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How Attitudes Regarding Consumer Indebtedness and Durable Goods Affected Household Expenditure, 1920-1937

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Abstract

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This paper outlines attitudes regarding luxury durable goods and instruments of consumer debt during the early 20th century. I illustrate how these opinions altered the way in which consumers purchased durable goods and acquired debt, most notably via their use of the installment plan. Radical modifications in the way public figures viewed the influence that these behaviors had on economic prosperity and the quality of society occurred simultaneous to statistically significant shifts in the way a household's indebtedness altered its expenditure on durable goods.

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I. Introduction

For centuries, consumer debt has been a controversial topic in American society. Debates have emerged and continued regarding its affect on individuals' morality, its impact on the economy, and its influence on the functioning of society. During the 1920s, there was a change in the way many people regarded debt. Coupled with a shift in the portrayal of durable goods[1], acquiring consumer debt went from being considered a vice that would lead to economic calamity and personal ruin, to a necessary, efficient way to increase prosperity and raise Americans' standards of living. While there remained a multitude of individuals who lambasted what they considered to be profligacy fueled by increases in consumer debt availability and predicted a resulting business collapse, their warnings and critiques were somewhat ignored amidst the context of an economic boom. The debate, however, remained robust and prevalent throughout the 1920s.

After the stock market crash in 1929, many of the people who had condemned high levels of consumer debt in society appeared vindicated, and responded by accusing Americans' self-indulgent, extravagant spending for causing the economic crisis. The market crash and subsequent fluctuations, increasing levels of unemployment, and decreasing wages caused consumers to feel uncertain about the future of the economy and their personal financial standings. As a result, Americans reduced their indebtedness and decreased their expenditure on consumer durables. Many households had, however, become accustomed to and dependent on their amenities, and were reluctant to compromise their more affluent lifestyles. Numerous Americans were left confused,

[1] The Department of Commerce defines a durable good as a product that can be used for an average of at least three years. During the 1920s, automobiles, appliances, furniture, radios and televisions, and jewelry were the durable goods most commonly purchased by consumers.

unsure of whether to regard their household's debt as a tool that aided economic prosperity and facilitated higher standards of living, or as a source of their current financial suffering.

After the Great Depression, Americans did not return to their pre-1920s beliefs that debt and materialism were immoral hindrances to the economy. As ideas blaming the recession on a myriad of causes other than consumer indebtedness gained credibility and the economy began to recover in 1934, individuals returned to their high levels of spending on consumer durables. Many rejected the notion that their efforts to achieve a more luxurious lifestyle caused the Depression, or at least did not alter their spending habits in accordance with this theory. By the mid-1930s, most Americans had rebuffed the stigma attached to consumer debt and defaulting on installment contracts, enabling households to continue to accumulate increasing levels of debt to the present day.

This paper argues that attitudes regarding durable goods and consumer debt significantly affected the way in which households determined their spending patterns throughout the 1920s and 1930s. During the boom years of the 1920s, households vastly augmented their stocks of durable goods via heightened levels of debt, seemingly in accordance with the opinions of the economists who linked increased consumption with economic prosperity. After the stock market crash in 1929, however, households' exorbitant, debt-funded spending was blamed for the economic crisis. This sudden shift back to pre-1920s beliefs caused consumers to feel confused about how to balance their desire for the comforts that durable goods had provided, with the apparent confirmation that their excessive use of consumer debt had caused the downfall of the economy. Americans were able to decrease their indebtedness and expenditure on durable goods

without drastically altering their lifestyles by regarding their ability to liquidate their debt as an important determinant of their spending patterns; from the end of 1929 to the end of 1932, a large liquidation of a household's debt would result in a small reduction in its expenditure, while a small liquidation would lead to a large decrease in a household's purchases of durable goods. As the economy began to recover by 1934, consumers were willing to accumulate more debt in exchange for increased expenditure on luxury items, similar to the pattern that existed before 1930. This reversion back to pre-Depression spending habits is at least partially, if not greatly, attributable to the diminished belief in the validity of a causal relationship between household indebtedness and recessions, and the degree to which the positive attitudes regarding debt-funded consumption had become ingrained in the minds of Americans.

II. The Pre-1920s Portrayal of Envy and Thrift

Prior to the 1920s, moralists, pundits, and other public figures were aware that Americans, particularly members of the middle class, were being marketed tempting goods that they could not afford. They advocated that lower classes divert their attention away from "the glittering bounty" of stores and catalogs towards the "heavenly prizes" that would be compensation for their piety and self-control (Matt 4). Simple living was framed as the only wise, fulfilling way to live; it would encourage self-control and discipline, and would reveal "simple joys… the world's treasures" to those who lived modestly (Pritchard and Turkington iii). Many warned the middle class that an attempt to emulate the lifestyles of the rich would lead to materialism, self-indulgence, wastefulness, and an even greater threat – envy. Envy was portrayed as an immoral, sacrilegious

emotion that must be discouraged. Americans were warned that if they succumbed to envy, they would live in a constant state of competition, dissatisfaction, and resentment; in exchange, they would sacrifice their contentment, compromise their peace of mind, and abandon their commitment to accept the plan God had for them.

If Americans, afflicted with envy, accumulated debt in order to purchase luxury goods, this collapse of morals and breakdown in societal stability would be significantly augmented. Indebtedness was portrayed as conflicting with fundamental American values. Benjamin Franklin warned that having debt was akin to "give[ing] another the power over your liberty," and labeled it "the first vice" (qtd. in Shipside 25). When a consumer acquired goods that he could not afford by the use of debt, he was regarded as lying about his financial standing and succumbing to trivial whims, detrimental behaviors that could spread to other aspects of his life. In order to inform the masses about the values of thrift, a multitude of education programs, ranging from elementary school curriculums to adult manuals, were developed.[2] Prior to the 1920s, luxury goods were considered the root of envy and materialism, and living in debt was equated with living in slavery; if Americans ignored these linkages, many warned, they would create a society composed of corrupt and dishonest citizens.[3]

Additionally, there existed a strong belief that saving and thrift were inextricably tied to economic prosperity. To economists, thrift most certainly did not mean hoarding money, and they made it clear that Americans should not become misers. Rather, a thrifty individual both saved and spent wisely. He invested money in savings banks, government

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[2] See Myron T. Pritchard and Grace A. Turkington, "Stories of Thrift for Young Americans" (1915); Carobel Murphey, "Thrift Through Education" (1929); Alvin Johnson, "The Promotion of Thrift in America" (1920); and Figure A.1.

[3] See Steve Shipside, "Benjamin Franklin's The Way to Wealth" (2008) and Daniel Horowitz, "The Morality of Spending: Attitudes toward the Consumer Society in America, 1875-1940" (1985).

securities, life insurance policies, or other riskless ventures, and only purchased goods that he considered valuable or necessary (Carver 3). Thrift was portrayed as thoughtful planning; savings enabled individuals to not have to depend on others for their financial security, protected them in case of ailment, accident, or natural disaster, and insured them a comfortable retirement. Furthermore, access to accumulated resources permitted Americans to purchase high quality goods or seize business opportunities (Brown 4). Therefore, in the long run, thrift would enable households to spend more money, not less, and be confident that their expenditures were planned for and thus worth acquiring.

Thrift was believed to promote not only individual financial security, but also national economic prosperity. Thrift, properly understood and practiced, was portrayed as the most efficient tool available to spur production. Money saved in banks could be lent to businesses that manufactured goods to generate further production, such as machinery, thereby providing capital for investment and innovation (Johnson 233; Dowrie 53). Industries that were able to produce an abundance of these high quality, productive goods could employ more labor, increase their productivity, and grow the economy. Additionally, thrift was framed as the best protection against the twin threats of superfluous, unproductive consumption and risky, equally disadvantageous speculative expenditure. If individuals spent their savings on the wrong types of products, i.e. luxury goods or speculative investments, they would deplete the resources for productive industries and encourage the expansion of those that did not produce goods for “maximum social satisfaction” (Dowrie 54). Furthermore, individuals who saved were heralded as disciplined and hard working, and therefore singled out by economists as the ideal laborers. Because installment spending was not very common and most households held

very few durable goods before the 1920s, the concerns and condemnations expressed regarding envy and the widespread approbation of saving and thrift went largely unchallenged.

