A RECONSIDERATION OF THE REVENUE ACT OF 1932

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The Revenue Act of 1932 surpassed any previous American peacetime tax increase. To many economists a tax increase is an inappropriate response to depression. Notwithstanding, the tax reduced fears about financial instability by temporarily resolving uncertainty about the federal budget.

The Revenue Act of 1932, the largest peacetime tax increase to that date, was signed into law by President Herbert Hoover on June 6, 1932. Most economists have been critical of the act: Keynesian theory, after all, focuses on the contractionary effects of tax increases. Gary Walton and Hugh Rockoff likened the act to "taking a steam bath to reduce a fever," and J. Bradford DeLong characterized Hoover's obsession with a balanced budget as "wrongheaded."[1] Perhaps even less supportive are scholars who emphasize economic distortions caused by higher marginal tax rates, specifically, losses in consumer surplus and sacrificed output from disincentives to work and investment.

The legislation generated a positive reaction that offset the effects described above. Following a brief discussion of the theoretical link between federal budget deficits and confidence, I examine the behavior of securities prices in the United States to reveal investors' uncertainty that the country could remain on the gold exchange standard if federal deficits continued. Because the tax increase temporarily allayed these fears, financial markets and private spending reacted positively until uncertainty about fiscal stability returned later that year. These findings are consistent with those of Harold James, who argued that government deficits may destabilize financial markets by raising doubts about currency convertibility, and Scott Sumner, who suggested that standard views about fiscal policy may not apply under a gold standard.[2] My conclusion is that the Revenue Act of 1932 had an impact that has been overlooked in the literature and that behavioral responses to tax policy are shaped by social, economic, and political circumstances.

BUDGET DEFICITS AND ECONOMIC ACTIVITY

Laurence Ball and N. Gregory Mankiw urged researchers to consider two perspectives when analyzing the macroeconomic effects of federal budget deficits.[3] First, gauge the impact of actual deficits. Fiscal deficits, according to Keynesian theory, may stimulate an economy in the short run by increasing aggregate demand, but several forces may counteract this expansion. Deficits reduce national savings, push up interest rates, and attract financial flows from abroad. Capital inflows increase the exchange rate, and higher exchange rates reduce net exports. Moreover, higher interest rates may dampen investment spending, even though these expenditures are typically insensitive to interest rates during downturns. In the long run, however, the effects of deficits are more straightforward, since persistent imbalances discourage capital accumulation and dampen economic growth. Hence many economists recommend balanced federal budgets over the business cycle.

Second, Ball and Mankiw advised economists to consider the anticipated impact of budget deficits. They described a "hard landing," in which chronic deficits drive up the national debt/GDP ratio and raise the specters of debt default or financing by monetization that leads investors to liquidate securities and thereby push interest rates up, depress currency values, and trigger financial crisis. Because market psychology complicates predictions of a hard landing, Ball and Mankiw cautioned against chronic fiscal profligacy. Robert E. Rubin, Peter R. Orszag, and Allen Sinai drew on the Ball and Mankiw analysis when they warned that twenty-first century expansion of federal debt could lead to a financial crisis.[4]

Controlling the deficit was a key to President Hoover's strategy to reflate the economy in early 1932. Although it is difficult to determine whether the Hoover administration was reacting to public sentiment or influencing it, the evidence from financial markets shows that while investors had shunned risky securities in early 1932, after passage of the tax bill the trend was reversed, a response that suggests uncertainty about federal finances had eroded investors' confidence.

THE BUDGET AND THE DECISION TO RAISE TAXES: SEPTEMBER–DECEMBER 1931

Although the federal deficit of $700 million far exceeded the Treasury Department's forecast of $180 million during fiscal 1931, there had been no official warnings by mid-year about an impending financial crisis. Despite a growing

awareness that a tax increase was needed to balance the budget, the administration claimed that the nation's credit standing was sound enough to meet its near-term financing requirements by borrowing. Given this complacency about the budget, why did Hoover call for a tax increase in late 1931, especially since it could jeopardize his prospects for reelection the following year?

According to Herbert Stein, Hoover's fiscal policy changed shortly after Britain left the gold standard in September 1931.[5] Chastened by their losses on sterling, foreigners predicted that the United States would devalue the dollar, and they responded by converting their dollar holdings to gold for repatriation.[6] To stanch the gold outflow and to maintain the dollar's parity, the Fed raised interest rates sharply. By October 16, the Federal Reserve Bank of New York had increased its discount rate 200 basis points. The rise in rates depressed bond values and eroded the balance sheet values of banks that were already under pressure from depositors' heavy withdrawals. Moreover, the Fed did not counteract the resulting decline in reserves because, as Barry Eichengreen argued, they focused primarily on external balance.[7] Although the Fed engineered a successful defense, the cost was a further deterioration of domestic economic conditions.

