

Structural Causes of the Great Depression

Siwei Jian

SID: 17328694

Economics Department

University of California, Berkeley

Mentor: J. Bradford DeLong

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Abstract

A lot of scholarly papers, reviews and journal articles about the causes of the Great Depression have been done in the economic community. Some of them are convincing with their use of complicated econometrics models; some of them offer very interesting perspectives with challenging theories that are armed with new econometrics models and parameters. While all these papers, reviews and articles are excellent readings that offer supplicated and thorough insights on what might have caused the darkest moment in United States' history, few of them are easy to follow without sufficient econometrics background. Therefore, this thesis provides an in-depth look at the possible causes of the Great Depression in a straightforward way that is more suitable to readers who may not be as economically or mathematically minded but who are interested in this topic. My approach is to rely on historical data patterns to examine some of the prominent arguments, viewpoints and theories about the Great Depression.

In this thesis, I re-examine and answer the following questions: What happened during the 1920s that led to the Great Depression? Was the unique economic structure to be blamed for the Great Depression? Will it happen again?

Over the decades, more than 400 articles regarding the Great Depression are listed on EconLit, the CD-ROM index compiled by the Journal of Economics Literature. These articles offer perspectives of different hypotheses in detail. For example, the Monetary Hypothesis by Friedman and Schwartz (1963) analyzed Federal Reserve's policy failure in the middle of money supply and financial system meltdown made the depression as bad as it was; the Nonmonetary/Financial Hypothesis of Bernanke (1983) and Fisher (1933) presented alternative interpretation in how financial crises may have affected

output. The theory suggests that troubles in financial markets rather than shocks to money supply explains the Great Depression; the Gold Standard Hypothesis which Eichengreen (1992) proposed that had the international community shown credible commitment and cooperation in gold standard's implementation and management during the interwar period, the world's economy may have looked very different in the twentieth century. However, to examine them in detail is not the intent of this thesis. My goal is to answer how our economy slid into the Great Depression in the 1920s—one of the most outstanding economics growth periods in America's history—from the following three economic factors: wealth distribution, stock market, and indebtedness. During the process, I draw on some of the prominent and popular arguments, and examine the validities of these arguments using historical data. These three factors are my focus because they continue to create many social and economic problems that our society faces today.

Subsequently, I employ Arthur Burns' economic stability framework, which he presented on The American Economics Review to study how the unique economic structure of the Great Depression period contributed to the onset of the Great Depression. This section draws on historical data to compare the Great Depression to the periods surrounding it.

In the end, by integrating the findings and conclusions made from my examination processes and my study of Federal Reserve monetary policies, I infer that the Great Depression is not likely to happen again.

Introduction

The Great Depression is by far one of the largest, longest, and most influential economic disasters that happened in history. Its effect was so enormous that it virtually reached the entire industrialized world. In the United States, the Great Depression consisted of two recessions. The first recession was from 1929 to 1933. Then, the adjustment of the reserve-deposit ratio had pushed the rebounding economy back into recession around 1937¹. During the period of the Great Depression, unemployment rates stayed staggeringly high and reached 24 percent at its peak. At the same time, GDP fell dramatically as a consequence of a sizeable fall in consumption, which was, in turn, a result of mass unemployment. The economy was on the brink of collapse: businesses either closed down or verged on bankruptcy; millions of people were out of jobs; families were forced to live on the street, etc. It was one of the darkest moments in United States history.

Over the past 76 years, understanding the Great Depression is the Holy Grail of macroeconomics. Many scholars have spent their lifetime exploring, debating and discovering the Great Depression. Our current Federal Reserve's Chariman, Ben S. Bernanke, is one of them. In this thesis, my goal is to examine the Great Depression through three economic structural factors: Wealth distribution, capital market and indebtedness. Through my examination, I hope to provide insights into the following questions: What happened to the economy that transformed prosperity into depression? What was so unique about the 1930s economic structures that allowed the Great Depression to happen? Will the great depression happen again? The process will draw on

¹ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 468.

historical data to verify points of view made by prominent economists, such as Thomas E. Hall, J. David Ferguson, Martha L. Olney, Christina D. Romer, and others.

Chapter 1

They Should Have Known Better

There were numerous signs, such as a slide in construction in the mid 1920s and an extremely speculative stock market, that hinted at troubles in the economy although it appeared to be in top form. In this chapter, I examine how wealth distribution, capital market, and indebtedness in the 1920s set the stage for the Great Depression. These three economic structures have been widely discussed and debated in the economics community and are considered to be the main forces that drove the normal business cyclic recession into a prolonged depression.

Section 1: Wealth Distribution

What happened to wealth distribution in the roaring twenties? During the twenties, economy grew substantially. GDP grew an average 5.9 percent, despite the two mild recessions that occurred during 1923-24 and 1926-27, when GDP dropped an average of 4 percent.² The Twenties was a time associated with rapid urbanization, increasing wealth and improved living standard. After World War I, with hopes of a “return to normalcy”, taxes were cut, wartime control was over, and people were optimistic about the future. Urbanization continued at an unprecedented rate as people

² Thomas E. Hall and J. David Ferguson, An International Disaster of Perverse Economic Policies, 1998, the University of Michigan Press, 17-19.

swarmed into cities to take jobs. “Lured by the availability of jobs, excitement of city life, and advances in transportation, nearly 15 million people were added to the number of American urbanites between 1920 and 1930.”³ Hall and Ferguson’s book also shows that city residence rose 25 percent, telephone service increased 54 percent, and food production increased 50 percent.⁴ The data indicate an unheard of magnitude of urbanization during the 1920s.

At the same time, a new American middle-class lifestyle had emerged with reliance on consumer durables. The Twenties was the first time American middle-class could afford electrical appliances, automobiles and houses. “. . . the number of automobiles registered went from 9 million in 1920 to 23 million in 1929, Kilowatt-hours of electricity generated more than doubled . . .”⁵ What a major improvement in living standards!

Gross and Net National Product, by Major Type of Product, in 1929 Prices: 1917 to 1931

(in billions of dollars, 5 year periods are annual averages)

Period	Flow of goods to consumers				
	Total	Commodities			Services
		Perishable	Semidurable	Durable	
1927--1931	76.0	26.6	9.77	8.18	31.5
1922--1926	66.4	24.1	8.40	7.55	26.3
1917--1921	52.4	20.0	6.44	4.85	21.1
1912--1916	46.6	18.5	6.72	4.33	17.0
1907--1911	40.9	16.5	5.79	3.74	14.9
1902--1906	34.3	14.1	5.02	3.27	11.8

The reproduction of the Gross and Net National Product Table presented by the “Statistical History of the United States” further supports the claim of a prosperous

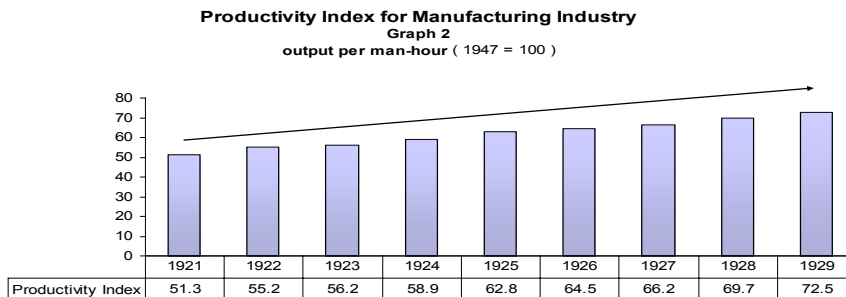
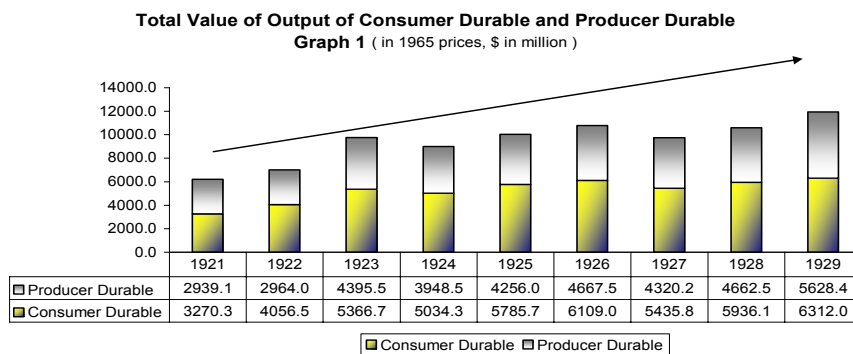
³ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 431

⁴ Thomas E. Hall and J. David Ferguson, An International Disaster of Perverse Economic Policies, 1998, the University of Michigan Press, 18

⁵ Thomas E. Hall and J. David Ferguson, An International Disaster of Perverse Economic Policies, 1998, the University of Michigan Press, 18.

1920s, especially in the growth in the consumer durables. From 1917 to 1931, there was a 45 percent increase in total spending on goods and services, which was a 10 percent increase in spending over the previous 14-year period. From 1927 to 1931, spending in consumer durables drastically increased 69 percent.

These astonishing numbers not only have served as living standard indicators, but also stimulate the supply side economy on consumer durables. Referring to the supply and demand model, when there is great aggregate demand, aggregate supply will be large as well. As a result, manufacturing industries grew tremendously; productivity more than doubled with use of mass production. The growth of manufacturing industries' output and productivity are best illustrated in the following graphs.⁶



Evidently, throughout the 1920s, the total increase was 92 percent and 93 percent in the output of Producer Durable and Consumer Durable, respectively. As far as growth

⁶ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc., 420—421 and 601

in productivity, the manufacturing industry became 41 percent more productive in less than a decade.

Thanks to economies of scale and increased productivity, prices of durable goods fell and further shifted the market’s output demand curve as well as factoring the market’s demand curves outward. Then, investment in manufacturing industries went up to meet the greater demand. The 1920s was believed to be, as Walton and Rockoff wrote, “...a new era of continuous growth and prosperity that would eventually eliminate poverty.”⁷

Nevertheless, at the time of such prosperity, wealth inequality quietly crept to a historical high in the 1920s. Those who were at the top of the income ladder became disproportionately richer than those who were at the bottom of the income bracket. To demonstrate, I compare the wealth distribution during period of 1921-1929 to the period of 1939-1947.⁸ These two periods were both times of impressive growth, which shaped United States economic history. They were both periods in which the economies were spurred by wars.