III. The Shift in Availability and Attitudes and the Subsequent Debate

During the 1920s, there were significant structural changes that enabled increasing numbers of Americans to purchase consumer durables; at the same time, there were shifts in societal attitudes regarding luxury goods and the instruments used to finance their purchase. The combination of these transformations facilitated a consumer durables revolution, a positive shift in the demand curve for durable goods.[4] The mass production of goods that emerged during this period resulted in the abundant availability of goods for purchase at increasingly lower prices. Furthermore, developments in advertising campaigns and a plethora of new catalogs and department stores exposed huge portions of American society to luxury goods. According to some scholars, primarily Thorstein Veblen, any product that makes wealth, and therefore success, visible to another person is desired as a means to increase one's self-esteem. Veblen argued that individuals constantly compare themselves to their peers; as consumers are increasingly exposed to others with more or better quality signifiers of wealth, i.e. luxury goods, they become self-conscious, and in turn desire more for themselves. In order to be regarded favorably in the community, an individual must achieve an obscure, constantly shifting standard of wealth, and to exceed this standard warrants societal praise (Veblen ch. 1). In the 1920s, households became progressively more exposed to symbols of wealth via increased mass-

[4] See Martha L. Olney, "Buy Now, Pay Later: Advertising, Credit, and Consumer Durables in the 1920s" (1991) for a detailed examination of the consumer durables revolution.

marketing, thereby enhancing their desire to compete with other households to acquire these goods.

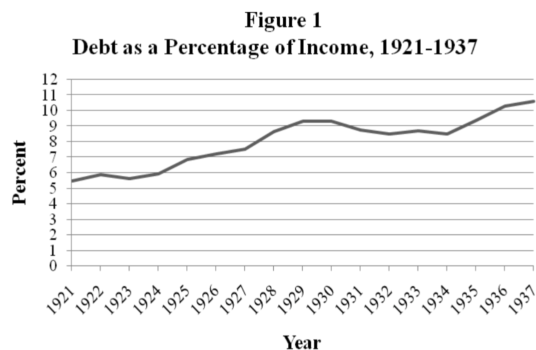

Figure 1
Debt as a Percentage of Income, 1921-1937

Source: Olney (1991, Table 4.1)

Accompanying this heightened exposure and resulting competitiveness were instruments – most notably installment financing – that enabled consumers to purchase durable goods. When a consumer signed an installment contract, he agreed to pay a percentage of the good's value on specified dates. Ownership of the good did not transfer from seller to buyer until the good was paid for in full, and therefore the household was not able to sell the good for any reason without permission from the seller. In most cases, if a household missed just one installment payment, the good would be repossessed and the consumer would not be compensated for the surplus. Most installment contracts were not arranged directly between the buyer and seller, but through a sales finance company that served as an intermediary. From the beginning of 1920 through the end of 1928, the number of sales finance companies that coordinated installment contracts increased tenfold, from 100 to 1,000 in operation (Olney 1991, 109). Usually, households gradually shift towards their desired level of consumer durable stock. The widespread availability of credit that emerged in the 1920s enabled this lag to be shortened because households did

not have to save as much of their income or compromise other forms of consumption to be able to purchase a durable good.

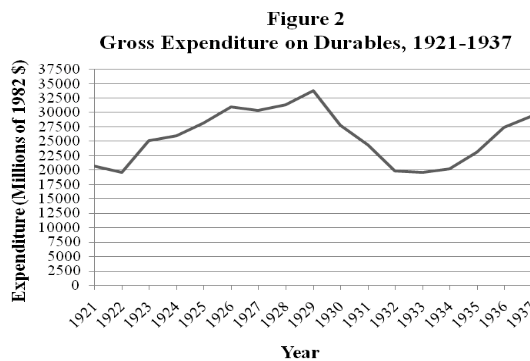

Figure 2
Gross Expenditure on Durables, 1921-1937

Source: Olney (1991, Table A.7)

Many households took advantage of installment financing and consumer credit, subsequently obtaining durable goods at a more rapid pace than ever before. Outstanding consumer debt as a percentage of household income rose consistently during the 1920s, largely to fund a simultaneous increase in household expenditure on consumer durables (see Figures 1 and 2). From 1921 to 1929, nominal expenditure on consumer durable goods increased 54 percent and real expenditure increased 63 percent.[5] During the 1920s, nominal installment debt increased 135 percent and outstanding nominal debt increased from $3.3 billion to over $7.6 billion (see Table 1). By the end of the 1920s, credit was used to purchase approximately 90 percent of durable goods (Olney 1991, 3).

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[5] All real values in this paper are deflated into 1982 dollars.

Table 1
Consumer Indebtedness, 1921-1937

	Outstanding Nominal Debt		**Outstanding Real Debt**		
Year	Total (Million $)	Dollars per Household	Total (Millions of 1982 $)	1982 Dollars per Household	**Nominal Installment Debt (Thousands $)**
1921	$3,249	$129.34	$9,678	$385.27	$2,079
1922	3,469	135.05	10,862	422.87	2,220
1923	3,860	146.78	12,155	462.20	2,469
1924	4,159	154.37	13,619	505.52	2,648
1925	4,928	178.94	15,633	567.65	3,139
1926	5,510	196.08	18,069	643.01	3,531
1927	5,714	199.57	18,839	657.95	3,571
1928	6,567	225.48	21,043	722.52	4,129
1929	7,628	257.86	24,096	814.54	4,906
1930	6,821	227.39	22,174	739.21	4,299
1931	5,518	182.28	20,325	671.43	3,585
1932	4,085	134.20	16,783	551.36	2,632
1933	3,912	127.00	16,210	526.26	2,668
1934	4,385	140.20	17,700	565.39	3,062
1935	5,434	170.39	22,912	718.42	3,914
1936	6,788	209.16	28,564	880.13	4,937
1937	7,480	226.06	30,159	911.48	5,419

Sources: Outstanding Nominal and Real Debt from Olney (1991, Table 4.1). Nominal Installment Debt from
Olney (1999, Table I).

Martha Olney illustrates that households seemed to increase their purchases of consumer durables in exchange for a decrease in saving as a percentage of their income, but this was not necessarily the case. As she explains, because durable assets provide an individual with the ability to consume their services in the future, households regard consumer durables as a form of both saving and investment. In the 1920s, many households substituted traditional forms of saving with consumer durables in their wealth portfolios, and the adjusted personal saving rate was constant throughout the first three decades of the 20th century (Olney 1991, 54). By acquiring additional luxury goods and increasing their standards of living, many households appeared to become more affluent without having to significantly compromise their saving, thereby appeasing those who

placed a significant emphasis on the virtues of thrift. The pervasive belief in the prospect for American prosperity was expressed by Herbert Hoover in his 1928 presidential campaign when he said that America was "nearer to the final triumph over poverty than ever before in the history of any land" (Clements 1).

A. The Benefits and Justifications of These Shifts

The consumer durables revolution that occurred during the 1920s would not have been possible without a simultaneous shift in judgments regarding installment financing, envy, and luxury goods. Adjustments in attitudes concerning topics indirectly related to the debate over consumer debt and durables may have contributed to these shifts. For example, Social Darwinism encouraged competition, claiming that it would improve society, not cause it to become chaotic. This anthropological development was coupled with psychological ones claiming that envy and the drive towards competition are innate and difficult to control. By framing emulation and competition in a purely scientific manner, these discoveries served to dispute the notion that man's place in the social hierarchy was predetermined by God; therefore, he was encouraged to advance himself financially and enjoy the fruits of his labor without feeling guilty or impious. One essayist noted that the tenth commandment had been completely replaced by "Thou shalt not be outdone by thy neighbor's house, thou shalt not be outdone by thy neighbor's wife, nor his manservant, nor his car, nor anything – irrespective of its price or thine own ability – that is thy neighbor's" (qtd. in Matt 4). Social Darwinism was also viewed as compatible with democracy and traditional American values. By living in a country where, the Declaration of Independence proclaimed, everyone was equal and free to pursue their own

happiness, individuals were entitled to achieve a limitless state of greatness or prosperity based on the quality of their effort and output (Matt 5).

The mass-production that occurred in the early 19th century and produced a plethora of accessible, less expensive goods created a channel for Americans to act out these abstract, social science claims. Goods were no longer scarce, and acquiring them was no longer viewed as a selfish act that detracted from the well being of others. On the contrary, having luxury goods was considered the result of hard work and fair competition that rewarded individuals based on merit (Matt 4). It was during the 1920s that the phrase "keeping up with Joneses" permeated society, implying that to reach for the higher standards of living of one's peers was commonplace and acceptable. As a result of these advances, individuals began to view envy as the driving force of competition, and the desire for luxury goods as a way to advance their place in society through legitimate means; emulation was no longer considered evil, and the desire for a more affluent lifestyle was no longer regarded as a hopeless, selfish struggle.

