sue delinquent borrowers for the remaining balance.[139]

While consumers often have the ability to regain repossessed vehicles by becoming current on the loan, some lenders encourage consumers to regain possession of their vehicles even though the borrower does not have the financial capacity to remain current on payments. Santander, for example, has been accused of trying to return borrowers' repossessed cars, even when it was obvious that the borrower wouldn't be able to afford their payments. The same customers repeatedly had the same car repossessed, as many as three or four times, pulling them into a cycle that increased their debt.[140] A former employee stated that there was a pressure in the reinstatement department to get as many customers as possible back in their repossessed cars, although the company disputes this.

Impacts and Implications of the Auto Lending Boom

THE AUTO LENDING BOOM of the mid-2010s will have a lasting impact on how Americans travel and on the financial stability of millions of American households. Cheap auto credit has already fueled a surge in the number of cars on the road, which has contributed to increased driving and more congestion, and has contributed to the fall in transit ridership. It has also exposed many Americans to new financial vulnerability – especially in the event of a recession.

More Cars, More Driving

The easy availability of credit and low interest rates of the mid-2010s contributed (along with the broader economic recovery and pent-up demand from the recession) to a surge in new vehicle sales, as well as an increase in the number of vehicles on the road. This increase corresponded with a surge in vehicle travel and a decline in transit ridership.

New car sales surged between 2009 and 2016, an unprecedented seven-year string of sales increases that culminated in a record sales year in 2016.[141] Increased sales led directly to a jump in the number of cars on the road. Between 2010 and 2016, the number of registered motor vehicles in the United States increased by 7.5 percent, or 18.8 million, compared with a slight decline over the previous six years.[142]

During the same period, and especially following the collapse in gas prices in late 2014, the number of miles driven on American roads also increased sharply, rising by 5 percent between 2014 and 2016.[143] The rise in driving contributed to:

- Increases in traffic fatalities and injuries. The period from 2014 to 2016 saw the largest two-year increase in traffic deaths in more than a half century.[144]
- A 7 percent increase in gasoline consumption between 2012 and 2016, following five consecutive years of declines.[145]
- A 6 percent increase in greenhouse gas emissions from transportation between 2012 and 2016.[146]

Increased vehicle ownership made possible by easy and inexpensive credit may also have contributed to recent declines in transit ridership in U.S. cities. A 2018 report from researchers at the University of California, Los Angeles concluded that vehicle ownership rose dramatically in Southern California between 2010 and 2015, particularly among those segments of the population most dependent on public transportation and that it was unclear whether rising incomes, as opposed to other factors, were responsible. Modeling work conducted by the researchers was shown to "reinforce the idea that vehicle access is *the decisive factor* in transit use."[147] (emphasis added)

The loosening of availability of auto credit in the 2010s, therefore, likely led to many

more Americans having access to a vehicle – and the access to jobs, education and recreational opportunities that often come with it. However, that rise in vehicle access came with significant costs to the quality of public health and safety, environmental health, and the financial stability of transit agencies that provide critical services in our communities.

Financial Vulnerability for Households

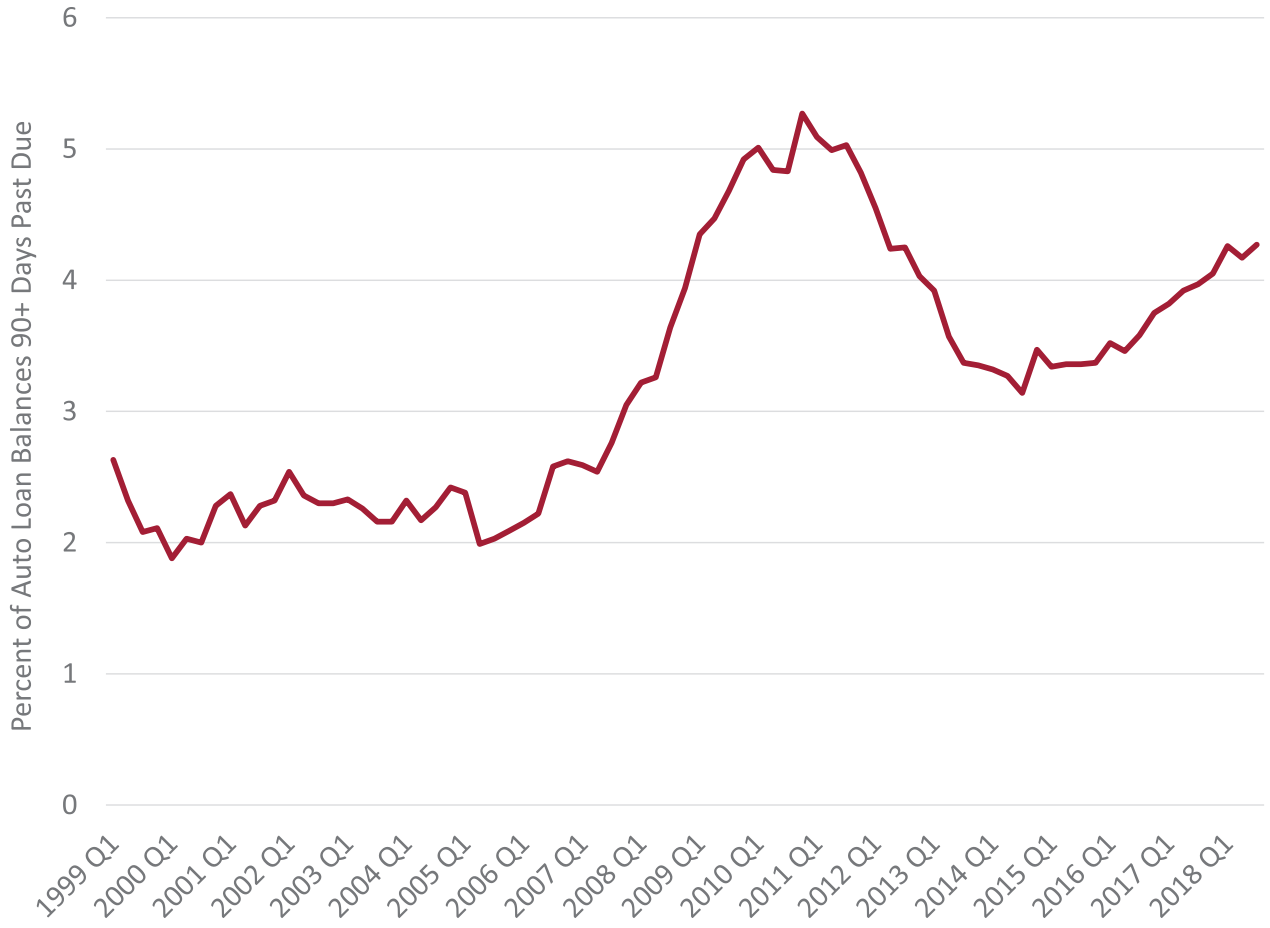
The surge in vehicle sales and rise in outstanding auto credit has also left millions of American households more vulnerable to financial difficulty, particularly in the event of an economic downturn or a rise in gasoline prices.