Percent Shares of Total Income Received by Top 1 percent and 5 percent of the total population from

Year	Shares of total income Disposable Income	
	Top 1%	Top 5 %
	1929	18.92
1928	19.12	34.06
1927	17.22	31.92
1926	16.26	30.78
1925	16.54	31.09
1924	14.28	28.78
1923	13.08	27.05
1922	14.39	29.04
1921	14.20	29.32

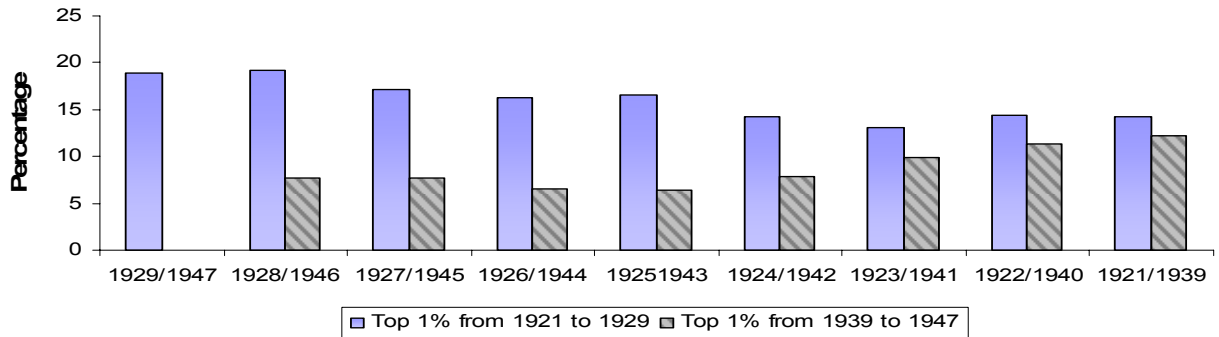
Percent Shares of Total Income Received by Top 1 percent and 5 percent of the total population from

Year	Shares of total income Disposable Income	
	Top 1%	Top 5 %
	1947	n/a
1946	7.71	17.66
1945	7.72	16.65
1944	6.61	15.75
1943	6.44	16.66
1942	7.81	19.03
1941	9.89	22.98
1940	11.39	25.44
1939	12.14	26.81

⁷ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 430

⁸ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc., 139 and 167

Percentage of Total Income Received by Top 1% of the Total Population



The comparison of income inequalities in these two periods illustrates the severity of 1920s income inequality, and thereby wealth inequality. Although the 1939-1947 period presented a 64 percent increase in GNP per capita (1929 prices), while the twenties presented a 30 percent increase in GNP per capita (1929 prices),⁹ the problem of wealth inequality in 1920s was much more severe than in the 1939-1947 period. This pattern supports Walton and Rockoff's point of view, which suggests a large income inequality in 1920s. In their research, disposable income received by the top 1 percent rose from 11.8 percent to 18.9 percent from 1920-1929.¹⁰ Over the same period, the top 1 percent of income recipients accounted for 80 percent of savings.¹¹ Clearly, the 1920s has one of the most severe gaps in wealth distribution.

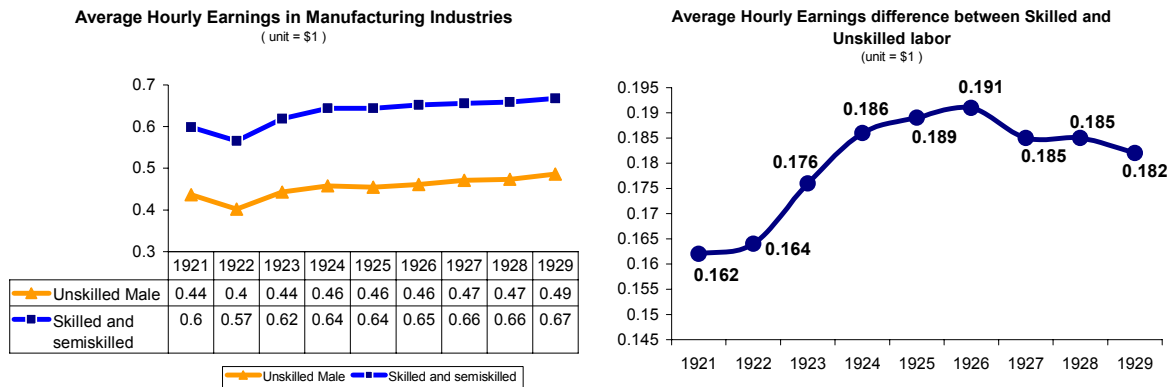
How did this income inequality happen?

⁹ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 139

¹⁰ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 431

¹¹ Thomas E. Hall and J. David Ferguson, An International Disaster of Perverse Economic Policies, 1998, the University of Michigan Press, 21

Jeffery Williamson and Peter Lindert present in their work the reason was the unbalanced technological progress¹². The technological innovations had replaced labor with machines in manufacturing industries. Thus, demand for unskilled workers had shifted inward while demand for skilled workers expanded significantly outward. This trend created a wage inequality between skilled and unskilled workers. Statistical evidence from the “Statistical History of the United States” sustains Williamson and Lindert’s position.



Based on the above data, the hourly earnings of skilled and semi-skilled workers were \$0.18 more than that of unskilled workers on average, which was a 35 percent premium.

Year	Manufacturing Output per man-hour (1947=100)
1921	51.3
1922	56.2
1923	55.2
1924	58.9
1925	62.8
1926	64.5
1927	66.2
1928	69.7
1929	72.5
Total Percentage increase: 41%	

V.S.

Year	Average hourly earnings (\$1)
1921	0.515
1922	0.478
1923	0.522
1924	0.547
1925	0.547
1926	0.548
1927	0.550
1928	0.562
1929	0.566
Total Percentage increase: 9%	

¹² Thomas E. Hall and J. David Ferguson, An International Disaster of Perverse Economic Policies, 1998, the University of Michigan Press, 21

Referring to the above tables, the pattern also suggests that wages grew more slowly than the growth of output per worker.¹³ This pattern infers that businesses took advantage of the technological progress of higher productivity. Businesses increased wages by only a fraction of the increase in their profit. Therefore, the rich were getting richer by claiming a majority of the profit from technological innovation while the working class people were getting only a mere fraction of this increase. This stance was also pointed out by Potter Jim.¹⁴

In short, sharp wealth inequality occurred in the 1920s, because technological progress further increased wage differences between skilled and unskilled workers. In addition, greedy businessmen ate up most of the profit resulting from technological advancements.

As for the link between income inequality and the Great Depression, underconsumptionists claim that the rich were not spending the money fast enough to maintain a high level of aggregate demand.¹⁵ Underconsumptionists contended that the worsened income distribution harmed the propensity to consume, thus aggregate demand wasn't what it could have been if income distribution had been unchanged.

To examine the underconsumptionists' viewpoint, I search for evidence to prove the rich were not spending money fast enough to maintain a high level of aggregate demand by looking at the total percentage increase in consumer spending from 1921-1929 in two categories: necessity goods and luxury goods. The necessity goods category

¹³ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 92, 601

¹⁴ Thomas E. Hall and J. David Ferguson, An International Disaster of Perverse Economic Policies, 1998, the University of Michigan Press, 21

¹⁵ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 442

includes spending on food and non-alcoholic beverages, alcoholic beverages, clothing and related products, personal care and furniture. The luxury goods category consists of household equipment and operation,¹⁶ medical care, insurance, transportation,¹⁷ recreation, and education. The luxury good spending is an indicator of how much the rich were spending. On the other hand, the necessity good spending is rich and poor alike. Therefore, by comparing the consumer spending in these two groups, I can deduce whether or not the rich were spending fast enough. Below is my reproduction of a personal consumption expenditure table based on historical data.

Personal Consumption Expenditure, by type of product 1921 to 1929

(millions of dollars)

Necessity Goods

Year (increments of two)	Total Expenditures	Food and Non-alcoholic beverages	Alcoholic beverages	Clothing and related		Personal care	Household Operation
				Purchases	Cleaning, repair, and maintenance		Furniture
1921	\$27,118	\$13,908	\$1,400	\$8,162	\$572	\$602	\$2,474
1923	\$32,347	\$16,138	\$1,500	\$9,575	\$672	\$873	\$3,589
1925	\$34,346	\$17,919	\$1,700	\$9,422	\$734	\$903	\$3,668
1927	\$35,535	\$18,318	\$1,800	\$9,894	\$851	\$1,042	\$3,630
1929	\$37,284	\$19,674	\$2,000	\$9,831	\$965	\$1,116	\$3,698
Total Percentage Increase 1921-1929		37.49%					

Luxury Goods

Year (increments of two)	Total Expenditures	Household Operation			Transportation		
		Mechanical appliances	Fuel, ice and lighting supplies	Communication	New Cars and net purchases of used cars	Other private transportation	Public Carrier
1921	\$7,385	\$294	\$1,817	\$466	1157	1972	1679
1923	\$9,742	\$511	\$2,160	\$557	2289	2406	1819
1925	\$10,413	\$548	\$1,646	\$641	2411	3214	1953
1927	\$10,460	\$667	\$1,882	\$721	1995	3114	2081
1929	\$11,329	\$768	\$1,694	\$860	2588	3216	2203
Total Percentage Increase 1921-1929		14.54%					

From the table above, I infer that the rich were indeed not spending money fast enough to boost demand in the consumer manufacturing industry. The total percentage of consumer expenditure in the luxury goods category had only increased 14.54 percent

¹⁶ This includes mechanical appliances, fuel, ice, lighting supplies, and communication.

¹⁷ This includes purchases of new cars, used cars, other private transportation and public transportation.

while total consumer spending on necessity goods rose a whopping 37.49 percent. Wealth distribution, as underconsumptionists argued, indeed played a major role in the Great Depression because the rich failed to spend the money fast enough to sustain the high level of aggregate demand that supports the phenomenal growth of consumer manufacturing industries in the 1920s. Therefore, wealth distribution set a stage for manufacturing outputs to decrease, which eventually led to the Great Depression.

Section 2: Capital Market

The stock market is the spotlight of the 1920s. Stock prices increased steadily and rapidly during the 1920s. According to Walton and Rockoff's research, the ratio of stock price to dividend rose from 17.24 to 28.74 from 1922 to 1929.¹⁸ Profitability in the stock market was enormous. It appeared that an investment in the stock market was a promise to get rich. As a result, everyone was buying stocks. It seemed that a bubble in the stock market was created. To examine if there was a stock market bubble in the 1920s, I compose the following tables by referring to the U.S. Bureau of the Census.¹⁹

Corporate Security Issues: 1921 to 1929

(in millions of dollars)

Year	Total	Corporate Securities	
		New Capital	Retirement of securities
1921	2,270	1,702	568
1922	2,949	2,215	734
1923	3,165	2,635	530
1924	3,521	3,029	492
1925	4,223	3,605	618
1926	4,574	3,754	820
1927	6,507	4,657	1,850
1928	6,930	5,346	1,584
1929	9,376	8,002	1,374

¹⁸ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 446

¹⁹ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 658

I examine if a market bubble existed from the corporate perspective. Corporate securities issued in the period of 1921-1929 increased significantly. One of the reasons corporations issue securities to finance operations rather than debt, another component of the capital market, is because corporations believe the stock market is inflated. Therefore, a stock's value is trading at a premium compared to its true underlying value. The artificial effect of inflation in a company's value signifies the corporation can raise more capital by dipping into the stock market than issuing debt despite dilution.²⁰

Using 1921 as base year, my calculation of the Compound Annual Growth Rate²¹ of corporate securities issued shows that the annualized increase in corporate securities issued was 19.4 percent.

This finding infers that a bubble existed in the stock market.

Historical data clearly shows that the whole nation was caught in a “Speculative Fever” given the constantly rising stock prices. As Hall and Ferguson said, extent of the fever even caught those who never dreamed of being caught. Indeed, how long could one hold out under the magic power of 1920's stock profitability?

After examining the stock market bubble from the corporation's perspective, I turn to the demand side—investors—to inspect whether to them a bubble existed. As Hall and Ferguson mentioned, there were a lot of activities in the exchange of stocks.

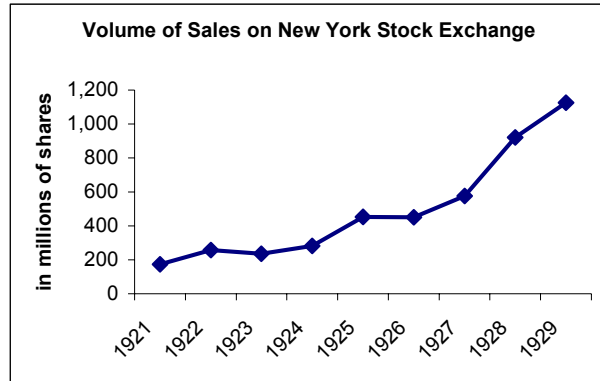
²⁰ A reduction in security's Earning Per Share (EPS) due to additional issues of securities or conversion of certain security products

²¹ Compound annual growth rate is not the actual return. It's a rate describes what an investment growth rate would have been if grew steadily

Volume of Sales on NYSE

in millions of dollars

Year	Stock (1,000,000 shares)
1921	173
1922	259
1923	236
1924	282
1925	454
1926	451
1927	577
1928	920
1929	1,125



The above historical data validates claim of a demand-side stock market bubble.²²

Using 1921 as base year, compound annual growth rate of volume of sales on the NYSE was 26.37 percent on average during the 1920s. The impressive growth of the stock market in such a short time brings forth an interesting question: where did the money come from?