Some proponents claimed that the developments in consumer durables and installment credit would have a beneficial affect on the economy. Once Americans were free from their belief in the necessity of delayed gratification and their definition of contentment as a life free from envy, they quickly developed a seemingly insatiable appetite for luxury goods. Without tools like installment selling, this heightened desire for durable goods could not have been translated into increased demand; consumers simply did not have the cash to spend. Supporters asserted that consumer credit would enable an increase in consumption, which would serve to augment production, and therefore the economy as a whole would grow and thrive (Sloan). Garet Garrett, an advertising

publicist, went so far as to argue that "thrift universally recognized and practiced" would lead to an economic collapse (qtd. in Horowitz 135). Furthermore, advocates affirmed that a middle-class that emulated the rich would eventually decrease the gap between the living standards of the different classes. Believing that they could achieve a higher standard of living gave individuals the incentive to develop discipline, put more energy into their work, and make greater attempts at innovation. This would not only increase the financial standing of the individual, but also advance the economy as a whole (Cowdrick 210). As Veblen noted:

> As fast as a person makes new acquisitions, and becomes accustomed to the new resulting standard of wealth, the new standard forwith ceases to afford appreciably greater satisfaction than the earlier standard did. The tendency in any case is constantly to make the present pecuniary standard the point of departure for a fresh increase of wealth; and this in turn gives rise to a new standard of sufficiency and a new pecuniary classification of one's self as compared with one's neighbours. (Veblen 25-26)

Therefore, as individuals acquired luxury items, their desire for more goods would rise as well. This would result in a limitless expansion of demand, which when matched by supply, would continuously grow the economy.

Some economists also advocated the inherent benefits of the installment plan. First, they argued, the repossession of goods that resulted from missed payments would encourage consumers to allocate their income more efficiently in order to avoid default, which would actually increase household saving rates. Additionally, they contended that the installment business was self-correcting, and therefore the fact that usury limits did not apply to installment contracts was irrelevant; if a sales finance company charged rates that were too high or applied time limits that were too constraining, consumers would quickly employ a different company, and the mismanaged corporation would run itself out of business (Sloan). The idea that consumption, particularly of durables, was an efficient

means to advance the economy was a complete transformation from the pre-1920s belief that thrift was the only route to prosperity. Coupled with the corrosion of the stigma surrounding debt and affluence, consumers were prompted by various sectors of society to spend and accumulate, and to do so with confidence and pride.

B. The Arguments Against the Societal Changes

Although there were a vast number of proponents of the 1920s shifts in attitudes and spending patterns, there was also a vocal sector of individuals who criticized these changes and warned against the affect they would have on society. One section of the detractorstook a moral stance against the acceptance of envy and materialism fueled, they believed, by the prevalence of credit. Moralists insisted that consumers were behaving hedonistically, that affluence would lead to laziness, that people were becoming unable to resist any temptations, and that materialism "endangered the health of America" (Horowitz xvii). They argued that instead of indulging their every desire and seeking happiness through possessions, American consumers should exhibit self-control and turn towards other, more simple pleasures that did not involve luxury goods.

Many of these critics accused the business community of tricking consumers into believing that they could achieve contentment through the acquisition of expensive products; in actuality, these critics argued, Americans were being sucked into a vicious cycle of envy and dissatisfaction while padding the pockets of greedy capitalists (Horowitz 162). George W. Norris, governor of the Philadelphia Federal Reserve Bank during the 1920s and the Great Contraction, chastised the advertising community for their methods, stating "it is not good morals… to sell things to people who have no business buying them" (qtd. in Kubik 834). One cynic of the increasing levels of household debt,

Henry Ford, was angry that the dangers of using consumer credit were clouded by euphemisms for basic debt. He was quoted as saying: "There is too much debt for one thing; too much installment buying. We must learn to call it by its real name – debt" (qtd. in Couzens 1927, 81). The sector of critics who portrayed materialism and debt-financed spending as a moral issue attempted to tie it to self-indulgence, indolence, and dishonesty in order to deter consumers from seeking pleasure through the accumulation of luxury goods.

There were many economists who focused their critiques not against consumers' desire to acquire durable goods, but the pervasiveness of household debt and practices of installment buying that enabled the purchase of these products. To spend outside of one's means by acquiring debt or using the installment plan was framed as careless at best and destructive at worst. Members of the financial community were concerned with the relationship between installment financing, perceived declining levels of thrift, and the business cycle. The use of credit, especially installment credit, was depicted as manipulating the markets. This manipulation would lead producers to have unreliable estimates of demand, resulting in an inefficient supply of goods and flawed prices. Economists also noted the fact that industry did not pay employees enough to purchase the goods being produced at their current price levels. Given that many workers' wages were determined in advance and for an extended period of time, in order for individuals to continue to purchase enough goods to keep the economy expanding, they would have to accumulate an ever-increasing amount of debt. As one economist explained, "Larger and larger doses of the stimulant must be injected merely to prevent a relapse" (Foster 112).

One of the groups most consistently opposed to installment spending and increasing levels of household debt was members of the Federal Reserve System. A thorough examination of the Federal Reserve Board's files and minutes from 1919-1933 did not reveal a single defender of installment selling (Kubik 834). The governor of the Philadelphia Reserve Bank believed that the ease with which goods were acquired encouraged the purchase of "unnecessary goods or of unnecessarily expensive goods" (Norris 209). One member of the Federal Reserve Board cautioned consumers against "the morphine of credit" (Couzens 78). The governor of the Federal Reserve Bank of New York, Benjamin Strong, noted the increase in installment buying and warned of "a situation in which any extended period of unemployment or any change in the psychology might lead to a considerable dimunition of activity of those industries serving the consumer directly" (qtd. in Kubik 835). Although it was never explicitly stated by any members of the Federal Reserve, their condemnation of consumer debt was likely related to their interpretation of the Federal Reserve Act of 1913 and their belief in the validity of the real bills doctrine. According to section 12A(c) of the act, a governing principle of the Reserve was "accommodating commerce and business." This passive role was enhanced by the members' acceptance of the real bills doctrine, which promoted that money and credit should be supplied only to finance real, nonspeculative commercial transactions (Humphrey 14). It would be difficult, if not impossible, for members of the Federal Reserve to reconcile the 1913 Act and the real bills doctrine with support for the installment plan and exorbitant levels of consumer indebtedness.

Some economists went as far as to warn of an impending depression resulting from consumers' use of debt instruments to spend outside of their means. If even a slight

recession occurred in an industry that substantially relied on installment selling, they argued, this industry would not be able to collect payments on the goods that were in the midst of their contract, be forced to repossess these goods, be left with a significant level of stock, and have a difficult time unloading this inventory, causing an otherwise mild recession in this industry to become a depression that could easily spread to other sectors of the economy (True 3). If a recession occurred, some feared, the money lent to consumers, as well as the payments still owed by households on their installment contracts, would be difficult if not impossible to collect. This would result in substantial issues for the commercial banking system, which was viewed as the "lynchpin of the financial sector" (Kubik 836).[6] As reported by the New York Times, businessman Roger W. Babson predicted a "distinct recession… within two or three years" as a direct result of 'the overextension of the instalment business, which [was] eating into the vitals of business like a cancer." He acknowledged that the economy was doing well, but warned that "most Americans [were] living in a fool's paradise and may be rudely awakened at any time."

Many economists, businessmen, political figures, and journalists accepted and repudiated parts of the arguments made by both proponents and detractors of increased spending on consumer durables and installment selling, publicly exhibiting the conflict felt by many American consumers. On the one hand, they recognized that the increased standards of living of millions of Americans was a positive result of the structural and attitudinal changes; on the other hand, they had trepidation regarding whether this proliferation of affluent lifestyles would lead to a weaker society, and were unsure of how

[6] Also see N. R. Danielian, "Theory of Consumers' Credit" (1929, pp. 406-411) for an extensive explanation of this critique.

the economy would be able to withstand a recession. An economics professor, expressing his personal confliction wrote, "Installment buying, used wisely and within safe limits, is one preventive of business depression. The abuse of this form of credit – the use of too much of it or its use at the wrong time – would of course help cause a depression" (Boyle). Books, opinion editorials, and conferences regarding installment selling emerged during the 1920s, detailing the positive and negative aspects, both moral and economic, of the plan.[7] Some individuals noted the hypocrisy of preaching thrift but providing consumers with easy access to debt. One commentator wrote, "We have praised the frugal and held them up as examples to be emulated… There is no consistency in preaching this doctrine on the one hand and on the other of encouraging indulgence in buying on the instalment plan" (Wells 1927, 526).