Those most vulnerable are those who cannot keep up with their car payments, especially those saddled with high-interest subprime loans. The percentage of auto loans more than 90 days delinquent surpassed 4 percent in the fourth quarter of 2017, a level well above the 2 to 3 percent delinquency rates common prior to the Great Recession.[148]

Vehicle repossessions have continuously climbed since 2012, and could reach as high as a record 2 million per year if the economy were to fall into recession.[149]

Increases in delinquencies and repossessions are things one might expect to see in a worsening economy. However, the U.S. economy remains relatively strong, raising concerns about the likely impact on auto borrowers in the event of an economic downturn.

FIGURE 12. PERCENT OF U.S. AUTO DEBT THAT IS 90+ DAYS DELINQUENT[150]



After the Auto Loan Boom: Expanding Transportation Choices and Protecting Consumers

THE SURGE IN AUTO CREDIT over the last decade has left millions of Americans owing more on their cars than they are worth. Many Americans are struggling to pay off those loans, despite a booming U.S. economy, while others face the risk of losing their vehicles in even a mild economic downturn. By flooding our streets with more cars and SUVs, easy auto credit has contributed to increased pollution, death and injury on our roads.

The root causes of these problems run deep. We have built a transportation system that requires most Americans to own a car in order to access a job, education, health care or recreation. And our model of economic growth prioritizes near-term boosts in GDP – "sugar highs" created through injections of cheap credit, tax cuts or government spending – over the deliberate building of real wealth through investments that benefit our health, our environment, and the quality of life in our communities.

To deal with the repercussions of the auto loan surge, policymakers must take action.

Protect Consumers from Auto Lending Abuses

Abuses in the auto lending market, particularly the subprime market, highlight the need for stronger consumer protections for auto borrowers. State and federal officials should act to limit abusive, predatory and discriminatory auto sales and lending practices, including closing loopholes that allow auto dealers to charge excessive interest rates, enforcing existing protections against fraud, ending discriminatory dealer markups, and requiring lenders to determine borrowers' ability to repay the loan.

Consumers should also educate themselves in order to avoid some of the common tricks and traps that arise when purchasing a new or used car. U.S. PIRG has produced a series of consumer tips for auto borrowers that can be found in the appendix of this report.

Expand and Improve Transportation Choices

Automobile ownership is a costly ticket to the American dream. No American should have to invest a large share of their life savings in a rapidly depreciating asset just to be able to live a full life – especially when the cost of that auto dependence includes congestion, pollution and harm to public health and safety that affect us all.

Metropolitan areas with more compact land-use patterns and more public transportation options tend to require residents to spend less of their household income on transportation. The average resident of the transit rich New York metro area, for example, spends $6,000 less on transportation annually than the average resident of the Houston area. (See Table 1.)

TABLE 1. HOUSEHOLD EXPENDITURES ON TRANSPORTATION AS SHARE OF TOTAL CONSUMER EXPENDITURES[151]

Metropolitan Area	Transportation	All Expenditures	Percent Spent on Transportation
New York	$7,280	$63,752	11%
San Francisco	$8,957	$75,380	12%
Boston	$8,465	$68,119	12%
Washington, D.C.	$9,674	$75,344	13%
Seattle	$9,997	$74,723	13%
Chicago	$8,925	$61,545	15%
Phoenix	$9,017	$59,873	15%
Atlanta	$10,649	$58,102	18%
Houston	$13,577	$64,668	21%

live "car-free" or "car-light" lifestyles, the nation should do the following:

- Encourage compact, mixed-use development patterns that can be effectively served by public transportation, shared mobility modes, walking and biking. Governments at all levels should adopt policies and make investments that make walking and bicycling safer and more convenient options for travelers.
- Remove direct and indirect incentives for businesses to move to the suburbs, exacerbating "job sprawl" that makes many sources of employment unavailable to those without a car. This includes highway expansion projects that fuel development on the outskirts of metropolitan areas.
- Improve public transportation, including better and more frequent service on transit lines serving important destinations and centers of employment. Cities, states and transit agencies should consider fare policies that make transit a more economical option compared with driving.
- Encourage carsharing and other forms of shared mobility, which provide access to mobility to those who do not own a car. Eliminating excessive taxes on carsharing programs and repurposing street space for the use of carsharing vehicles can expand access to this important form of transportation.

Appendix A: Auto Debt by State

TABLE A-1. 2017 AUTO DEBT DATA BY STATE[152]

State	Auto Debt Per Capita 2017	Percent Increase Per Capita 2010-2017	% of 2017 Total Debt from Auto Loans
Alabama	$4,780	53%	13%
Alaska	$5,010	36%	9%
Arizona	$4,890	49%	10%
Arkansas	$5,240	67%	16%
California	$4,380	58%	6%
Colorado	$4,630	48%	7%
Connecticut	$3,600	45%	6%
D.C.	$3,010	45%	4%
Delaware	$4,750	49%	9%
Florida	$4,960	58%	11%
Georgia	$5,260	66%	11%
Hawaii	$3,650	75%	5%
Idaho	$4,450	68%	10%
Illinois	$4,090	51%	9%
Indiana	$4,110	55%	11%
Iowa	$4,370	59%	11%
Kansas	$4,000	48%	11%
Kentucky	$3,780	50%	11%
Louisiana	$5,550	55%	15%
Maine	$4,330	52%	10%
Maryland	$5,110	52%	7%
Massachusetts	$3,810	56%	6%
Michigan	$3,690	38%	10%
Minnesota	$3,950	76%	7%
Mississippi	$4,840	67%	16%
Missouri	$4,180	57%	11%
Montana	$4,080	55%	9%
Nebraska	$4,030	53%	10%