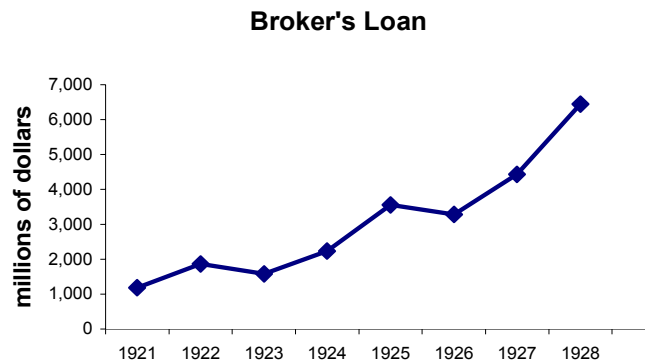
First and foremost, rise in income had made investing in securities possible for middle-class households. Second, contributions from brokers' loans were a significant factor. Brokers' loans allowed an ordinary working class American, who could otherwise only afford to invest a little, to play the stock market like a high roller on a VIP blackjack table. A lot of stocks at that time were bought on credit. The buyer would put down a fraction of the value of the stock in cash and borrow the remaining from the broker. Therefore if the price of the stock went up X percent, the speculator made 2X percent

²² U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 659

from the initial investment, and vice versa.²³

Brokers' Loan
(in millions of dollars)

Year	Total Amount of Loans
1921	1,190
1922	1,860
1923	1,580
1924	2,230
1925	3,550
1926	3,290
1927	4,430
1928	6,440



The table and figure above present the unmatched level of increase in brokers' loans during the 1920s.²⁴

The broker, then, took out “call loans” from the banks in order to sustain the level the brokers' loans, which were subject to repay on demand. Subsequently, banks found that these brokers' loans were extremely profitable, and thus banks borrowed more from the Federal Reserve, despite a 30 percent increase in the discount rate by the end of 1920s²⁵. The prosperity of brokers' loans had shown an eagerness to buy on the demand side and, again, became another illustration of the profitability of the stock market.

What was the prosperous stock market's role in the formation of the Great Depression?

From historical data patterns, it's true that a stock market bubble existed in the 1920s. The nation was caught in a speculative fever represented by the speedy expansion of brokers' loans, higher and higher trading volume, and more corporations' securities.

²³ Gary M. Walton and Hugh Rockoff, *History of the American Economy*, 10th edition, 2005, South-Western, 447

²⁴ U.S. Bureau of the Census, *The Statistical History of the United States from Colonial Times to the Present*, 1965, Fairfield Publishers, Inc, 660

²⁵ According to Thomas E. Hall and J. David Ferguson, *An International Disaster of Perverse Economic Policies*, 1998, the University of Michigan Press, 29. There was a 3 stages increase in discount rate. It rose from 3.5 percent to 5 percent in 1929.

The fact that too much credit was diverted into the speculative market frightened the Federal Reserve. “The Federal Reserve made it perfectly clear what they thought about the stock market boom: it represented excessive speculation and, as such, should be stopped.”²⁶ As a result, the Federal Reserve tightened the money policies in an effort to restrict the stock market. They conducted sales of \$405 million government securities and increased the discount rate from 3.5 percent to 5 percent in all Federal Reserve member banks.²⁷ These potentially extremely contractionary policies, which were meant to slow the economy from the stock market, only turned out to be mildly effective at first,²⁸ largely because banks still found it profitable to borrow from the Federal Reserve due to the high demand in money for stock buying purposes. However, these contractionary policies affected aggregate economic activity over time. Eventually, these effects went too far and pushed the economy from a slowdown to a full-blown recession. As a result, the stock market crashed in 1929. The crash caused a spiral downturn in economic outputs. According to Hall and Ferguson, the stock market crash affected economic outputs because of the following:

- A decline in stock values reduced household wealth, which affected consumption expenditures
- The stock market crash increased uncertainty.

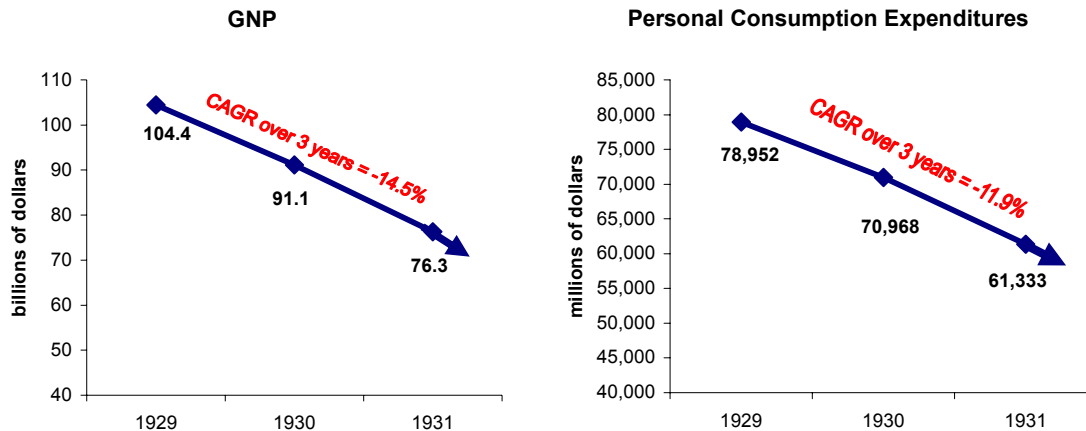
In the following pages, I examine these reasons.

Reduced household wealth, reduced consumption expenditure

²⁶ Thomas E. Hall and J. David Ferguson, *An International Disaster of Perverse Economic Policies*, 1998, the University of Michigan Press, 29

²⁷ Thomas E. Hall and J. David Ferguson, *An International Disaster of Perverse Economic Policies*, 1998, the University of Michigan Press, 29

²⁸ Thomas E. Hall and J. David Ferguson, *An International Disaster of Perverse Economic Policies*, 1998, the University of Michigan Press, 64



Referring to the historical data pattern from the U.S. Bureau of Census, the stock market crash in 1929 reduced household wealth, which is shown in the figures above. The 14.5 percent drop in GNP after the crash reduced consumer spending 11.9 percent over the three-year period following the crash. The reduction in consumption expenditure decreased demand for output. As a result, the manufacturing industry cut back on production to adjust to the lower demand. Therefore, economic activities dropped. Hall and Ferguson's claim is correct.

Uncertainty of Income

Christina D. Romer suggested the same argument in her paper "The Great Crash and the Onset of the Great Depression".²⁹ She reasoned that the stock market crash had increased uncertainty of future income earning. Thus consumers cut spending on consumer durables drastically with the expectation of deflation. Spending on consumer durables went from \$6.3 billion in 1929 to \$3.7 billion in 1931.³⁰ This shifted demand in consumer durables inward significantly. In turn, the manufacturing industries were

²⁹ Christina D. Romer, "The Great Crash and the Onset of the Great Depression", *The Quarterly Journal of Economics*, August 1990.

³⁰ U.S. Bureau of the Census, *The Statistical History of the United States from Colonial Times to the Present*, 1965, Fairfield Publishers, Inc, 178

harmed. Subsequent layoffs occurred in an effort to cut spending since there was virtually no demand.³¹ This is how the stock market crash triggered a decline in the economy.

In short, the stock market crash of 1929 reduced wealth, which resulted in a cut in personal spending. Decreased personal spending reduced demand. The nature of supply and demand explains the cut in manufacturing activities. Wage-cuts and layoffs were inevitable as a result. Therefore, wage-cuts and layoffs further amplified the downturn in economic activities.³² Simultaneously, the uncertainty surrounding income aggravated the economic activities slowdown to a greater degree.

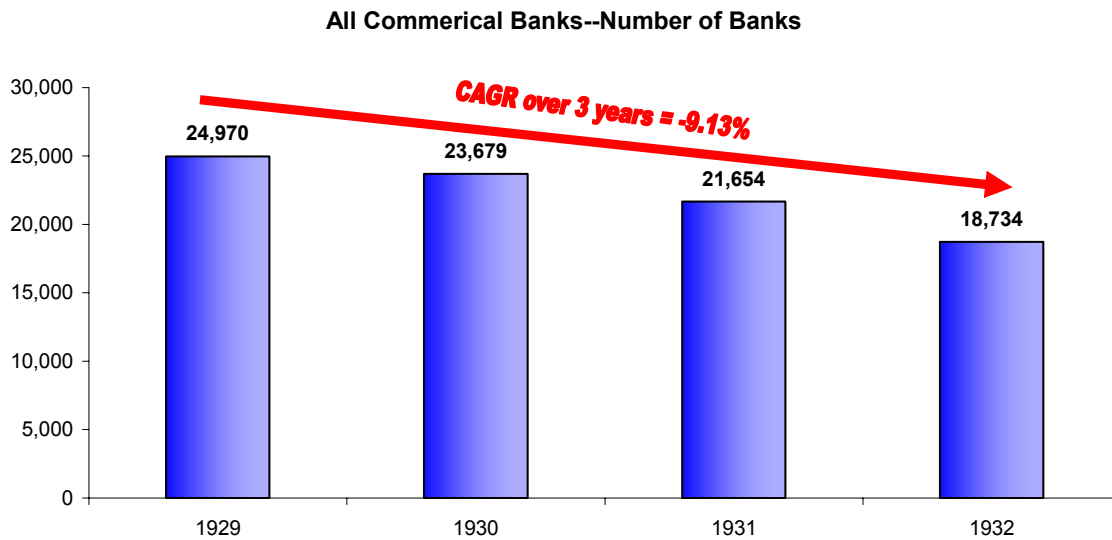
In addition, the stock market crash, combined with uncertainty about banks' health stemmed from the gold standard crisis in 1931, shook depositors' confidence in banks by triggering the biggest banking crisis in United States history. Given the lack of confidence in the U.S. banking system, and facing a declining economy, a bank run begun in the Midwest in October 1931 marked the beginning of the banking crisis. The public rushed to banks in Arkansas, Missouri, Illinois and Iowa to demand repayment of their funds. When these banks turned to the Federal Reserve for help, they were refused. The first reason for these refusals was that these banks were not member banks in the Federal Reserve System, and their customers were largely farmers, not businesses. Thus, these banks had little commercial paper as collateral.³³ It was in this atmosphere that a more general bank run began across the country in March 1931. According to Hall and Ferguson, the Federal Reserve still refused to lend to them because it believed these banks were plagued by bad management. Given such an environment, more than 6,000

³¹ Christina D. Romer, "The Great Crash and the Onset of the Great Depression", The Quarterly Journal of Economics, August 1990, 598

³² Historical evidence on wage-cut and layoff is presented in Indebtedness section of the paper.

³³ Thomas E. Hall and J. David Ferguson, An International Disaster of Perverse Economic Policies, 1998, the University of Michigan Press, 83

commercial banks shut down from 1929 to 1932.³⁴ The following historical data from the U.S. Bureau of the Census further illustrates the extent of the spillover effect of the 1929 stock market crash on the banking community.



In summary, the crash of 1929 reduced wealth and led to a belief in income uncertainty, which created a nasty domino effect leading the economy into a spiral downturn. Furthermore, the banking crisis, as Hall and Ferguson argued, that happened in a recession environment led to an ever-decreasing stock in commercial paper, which left banks with little collateral for the Federal Reserve’s lending in the widespread financial crisis. Had it not been for the boom and bubble in stock market, the Federal Reserve wouldn’t have employed those extremely contractionary monetary policies; the Great Depression could have been avoided.