This debate was personified in President Herbert Hoover. Hoover's early life had been tumultuous, but consistently modest, and he placed a strong emphasis on hard work and self-sufficiency for both ethical and economic reasons. He wanted Americans to achieve a rising standard of living without compromising the lifestyle he valued: one that was moral, self-reliant, and untainted by materialism. One of Hoover's friends explained that although the president was not in favor of economic theory that emphasized thrift, he also was not supportive of consumption that exceeded an individual's ability to spend (Clements 51). Although Hoover illustrated his inconsistent views in many of his statements, Kendrick A. Clements argues that Hoover's West Branch speech most clearly expresses this incongruity. "On the one hand," he argues, "[the speech] extols self-reliance, frugality, simplicity, and freedom from the market; on the other, it urges listeners

[7] See "The Economics of Installment Selling" by Edwin R.A. Seligman and "Debate Handbook: Instalment Buying of Personal Property" edited by E. C. Buehler.

to embrace market economics, consumerism, and interdependence" (Clements 41). Herbert Hoover embodied, in the person of the president, the conflicting emotions felt by many individuals during the 1920s. Americans were living amidst a debate regarding how they spent their money, and what this spending meant not only for the quality of their character, but also for the position of their finances and the economy as a whole. While this debate was occurring, increasing numbers of households were purchasing goods on the installment plan and acquiring other forms of consumer debt, and the economy was prospering.

IV. The Stock Market Crash of 1929 and the Resulting Blame and Confusion

Thus, in the face of an economic boom during the 1920s, households largely ignored the disparagement of their behavior and chose to accept, at least tentatively, the opinions of those who supported their actions. By early 1930, shortly after the stock market crash in October 1929, blame for the worsening state of the economy was placed on those households that had been funding their lifestyles by accumulating debt. Employees of the Federal Reserve System were quick to assume the connection between high levels of household indebtedness and the recession. Members of the Philadelphia and Dallas Reserve Banks declared that "under the stimulus of instalment buying and an unreasoning belief in long-continued and unprecedented prosperity, over-buying kept pace with overproduction," but the results of "such an economic debauch… [were] inevitable," and that the American people were "suffering them now." These representatives advocated that the solution to the economic crisis, among other things, was "the accumulation of savings through the exercise of thrift" (Minutes of the OMPC qtd. in

Kubik 837). In a speech that was covered by the New York Times, the governor of the Atlanta Federal Reserve Bank contended that the business depression was due "primarily to the failure of the American people to live within their means" (Black).

In addition to supposed economic experts that tied consumers' spending patterns to the Depression, moralists exhibited an "I told you so" attitude, arguing that Americans had become impatient and greedy; this widespread avariciousness and abandonment of hard work, they argued, had sparked chaos in society. Additionally, President Hoover was shaken by the stock market crash, subsequently abandoning his focus on universal prosperity and placing significant emphasis on thrift and self-sufficiency. The unease Hoover had suppressed regarding the potential for heightened materialism and licentiousness in American society quickly reemerged. "When times were hard, his instinct was to work harder, pare expenses, and depend on himself, and these were the lessons he applied to the national crisis" (Clements 169-170). The arguments that had been made during the 1920s regarding the pitfalls of debt and profligacy, particularly the warnings that a consequential depression was near, seemed prophetic.

Following the crash, Americans largely acknowledged these moral and economic views, but consumers and economists did not immediately anticipate a severe depression.[8] Thus, during the fourth quarter of 1929, many individuals felt a great deal of uncertainty regarding the future of the national economy and their personal financial positions.[9] According to the liquidity hypothesis, during periods of financial distress, an individual prefers to hold liquid assets, and will therefore decrease his demand for illiquid assets

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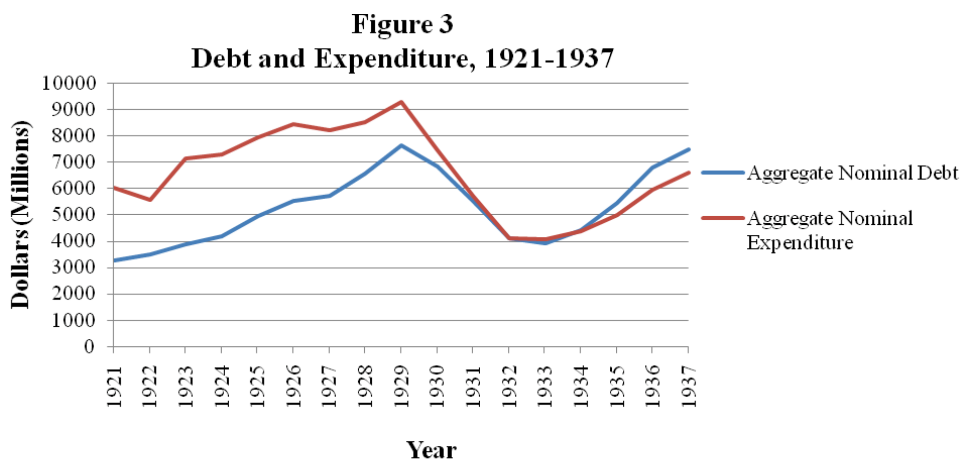
[8] See "Did Monetary Forces Cause the Great Depression" by Peter Temin (1976) and "Forecasting the Depression: Harvard versus Yale" by Kathryn M, Dominguez, Ray C. Fair, and Matthew D. Shapiro (1988).
[9] See "The Great Crash and the Onset of the Great Depression" by Christina D. Romer (1990).

such as durable goods. As individuals increase their indebtedness, their probability for financial distress is amplified.[10] Therefore, the large quantity of debt held by consumers increased the likelihood that they would experience financial troubles and thereby enhanced their uncertainty; consequently, they should have vastly decreased their expenditure on durable goods. Furthermore, households who were in the midst of making payments on installment contracts were aware of the high costs of default on these goods, and should have altered their consumption behavior to avoid missing an installment payment and having their goods repossessed. These forces influenced consumers to reduce their debt levels in order to decrease their chances of financial struggle and lower the quantity of durable goods they demanded in order to hold a greater percentage of cash or liquid assets (see Figure 3).



Sources: Aggregate nominal debt (Olney 1991, Table 4.1).
Aggregate nominal expenditure (Olney 1991, Table A.6)

The shift in attitudes that occurred during the 1920s, however, was also a substantial force that factored into households' consumption behavior. A federal investigation that took place during the Depression found that many Americans, instead of

[10] See Romer (1990, 602-603) and Frederic S. Mishkin, "The Household Balance Sheet and the Great Depression" (1978, 925-926).

compromising the lifestyles they led during the boom years, chose to alter their other expenditures instead. In 1930, households reduced their consumption of nondurable goods and services (Olney 1999, 329).[11] Americans had become accustomed to their more comfortable existences; what were once considered luxury goods had come to be viewed as necessary items, and households were reluctant to give them up. Additionally, many Americans had become conditioned to believe that their consumption behavior had fueled economic prosperity, and only apprehensively accepted the blame that was being placed on them.

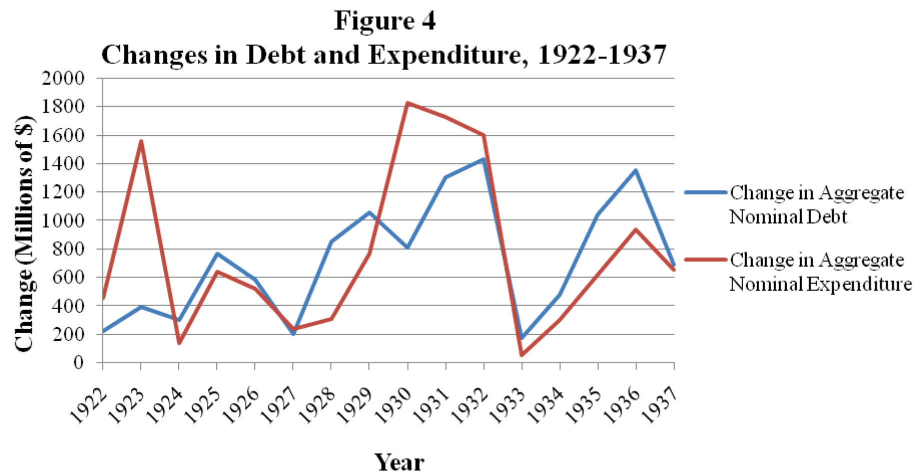


Figure 4
Changes in Debt and Expenditure, 1922-1937

Sources: Change in nominal aggregate debt derived from Olney (1991, Table 4.1).
Change in nominal aggregate expenditure derived from Olney (1991, Table A.6).