CONTINUED ON PAGE 35

CONTINUED FROM PAGE 34

State	Auto Debt Per Capita 2017	Percent Increase Per Capita 2010-2017	% of 2017 Total Debt from Auto Loans
Nevada	$5,020	50%	10%
New Hampshire	$5,220	54%	10%
New Jersey	$3,910	32%	7%
New Mexico	$5,190	41%	13%
New York	$3,560	36%	7%
North Carolina	$4,910	54%	11%
North Dakota	$5,020	98%	12%
Ohio	$4,190	52%	11%
Oklahoma	$5,050	48%	15%
Oregon	$3,770	65%	7%
Pennsylvania	$4,000	47%	10%
Rhode Island	$3,610	53%	7%
South Carolina	$4,630	59%	11%
South Dakota	$4,350	54%	11%
Tennessee	$4,440	59%	11%
Texas	$6,520	55%	16%
Utah	$5,020	52%	9%
Vermont	$4,860	50%	11%
Virginia	$4,650	46%	7%
Washington	$4,200	51%	7%
West Virginia	$4,500	43%	16%
Wisconsin	$3,580	70%	9%
Wyoming	$5,240	28%	11%
U.S. Average	**$4,520**	**53%**	**9%**

Appendix B: Consumer Tips for Avoiding Auto Loan Tricks and Traps

CONSUMERS SHOPPING for a new car have plenty to worry about, from finding the right vehicle to negotiating a good price to managing their budget. However, some pitfalls, scams and traps can create new costs and headaches even for experienced shoppers. Here are some to look out for:

"Buy-Here, Pay-Here" Dealerships

What to look out for: Car dealerships that offer in-house financing, often advertised with signs like "buy-here, pay-here" or "no credit, no problem," can be tempting for consumers worried about finding a loan.[153] Often, however, these dealerships sell overpriced vehicles, offer expensive and often unaffordable loans, or use sneaky sales tactics.

Traditionally, auto loans come from a bank or credit union, even in cases where the financing is arranged by the car dealer. In the case of "buy-here, pay-here" dealerships, however, the dealership itself acts as the bank and finances the car loan. According to the Consumer Financial Protection Bureau (CFPB), traditional lending companies typically refrain from giving out loans for more than the value of a purchase, while "buy-here, pay-here" dealerships often do not set such limits.[154] This creates "a bigger risk that you will borrow to pay more than the vehicle is worth."[155]

State and federal investigations have sometimes found "buy-here, pay-here" dealers breaking the law or gouging customers. Dealers have been found offering illegally high interest rates, operating without a license, pricing vehicles far above book value, and using unfair and harassing debt collection practices.[156] Some "buy-here, pay-here" dealers also make use of "starter interrupt" devices designed to disable customer vehicles in the case of missed payments.[157] At least one dealer was found using these devices illegally, without giving proper notice or providing adequate "right to cure" provisions.[158]

What to do: Consumers with poor or no credit may think they have no choice but to purchase a car from a dealer advertising "no credit check" loans. Often this is not the case, and exploring options from traditional lending companies may result in a more affordable and safer loan.[159] Making time to obtain preapproval from a traditional lending company before heading to the dealer can result in better terms and more bargaining power.[160]

Yo-Yo Financing

What to look out for: Some dealers employ a deceptive tactic, often called "yo-yo" financing, designed to ramp up pressure on car buyers. According to the Federal Trade Commission (FTC), this tactic occurs when dealers "deceptively or unfairly induce consumers who have signed contracts and driven off the lots with the vehicles to sign new contracts and pay a higher interest rate, make an additional down payment, or agree to other terms that differ materially from the original terms to which the consumer agreed."[161]

This tactic typically begins when a customer is told by the dealer they have been approved for financing, signs every document presented by the dealer, and drives off the lot thinking the deal is done. Contrary to what the consumer was told, the dealer considers that it made a "spot delivery" of a vehicle before financing was finalized. For the dealer, despite what the consumer was told and what the contract might say, the dealer does not consider the financing finalized unless and until the dealer receives payment from the financial company to whom it wants to sell the credit contract. If the dealer's sale of the credit contract to that financial company falls through for whatever reason, dealers then tell the consumer that some of the terms must change, or the car itself must change, or that no deal will be honored. According to the FTC, some dealers will never even attempt to sell the original credit contract. They will then tell the customer that financing has fallen through, and falsely claim that without agreeing to new terms the customer will lose his or her loan or down payment, or threaten to report the car as stolen and have the customer arrested.[162]

What to do: The best way to avoid "yo-yo financing" is to buy less car to begin with, and if you absolutely must use credit, get pre-approved financing from a bank, credit union, or online lender. If that isn't possible and you are going to consider credit from a dealer, always ask for a copy of the Truth in Lending Act Disclosures and leave the dealership with those disclosures so that you can read them carefully in a comfortable place. Before returning to the dealer, call and ask if the financing is approved and never sign any documents unless you are told it is, or you are told what the condition is and you agree to it. Then, read all documents you are asked to sign and do not sign any document that states the transaction is different than you were told. Always keep a copy of everything you sign. If a dealer does call to say something has fallen through after having already told you that everything was final, you should consult a lawyer. You can also demand proof in writing about what happened – this can expose dealers that failed to look for financing in the first place.[163]

Trading in When You're "Upside Down"

What to look out for: The term "upside down" refers to when you owe more on your vehicle than it is worth, meaning you have negative equity in your vehicle. For example: If you owe $15,000 for a vehicle, but the highest offer you've received for it is $5,000, then you have $10,000 in negative equity, and your loan is "upside down." This can be a risky situation for any consumer because, in case of a cash emergency, selling the vehicle will not cover the cost of the auto loan.[164] Yet many people find themselves "upside down" immediately upon purchase, particularly in the case of loans with a small down payment, and particularly because new vehicles lose about 20 percent of their value as soon as they are driven off the lot.

Consumers who are "upside down" should be particularly careful when trading in their vehicle to purchase a new one. This situation can make the new auto loan far more expensive because, in addition to financing your new vehicle, you will be borrowing additional money to finish paying off your trade-in.[165] In 2017, almost one third of vehicles traded in were worth less than the loans that were financing them.[166]

What to do: If you plan on trading in a vehicle with an existing loan, make sure you understand your complete financial picture. Calculate the equity (or negative equity) you have in your vehicle by subtracting the value of your vehicle from your current loan balance, estimating the value of your vehicle by finding similar vehicles for sale, or using an online vehicle value calculator.

If your car loan is "upside down," try to avoid trading it in.[167] Often, the best option is to keep your vehicle until the loan is paid off, or until you have equity. If that is not an option, selling the vehicle on your own will typically result in a better deal than trading it in at a dealership.