Section 3: Indebtedness

During the 1920s, the economy was robust at a record level. As I mentioned earlier, GDP grew an average 5.9 percent with rapid urbanization, greater economic

³⁴ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 631

productivity, etc. A new lifestyle that relied heavily on consumer durables emerged as people grew wealthier. Aside from the impact of technological progress, this new lifestyle was also made available due to the easy consumer credit market. To understand the role indebtedness played in the onset of the Great Depression, I examine the following three angles:

- 1) Whether or not there was an existence of easy consumer credit;
- 2) How indebtedness and the crash of 1929 changed consumer spending behavior on consumer goods and durable goods;
- 3) Consumer spending's spillover effect to the manufacturing industries.

1) Consumer Credit

Martha L. Olney argues that easy consumer credits should be partially blamed for the initiation of the Great Depression.³⁵ Her standpoint emphasizes the unique combination of high consumer indebtedness resulting from spending on consumer durables and high default consequences.³⁶ After the 1929 crash happened, consumers cut spending on consumer goods to pay for automobiles, and electrical appliance installments. Moreover, as Olney presents, because of the high down payments and short maturities, installment payments commanded a large part of indebted households' take home pay.³⁷ Also, durables' worth became a much higher fraction of household incomes. "Auto prices were 20 to 60 percent of average annual disposable income, pianos cost

³⁵ Martha L. Olney, "Avoiding Default: the Role of Credit in the Consumption Collapse of 1930", The Quarterly Journal of Economics, Feb. 1999, 320

³⁶ Martha L. Olney, "Avoiding Default: the Role of Credit in the Consumption Collapse of 1930", The Quarterly Journal of Economics, Feb. 1999, 320

³⁷ Martha L. Olney, "Avoiding Default: the Role of Credit in the Consumption Collapse of 1930", The Quarterly Journal of Economics, Feb. 1999, 322

about one-third of disposable income, and refrigerators and stoves were 5 to 10 percent of disposable income.”³⁸ Therefore reduction in spending on consumer goods and consumer durable goods resulted in layoffs and wage-cuts in manufacturing industries.

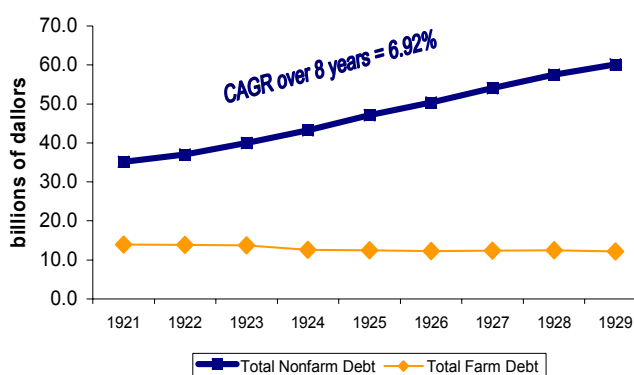
Unemployment and wage-cuts led to an even further setback in household spending on consumer goods. This explains why consumers would choose to cut consumer goods spending and make the installment payments. Similar to the effect of Christina D Romer’s argument³⁹, the cutback in consumer goods spending led consumer goods industries into a decline. Thus, more workers were laid off and more wages were cut.

Net Private Debt

in billions of dollars

Year	Total Non-farm	Total Farm
1921	35.2	14.0
1922	37.0	13.9
1923	40.0	13.7
1924	43.2	12.6
1925	47.1	12.5
1926	50.4	12.3
1927	54.0	12.4
1928	57.5	12.5
1929	60.1	12.2

Net Private Debt

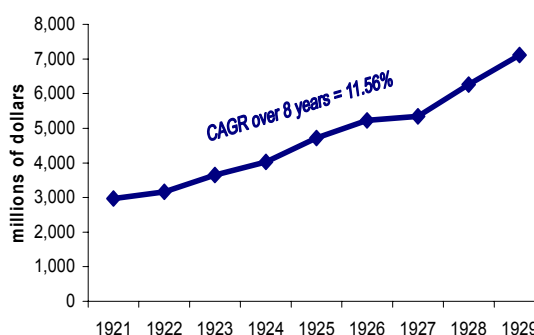


Short- and Intermediate- Term Consumer Credit

in millions of dollars

Year	Total credit outstanding	Installment credit outstanding	noninstallment credit outstanding
1921	2,966	919	2,047
1922	3,166	1,047	2,119
1923	3,652	1,368	2,284
1924	4,025	1,646	2,379
1925	4,715	2,115	2,600
1926	5,227	2,363	2,864
1927	5,344	2,319	3,025
1928	6,258	2,935	3,323
1929	7,116	3,524	3,592

Short and Intermediate Term Consumer Credit



³⁸ Martha L. Olney, “Avoiding Default: the Role of Credit in the Consumption Collapse of 1930”, *The Quarterly Journal of Economics*, Feb. 1999, 322

³⁹ Christina D. Romer, “The Great Crash and the Onset of the Great Depression”, *The Quarterly Journal of Economics*, August 1990, 598

Referring to historical data on the above debt,⁴⁰ I find evidence supporting the argument for easy consumer credit in the 1920s. Total non-farm private debt grew twofold, from \$35.2 billion to \$60.1 billion. This evidence suggests the debt market was easily accessible. At the same time, the steadily increasing non-farm private debt growth and the gradual decrease in farm private debt during the same period suggest that a fundamental change to United States economic structure was happening, from agricultural economy to industrial economy. Historical data from George Thomas Kurian further verifies the easy consumer credit argument.⁴¹ With a compound annual growth rate of 11.56 percent over the 8-year period from 1921 to 1929, total consumer credit grew almost threefold. In conclusion, historical data confirm Olney’s easy consumer credit argument—easy consumer credit set the stage for the default problem, which was triggered by the stock market crash.

2) *Consumer Spending Behavior and the Great Depression*

Expenditure Reduction		
Year	consumer goods	durable goods
1929--1930	8.04%	26.91%
1930--1931	18.00%	19.70%
1931--1932	22.73%	33.93%
1932--1933	-1.25%	-1.18%
1933--1934	-23.06%	-22.05%
1934--1935	-14.14%	-25.68%

According to the data above, after the 1929 stock market crash, consumers immediately cut 8.04 percent and 26.91 percent spending on consumer goods and durable

⁴⁰ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 664

⁴¹ George Thomas Kurian, DATAPEdia of the United States 1790-2000, 1994, Bernan Press, 400

goods, respectively.⁴² Referring to the Personal Consumption Expenditure Table, it is obvious that such cuts were the direct result of the crash, as Olney claimed, because consumer spending on both consumer goods and durable goods were going up dramatically from 1921 to 1929 until the stock market crash.⁴³ Due to the initial cut in consumer spending, demand for goods decreased. This pattern continued with a cut in manufacturing activities and subsequent wage-cuts and layoffs. Then, a further cut in consumer spending occurred due to the downturn rendered by the initial consumer spending reduction. As this vicious circle continued, the economy slid into the Great Depression.

3) *Spillover effect of cut in consumer spending in manufacturing industries*

Referring to the U.S. Bureau of the Census,⁴⁴ I construct the following table to show the changes in manufacturing industries.

Year	Production and related workers (average for year)	Salaries and wages (\$ in millions)	Value of output (\$ in millions)	
			Consumer goods	Durable goods
1921	6,475,470	\$9,870	\$14,022	\$3,270
1923	8,194,170	\$12,996	\$15,176	\$5,367
1925	7,871,409	\$12,958	\$16,870	\$5,786
1927	7,848,070	\$13,123	\$17,263	\$5,436
1929	8,369,705	\$14,284	\$18,384	\$6,321
1931	6,163,144	n/a	\$13,431	\$3,251
1933	5,787,611	\$6,238	\$10,872	\$2,321

⁴² U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 178

⁴³ Please refer to Personal Consumption Expenditures Table

⁴⁴ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 409, 419, 420

The above data validates the argument made by Olney and Romer; cut in consumer spending resulted in layoffs and wage-cuts in the manufacturing industries. From 1929 to 1933, there were more than 2.5 million jobs lost and \$8 billion in wage-cuts, whereas during the period of 1921-1929 there had been 1.8 million jobs created and a \$4.4 billion increase in wages. The cut in consumer spending hurt manufacturing industries drastically. There were 41 percent and 63 percent decreases in values of consumer goods and consumer durable goods outputs, respectively. The drop in manufacturing activities was followed by a deeper wage-cut and more job loss.

In conclusion, from the historical evidence presented above, I infer that indebtedness played a big role in initiating the Great Depression. Due to easy consumer credit, Americans borrowed significantly to pay for the new lifestyle that relied heavily on consumer durables. Therefore, an initial economic downturn triggered consumers to cut spending on certain goods to avoid harsh default punishment. This pattern led to a drop in manufacturing activities and further wage-cuts. Layoffs were inevitable given such a spiral downturn. In the end, the economy found itself in full speed marching towards the Great Depression.

So far, this paper has examined the possible causes of the Great Depression from three economic structures: wealth distribution, capital market and indebtedness. From my examination, it's clear that those three factors played a major role in formulating the Great Depression by altering the consumer-spending pattern. Despite remarkable economic performance in the 1920s, there were worrisome signs that the Federal Reserve and those who were in the Oval office should have paid more attention to. In addition to what has been discussed above, there were other indications of a potential economic

downturn, such as weaknesses in the banking system, a decline in construction from 1925 onward, and a struggle in agriculture sector. Policymakers' lack of knowledge of the Great Depression and their ill-advised policies are to blame in triggering the Great Depression.

Knowing what might have caused the Great Depression, the million dollar question is: "It has happened before, could it happen again?"

Chapter 2

Likelihood of a Second Great Depression

“What has happened once will invariably happen again when the same set of circumstances which combined to produce it shall combine in the same way.”⁴⁵

—*Abraham Lincoln (1809-1865)*

In this chapter, two topics will be examined to show that the Great Depression is unique and highly unlikely to happen again in the future. These topics are the unique economics structures of the 1930s and the Federal Reserve’s policy.

Section 1: The Economic Structure

In the process of examining the causes of the Great Depression, I explained how the three major structural factors—wealth distribution, capital market and indebtedness—had set the stage for the depression. The unique economic structures of the period should be partially to blame for the Great Depression because they had made our economy more vulnerable to a prolonged economic setback. In the following pages, I utilize the framework put forth by Arthur Burns in his article “Progress Towards Economic Stability”, published in 1960 in *The American Economic Review*, to test, through a comparative study to periods before and after the Great Depression, how unique economic structures were in the 1930s. .

Personal Income and Aggregate Production

⁴⁵ Thomas E. Hall and J. David Ferguson, *An International Disaster of Perverse Economic Policies*, 1998, the University of Michigan Press, 161

Comparison to the past

As Burns claims in his article, had the 1930s economy remained agriculture-dominated, the Great Depression might not have happened.⁴⁶ Burns argues that in an agricultural economy, occasional declines in the physical volume of production, large or small, would have little effect on the number of jobs and, sometimes, even flow of income.

In order to test Burns' viewpoint on the fluctuation of physical volume of production, I compare the Great Depression (1929-1939) with another recession in a more agriculture-dominated economy—the Panic of 1907.