In order to accommodate those who believed debt was the cause of the Depression without having to radically compromise their lifestyles, consumers factored debt into their spending habits differently. Before the crash, consumers used credit or the installment plan in order to fund their acquisition of durable goods, despite the resulting increase in

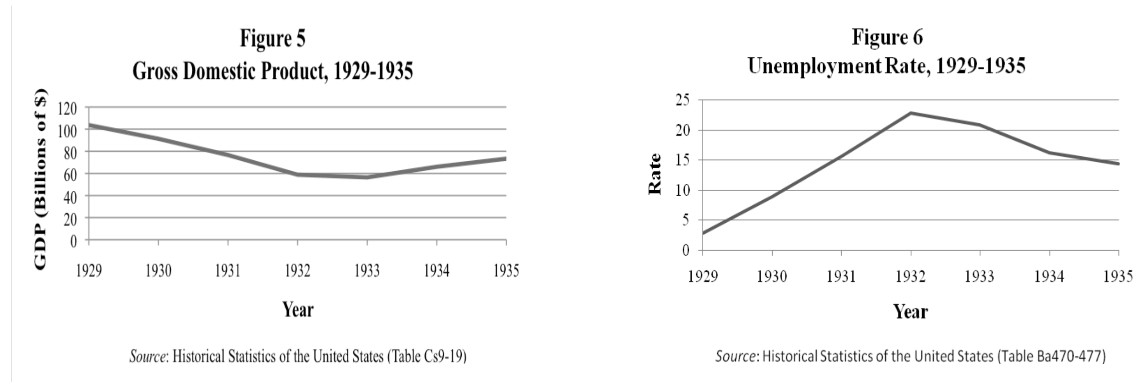
[11] Olney demonstrates how this reduction in consumption was partially due to the punitive costs of defaulting on installment contracts. Although the high cost of default was a substantial reason why households decreased their consumption, this reduction is also attributable to consumers' aversion to reverting back to their more modest lifestyles.

liabilities on their balance sheets. This pattern most likely occurred because households were using debt to finance their purchases. During the economic boom of the 1920s, a large percentage increase in a household's debt occurred simultaneous to a large percentage increase in their expenditure on durable goods. After the recession began, consumers regarded their high levels of indebtedness as a hindrance to their ability to spend, not as a facilitator of consumption, and factored debt into their spending differently; households reduced their debt in order to lessen their probability of financial trouble and decreased their expenditure on durable goods. Americans' desire for luxury durable goods and the lifestyles they provided, however, was not diminished. As a result, they attempted to prevent a drastic shift in their standards of living. Therefore, from 1929 to 1932, a large decrease in the nominal aggregate indebtedness occurred simultaneous to small decrease in nominal aggregate expenditure; a small decrease in the nominal aggregate debt was related to a large decrease in nominal aggregate expenditure (see Figure 4).

V. The Great Contraction and a Reversion Back to Pre-Depression Patterns

As the economy worsened precipitously throughout 1930, consumers began to accept that the prospects for their future income were bleak. From 1929 to 1933 the United States' Gross Domestic Product was almost halved and the unemployment rate increased from 3.2 percent to 24.9 percent (see Figures 5 and 6). Following the crash, Americans were willing to make concessions regarding their spending behavior in order to restore the economy, improve their financial positions, and attempt a life devoid of unneeded amenities. By the end of 1932, households had reduced their real outstanding

debt and real expenditure on durable goods by 32 and 31 percent respectively from their 1929 levels (see Figure 3). Furthermore, during the Depression, many households had reduced their net stock of durable goods, either by selling them, continuing to use ones that had significantly depreciated in quality, or refraining from purchasing new products. Although Americans strove to maintain the lifestyles they had created for themselves during the 1920s, most had to somewhat, if not substantially, lower their standard of living. Regardless of these changes in consumers' behavior, the state of the economy continued to deteriorate.



Respected economists had initially seemed convinced that consumers' excessive, debt-funded spending caused the Depression, and that a return to thrift and a liquidation of their debt would be the only means of restoring economic prosperity. By 1933, however, they began to provide alternative explanations for the Depression that were unrelated to household indebtedness; instead, the passivity of the Federal Reserve, the Smoot-Hawley Tariff, a decrease in business investment expenditure, and the abandonment of the Gold Standard were all cited as potential factors causing the Great Depression. Additionally, following the inauguration of Franklin D. Roosevelt as president in 1933, the strategies employed by the U.S. government to fix the economy were completely transformed. Among other policies, President Roosevelt drastically expanded government spending.

Instead of increasing taxes, under Roosevelt's leadership the government increased the national deficit dramatically. In 1934, the federal government's consumption and investment was 90 percent higher than in 1932 (Eggertson 1477). Although the national government's spending patterns may have had no direct affect on those of private households, they served as a model signifying that debt was not inherently bad for the economy. The behavior of the national government indicated that increased spending, even that which is financed by debt, might actually be a means of economic recovery.

As economic conditions continued to deteriorate, Americans began to realize that their substantial efforts to liquidate their debt and reduce their consumption of durable goods had not improved or even stabilized the economy. Additionally, economists' postliminary explanations for the Depression and the radical change in government behavior seemed to completely contradict how consumers had been previously instructed to act. Households had heeded the advice of individuals from both sides of the debate regarding durable goods and consumer debt, their behavior had been both condemned and commended, and by 1933 many Americans were puzzled and frustrated. Consumers no longer wanted to sacrifice their durable amenities and struggle to liquidate their debt if these actions could not restore the economy; they were apprehensive, however, to increase their spending and acquire more debt amid dire economic conditions that had no conclusive cause or cure. Thus, as a result of their confusion and aggravation, in 1933 consumers barely reduced either their expenditure on durable goods or their indebtedness (see Figure 3).

In 1934, the economy began to recover. GDP rose by $9.6 billion, to $66 billion, and the unemployment rate dropped 4.7 percentage points, to 16.2 percent (see Figures 3

and 4). To many Americans, this improvement in economic conditions, when coupled with the shifts in attitudes and behaviors during the previous year, was a final verification that their spending habits had not caused the Depression. Consumers had never wanted to sacrifice their lifestyles, but had done so in an effort to halt the economic decline and their financial struggles. As soon as the economy began to recover, households immediately resumed accumulating debt and purchasing durable goods. From 1934 to 1935, real consumer debt per household increased 27 percent and real expenditure per household increased 16.2 percent (see Table A.1). Households not only reverted back to their pre-Depression high rate of goods and debt accrual, but also the way in which their ability to change their level of indebtedness influenced their expenditure. From 1934 to 1937, a large increase in nominal consumer debt occurred simultaneous to a large increase in nominal consumer expenditure, a marked departure from the Depression-era trend (see Table 6). After the Contraction, Americans began obtaining debt and voraciously buying durable goods. The rate with which they increased their spending and indebtedness greatly exceeded even the high 1920s rates. During the 1920s, it took Americans seven years, from 1921 to 1928, to double their level of aggregate real debt. After the Contraction, it took consumers just four years to increase their debt by this large an amount. Similarly, during the four-year period from the end of 1923 to the end of 1927, consumers increased their real aggregate expenditure 20.7 percent. In contrast, in the four years following the Contraction, gross aggregate expenditure increased 50 percent.