The effects of the administration's policy in financial markets can be seen in Figure 1, which presents selected yields on various US securities and the movement of US stock prices for the interwar period.[8] The data, which show a marked increase in interest rates on all bonds (AAA and BAA are long-term bonds with different default risk characteristics; BOND and T31 are yields on long-term treasury bonds and short-term treasury bills) and a sharp decline in stock prices (STOCK), reflect the increase in interest rates engineered by the Fed's defense of the US dollar's gold parity.

Further insight into the market's reaction to events at this time can be found in the risk premia charted in Figure 2. The first series TSPREAD1 shows the difference between the long- and short-term treasury yields. According to David C. Wheelock, this spread is positively related to high and variable rates of expected inflation since it measures the degree of interest-rate risk.[9] Because long-term bond prices fluctuate more in response to changes in interest rates than short-term security values do, this spread should widen when investors expect rates to rise or when they are uncertain about the future path of interest rates.[10] The figures reveal that the spread did widen when Britain left the gold standard, but then dropped sharply as investors grew more confident about the Fed's ability to keep the United States on gold.

Figure 2 also shows two indicators of default risk. TSPREAD shows the difference between the yields on AAA rated corporate bonds and long-term treasuries, and DSPREAD is the spread between the rates on BAA bonds and lower risk securities rated AAA. Edwin J. Elton, Martin J. Gruber, Deepak Agrawal, and Christopher Mann claimed that these spreads reflect additional compensation to cover expected default losses, a tax premium (in TSPREAD) to compensate for exemptions from state taxes on treasury yields (corporate bond yields are not exempt), and a premium that arises when corporate bond risk is undiversifiable. The premium also captures changes in the degree of investor risk aversion. Elton, Gruber, Agrawal, and Mann found that most of the risk premium can be explained by the latter—the same systematic risk factors that influence common stock returns: expected inflation, interest rates, and profitability predictions. This explanation is consistent with the data from the early 1930s.[11]

Consistent with the interest rate movements in Figure 1, the default risk measures rise sharply at the time US and foreign investors questioned the government's resolve to maintain dollar convertibility and decline toward the end of the year after officials took decisive action despite adverse domestic economic consequences. Stock prices were less responsive to the events of that period, as they continued the long slide that had begun in early 1930. However, the graphs show that this behavior was to be short-lived as the focus shifted to the deficit and the ensuing conflict over how it should be financed.

DEFICITS, TAXES, AND CAPITAL FLIGHT: JANUARY–JUNE 1932

By late 1931, the Hoover administration was moving to stimulate real investment by restoring confidence and guaranteeing funds for capital projects. In numerous speeches administration officials claimed a balanced budget was the key to accomplishing these objectives. Federal debt increased $2 billion from 1930 to 1931 and was expected to rise by another $2.8 billion during fiscal 1932. In response, Hoover emphasized fiscal discipline in his State of the Union address on December 8, 1931. According to Albert U. Romasco, Hoover's twenty-one addresses on balancing the budget between December 1931 and April 1932 demonstrated the importance he placed on this issue.[12] Moreover, the typically staid administration began to sound an alarmist tone about the condition of the nation's finances.[13] Treasury Secretary Ogden L. Mills voiced investors' fears:

> What is holding us back is uncertainty and lack of confidence. Business fears an unbalanced budget and unsound monetary legislation more than anything else, and it is this fear and uncertainty rather than the shortage of money and credit which is today preventing recovery, credit expansion, and price increases.[14]

Despite a deteriorating budget, the Hoover administration fought deflation. The centerpiece of their plan to stimulate lending and spending was the Reconstruction Finance Corporation (RFC) introduced in December 1931. The RFC was to sell securities to raise funds to lend to banks, railroads, and other businesses in financial distress. When the program began a month later, the Treasury Department purchased the capital stock of the RFC for $500 million and announced it would borrow up to $3.3 billion. Although only the capital infusion affected the budget at that time, the expansion of the government's borrowing authority alarmed investors.