Overemphasizing Low Monthly Payments

What to look out for: When it comes to vehicle costs, monthly payments do not tell the full story. For consumers, particularly those with tight budgets, focusing on monthly payments can be tempting. However, loans with low monthly payments are often more expensive in the long run. Loans with low monthly payments also usually require making payments for a longer period of time – sometimes, so long that the car is still being paid off when the consumer is ready for an upgrade.[168]

What to do: According to the Consumer Financial Protection Bureau, "the best way to compare auto loans is by using the total cost of the loan." Make sure to add up all loan costs – including the amount of interest paid over the life of the loan – when making your decision. If the only way you can afford a vehicle is by paying it off for a longer period of time, consider whether a less expensive vehicle may be a better option.

Overpriced Add-Ons

What to look out for: When selling a vehicle, many dealers will attempt to convince customers to purchase expensive "add-ons": vehicle options and accessories, typically offered by a dealer's finance and insurance manager, that can quickly add thousands of dollars to the cost of a vehicle. Many add-ons are either unnecessary or can be found far cheaper when purchased elsewhere. According to Autotrader, add-ons that are often offered, but should almost always be avoided, include VIN etching, rust-proofing, fabric protection and extended warranties.[169]

What to do: The easiest way to avoid add-on rip-offs is to just say no. Very few add-ons are worth the cost, and even add-ons with real value can typically be purchased elsewhere far cheaper. Some dealers sell vehicles with expensive add-ons pre-installed, increasing vehicle cost. To avoid these vehicles, call your dealer ahead of time and find out whether the vehicle you want has add-ons pre-installed, and how much they add to the vehicle price. If you cannot find the vehicle you want without add-ons, it may be worth shopping elsewhere.

Notes

1 Federal Reserve Bank of New York, Center for Microeconomic Data, *Household Debt and Credit Report (Q3 2018)*, November 2018, data downloaded 5 December 2018 from https://www.newyorkfed.org/microeconomics/hhdc.html.

2 Transit: Andrew Owen and Brendan Murphy, Accessibility Observatory at University of Minnesota, *Access Across America: Transit 2017*, June 2018, accessed at http://cts.umn.edu/Publications/ResearchReports/pdfdownload.pl?id=2918; Driving: Andrew Owen, Brendan Murphy and David Levinson, Accessibility Observatory at University of Minnesota, *Access Across America: Auto 2016*, April 2018, accessed at http://cts.umn.edu/Publications/ResearchReports/pdfdownload.pl?id=2912.

3 Congressional Budget Office, *Public Spending on Transportation and Water Infrastructure, 1956 to 2017,* October 2018.

4 Ibid.

5 U.S. Bureau of Labor Statistics, *Consumer Expenditure Survey, 2017: Table 1300: Age of Reference Person,* accessed at https://www.bls.gov/cex/2017/combined/age.pdf.

6 Based on U.S. Bureau of Labor Statistics, *Consumer Expenditure Survey, 2017*, accessed at https://www.bls.gov/cex/2017/combined/age.pdf. Mean household transportation expenses were $9,576, in 2017, and mean household income was $73,573. Transportation expenses were equivalent to 13 percent of income, representing approximately one hour of an eight-hour working day. (Transportation expenditures also include spending not specifically related to work travel.)

7 See note 1.

8 2018 data: Melinda Zabritski, Experian, *State of the Automotive Finance Market: Q3 2018,* undated, accessed at https://www.experian.com/content/dam/marketing/na/automotive/quarterly-webinars/q3-2018-safm-v2.pdf; previous years' data: Melinda Zabritski, Experian, *Automotive Market Update,* 2014, accessed on 8 April 2018, archived at https://web.archive.org/web/20180410215614/https://www.slideshare.net/Experian_US/experian-automotive-market-update-cudl-presentation.

9 See note 1.

10 Percentage of GDP calculated based on outstanding auto loan balances from Board of Governors of the Federal Reserve System, *Consumer Credit – G.19*, data downloaded from https://www.federalreserve.gov/datadownload/Build.aspx?rel=g19, 21 December 2018; and nominal GDP from Federal Reserve Bank of St. Louis, *Gross Domestic Product, Billions of Dollars, Quarterly, Seasonally Adjusted Annual Rate*, data downloaded from https://fred.stlouisfed.org, 21 December 2018. Note: the Federal Reserve Board reports lower outstanding auto loan balances than the Federal Reserve Bank of New York, whose data are used in most of this report, due to differing underlying data sources. (The New York Fed data are based on credit reports, while the Federal Reserve data are based on reports from lenders.)

11 2004 and after: See note 1; 1999-2003: Federal Reserve Bank of New York, Center for Microeconomic Data, *Household Debt and Credit Report, 1999-2003 Data* (Excel spreadsheet), downloaded from https://www.newyorkfed.org/medialibrary/media/research/national_economy/householdcredit/pre2003_data.xls, 4 July 2018; inflation adjustment based on Federal Reserve Bank of St. Louis, *Consumer Price Index: Total All Items for United States*, downloaded 21 December 2018 from https://fred.stlouisfed.org/series/CPALTT01USQ661S.

12 Auto debt by age: Federal Reserve Bank of New York, *Household Debt Statistics by Age (2004-2017)*, accessed 4 July 2018; population estimates by age: (2000-2009) U.S. Census Bureau, *Intercensal Estimates of the Resident Population by Single Year of Age, Sex, Race, and Hispanic Origin for the United States: April 1, 2000 to July 1, 2010*, downloaded from https://www2.census.gov/programs-surveys/popest/datasets/2000-2010/intercensal/national/us-est00int-alldata.csv, 4 July 2018; (2010-17) U.S. Census Bureau, *Annual Estimates of the Resident Population by Single Year of Age and Sex for the United States: April 1, 2010 to July 1, 2017*, downloaded from https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/national/asrh/nc-est2017-agesex-res.csv, 4 July 2018. Figures are not adjusted for inflation.

13 Consumer Financial Protection Bureau, *Lending by Neighborhood Income Level* (Excel workbook), accessed at https://www.consumerfinance.gov/data-research/consumer-credit-trends/auto-loans/lending-neighborhood-income-level/, 21 December 2018.

14 Federal Reserve Bank of New York, Center for Microeconomic Data, *State Level Household Debt Statistics 2003-2017,* February 2018, data downloaded 29 August 2018 from https://www.newyorkfed.org/medialibrary/Interactives/householdcredit/data/xls/area_report_by_year.xlsx.