The debate regarding the spending behavior of the middle class had once been vigorous and thought provoking, with many Americans either divided on the issue or torn between which side to accept. During the prosperity of the 1920s, households viewed a

large increase in their level of indebtedness as a means to greatly increase their ability to purchase durable goods, although they did so with uncertainty regarding the effects of this behavior. When the stock market crashed in 1929, households that had become blissfully acclimated to their improved lifestyles temporarily accepted their culpability, partially in acquiescence to those arguments and warnings that seemed, at the time, to have been correct. During this time period, consumers considered a large decrease in their indebtedness a reasonable capitulation to the apparently triumphant side of the debate, and only slightly reduced their expenditure on durable goods. The Great Depression, however, diminished the moral and economic arguments made by opponents of debt-funded consumer durable expenditure; when Americans were essentially forced to live simply and within their means, as these critics had advocated, they did not feel content or pious, and their financial situations did not improve. As soon as the economy began to show signs of recovery, consumers rapidly and enthusiastically replenished their stock of durable goods in an effort to return to their higher standards of living. This behavior illustrates the extent to which Americans had become accustomed to and dependent on their more affluent lifestyles, regardless of the fact that they had to increase their indebtedness to achieve them. Consumers rejected the notions that high household indebtedness had a negative affect on the business cycle, and that durable goods were luxury amenities only appropriate for the wealthy. Once again, households viewed a large increase in their outstanding debt as a change that would enable a significant increase in their spending, but this time they did so without guilt or apprehension.

VI. Data Description and Empirical Models

While it is quantitatively impossible to test the way that shifts and conflicts in attitudes factor into a household's spending decisions, it is useful to examine the relationship between a household's outstanding debt and its expenditure for durable goods in the context of these societal influences. I will investigate if there were breaks, or discrete changes, in the way households' levels of debt determined their expenditure for consumer durables from 1921 to 1937; specifically, I will examine if there were statistically significant breaks in the way a household's ability to change its indebtedness affected the degree to which it altered its expenditure. Although ideally, I believe that monthly or quarterly data would provide for a better analysis of these trends and breaks, the yearly data that is available serves to illustrate the general relationship. During the economic boom of the 1920s and the four years of economic growth following the Depression, households increased their levels of expenditure and debt; in my models, during these two periods, a large increase in a household's amount of debt should result in a large increase in the amount it spends on durable goods. During the Great Depression, amidst declining levels of expenditure and indebtedness, a large decrease in a household's amount of debt should lead to a small decrease in the amount it spends on durable goods. Therefore, I anticipate that there were two breaks in this period, in 1930 and in 1933, in the way in which households' ability to adjust their levels of indebtedness influenced the extent to which they modified their expenditures on consumer durable goods.

A. Description of the Variables

The dependent variable in four of the six models is real expenditure on consumer durable goods ($EXPEN_t$). The aggregate data for this variable, as well as that for all of the

dependent variables, is in millions of 1982 dollars. In two of the models, I replace this continuous variable with another continuous variable measuring the absolute value of the change in real expenditure from one year to the next (ΔEXPEN). The data for this variable is from Martha Olney's estimates, in *Buy Now, Pay Later*, Table A.7. The aggregate amount of this variable, in addition to the dependent variables representing disposable income, net wealth, lagged stock, and debt, have all been deflated by the number of households in each respective year. Accounting for the number of households in a given year serves to provide a more accurate picture of the relationship between the dependent variable and the independent variables; if, for example, the number of households increased from one year to the next, but aggregate debt remained the same, the burden of debt on each household would have decreased, thereby influencing household expenditure on durable goods differently than if the change in the number of households had not factored into the model. This transformation of the variables is consistent with other models of household spending behavior.

One determinant of households' expenditure on durable goods is the relative price of the good ($PRICE_t$). The price consumers pay for a product is not directly relevant to the way they determine their expenditure on durable goods. A household regards a durable good as an asset in its portfolio; the household does not desire a durable good for its inherent value, but rather for the services it provides. Thus, in the models, I include a continuous variable that measures the relative price of durable goods' services.[12] In Table 2.5, Olney provides data for the relative price of durable goods from 1920 to 1929, as well

[12] Because the price coefficient is not a focus of this paper, I assume that a good's relative price equals the discounted flow of the good's user rental cost. This is commonly done in models that determine demand for consumer durables. Additionally, Olney determines that relative price of a durable good is an adequate proxy for the price of its services during this period (1991, 71).

as an explanation of her methods for deriving these values. By replicating her processes, I was able to estimate data for the relative price variable from 1930 to 1937. I anticipate that as the relative price of durable goods increases, household's expenditure for these goods will decrease.

Disposable income ($INCOME_t$) and net wealth ($WEALTH_t$) also factor into households' expenditure for consumer durables and are included as continuous independent variables. As households' real disposable income increases, I predict that they will be able to designate a greater amount of this money towards the purchase of durable goods, and their expenditure on these goods will increase. An increase in households' real net wealth can either increase or decrease their expenditure on durable goods. An increase may augment households' desired level of consumption, and therefore cause them to increase their expenditure on consumer durables; however, because households regard a durable good as an asset, an increase in net wealth, which decreases rates of saving, may decrease households' expenditure on consumer durables. The coefficient on net wealth will therefore reflect whether households desired durable goods for their consumption- or asset-value. The data for both of these variables is taken from Olney, Table C.1.

Because households' expenditure on durable goods may be influenced by the stock of goods they already own, I include a variable measuring the real value of households' lagged net stock of durable goods ($STOCKt_{-1}$).[13] The value of households' net stock of durables, as opposed to the value of their gross stock, takes into account the goods'

[13] Because the lagged stock coefficient is not a focus of this paper, including this variable allows for either the habit-formation or gradual stock-adjustment models of demand to apply. An analysis of this coefficient would provide insight into which model better applies to this time period.

depreciation. Therefore, the inclusion of this variable results in more accurate estimates by taking into account the quality of the goods a household owns when it determines its expenditure on durable goods. The data for net stock was taken from Olney, Table A.13. I predict that as the real value of households' net stock increases, their expenditure on durable goods will decrease.

In order to examine the influence of debt on households' expenditure for durable goods, in each model I include a continuous variable measuring either households' real outstanding consumer debt ($DEBT_t$), lagged real outstanding consumer debt ($DEBT_{t-1}$), or change in real outstanding debt from the previous year ($\Delta DEBT$). From 1921 to 1929, and from 1933 to 1937, real outstanding debt per household increased every year. From 1929 to 1933, real outstanding debt per household decreased every year. Thus, for the variable measuring the change in households' indebtedness, I use data that measures the absolute value of the respective change. These patterns are also consistent with real expenditure per household, and my reasoning for measuring the absolute value of the change in households' expenditure is the same. In each of my models, I can accurately assume whether debt and expenditure were increasing or decreasing before and after the designated break year; by using the absolute values of the changes in debt, I am able to ignore whether these changes were positive or negative, thereby providing a more accurate explanation for how the degree of change in household indebtedness influenced expenditure on durable goods. The data for these variables is taken or derived from Olney, Table 4.1. I anticipate that an increase in households' outstanding consumer debt or lagged outstanding consumer debt will result in an increase in household's durable goods expenditure. I predict that during the periods prior to and following the Depression, an

increase in the change of households' debt will lead to an increase in the change of their expenditure, but during the Great Depression, I anticipate that an increase in the change of households' debt will result in a decrease in the change of their expenditure.

In order to test for a break in the relationship between household indebtedness and expenditure on durable goods, I generate an interaction variable ($BREAK_t$). This variable links the continuous debt variable used in the respective regression with a dummy variable representing when I anticipate the break occurred, either in 1930 or 1933. The coefficient on this interaction variable will determine how the influence of the debt variable changed after the designated year. For example, in one model I examine the relationship between the change in outstanding consumer debt and the change in consumer durable expenditure, with a break anticipated in 1930. Assuming that it is statistically significant, if the coefficient on the interaction variable in this model, $BREAK_{1930,}$ is negative, this will indicate that from 1921 to 1929 the degree to which households altered their expenditure from the previous year in response to the amount that they were able to change their outstanding consumer debt was higher than from 1930 to 1933; the size of the coefficient will explain the extent to which this influence changed following the break year. I predict that the coefficients on the interaction variables measuring outstanding consumer debt or lagged outstanding consumer debt with breaks in either 1930 or 1933 will be positive. I anticipate that the coefficient on the interaction variable measuring the change in outstanding consumer debt with a break in 1930 will be negative, while the coefficient on the interaction variable measuring the change in outstanding consumer debt with a break in 1933 will be positive.