First of all, at the time of the Panic of 1907, our economy was more agriculture-oriented than during the period of the Great Depression. Historical data show that farms accounted for about 16.7 percent GDP on average from 1907 to 1911. Throughout the Great Depression, farms only accounted for 11 percent of the GDP on average.⁴⁷

Period	Average % of Unemployed in Civilian Labor Force
1907-1908	5.15%
1929-1939	16.86%

A study of the unemployment rates during these two periods tells us that the average unemployment in labor force during the Panic of 1907 was 5.15 percent compared to 16.86 percent during the Great Depression. One may argue that the Great Depression was a much deeper recession. Thus, it is normal that the period during the Great Depression presents a much higher unemployment rate. However, with a decline of 50 percent in stock market value and numerous runs on banks and trusts companies that

⁴⁶ The American Economics Review, March 1960, 2

⁴⁷ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 140-141

ultimately inspired the creation of the Federal Reserve System, the degree of economic setback brought by the Panic of 1907 is comparable to, if it is not the same as, that of the Great Depression. Therefore, logically, the unemployment rate should be closer to that of the period during the Great Depression. The fact that there was only 5.15 percent unemployment in labor force throughout the Panic of 1907 supports Burns' point of view. Given a more agricultural economy, people who lost jobs in manufacturing industries could return to the farm payroll more easily than during the Great Depression. Consequently, the decrease in personal income during the Panic of 1907 would be lower than the decrease in personal income during the Great Depression. To show how the income level would decrease at a different rate, the ideal method is to compare the two periods' total personal consumption expenditures. More specifically, I use the consumption of meat as proxy to personal consumption expenditures because meat is generally considered to be a more luxury food item. Historical data show that meat consumption declined 4.9 percent after the Panic of 1907, whereas the worst drop in meat consumption was 9 percent during the Great Depression, before it recovered in 1936.⁴⁸ Historical evidence supports Burns' claim that in a more agricultural economy, personal income would suffer less from business cycles.

Comparison to postwar period

Essentially, the link between personal income and aggregate production was the degree of impact of business cycles to personal income. In this section, I look at how personal income was less subject to the fluctuation of business cycles from the following

⁴⁸ U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, 1975, Inc, 330

structural changes: corporation dividend distribution pattern, government unemployment expenditure, and personal income tax and corporate profit tax.

Corporation dividend distribution pattern

According to Burns, the growth of corporations after the Great Depression acted as a buffer between fluctuations of production and the flow of income to individuals. The reason is that while business profits in general are very responsive to changes in sales and production, which is partially governed by business cycles, the dividends paid to investors in corporations are tempered by business judgments. In addition, dividends are never distributed at the same rate they are being earned.⁴⁹

To test Burns' viewpoint, I compare the Great Depression period to the Recession of 1953.

Year	Average Family Personal Income	Year	GNP in 1929 Prices (In billions of dollar)
1929	\$2,335	1929	104.4
1935-1936	\$1,631	1936	100.9
1953	\$5,356	1953	215.3
1954	\$5,640	1954	212.6

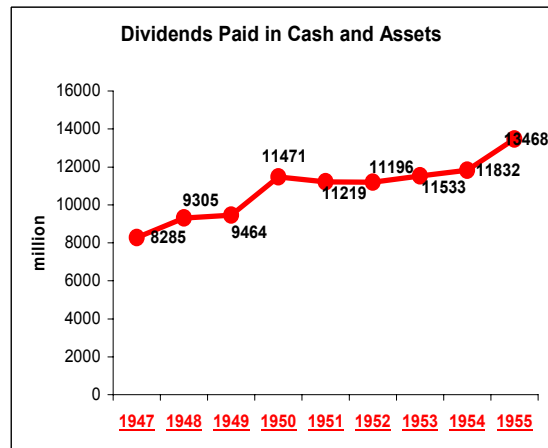
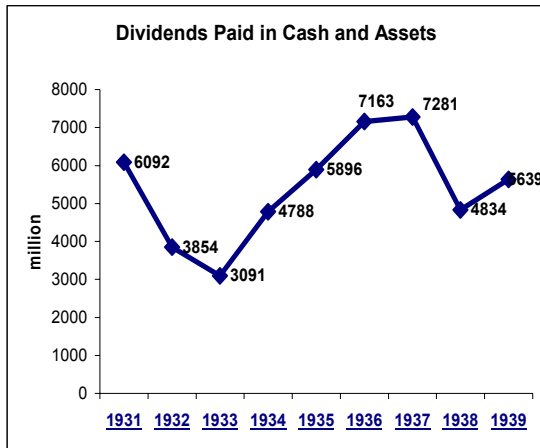
The above tables show that GNP dropped 3.4 percent from 1929-1936 and 1.2 percent from 1953-1954.⁵⁰ First, these tables show that in 1953 America did have a somewhat serious recession. Second, they display the decline of personal income for the duration of Great Depression as 30 percent, while personal income increased 5.3 percent immediately after the post-Korean recession.⁵¹

⁴⁹ The American Economics Review, March 1960, 3

⁵⁰ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 138

⁵¹ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 166

Why did personal income increase during the recession in 1953-1954? One possible explanation is Burns' viewpoint—the growth of corporations acted as a buffer between fluctuations of production and the flow of income to individuals by smoothing the distribution of dividends. In my investigation of dividend distribution patterns in these two periods, I find evidence supporting Burns' claim.



The above figures illustrate the essential change in corporation dividend distribution patterns.⁵² The nine-year period that includes the Recession of 1953 presented a trend of increase in dividend earning. This upward dividend distribution trend supports Burns' claim of dividends in postwar period acting as buffer between business cycles and personal income levels. On the other hand, corporation dividends were rather irregular during the Great Depression. In addition, as of 1954, there were 754,000 corporations—almost a 50 percent increase in the number of corporations as compared to the period during the Great Depression.

⁵² U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 580

Government unemployment expenditure

In addition to Burns' claim that corporations smoothed dividend distribution patterns to stabilize personal income levels in the postwar period, an increased reliance on automatic stabilizers such as corporate profits tax and personal income tax, unemployment compensation is widely believed to have increased the measure of postwar stability.

To test the effect of these stabilizers, let's first look at how government expenditure on unemployment compensation had changed between the postwar period and the Great Depression.

Federal, State, and Local Government Expenditure				
(in millions)				
	Year	Unemployment Compensation	Total Expenditure	% of Total Expenditure as Unemployment Compensation
Postwar Period	1946	2392	79707	3.00%
	1948	2614	55081	4.75%
	1950	6894	70334	9.80%
	1952	5489	99847	5.50%
	1953	6006	110054	5.46%
	1954	7484	111332	6.72%
	1955	9002	110717	8.13%
	1956	9576	115796	8.27%
	1957	11269	124463	9.05%
Great Depression Period	1932	171	12437	1.37%
	1934	193	12807	1.51%
	1936	222	16758	1.32%
	1938	554	17675	3.13%
	1940	968	20417	4.74%

The above table indicates that the government expenditure on unemployment compensation increased not only in absolute value throughout the 1946-1957 postwar period, but also in percentage of total government expenditure.⁵³ Although, the period of the Great Depression also presented an upward spending pattern of government

⁵³ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 723

expenditure in unemployment compensation, the increase during this period was not nearly as outstanding as that of the postwar period. Percentage-wise, government unemployment compensation spending definitely demonstrated a higher increase.

Personal income tax and corporate profit tax

In addition to unemployment compensation, personal income tax and corporate profit tax are also agents of automatic stabilizers. These automatic stabilizers act to offset economic fluctuation by reducing taxes and increasing government spending in recession, and vice versa in economic expansion. For example, a progressive income tax acts to reduce the multiplier effect of demand shocks via marginal tax rates.

Federal, State, and Local Government Revenue			
	Year	As Percentage of Total Revenue	
		Individual Income Tax	Corporate Income Tax
Postwar Period	1946	26.94%	19.96%
	1948	29.62%	15.33%
	1950	24.79%	16.62%
	1952	28.85%	22.02%
	1953	29.47%	21.05%
	1954	28.33%	20.21%
	1955	28.18%	17.48%
	1956	28.19%	18.19%
	1957	28.94%	17.15%
Great Depression Period	1932	4.66%	6.58%
	1934	4.29%	3.85%
	1936	6.03%	6.31%
	1938	8.55%	8.57%
	1940	6.64%	7.18%

As the table on top shows, the reliance upon personal income tax and corporate income tax increased dramatically during the 1946-1957 postwar period.⁵⁴ On the other hand, during the 1932-1940 period of the Great Depression reliance on these stabilizers apparently lagged behind that of the postwar period. On average, the postwar government revenue from individual income tax was four times higher than that of the period of the Great Depression, while the corporate income tax was three times more. This increase in reliance enables government to effectively stabilize demand shock in recession during the postwar period by reducing taxes and increasing government spending. Increased government spending, while reducing taxes, was made possible by the increased level of income taxes during economic expansion. As a result, after-tax personal income during the postwar period fluctuated less. This explains why personal income would be less impacted by business cycles during the postwar period.

Moreover, the expenditures on social insurance increased six-fold compared to those of 1939, which endured the highest amount of money spent on social insurance throughout the Great Depression.⁵⁵

In summary, I infer that personal income would suffer less from the impact of business cycles in postwar period. The reason for this is the smoothing effect of the corporation dividend distribution pattern, increase in government spending on unemployment compensation, higher reliance on personal income tax and other automatic stabilizers. These structural changes collectively made personal income levels less vulnerable to business cycles.

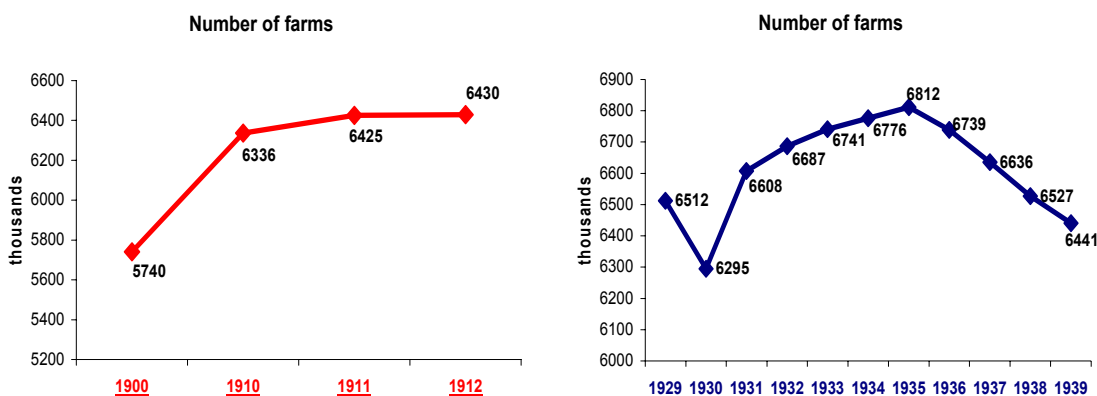
⁵⁴ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 722

⁵⁵ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 193

Employment

Comparison to the past

In this section, I compare the Great Depression to the Panic of 1907. In my examination of personal income and aggregate production, I have already established that the 1907 economy was more agricultural. My examination found that 16 percent of GDP came from farms during the period from 1907 to 1911, while 11 percent of GDP came from farms during the Great Depression. I also constructed a table illustrating that average unemployment during the Panic of 1907 was 5.15 percent while the unemployment rate hiked to 16.86 percent on average during the Great Depression. In this section, I build on Burns' theory by looking at the number of farms available to returning workers during these two periods, to test whether laid-off factory workers could in fact go back to farms more easily in an agricultural economy than in an industrialized economy..



From 1900 to 1912, the growth in the number of farms was showing a steady upward movement, despite the Panic of 1907.⁵⁶ On the other hand, the number of farms was

⁵⁶ George Thomas Kurian, *DATAEDIA of the United States 1790-2000*, 1994, Bernan Press, 177

generally decreasing during the Great Depression, with the exception of the period from 1930-1933. The total percentage of decrease in the number of farms was about 1 percent during the Great Depression, while the number of farms increased 1.6 percent during 1910-1912.