15 Ibid.

16 Ben McLannahan, "Debt Pile-up in U.S. Car Market Sparks Subprime Fear," *The Financial Times,* 29 May 2017.

17 Kathleen W. Johnson, et al., Federal Reserve, *Auto Sales and Credit Supply*, September 2014, accessed at https://www.federalreserve.gov/econresdata/feds/2014/files/201482pap.pdf.

18 Orazio P. Attanasio, Pinelopi K. Goldberg and Ekaterini Kyriazidou, *Credit Constraints in the Market for Consumer Durables: Evidence from Micro Data on Car Loans*, March 2007.

19 Michael Manville, et al., UCLA Institute of Transportation Studies, *Falling Transit Ridership: California and Southern California,* January 2018.

20 Kenneth P. Brevoort, et al., Consumer Financial Protection Bureau, *Quarterly Consumer Trends: Growth in Longer-Term Auto Loans,* November 2017, accessed at http://files.consumerfinance.gov/f/documents/cfpb_consumer-credit-trends_longer-term-auto-loans_2017Q2.pdf.

21 Matt Jones, "Upside Down and Underwater on a Car Loan," *Edmunds,* 6 April 2018.

22 Jessica Silver-Greenberg and Michael Corkery, "The Car Was Repossessed, But the Debt Remains," *New York Times*, 18 June 2017.

23 See "Misleading and Incomplete Information," page 26.

24 See, for example, Matt Scully, "Auto Lender Santander Checked Income on Just Eight Percent in Subprime ABS," *Bloomberg,* 22 May 2017, accessed at https://www.bloomberg.com/news/articles/2017-05-22/subprime-auto-giant-checked-income-on-just-8-of-loans-in-abs.

25 See "Discriminatory Practices," page 27.

26 See "Bogus and Unnecessary Fees and Products," page 28.

27 See "Abusive Collections and Repossession Tactics," page 29.

28 Stephen Smith, American Public Media, "The American Dream and Consumer Credit," *A Better Life: Creating the American Dream, American Public Media*, undated, archived at https://web.archive.org/web/20181004194209/http://americanradioworks.publicradio.org/features/americandream/b1.html.

29 See note 17.

30 U.S. Census Bureau, American Community Survey, *Table B08201: Household Size by Vehicles Available*, 2017 1-year data, accessed 11 January 2019 at https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml.

31 Brian McKenzie, U.S. Census Bureau, *Who Drives to Work? Commuting by Automobile in the United States: 2013*, August 2015, accessed at https://www.census.gov/content/dam/Census/library/publications/2015/acs/acs-32.pdf.

32 Stacy C. Davis, Susan E. Williams and Robert G. Boundy, Oak Ridge National Laboratory, *Transportation Energy Data Book: Edition 36.2*, Table 3.5, August 2018, accessed at https://cta.ornl.gov/data/chapter3.shtml.

33 Richard F. Weingroff, "Federal Aid Road Act of 1916: Building the Foundation," *Public Roads*, Summer 1996, archived at https://web.archive.org/web/20160910094829/http://www.fhwa.dot.gov/publications/publicroads/96summer/p96su2.cfm.

34 Ibid.

35 See note 3.

36 Ibid.

37 $7.3 billion: TransitCenter and Frontier Group, *Subsidizing Congestion: The Multibillion-Dollar Tax Subsidy That's Making Your Commute Worse*, November 2014.

38 Frank Hobbs and Nicole Stoops, U.S. Census Bureau, *Demographic Trends in the 20th Century*, November 2002.

39 Nathaniel Baum-Snow, *Changes in Transportation Infrastructure and Commuting Patterns in U.S. Metropolitan Areas, 1960-2000*, 2010, accessed at http://www.econ.brown.edu/Faculty/Nathaniel_Baum-Snow/aer_pandp_baumsnow.pdf.

40 Amanda Erickson, "The Birth of Zoning Codes, a History," *CityLab,* 19 June 2012.

41 Transportation Choices for Sustainable Communities Research and Policy Institute, *San Francisco Modal Equity Study*, October 2014.

42 Mikhail Chester, et al., "Parking Infrastructure: A Constraint or Opportunity for Urban Redevelopment? A Study of Los Angeles County Parking Supply and Growth," *Journal of the American Planning Association*, 81(4): 268-286, 2015, doi: 10.1080/01944363.2015.1092879.

43 See note 2.

44 U.S. Bureau of Labor Statistics, *Consumer Expenditures – 2017* (press release), 11 September 2018, archived at https://web.archive.org/web/20190111151547/https://www.bls.gov/news.release/pdf/cesan.pdf.

45 U.S. Bureau of Labor Statistics, *Consumer Expenditure Survey 2017,* Table 1502, archived at https://web.archive.org/web/20190111152116/https://www.bls.gov/cex/2017/combined/cucomp.pdf.

46 Alan Walks, "Driving the Poor into Debt? Automobile Loans, Transport Disadvantage, and Automobile Dependence," *Transport Policy*, 65: 137-149, 2018, doi: 10.1016/j.tranpol.2017.01.001.

47 See note 8.

48 Ibid.

49 See note 1.

50 Federal Reserve Bank of New York, Center for Microeconomic Data, *State Level Household Debt Statistics 2003-2017,* February 2018, data downloaded 29 August 2018 from https://www.newyorkfed.org/medialibrary/Interactives/householdcredit/data/xls/area_report_by_year.xlsx; inflation adjustment from U.S. Bureau of Labor Statistics, CPI calculator.

51 See note 11.

52 See note 10.

53 Martin B. Zimmerman, "A View of Recessions, from the Automotive Industry," Conference Series (proceedings), Federal Reserve Bank of Boston, 42: 371-376, June 1998.

54 See note 10.

55 See note 1.

56 Ibid.

57 See note 11.

58 See note 13.

59 Ibid.

60 U.S. Federal Highway Administration, *Our Nation's Highways 2011*, undated, archived at https://web.archive.org/web/20190121151439/https://www.fhwa.dot.gov/policyinformation/pubs/hf/pl11028/onh2011.pdf.

61 Meta Brown, et al., Federal Reserve Bank of New York, "The Graying of American Debt," *Liberty Street Economics* (blog), 24 February 2016, accessed at https://libertystreeteconomics.newyorkfed.org/2016/02/the-graying-of-american-debt.html.

62 Deborah Thorne, et al., *Graying of American Bankruptcy: Fallout from Life in a Risk Society,* Indiana Legal Studies Research Paper Number 406, doi: dx.doi.org/10.2139/ssrn.3226574, 5 August 2018.