B. The Models

I use six nonlinear models based on a linear model developed by Martha L. Olney.[14] The purpose of these modified models is to evaluate whether there were statistically significant breaks in the way outstanding consumer debt determined households' expenditure for consumer durables in 1930 and 1933, and the changes that resulted in the influence of the debt variable on expenditure as a result of these breaks. Two of these models test for breaks in the way households' real outstanding consumer debt influenced their real expenditure on durable goods. In these models, the unit of measurement is hundreds of 1982 dollars. An example of this equation, the model that tests for a break in 1930, is:

$$EXPEN = \beta_0 + \beta_1 PRICE_t + \beta_2 INCOME_t + \beta_3 WEALTH_t + \beta_4 STOCK_{t-1} + \beta_5 DEBT_t + \beta_6 DUM1930 + \beta_7 BREAK_{1930} + e_t$$

Two of these models test for breaks in the way households' lagged real outstanding consumer debt influenced their real expenditure on durable goods. In these models, the unit of measurement is hundreds of 1982 dollars. An example of this equation, the model that tests for a break in 1933, is:

$$EXPEN = \beta_0 + \beta_1 PRICE_t + \beta_2 INCOME_t + \beta_3 WEALTH_t + \beta_4 STOCK_{t-1} + \beta_5 DEBT_{t-1} + \beta_6 DUM1933 + \beta_7 BREAK_{1933} + e_t$$

Two of these models test for breaks in the way that the amount that households' changed their real outstanding consumer debt from the previous period influenced the degree with which they changed their real expenditure on durable goods. Both of these models are log-log equations, and thus measure how a 1 percent change in the independent variable

[14] See Olney (1991) pp. 62-76 and 290-296 for a complete description of her original model.

results in a percentage change in the dependent variable. An example of this equation, the model that tests for a break in 1930, is:

$$\ln(\Delta EXPEN) = \beta_0 + \beta_1 PRICE_t + \beta_2 INCOME_t + \beta_3 WEALTH_t + \beta_4 STOCK_{t-1} + \beta_5 \ln(\Delta DEBT_t) + \beta_6 DUM1930 + \beta_7 BREAK_{1930} + e_t$$

Each regression produced a low Durbin-Watson statistic, which is common with time-series data. In order to correct for this serial correlation of the error terms, a Cochrane-Orcutt procedure is used.[15] To determine if breaks occurred in 1930 and 1933, I employ a Chow Test. The Chow Test produces F-statistics that test the hypothesis that the coefficient on the debt variable, the coefficient on the dummy variable, and the coefficient on the interaction term are all equal to eachother and equal to zero, or in each model if $\beta_5 = \beta_6 = \beta_7 = 0$, against the hypothesis that at least one of the coefficients is statistically different from zero. If the F-statistic produced by the Chow Test is statistically significant, we can reject the null hypothesis that no break occurred at the specified date and conclude that there was a break in the data.

VII. Empirical Results

As illustrated in Table 2, there were statistically significant breaks in the way households factored the degree to which they were able to change their indebtedness into the amount that they changed their expenditure on durable goods both in 1930 and in 1933. There were not, however, statistically significant breaks in the way households factored their outstanding debt or lagged outstanding debt into their expenditure on durable goods in either of these years.

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[15] I assume the error terms exhibit a one-period autoregressive pattern, $e_t = (RHO)e_{t-1} + v_t$

Although there were not breaks in relationship between households' levels of indebtedness and their levels of expenditure, their debt was a statistically significant determinant of their expenditure during the entire 17-year period. From 1921 to 1929, a $100 increase in a household's real indebtedness resulted in a $117 increase in its real expenditure. During the same period, a $100 increase in a household's lagged real indebtedness caused a $153 increase in its real expenditure (columns 1 and 2). During the Depression, a $100 decrease in a household's real indebtedness resulted in an $87 dollar increase in its real expenditure, and a $100 decrease in its lagged real indebtedness caused a $95 decrease in its real expenditure (columns 4 and 5). From 1934 to 1937, the difference from the Depression years in a $100 increase in either a household's real outstanding debt or real outstanding lagged consumer debt on its real expenditure was not statistically significantly different from zero.

Table 2
Analysis of Consumer Durable Expenditure, 1921 – 1939

Dependent Variable	Consumer $Debt_t$ with Break in 1930 (1)	Consumer $Debt_{t-1}$ with Break in 1930 (2)	ΔConsumer Debt with Break in 1930 (3)	Consumer $Debt_t$ with Break in 1933 (4)	Consumer $Debt_{t-1}$ with Break in 1933 (5)	ΔConsumer Debt with Break in 1933 (6)
Constant	254.02***	332.36***	.234***	297.41***	927.97**	.185**
Relative Price	-8.95*	-14.22**	-.082**	-3.16	-12.10*	-.071*
Disposable Income	0.763**	.17**	.093**	.28**	.098***	.004*
Net Wealth	0.005	.015	.0004	.012	.019	.0006
Lagged Stock	-.09	-.18*	-.009	-.59	.198*	-.002*
Consumer Debt	1.17*			2.07*		
Lagged Consumer Debt		1.53**			2.45**	
ΔConsumer Debt			.091*			-.025***
DUM1930	-622.58	-788.95*	-.039***			
DUM1933				1035.55*	511.29	.124**
DUM1930*Consumer Debt	.44					
DUM1930*Lagged Consumer Debt		.76				
DUM1930*ΔConsumer Debt			-.102**			
DUM1933*Consumer Debt				.91		
DUM1933*Lagged Consumer Debt					1.02	
DUM1933*ΔConsumer Debt						.194**
Adjusted R^2	0.70	0.70	0.70	0.80	0.74	0.73
Durbin-Watson	2.12	2.38	2.37	2.42	2.68	2.45
F-Statistic	1.52	.93	6.93***	.96	.79	6.88***

*Statistically Significant at the 90 percent level of confidence.
**Statistically Significant at the 95 percent level of confidence.
***Statistically Significant at the 99 percent level of confidence.

As seen in Table 2, there were statistically significant breaks in the way a household's degree of change in real outstanding consumer debt from one year to the next determined its change in its level of real expenditure in both 1930 and 1933. From 1921 to 1929, a 1 percent increase in the amount a household increased its indebtedness from one year to the next would lead to a 9.1 percent increase in the amount it increased its expenditure on durable goods (column 3). For example, if from 1925 to 1927 a household increased its indebtedness, a 1 percent increase in the amount that it increased its debt level from the 1925-1926 period to the 1926-1927 period would lead to a 9.1 percent

increase in that amount that it changed its expenditure from the 1925-1926 period to the 1926-1927 period.

According to the model that tested for a break in 1930, from 1930 to 1932, a 1 percent increase in the amount a household decreased its indebtedness from one year to the next resulted in a 2.1 percent decrease in the reduction of its expenditure on durable goods in the same period. The coefficient on the interaction variable in column three represents the difference of a 1 percent increase in the change in a household's debt prior to 1930 from a 1 percent increase in the change in a household's debt from 1930 to 1932. Therefore, the value of -2.1 percent was calculated by adding .091 to -.112, and multiplying the result, -.021, by 100 percent. According to the model that tested for a break in 1933, from 1930 to 1933, a 1 percent increase in the amount a household decreased its indebtedness resulted in a 2.5 percent decrease in the degree to which it reduced its expenditure on durable goods (column 6). Although these values, -2.1 percent and -2.5 percent, are very similar and both statistically significant, the coefficient on the debt variable estimated by the regression in column 6 is slightly more significant than the coefficient on the interaction variable in column 3, so I accept -2.5 percent as a better indicator of the affect that the degree of a household's change in its indebtedness has on the amount it changes its expenditure on durable goods. This change in the influence of debt, from 9.1 percent to -2.5 percent, is statistically significant at the 99 percent level.

From 1933 to 1937, a 1 percent increase in the amount a household increased its indebtedness resulted in a 13.4 percent increase in the change in its expenditure on durable goods. This break in the trend from the Depression-era influence of a change in indebtedness on a change in expenditure is statistically significant at the 99 percent level.

VIII. Implications

The robust debate regarding durable goods and consumer credit that occurred during the 1920s and early 1930s affected the way in which households regarded their lifestyles and factored their indebtedness into their consumption habits. Households drastically altered their spending behavior during the 1920s, largely with the support of many economists and other public figures. After the stock market crash, Americans were rebuked for the same expenditure patterns that had, less than a year earlier, been praised. This radical shift in attitudes was concurrent to the statistical break in how households factored debt into the way they determined their consumption. By 1934, there had been another sweeping revision in the belief in a causal relationship between indebtedness and the business cycle, contemporaneous with another break in the way consumers determined their expenditure

During the 1920s and 1930s, attitudes regarding consumer durable goods and household debt played a significant role in they way that Americans determined their spending patterns. Although it is not possible to statistically determine the extent to which these attitudes, and more importantly their shifts, affected consumers' expenditure, it is still valuable to explain the historical context in which these drastic economic changes occurred. My findings do not conflict with other arguments concerning the consumer durable revolution or the Great Depression. Rather, by shedding light on the parallels between widespread opinions and consumer behavior, I believe that the validity of empirical analysis is enhanced. Although consumers often exhibit predicted behaviors,

they do not live in a vacuum; as I hope to illustrate in this study, their behavior is often significantly influenced by their experiences and surroundings.