(in thousands)

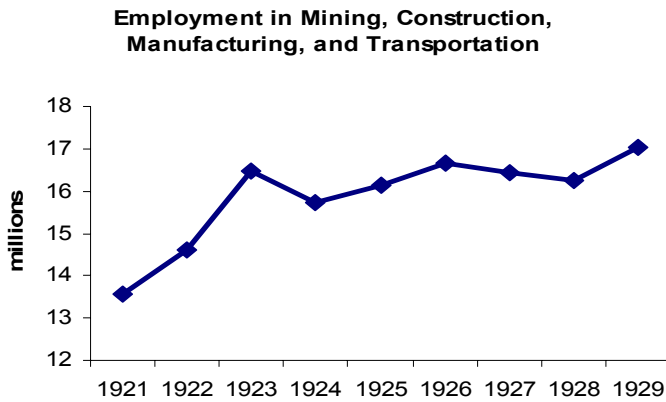
Year	Farm Employed	Total Employed	Farm Employed as Percentage of Total Employed
1906	11,479	32,838	34.96%
1907	11,493	33,238	34.58%
1908	11,238	32,136	34.97%
1909	11,163	33,897	32.93%
1910	11,260	34,559	32.58%
1926	10,690	44,828	23.85%
1927	10,529	44,856	23.47%
1928	10,497	45,123	23.26%
1929	10,541	46,207	22.81%
1930	10,340	44,183	23.40%

In addition, the above table shows that during the Panic of 1907, there was an increase in the percentage of farm employed as a percentage of total employment.⁵⁷ A simple calculation reveals that this percentage increase was due to a larger drop in non-farm employment than to a decrease in farm employment during the Panic of 1907. This observation also advances Burns' viewpoint that in a more agricultural economy, unemployment would suffer less in recession because there was more farm employment, which is less subjective to business cycles.

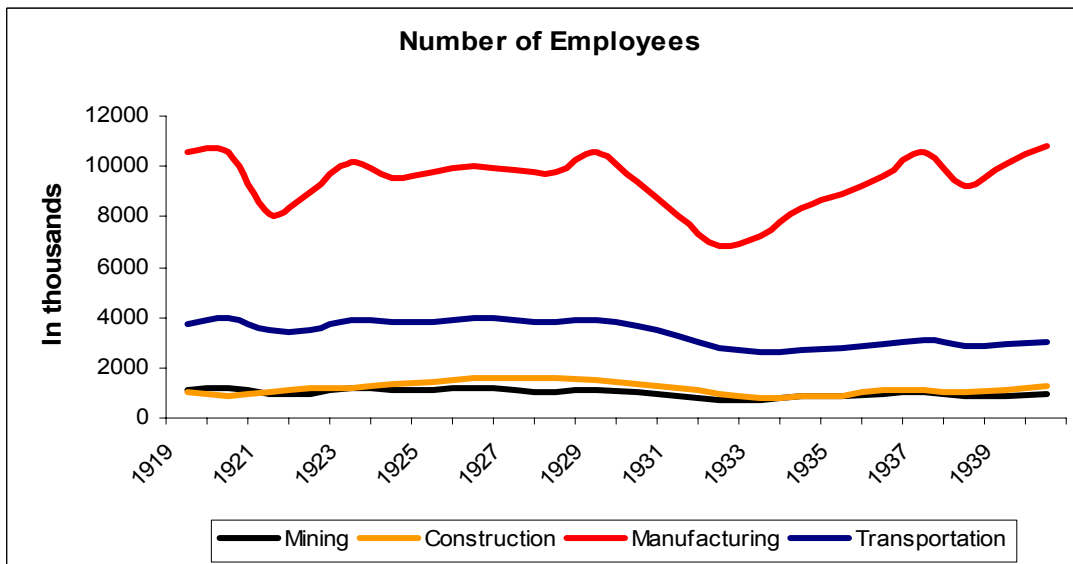
Also according to Burns, in addition to the decreased availability of farms for laid-off workers to return to, the industrialization of our economy during the 1920s required more employment in mining, construction, manufacturing and transportation,

⁵⁷ U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, 1975, Inc, 126

which were strategic industries in which both production and jobs were notoriously unstable in our developing economy.



Historical data show the pattern that employment in these four strategic industries increased progressively in the 1920s.⁵⁸



Also, by graphing the ups and downs in the number of employees in these industries, I find that these four strategic industries were closely tied to business cycles as they move in conjunction from 1919 to 1940.

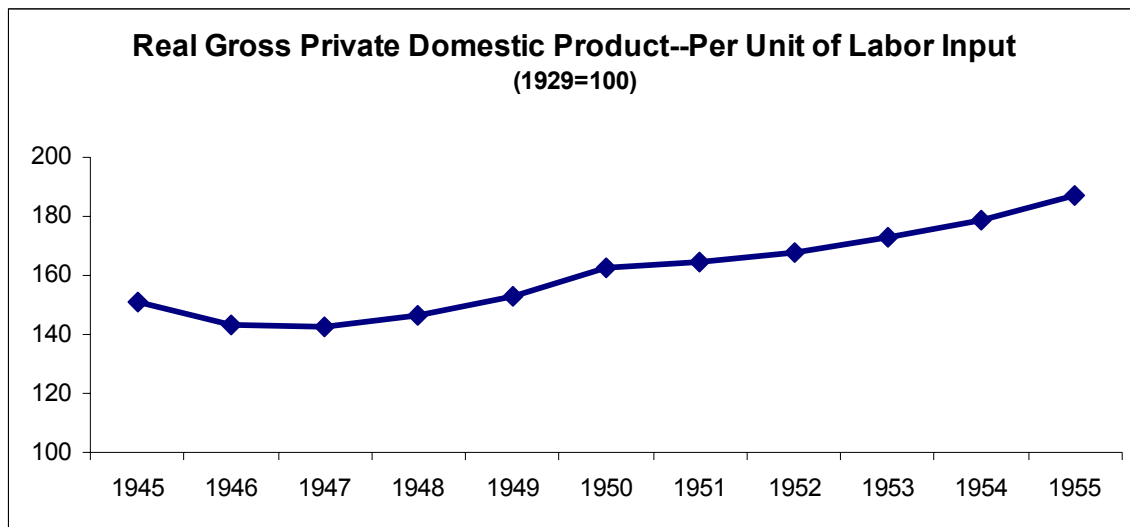
⁵⁸ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 73

Therefore, the Great Depression's unique concentration of jobs in these highly volatile, strategic industries was a major force in intensifying declines in employment during business contractions in this period.

Comparison to postwar period

Due to technological progress, employment in the four unstable industries mentioned above broke the pattern of intensification in the declines of employment in business downturns during the postwar period.⁵⁹ Technology maintained an upward trend of production in these cyclical industries.

In fact, post-Great Depression outputs per man-hour in mining, manufacturing and transportation all show an undisputable trend of upward movement. The table below shows outstanding evidence of technological progress during the postwar period.⁶⁰



From 1945 to 1955, the economy presented an unquestionable trend of upward increase in productivity, which cannot be realized without technological progress.

⁵⁹ The American Economics Review, March 1960, 7

⁶⁰ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 600

During the 1953 recession, production in mining, construction, manufacturing and transportation remained high. A comparison between the period during the Great Depression and that of the 1953 recession shows that the decline in production from these four industries during the latter time was only a fraction of the decrease in production during the former.

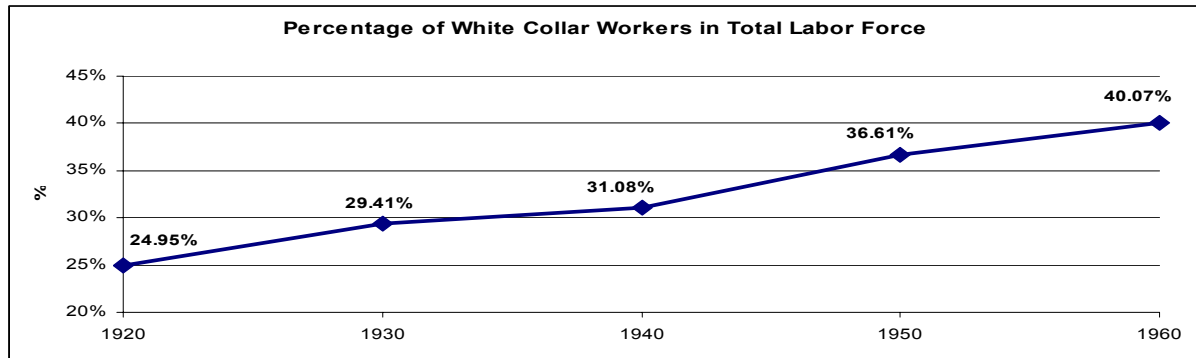
National Income, by Industrial Origin					
	Year	Percentage Decreased			
		Mining	Construction	Manufacturing	Transportation
Postwar	1953-1954	5.77%	-0.63%	7.04%	8.86%
Great Depression	1929-1930	20.00%	15.79%	16.89%	15.15%

This table compares the initial drop in national incomes during the 1953 recession and during the beginning of the Great Depression.⁶¹ From the data presented, it is apparent that production in all these industries stayed high during the 1953 recession. Construction even experienced a growth in production during this time. Therefore, I infer that Burns' view was correct. Production in these industries remained high during the recession in the postwar period due to technological progress.

In addition to the structural changes that reduced employment fluctuation in these four volatile industries during the postwar period, the emergence and growth of “white-collar” occupations helped reinforce the stabilizing trend in employment. “Workers of this [white-collar] category are commonly said to hold a ‘position’ rather than a ‘job’ and

⁶¹ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 140

to be paid a ‘salary’ rather than a ‘wage.’ Hence, they are often sheltered by a professional code with frowns upon frequent firing and hiring.” said Burns.⁶²



Using historical data, I constructed the above graph to show the upward trend of the white-collar class in the labor force.⁶³ Indisputably, the percentage of white-collar workers in the labor force had been gradually increasing. This trend supports Burns’ claim that the rising white-collar class had been reinforcing the stability in employment levels during the postwar period.

In short, technological progress, greater production and increased white-collar employment in the postwar period economy underlie the structural changes of the labor force that made employment levels relatively more stable than in the Great Depression . Therefore, business cycles had less impact on postwar employment.

Consumer Spending

Comparison to the past

In sections 1 and 2, I asserted that personal income would suffer a smaller fluctuation in a more agricultural economy compared to the economy of the Great Depression. At the same time, I also presented evidence that the unemployment rate was

⁶² The American Economics Review, March 1960, 7

⁶³ U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, 1975, Inc, 139

not as high in a more agricultural economy than during the Great Depression. Logically, personal income and employment go hand in hand with consumer spending. Therefore, these two findings imply consumer spending in an agricultural economy during recession should not have suffered as much as that of the Great Depression. In this section, I examine if this is indeed the case.

When compared to the past, the Great Depression’s consumer spending pattern was unique because the economy was more industrialized. Therefore, business cycles played a much bigger role in economic stability. To the contrary, America’s economy was much more agriculturally oriented in the past.

(in thousand)

Year	Farm Employed	Total Employed	Farm Employed as Percentage of Total Employed
1906	11,479	32,838	34.96%
1907	11,493	33,238	34.58%
1908	11,238	32,136	34.97%
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1929	10,541	46,207	22.81%
1930	10,340	44,183	23.40%

In order to look at the number of people on farm payrolls between periods in the past and the Great Depression, I compare the period from 1906 to 1910 , which includes the Panic of 1907, to the period from 1926 to 1930 , which lead to the Great Depression.⁶⁴ Farm employment levels from 1906 to 1910 were greater than from 1926 to 1930, in both

⁶⁴ U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, 1975, Inc, 126

percentage and absolute value. This signals that consumer spending should have suffered less from business cycles during the 1906-1910 period. Expenditure on food is a part of consumer spending. Therefore, I examine whether consumer spending suffered less from the impact of business cycles from 1906 to 1910 than from 1926 to 1930 by looking at the per capita consumption of food during these two periods. To be more specific, I will look only at the per capita consumption of meat because historically it was considered to be more of a luxury food item.