63 See note 12.

64 See note 14.

65 Ibid.

66 Consumer Financial Protection Bureau, *What Is the Difference Between Dealer-Arranged and Bank Financing?,* (blog), November 2016, accessed at https://www.consumerfinance.gov/ask-cfpb/what-is-the-difference-between-dealer-arranged-and-bank-financing-en-759/.

67 Christopher Kukla, "The Hidden Cost of Car Loans," *U.S. News & World Report,* 27 February 2014.

68 Center for Responsible Lending, *Auto Loans: The Problem*, (blog), accessed at https://www.responsiblelending.org/issues/auto-loans/auto-loans-problem.

69 New York Fed Consumer Credit Panel and Equifax, *Auto Loan Originations by Lender Type and Credit Score* (Excel workbook), supplementary data accompanying Andrew Haughwout, et al., Federal Reserve Bank of New York, "Just Released: Auto Lending Keeps Pace as Delinquencies Mount in Auto Finance Sector," *Liberty Street Economics* (blog), 14 November 2017.

70 Ibid.

71 Ken Bensinger, "A Vicious Cycle in the Used-Car Business," *Los Angeles Times,* 30 October 2011.

72 Ibid.

73 8.7 million jobs: Center on Budget and Policy Priorities, *Chart Book: The Legacy of the Great Recession,* 6 April 2018, accessed at https://www.cbpp.org/research/economy/chart-book-the-legacy-of-the-great-recession; consumer spending: U.S. Bureau of Economic Analysis, *National Accounts (NIPA): Section 1 Domestic Product and Income*, accessed 21 January 2019 at https://apps.bea.gov/histdata/fileStructDisplay.cfm?HMI=7&DY=2018&DQ=Q1&DV=Third&dNRD=June-29-2018.

74 Federal Reserve Bank of St. Louis, *FRED Economic Data: Total Vehicle Sales*, accessed at https://fred.stlouisfed.org/series/TOTALSA#0, 13 January 2019.

75 Adam Copeland and James Kahn, Federal Reserve Bank of New York, *The Production Impact of "Cash-for-Clunkers": Implications for Stabilization Policy*, July 2011, archived at https://web.archive.org/web/20190113193345/https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr503.pdf.

76 Associated Press, "Chrysler Financial Gets $1.5B Loan from Bailout," *NBCNews.com*, 16 January 2009, archived at https://web.archive.org/web/20190113193907/http://www.nbcnews.com/id/28694293/ns/business-autos/t/chrysler-financial-gets-b-loan-bailout/.

77 Edmund L. Andrews and Jackie Calmes, "Fed Cuts Key Rate to Record Low," *New York Times*, 16 December 2008.

78 Cox Automotive and Manheim, *2017 Used Car Market Report,* 2017, accessed at https://publish.manheim.com/content/dam/consulting/2017-Manheim-Used-Car-Market-Report.pdf.

79 Federal Reserve Bank of St. Louis, *Finance Rate on Consumer Installment Loans at Commercial Banks, New Autos 48 Month Loan, Percent, Quarterly, Not Seasonally Adjusted*, accessed at https://fred.stlouisfed.org/series/TERMCBAUTO48NS, 4 September 2018.

80 Ibid.

81 See note 17.

82 Adam Copeland, George Hall and Louis Maccini, *Interest Rates and the Market for New Light Vehicles*, 24 May 2018, archived at https://web.archive.org/web/20181004195610/http://people.brandeis.edu/~ghall/papers/CHM_paper_JMCB_RR_final.pdf.

83 See note 18.

84 See note 19.

85 Federal Reserve Bank of New York, Center for Microeconomic Data, *Household Debt and Credit Report (Q2 2018)*, August 2018, data downloaded 29 August 2018 from https://www.newyorkfed.org/microeconomics/hhdc.html.

86 TransUnion, *Financial Crisis – 10 Years Later: Consumer Credit Market on an Upward Curve*, 22 August 2018, archived at https://web.archive.org/web/20181004205348/https://newsroom.transunion.com/financial-crisis--10-years-later-consumer-credit-market-on-an-upward-curve/.

87 Jim Henry, "Lesson Learned from the Great Recession: Car Payment Trumps Mortgage," *Forbes*, 31 August 2018, archived at https://web.archive.org/web/20181004205709/https://www.forbes.com/sites/jimhenry/2018/08/31/lesson-learned-from-the-great-recession-car-payment-trumps-mortgage/.

88 See note 16.

89 Melinda Zabritski, Experian, *State of the Automotive Finance Market, Q3 2018*, undated [date 11 January 2019?], accessed at https://www.experian.com/automotive/auto-credit-webinar-form?SP_MID=18853-g&SP_RID=2741256-g&wt.srch=Auto_Q22018QuarterlyTrends_reg_link&elqTrackId=c9b9dbbfc41e4e3688e5e3e621c41306&elq=a2f239f5a8504c05895c4fe288af116f&elqaid=18853&elqat=1&elqCampaignId=8817.

90 See note 20.

91 See note 32.

92 Black Book and Fitch Ratings, *Vehicle Depreciation Report*, April 2018.

93 See note 18.

94 See note 20.

95 Ibid.

96 Consumer Financial Protection Bureau, *CFPB Report Finds Sharp Increase in Riskier Longer-Term Auto Loans* (press release), 1 November 2017, archived at https://web.archive.org/web/20181004210710/https://www.consumerfinance.gov/about-us/newsroom/cfpb-report-finds-sharp-increase-riskier-longer-term-auto-loans/.

97 Investopedia, *Subprime Loan*, updated 16 January 2019, accessed at http://www.investopedia.com/terms/s/subprimeloan.asp?lgl=myfinance-layout-no-ads.

98 Consumer Financial Protection Bureau, *Borrower Risk Profiles* (CSV file), accessed at https://www.consumerfinance.gov/data-research/consumer-credit-trends/auto-loans/borrower-risk-profiles/, October 2017.

99 See note 22.

100 Federal Reserve Bank of St. Louis, *Net Percentage of Domestic Banks Tightening Standards for Auto Loans*, accessed at https://fred.stlouisfed.org/series/STDSAUTO, 4 October 2018.

101 Tracy Alloway, "This Is What's Going on Beneath the Subprime Auto-Loan Turmoil," *Bloomberg*, 21 March 2016, accessed at https://www.bloomberg.com/news/articles/2016-03-21/this-is-what-s-going-on-beneath-the-subprime-auto-loan-turmoil.

102 Matt Scully, "Auto Lender Santander Checked Income on Just Eight Percent in Subprime ABS," *Bloomberg*, 22 May 2017, accessed at https://www.bloomberg.com/news/articles/2017-05-22/subprime-auto-giant-checked-income-on-just-8-of-loans-in-abs.