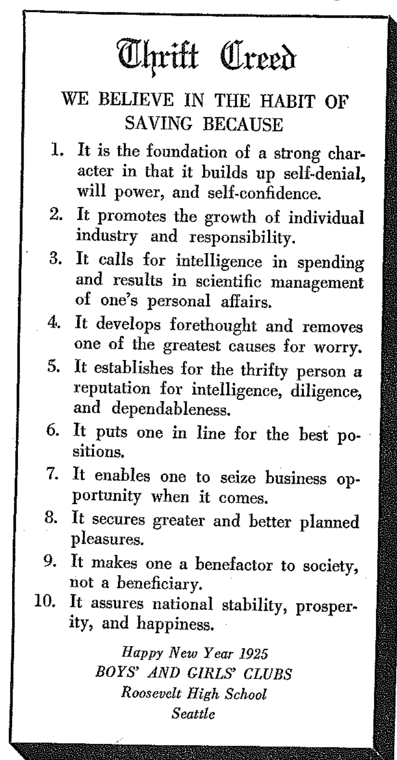
IX. Appendix

Table A.1
Changes in Debt and Changes Expenditure in Three Periods

Year	Percent Change in Real Debt Per Household	Percent Change in Real Expenditure Per Household
Pre-Depression Years		
1923	9.30%	1.03%
1924	9.37	5.95
1925	12.29	7.40
Depression Years		
1930	-9.24	-13.31
1931	-9.16	-19.32
1932	-17.83	-1.99
Post-Depression Years		
1934	7.43	12.56
1935	27.06	16.72
1936	22.50	4.85

Source: Percent change in real debt per household derived from Olney (1991, Table 4.1). Percent change in real expenditure derived from Olney (1991, Table A.7).

Figure A.1
The Thrift Creed of Roosevelt High School, 1925



Thrift Creed

WE BELIEVE IN THE HABIT OF SAVING BECAUSE

1. It is the foundation of a strong character in that it builds up self-denial, will power, and self-confidence.
2. It promotes the growth of individual industry and responsibility.
3. It calls for intelligence in spending and results in scientific management of one's personal affairs.
4. It develops forethought and removes one of the greatest causes for worry.
5. It establishes for the thrifty person a reputation for intelligence, diligence, and dependableness.
6. It puts one in line for the best positions.
7. It enables one to seize business opportunity when it comes.
8. It secures greater and better planned pleasures.
9. It makes one a benefactor to society, not a beneficiary.
10. It assures national stability, prosperity, and happiness.

Happy New Year 1925
BOYS' AND GIRLS' CLUBS
Roosevelt High School
Seattle

Source: Carobel Murphey, "Thrift Through Education" (1929)

Bibliography

Atwood, Albert W. "Requisites of a Good Investment." Annals of the American Academy of Political and Social Science The New American Thrift 87 (1920): 151-54.

"Babson Predicts a Business Slump." The New York Times 12 Sept. 1926: E11.

Boyle, James E. "Why Consumers Don't Consumer." Nation's Business June 1928: 42.

Brown, Mary W. New York: The Macmillan Company, 1899.

Buehler, E. C., ed. Debate Handbook: Instalment Buying of Personal Property. University of Kansas P, 1929.

Carver, T. N. "The Relation of Thrift to Nation Building." Annals of the American Academy of Political and Social Science The New American Thrift 87 (1920): 4-8.

Clements, Kendrick A. Hoover, Conservation, and Consumerism: Engineering the Good Life. Lawrence: University P of Kansas, 2000.

Couzens, James. "Installment Buying and Its Effects." The North American Review CCXXIV (1927): 78-83.

Danielian, N. R. "They Theory of Consumers' Credit." The American Economic Review (1929): 393-411.

"Depression is Laid to American Luxury." The New York Times 15 Oct. 1930: 10.

Dowrie, George W. "Thrift and Business." Annals of the American Academy of Political and Social Science The New American Thrift 87 (1920): 52-56.

Eggertson, Gauti B. "Great Expectations and the End of the Depression." American Economic Review 98 (2008): 1476-516.

Foster, William T. "The Basic Meaning of the Growth of Installment Selling." Proceedings of the Academy of Political Science in the City of New York 12 (1927).

Friday, David. "Wealth, Income and Savings." Annals of the American Academy of Political and Social Science The New American Thrift 87 (1920): 32-43.

Friedman, Milton, and Anna J. Schwartz. A Monetary History of the United States, 1867-1960. Princeton: Princeton UP, 1963.

“Gross Domestic Product: 1790-2002.” Table Ca9-19. Historical Statistics of the United States. <http://hsus.cambridge.org>.

Hendricks, Gary. Consumer Durables and Installment Debt: a study of American households. Ann Arbor: Survey Research Center, University of Michigan, 1973.

Hoover, Herbert. "Memorandum on the Economic Situation." Annals of the American Academy of Political and Social Science The New American Thrift 87 (1920): 106-11.

Horowitz, Daniel. The Morality of Spending: Attitudes toward the Consumer Society in America, 1875-1940. Baltimore: The Johns Hopkins UP, 1985.

Humphrey, Thomas M. "Monetary Policy and Indicators for the Federal Reserve in the 1920s." Federal Reserve Bank of Richmond Working Paper No.00-7 (2000).

Johnson, Alvin. "The Promotion of Thrift in America." Annals of the American Academy of Political and Social Science The New American Thrift 87 (1920): 233-38.

Kubik, Paul J. "Federal Reserve Policy during the Great Depression: The Impact of Interwar Attitudes regarding Consumption and Consumer Credit." Journal of Economic Issues 30 (1996): 829-42.

"Labor Force, employment, and unemployment: 1890-1990." Table Ba740-477. Historical Statistics of the United States. <http://hsus.cambridge.org>.

Matt, Susan J. Keeping Up with the Joneses: Envy in American Consumer Society, 1890-1930. Philadelphia: University of Pennsylvania P, 2003.

McVey, Frank L. "The Nation's Call for Thrift." Annals of the American Academy of Political and Social Science The New American Thrift 87 (1920): 27-31.

Miller, A. C. "Thrift and the Financial Situation." Annals of the American Academy of Political and Social Science The New American Thrift 87 (1920): 57-64.

Mishkin, Frederic S. "Illiquidity, Consumer Durable Expenditure, and Monetary Policy." The American Economic Review 66 (1976): 642-54.

Mishkin, Frederic S. "The Household Balance Sheet and the Great Depression." The Journal of Economic History 38 (1978): 918-37.

Murphey, Carobel. Thrift Through Education. New York: A. S. Barnes and Company, 1929.

Olney, Martha L. "Avoiding Default: The Role of Credit in the Consumption Collapse of 1930." The Quarterly Journal of Economics 114 (1999): 319-35.

Olney, Martha L. Buy Now, Pay Later: Advertising, Credit, and Consumer Durables in the 1920s. Chapel Hill: The University of North Carolina P, 1991.

Phelps, Clyde W. "The Role of the Sales Finance Companies in the American Economy." Commercial Credit Company Baltimore 1952.

Price, Theo H. "Speculation and the Small Investor." Annals of the American Academy of Political and Social Science The New American Thrift 87 (1920): 155-57.

Pritchard, Myron T., and Grace A. Turkington. Stories of Thrift for Young Americans. New York: Charles Scribner's Sons, 1915.

Romer, Christina D. "The Great Crash and the Onset of the Great Depression." The Quarterly Journal of Economics 105 (1990): 597-624.

Seligman, E.R.A. The Economics of Instalment Selling. New York: Harper & Brothers, 1927.

Shipside, Steve. Benjamin Franklin's the "Way to Wealth": A 52 Brilliant Ideas Interpretation. Infinite Ideas Limited, 2008.

Sloan, Alfred P. "I Believe in Time Payments - Why." Nation's Business Apr. 1926: 18-19.

The Federal Reserve Act, § 12A(c) (1913).

Veblen, Thorstein. The Theory of the Leisure Class. New York: Macmillan, 1899.