(in pounds)

Year	Meat*(Carcass weight)
1906	155.6
1907	158.2
1908	163.3
1909	155.2
1910	146.4
1926	138.0
1927	134.9
1928	131.6
1929	131.2
1930	129.9

*including beef, veal, pork, lamb and mutton

From the consumption levels of meat, I infer that consumer spending during the 1906-1910 period suffered less from business cycles than it did from 1926 to 1930.⁶⁵ To the contrary, consumption of meat dropped significantly during the period from 1926 to 1930. I also eliminate the possibility that decreased spending on meat was the general consumption trend, because the level of meat consumption resumed back to that of the period from 1906 to 1910 during the postwar period.⁶⁶

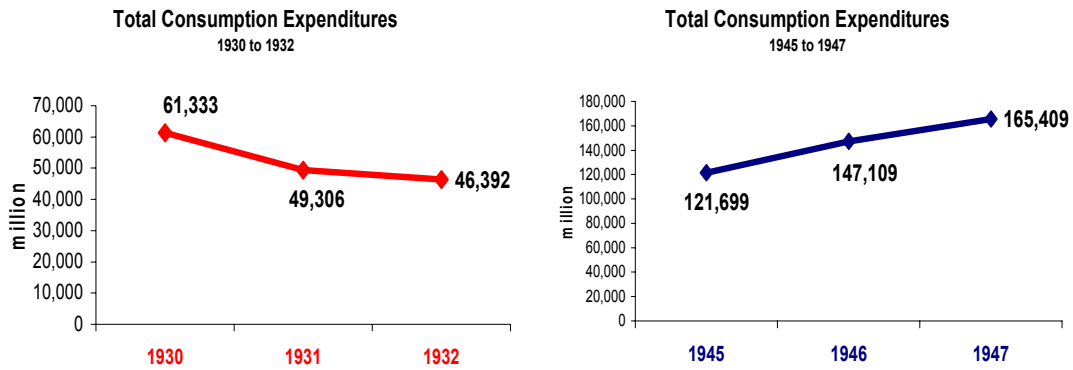
⁶⁵ U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, 1975, Inc, 330

⁶⁶ U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, 1975, Inc, 330

In short, consumer spending was more vulnerable to recession during the Great Depression than in the past; consumer spending was more responsive to business cycles because there were more Americans working in jobs that were sensitive to business fluctuations.

Comparison to postwar period

In Burns' view, consumer-spending patterns during the Great Depression were more unique when compared to those of the postwar period. As Burns points out in his article, postwar consumer spending behaviors departed from the classical consumer-spending pattern. Classical consumer-spending pattern refers to some consumers' reactions to initial business downturns with a reduction in spending as a precaution; others do so as a necessity due to wage-cuts or job loss. Soon this pattern spreads to other parts of the economy that are still healthy. The spread of reduced-consumer spending leads to a deeper decline in business activities. As a result, there are more wage-cuts and job loss as businesses do so to cut costs. This is the process of classical consumer-spending patterns contributing to recession. This cycle was exactly what occurred in the late 1920s that led America into a decade-long recession. Many of these features continue to work their magic today. However, consumer-spending behavior underwent fundamental change, claims Burns. Most noticeably, consumers maintained a high level of spending although business activity had been declining for a while.



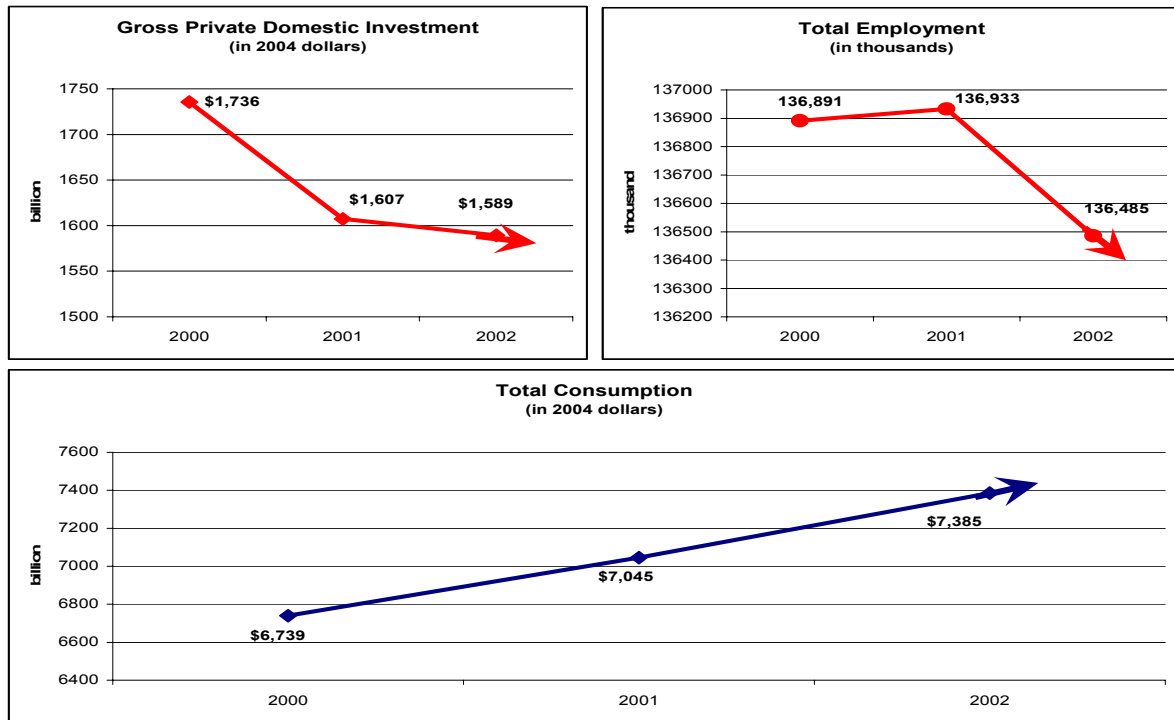
To test Burns’ point that consumers maintained a high level of spending, even during recession. I compare the first three years of the Great Depression with the period from 1945 to 1947, which includes the Recession of 1945. As the data presents, not only was there no decline in consumption expenditure during the Recession of 1945, but there was also an increase in consumer spending after the recession ended. Was 1945 indeed a recession? Yes. GDP fell from \$180.6 million in 1945 to \$163.5 million in 1947.⁶⁷ On the other hand, total consumer spending during the first three years of the Great Depression decreased more than 20 percent.

To further advance Burns’ viewpoint, I test his claim against one of the most recent serious recessions in U.S. economy—the Recession of 2000. The Recession of 2000 began with the crash of the NASDAQ after it reached its all-time high on March 10, 2000. As of September 21, 2001, the NASDAQ had lost approximately 70 percent of its value.⁶⁸ To appreciate the decline in economic activities during the 2000 recession, I utilize the Gross Private Domestic Investment as a measurement, because it’s the total amount of business investment spending within the United States. Investment is a crucial

⁶⁷ U.S. Bureau of the Census, The Statistical History of the United States from Colonial Times to the Present, 1965, Fairfield Publishers, Inc, 140

⁶⁸ BBC, “Dot.com Timeline”, < <http://news.bbc.co.uk/2/hi/business/1869544.stm>>

part of United States economy because it accounts for the purchase of capital goods and stimulates productivity growth.



The above figures summarize the change in consumer behavior graphically. During the period from 2000 to 2002 period, Gross Private Domestic Investment experienced an 8.4percent decrease.⁶⁹ Massive layoffs were also occurring following the dot.com bust in the technology sector. During the 2000-2002 period, employment in computer and data processing fell from 2.528 million to 2.094 million—a drop of 17percent.⁷⁰ The unemployment rate reached 5.8percent in 2002. To be brief, the Recession of 2000 tried our economy. Then what happened to consumer spending throughout the 2000-2002 period? Consumer total expenditures actually increased a significant 9.5percent.⁷¹ Again, Burns’ viewpoint withstands another test.

⁶⁹ U.S. Bureau of the Census, *Statistical Abstract of the United States*, 2004-2005, 425

⁷⁰ U.S. Bureau of the Census, *Statistical Abstract of the United States*, 2003, 404

⁷¹ U.S. Bureau of the Census, *Statistical Abstract of the United States*, 2004-2005, 431

Indisputably, there is overwhelming evidence to support Burns' claim that a high level of consumer spending was maintained during postwar recessions; the consumer spending pattern changed in a way that was favorable to the economy during recession in postwar periods.

In conclusion, the comparative study conducted above shows that the economic structure during the Great Depression was rather unique. It was an industrialized economy that was sensitive to business cycles. Therefore, personal income, employment and consumer spending were highly correlated to the business cycles when compared to those of a more agriculture-oriented economy. At the same time, the industrialized economy in the 1930s was not as supplicated to cope with the business cycles. A combination of fewer corporations, less social insurance spending, and a unique consumer spending pattern made the 1930s more vulnerable to a prolonged economic setback than at any other postwar period.

Section 2: The Federal Reserve

The role of the Federal Reserve in the Great Depression is extremely controversial. On one hand, economists, represented by Friedman and Schwartz, argue that the Federal Reserve's inconsistent intent and implementation of monetary policy during the 1930s led the economy to the path of the Great Depression.⁷² On the other hand, economists like Wheelock, Wicker and Brunner, argue that the Federal Reserve's monetary policy hadn't changed much during the period of the Great Depression.

⁷² Milton Friedman and Anna Schwartz, A Monetary History of the United States, 1963, Princeton, 300-301

This section is intended to find out what exactly the Federal Reserve did during that time, and the connection between Federal Reserve's policies and the Great Depression.

Selected Measures of Monetary Policy and Economic Activity Table						
Year	Nominal GNP ¹	% change	CPI ²	% change	M1 ³	% change
1929	104.4	N/A	73.3	N/A	26189	N/A
1930	91.1	-13.63	71.4	-2.63	25293	-3.48
1931	76.3	-17.73	65.0	-9.39	23883	-5.74
1932	58.5	-26.56	58.4	-10.71	20449	-15.52
1933	56.0	-4.37	55.3	-5.45	19232	-6.14

- 1. \$ billions
- 2. 1947-1949=100
- 3. \$ millions, June figure

Referring to David C. Wheelock's research, I reproduced the table above.⁷³ Evidently, the monetary policies in the period of 1929 to 1933 were disastrous. As the data show, CPI⁷⁴, which is a measure of inflation, fell 20.46%; M1, which is a measure of money within the economy to purchase goods and services, fell 26.56%. Such sharp decreases in CPI and money supply, accompanied by massive bank failures, suggest that Federal Reserve's monetary policies conducted during the Great Depression failed miserably. "The contraction is... a tragic testimonial to the importance of monetary forces....," wrote Milton Friedman and Anna Schwartz. "Different and feasible actions by monetary authorities would have reduced the contraction's severity and almost certainly its duration."⁷⁵ Professor J. Bradford DeLong also once said in class: "Had it not been the disastrous policies of the Federal Reserve, the Great Depression would have been, at most, a great recession."

What did the Federal Reserve do?