103 Jaeah Lee, "Wait, Banks Can Shut Off My Car?," *Mother Jones*, April 2016, accessed at http://www.motherjones.com/politics/2016/04/subprime-car-loans-starter-interrupt/.

104 Ibid.

105 S&P Global Market Intelligence, *U.S. Auto Loan ABS Tracker: Full-Year 2017 and December 2017 Performance*, 22 February 2018, archived at https://web.archive.org/web/20181004211045/https://www.capitaliq.com/CIQDotNet/CreditResearch/RenderArticle.aspx?articleId=1997351&SctArtId=448971&from=CM&nsl_code=LIME&sourceObjectId=10441980&sourceRevId=1&fee_ind=N&exp_date=20280223-02:49:38.

106 Claire Boston, "Worthless Auto Trade-Ins Signal Riskier Loans," *Bloomberg*, 25 January 2018, accessed at https://www.bloomberg.com/news/articles/2018-01-25/underwater-on-your-trade-in-no-problem-u-s-car-lenders-say.

107 Ibid.

108 Edmunds, *Used Vehicle Market Report, Q3 2016*, 2016.

109 "Moody's Sees Consumers on 'Trade-In Treadmill,'" *SubPrime Auto Finance News,* 28 March 2017, accessed at http://www.autoremarketing.com/subprime/moody%E2%80%99s-sees-consumers-%E2%80%98trade-treadmill%E2%80%99.

110 Gary Rivlin, "They Had Created This Remarkable System for Taking Every Last Dime From Their Customers," *Mother Jones*, March/April 2016.

111 Brian T. Melzer and Aaron Schroeder, Consumer Financial Protection Bureau, *Loan Contracting in the Presence of (State) Usury Limits: Evidence from Auto Lending*, (PowerPoint presentation), 2015, archived at https://web.archive.org/web/20181004211456/https://www.fdic.gov/news/conferences/consumersymposium/2015/presentations/4a_schroeder.pdf.

112 Ryan Felton, "The Devastating Loophole that Sticks Car Buyers with Interest Rates that Would Otherwise Be Illegal," *Jalopnik*, 29 March 2018, archived at https://web.archive.org/web/20181004211628/https://jalopnik.com/the-devastating-loophole-that-sticks-car-buyers-with-in-1823885194.

113 Ibid.

114 See note 110.

115 Ryan Felton, "The Car Loans that Never Die," *Jalopnik*, 25 September 2018, accessed at https://web.archive.org/web/20181009202500/https://jalopnik.com/the-car-loans-that-never-die-1829206900.

116 Consumers for Auto Reliability and Safety, *Buying a Car from a Dealer in California May Get Even More Hazardous to Your Financial Health*, accessed at http://carconsumers.org/blog/category/predatory-auto-lending/, 21 March 2017.

117 Consumer Financial Protection Bureau, *CFPB Takes Action Against Herbies Auto Sales for Unlawful Lending Practices* (press release), 21 January 2016, accessed at https://www.consumerfinance.gov/about-us/newsroom/cfpb-takes-action-against-herbies-auto-sales-for-unlawful-lending-practices/.

118 Center for Responsive Lending, *Signs of Predatory Auto Finance Loans* (fact sheet), undated.

119 Ibid.

120 Atif R. Mian and Amir Sufi, National Bureau of Economic Research, *Fraudulent Income Overstatement on Mortgage Applications During the Credit Expansion of 2002 to 2005, Working Paper 20947*, February 2015, archived at https://web.archive.org/web/20190114002348/https://www.nber.org/papers/w20947.pdf.

121 Ryan Felton, "How Subprime Car Loans Are Ruining Lives and Repeating the Mistakes of the Housing Crisis," *Jalopnik*, 21 July 2017.

122 Mark A. Cohen, "Imperfect Competition in Auto Lending: Subjective Markup, Racial Disparity, and Class Action Litigation," *Review of Law and Economics*, 8(1): 21-58, 2012, archived at https://web.archive.org/web/20181107165224/https://pdfs.semanticscholar.org/66a9/acea686fcbaa58ba15b8a48db97c610b29e9.pdf.

123 Ibid.

124 Consumer Financial Protection Bureau, *CFPB and DOJ Order Ally to Pay $80 Million to Consumers Harmed by Discriminatory Auto Loan Pricing* (news release), 20 December 2013, accessed at https://www.consumerfinance.gov/about-us/newsroom/cfpb-and-doj-order-ally-to-pay-80-million-to-consumers-harmed-by-discriminatory-auto-loan-pricing/.

125 Consumer Financial Protection Bureau, *CFPB Takes Action Against Fifth Third Bank for Auto-Lending Discrimination and Illegal Credit Card Practices* (news release), 28 September 2015, accessed at https://www.consumerfinance.gov/about-us/newsroom/cfpb-takes-action-against-fifth-third-bank-for-auto-lending-discrimination-and-illegal-credit-card-practices/.

126 Consumer Financial Protection Bureau, *CFPB and DOJ Reach Resolution with Honda to Address Discriminatory Auto Loan Pricing*, (news release), 14 July 2015, archived at https://www.consumerfinance.gov/about-us/newsroom/cfpb-and-doj-reach-resolution-with-honda-to-address-discriminatory-auto-loan-pricing/.

127 Consumer Financial Protection Bureau, *CFPB and DOJ Reach Resolution with Toyota Motor Credit to Address Loan Pricing Policies with Discriminatory Effects* (news release), 2 February 2016, accessed at https://www.consumerfinance.gov/about-us/newsroom/cfpb-and-doj-reach-resolution-with-toyota-motor-credit-to-address-loan-pricing-policies-with-discriminatory-effects/.

128 John Van Alst, et al., National Consumer Law Center, *Auto Add-Ons Add Up: How Dealer Discretion Drives Excessive, Arbitrary and Discriminatory Pricing*, October 2017.

129 American Bankers Association, "Senate Votes to Overturn CFPB Indirect Auto Lending Guidance," *ABA Banking Journal*, 18 April 2018, archived at https://web.archive.org/web/20190114004048/https://bankingjournal.aba.com/2018/04/senate-votes-to-overturn-cfpb-indirect-auto-lending-guidance/.

130 See note 110.

131 See note 128.

132 See notes 110 and 118.

133 See note 118.

135 Consumer Financial Protection Bureau, *Bureau of Consumer Financial Protection Announces Settlement with Wells Fargo for Auto-Loan Administration and Mortgage Practices* (press release), 20 April 2018, accessed at https://www.consumerfinance.gov/about-us/newsroom/bureau-consumer-financial-protection-announces-settlement-wells-fargo-auto-loan-administration-and-mortgage-practices/; Patrick Rucker, "Exclusive: Wells Fargo Says Auto Insurance Remediation Will Not Wrap Up Until 2020," *Reuters*, 29 October 2018, archived at https://web.archive.org/web/20190121153133/https://www.reuters.com/article/us-wells-fargo-lawmakers-exclusive/exclusive-wells-fargo-says-auto-insurance-remediation-will-not-wrap-up-until-2020-idUSKCN1N32IY.

136 See note 110.

137 National Employment Law Project and AFL-CIO, *Wheeling and Dealing Misfortune: How Santander's High Pressure Tactics Hurt Workers and Auto Loan Customers*, 2017, archived at https://web.archive.org/web/20181107184028/https://betterbanks.org/wp-content/uploads/2017/07/Wheeling-and-Dealing-FINAL1.pdf.

138 Consumer Financial Protection Bureau, *CFPB Takes First Action Against "Buy-Here, Pay-Here" Auto Dealer* (press release), 19 November 2014, archived at https://web.archive.org/web/20190114005125/https://www.consumerfinance.gov/about-us/newsroom/cfpb-takes-first-action-against-buy-here-pay-here-auto-dealer/.

139 See note 121.

140 Ibid.

141 Associated Press, "2016 Auto Sales Set a New Record High, Led by SUVs," *Los Angeles Times*, 4 January 2017.

142 U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* series of reports, 2010 and 2016 editions, Table MV-1, available at https://www.fhwa.dot.gov/policyinformation/statistics.cfm.

143 Ibid.

144 National Safety Council, *2017 Estimates Show Vehicle Fatalities Topped 40,000 for Second Straight Year*, undated, archived at https://web.archive.org/web/20181005133939/https://www.nsc.org/road-safety/safety-topics/fatality-estimates.

145 U.S. Energy Information Administration, *U.S. Product Supplied for Finished Gasoline*, accessed at https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MGFUPUS1&f=A, 5 October 2018.

146 U.S. Environmental Protection Agency, *Greenhouse Gas Inventory Data Explorer*, accessed at https://www3.epa.gov/climatechange/ghgemissions/inventoryexplorer/#transportation/allgas/source/all, 5 October 2018.

147 See note 19.

148 See note 11.

149 Cox Automotive, *2018 Used Car Market Report & Outlook,* 2018, accessed at https://d8imphy647zzg.cloudfront.net/wp-content/uploads/2018/03/031918_UCMR_DigitalVersion_Spreads.pdf.

150 See note 11.

151 Bureau of Labor Statistics, *Consumer Expenditure Survey: Metropolitan Statistical Area (MSA) Tables*, 2015-16 Tables, accessed at https://www.bls.gov/cex/csxmsa.htm, 6 September 2018.

152 Center for Microeconomic Data, Federal Reserve Bank of New York, *Household Debt and Credit Report (Q4 2017),* February 2018, data downloaded on 20 March 2017 at https://www.newyorkfed.org/microeconomics/hhdc.html.

153 Consumer Financial Protection Bureau, *What Is a "No Credit Check" or "Buy Here, Pay Here" Auto Loan?*, 8 June 2016, archived at http://web.archive.org/web/20180904235247/https://www.consumerfinance.gov/ask-cfpb/what-is-a-no-credit-check-or-buy-here-pay-here-auto-loan-en-887/.

154 Ibid.

155 Ibid.

156 See note 138; Massachusetts Office of Consumer Affairs and Business Regulation, *Consumer Affairs Undersecretary Chapman Announces Findings of Investigation into Illegal Used Auto Sales and Financing Practices* (press release), 7 August 2017, archived at http://web.archive.org/web/20180917162159/https://www.mass.gov/news/consumer-affairs-undersecretary-chapman-announces-findings-of-investigation-into-illegal-used.

157 "How Auto Dealers Can Use GPS and 'Starter Interrupter' Tech to Disable Your Car," *CBS News*, 21 March 2017, archived at http://web.archive.org/web/20180412001428/https://www.cbsnews.com/news/car-repossession-device-starter-interrupter-auto-dealer-car-credit-city/.

158 See note 156.

159 See note 66.

160 Consumer Financial Protection Bureau, *Learn to Explore Loan Choices*, archived on 4 November 2018 at http://web.archive.org/web/20180904220758/https://www.consumerfinance.gov/consumer-tools/getting-an-auto-loan/learn-to-explore-loan-choices/.

161 Federal Trade Commission, *Federal Trade Commission v. Universal City Nissan, Inc., Complaint for Permanent Injunction and Other Equitable Relief*, 29 November 2016, archived at http://web.archive.org/web/20170516144139/https://www.ftc.gov/system/files/documents/cases/160929sagecmpt.pdf.

162 Federal Trade Commission, *Deal or No Deal? FTC Challenges Yo-Yo Financing Tactics*, 29 September 2016, archived at http://web.archive.org/web/20180720010910/https://www.ftc.gov/news-events/blogs/business-blog/2016/09/deal-or-no-deal-ftc-challenges-yo-yo-financing-tactics.

163 Philip Reed, Edmunds, *Don't Fall Prey to Spot Delivery Scams and Yo-Yo Financing*, 13 March 2012, archived at http://web.archive.org/web/20170711100121/https://www.edmunds.com/car-loan/dont-fall-prey-to-spot-delivery-scams-and-yo-yo-financing.html.

164 Debt.org, *What Is an Upside Down Car Loan?*, archived on 29 August 2017 at https://web.archive.org/web/20170829181005/https://www.debt.org/credit/loans/auto/upside-down-car/.

165 Consumer Financial Protection Bureau, *Take Control of Your Auto Loan*, June 2016, archived at http://web.archive.org/web/20180404173438/https://files.consumerfinance.gov/f/documents/201606_cfpb_take-control-of-your-auto-loan-guide.pdf.

166 See note 106.

167 Sarah Shelton, "How to Get Out of an Upside-Down Car Loan," *U.S. News,* 11 January 2016, available at https://cars.usnews.com/cars-trucks/best-cars-blog/2016/01/how-to-get-out-of-an-upside-down-car-loan.

168 See note 166.

169 Doug DeMuro, Autotrader, *Buying a Car: What Dealer Add-Ons Should You Avoid?*, July 2014, accessed at https://www.autotrader.com/car-tips/buying-car-what-dealer-add-ons-should-you-avoid-227127.