⁷³ David C. Wheelock, "Monetary Policy in the Great Depression and Beyond", The Economics of the Great Depression, 1998, 130-131

⁷⁴ Consumer Price Index

⁷⁵ Milton Friedman and Anna Schwartz, A Monetary History of the United States, 1963, Princeton, 300-301

First, Federal Reserve caused the stock market crash. One of the arguments, as Cecchetti presented, was the Federal Reserve misunderstood the “speculation”. Cecchetti explained that the central bankers misunderstood the speculation because they did not understand the deference between the reallocations of portfolio and the use of real resources.⁷⁶ Therefore, with the perception that the speculation in the stock market was using up real resources that could have been invested in the economic production, the Federal Reserve tightened its policies in 1928. From January 1928 to May 1929, the Federal Reserve took a series of contractionary policies: sales of \$405 million government securities; the discount rate was raised from 3.5 to 5 percent; and “moral suasion” was used to request that their member banks stop making brokers’ loans.⁷⁷

Cecchetti also argued the Federal Reserve could have stopped the stock market from crashing as it did on March, 1929. On March 26, 1929, there was a sudden decline in the stock market. The Federal Reserve Bank of New York and the First National Bank provided broker loans as liquidity to save the market. However, this action was later criticized.⁷⁸ This criticism came because the Federal Reserve’s officials deeply believed that there was too much liquidity in the stock market and the prices of equity needed to fall. As a result, the Federal Reserve continued to restrict the amount of broker loans after the near crash on March, 1929. Nonetheless, as Hall and Ferguson said, these tight money policies, turned out only to have a mild effect. Banks still borrowed from the Federal Reserve because it was profitable to do so, and the monetary base declined by only 1.2

⁷⁶ Stephen G. Cecchetti, “Understanding the Great Depression”, The Economics of the Great Depression, 1998, 175

⁷⁷ Thomas E. Hall and J. David Ferguson, An International Disaster of Perverse Economic Policies, 1998, the University of Michigan Press, 64

⁷⁸ Stephen G. Cecchetti, “Understanding the Great Depression”, The Economics of the Great Depression, 1998, 176

percent compared to the expected 12 percent.⁷⁹ Finally, according to Walton and Rockoff, frustrated by its unsuccessful attempts to control the stock market, the Federal Reserve pushed the discount rate from 4.5 to 5.5 percent in August 1929.⁸⁰

These policies, along with numerous public statements stating the stock market was over-heated by Federal Reserve officials, eventually crashed the stock market. The bust of the stock market subsequently triggered a domino effect, such as the income uncertainty effect I discussed in chapter 1, which led the economy into a spiral downturn.

Second, the Federal Reserve failed to be the lender of the last resort. To understand this concept, gold standard is the key. During that time, gold standard was the international pegged exchange rate system. Under this system, each country is required to tie their currencies to gold. Each country also has to allow gold flow freely across borders. A simple example would help explaining the gold standard; if the dollar price of gold is pegged at \$35 dollar per ounce and gold is pegged at £15 per ounce. The exchange rate between the dollar and the pound is $35/15 = \$2.33$ per pound. Therefore, if the United States wished to increase its money supply through purchase of domestic assets, the increase in dollar supply would pressure the interest rate to fall. A fall in interest rate makes the holders of dollar unhappy. Therefore, holders of dollar would want to turn their dollar deposit into pound deposit which offers a relatively higher return. In order to do so, holders of dollar would sell their deposit holdings to the Federal Reserve, which promised to exchange gold at \$35 per ounce. Then, they would buy pound using the gold they have. As a result, the United States would experience gold

⁷⁹ Thomas E. Hall and J. David Ferguson, An International Disaster of Perverse Economic Policies, 1998, the University of Michigan Press, 64

⁸⁰ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 445

outflow and Britain would have a gold inflow. If this exchange continued, the United States money supply would fall since it had to buy dollar and sell gold to maintain the peg. Britain gained reserves as it buys gold with pound. Consequently, America would lose reserves and Britain would gain reserves. America interest rate would go back up as the money supply fall and the British interest rate would fall as its money supply increase. Eventually, the two interest rates would become equal again and the gold flow would stop.

In 1931, a series of financial crises led many European countries left the gold standard. Fearing the same would happen in the United States, a massive amount of gold outflow happened resulting the fall of banks reserve. From 1930 to 1931, the gold stock decrease 4.3 percent.⁸¹ The Federal Reserve's response to stem the gold outflow was to raise the discount rate. However, it did not conduct any open market operation. The logic to raise the discount rate is to raise the attractiveness of holding dollar deposit. For that reason, people would stop exchanging their dollar into gold. However, the Federal Reserve failed to conduct any open market purchase to raise the money supply to replace the lost of commercial bank reserves. Hence, even the gold stock stabilized eventually, the uncertainty about the banks' healthiness caused customers to redeem their deposits. Banks reserves fell as deposits fell 29.54% percent from 1931 to 1933.⁸² Then, banks needed to borrow extensively from the Federal Reserve to meet their depositors' withdrawal and reserve ratio requirement, even though the discount rate was raised from 1.5 percent to 3.5 percent.

⁸¹ U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, 1975, Inc, 995

⁸² U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, 1975, Inc, 992

However, the Federal Reserve failed to be the lender of the last resort. One reason was, as stated in Walton and Rockoff's book, the Federal Reserve failed to appreciate the magnitude of the crisis and the actions needed to battle it.⁸³ It failed to conduct open market operation because they looked at the wrong indicator. "They looked at the low nominal interest rates and considered it was a certain sign that financial markets were awash with money and pumping in more would do little good."⁸⁴ Thus, the failure to save the banking system led to the greatest banking crisis in history. Also, as Professor DeLong mentioned in lectures, the Federal Reserve just simply considered the failure of banks as bad management; the Federal Reserve believed it was good to get rid of those ill-managed banks. As for the reason of no open market purchase, one of the explanations was the lack of free gold in the Federal Reserve. As Wheelock pointed out, from July to October 1931, Federal Reserve gold stock fell 21 percent.⁸⁵ However, Wheelock argued that even with the fall in gold stock, the Federal Reserve still had sufficient gold to cover the gold reserve requirement. Regardless the reason, the Federal Reserve failure to conduct open market operation, combined with the failure of lending to banks, led to the biggest banking crisis in history.

Third, in 1937, a time that the economy was rebounding from the first recession within the Great Depression, the Federal Reserve had doubled the required deposit-reserve ratio.⁸⁶ After the crisis in the early 1930s, the reserves of the banks rose steadily as a precautionary move to prevent the 1931 banking crisis from happening again. The

⁸³ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 443

⁸⁴ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 464

⁸⁵ David C. Wheelock, "Monetary Policy in the Great Depression and Beyond", The Economics of the Great Depression, 1998, 137

⁸⁶ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 469

Federal Reserve, as Walton and Rockoff claim, decided to raise the reserve ratio as they thought the increased reserves were merely extra money in the banks and could not be profitably invested. Considering that, the Federal Reserve doubled the deposit-reserve ratio. However, as a response, the banks "...restore[d] their margin of safety by acquiring more reserves. To do this, they reduced their loans and deposits."⁸⁷ As a result, money supply fell once more. Consequently, investments fell dramatically as banks refused to make new loans. Thus, the economy once again slid into recession.

In summary, the above analysis suggests that the Federal Reserve's misguided policies were ultimately responsible for the Great Depression. Friedman and Schwartz, who conducted an authoritative research on this subject, argued that a distinct shift in policy immediately after the death of Benjamin Strong, who controlled the Federal Reserve until 1928, left the Federal Reserve with lack of leadership. This lack of leadership resulted in policies that led to the financial and banking crises. On the other hand, economists, such as Wicker and Wheelock, argued that there was no distinct shift in the Federal Reserve's policy. Wheelock found no inconsistency in the Federal Reserve's policy by examining the speech Benjamin Strong gave in 1926 regarding his rule of conducting open-market operation. "...by Strong's guidelines, additional open-market purchases were not called for in 1929-1931. ..." said Wheelock.⁸⁸

⁸⁷ Gary M. Walton and Hugh Rockoff, History of the American Economy, 10th edition, 2005, South-Western, 469

⁸⁸ David C. Wheelock, "Monetary Policy in the Great Depression and Beyond", The Economics of the Great Depression, 1998, 135

Conclusion

From my examination, the Great Depression was a combination of economic troubles that began showing their signs in the 1920s. These signs include unequal wealth/income distribution, heavy indebtedness, and a non-sustainable stock market.

Given the extremely unequal wealth distribution, I find that the rich were not spending money fast enough to maintain the growth of the economy. Therefore, the growth in the 1920s slowed down gradually. My examination of the personal consumption expenditure pattern reveals that the increase in luxury good spending was significantly lower than the increase in necessity good spending. Had the spending by the rich on luxury good items grown faster to maintain a healthy demand on manufacturing industries, the wage-cuts and layoffs that took place after the stock market crash could have been less severe.

In addition, the level of indebtedness during 1920s was uniquely high. The growing economy throughout the Golden Age presented average Americans a new lifestyle with modern appliances and automobiles for the first time. With the new concept of consumer credit, a lot of Americans were borrowing to enjoy this new lifestyle. However, this lifestyle wasn't cheap as its cost accounted for a considerable percentage of American disposable income at the time. In addition, the borrowing of the broker loans to invest in the profitable stock market further aggravated the debt problem in the 1920s. It is in such a combination that the stock market crash created such a high level of income uncertainty in the 1930s. Income uncertainty paved the path to a large cut in consumer spending because consumers do so to pay installments, which had high default consequences if installments are not paid. Moreover, the deflation in the beginning of

1930s led to a belief that prices would keep falling. Thus, even though some of the consumers did not have to cut spending to meet payment obligation, they chose to withhold spending with the hope of cheaper products in the future. Therefore, the unique consumer spending behavior led us to the path of a major economic downturn.

Furthermore, the spectacular stock market had created a speculative fever in the society. This was shown in my analysis from both the supply and demand side of the stock market. Corporations kept issuing securities because the high stock prices helped them raise more capital. Investors kept buying stock because they expected the prices would keep rising. Most importantly, the stock market repeatedly turned investors' expectation into reality. The Federal Reserve worried inflation given such a high level of credit and liquidity. As a result, the Federal Reserve launched a series of tight monetary policies hoping to ease the stock market speculation, thus, inflation pressure. Together with the newly elected President Hoover, who set out to bring down the equity prices, the Federal Reserve eventually went too far and crashed the stock market. Subsequently, the Federal Reserve also failed to do what it was created to do during the banking crisis in 1931. This failure made 1931's banking crisis the biggest banking crisis in history and further aggravated the economic condition. The massive bank failures caused the public to accumulate currency. Therefore, the money supply and spending further declined.

The worsening wealth distribution, the high level of indebtedness and the speculative market had set a path for a serious economic downturn. At the same time, the unique economic structure of the 1930s made the economy more vulnerable to recession than any other periods before and after the Great Depression. Together with the Federal

Reserve's disastrous policies, the initial economic downturn ultimately turned into a severe and long depression.

In my opinion, the Great Depression is a combination of unfortunate events, unique economic condition and misguided Federal Reserve policies. However, in hindsight, a lot of programs and agencies have been founded to act as stabilizers in times of crisis, namely, the social security program, unemployment insurance, the Federal Deposit Insurance Corporation and others. Compared to the 1920s, these programs and agencies will mightily ensure that the aggregate demand will not fall as sharply in recessions. Moreover, the economic structure has undergone fundamental changes after the Great Depression. Personal income does not fluctuate as much due to changes in corporation dividend distribution pattern and automatic stabilizers. Employment become less vulnerable to business cycles because of technological progress, greater production and increased white-collar employment. Consumer spending behavior changes favorably to the economic stability as the level of consumer spending remained high in recessions. Therefore, I deduce that the Great Depression is not likely to happen again in the future.

As the quote from President Lincoln at the beginning of this section said, for history to repeat itself, the same set of circumstances shall combine in the same way. After such an expensive and tragic experience that occurred just over 70 years ago, I doubt that neither the Federal Reserve nor the leaders in the Oval office will be fool enough to make the same mistakes again. However, as Hall and Ferguson said, if there is a chance that a group of leaders and the Federal Reserve were to pursue a series of disastrous policies, and if they were to ignore what our almighty economists have to say about it, then yes, it could happen again. After all, it has happened once.

On the other hand, we shall be optimistic about the Federal Reserve's responsiveness to change and its ability to learn from the past. The stock market crisis of 1987 was handled pretty well.

In spite of what happened in the 1930s, America is the most successful, powerful, and advanced economy in the world. This has shown quite an ability to adapt and succeed. As Charles Darwin once said, "It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change."⁸⁹

⁸⁹ About, "Change Quote: a select collection of change quote."
<<http://quotations.about.com/cs/inspirationquotes/a/Change3.htm>>

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