Foreign holders of dollar-denominated securities, especially the French, were particularly unnerved by these developments. Gold outflows resumed in December 1931 and Charles P. Kindleberger claimed that gold exports to France resulted from fears about the RFC's impact on the size of the federal budget deficit.[15] He described how Professor H. Parker Willis of Columbia University wired Governor Moret of the Bank of France to share his prediction about the inflationary potential of US fiscal conditions: Moret responded by asking the Federal Reserve of New York to resume gold exports at a rate of two shipments per week. Inexplicably, Governor Harrison did nothing to discourage the earmarking and export of gold.

Capital outflows complicated the difficult choices faced by Treasury officials, who predicted they would need to finance a $1.5 billion shortfall between January and June 1932. Spending cuts were politically unpopular, given the state of the economy, and tax increases would require a lengthy and contentious legislative process. Moreover, the weakened condition of the bond market made new Treasury issues a questionable prospect. New security sales would accelerate gold outflows and erode bank balance sheets. The Treasury sought the Federal Reserve's cooperation. According to Lester V. Chandler, the minutes of the meeting of the Fed's open market committee on January 11, 1932, revealed they were willing to help.[16] On January 12, 1932, the Fed authorized purchases of up to $200 million in government securities, but by the end of February, no action had been taken. Some

economists argue that purchases were delayed because the United States had insufficient stocks to back the resulting currency expansion.[17] However, the Glass-Steagall Act, passed in February, solved the problem by allowing banks to back Federal Reserve notes with government securities. The Fed then embarked on a massive open-market purchases program on February 24, 1932, that averaged $25 million per week until April 12, 1932, at which time purchases accelerated until the Fed had accumulated an additional $1 billion in securities by August.

Did the open-market program help restore confidence in the government's ability to manage its finances? Given that these purchases monetized the deficit, a practice that had had disastrous inflationary results in several European countries in the 1920s, it is unlikely that investors were reassured. Murray Rothbard has observed that

> for open-market purchases to be pursued when the gold stock was falling was pure folly, and endangered public confidence in the government's ability to maintain the dollar on the gold standard. One reason for the inflationary policy was the huge federal deficit of $3 billion during fiscal 1932. Since the Treasury was unwilling to borrow on long-term bonds from the public, it borrowed on short-term from member banks, and the Federal Reserve was obliged to supply the banks with sufficient reserves.[18]

Moreover, Congress' efforts to pass a tax bill exacerbated uncertainty about federal finances.[19] In late 1931Treasury Secretary Andrew Mellon proposed a sales tax to balance the books and to stimulate business activity. Because his successor Ogden Mills was an adept politician and friend of House Speaker John Nance Gardner, the Hoover administration and many Democrats were confident that a sales tax could be enacted soon after the House Ways and Means Committee began working on the proposal in January 1932.

Although the Committee reported out a sales tax bill by a 21-4 vote on March 4, a growing number of Representatives led by Fiorello La Guardia of New York, Robert L. Doughton of North Carolina, and John Rankin of Mississippi rebelled against the sales tax and sought instead to shift the tax burden to the well-off. On March 18, they rallied the House to pass an income tax increase and then approved higher estate tax rates on March 23. Finally, with the House in pandemonium the following day, the sales tax was

defeated 223-153. Other attempts met a similar fate, culminating in a rejection of a sales tax by a 236-160 vote on April 1. At this time, many politicians felt that imposing a sales tax was hopeless, and after acrimonious deliberation in the Senate over the next two months, Hoover conceded defeat by claiming that any tax package would suffice given the burgeoning deficit.

Activity in financial markets and comments by officials indicated that the country was in a considerable state of uncertainty until the Revenue Act was passed on June 18, 1932. Figure 2 shows that all three risk premia reached their highest levels in the Great Depression during the first half of 1932, and stock prices charted in Figure 1 fell to their lowest point during this period. Much of this performance can be blamed on the failure to harness the deficit. Peter Temin argued that the behavior of bond risk premia in the early 1930s could be explained by an increase in risk aversion among investors in response to an increase in systematic risk—a finding consistent with those of Elton, Gruber, Agrawal, and Mann, who used more recent data.[20]

The graphs show that the risk premia rose during the tax debates during which Congressman Charles A. Eaton (R, NJ) claimed that "uncertainty and madness" prevailed. While Congressional members bickered, foreigners liquidated their dollar-denominated holdings, and the Fed increased their Treasury bill purchases despite the potential for inflation. Furthermore, these political battles raised the prospect of social instability. Albert Johnson (R, WA) said that efforts in the House to tax the wealthy were "a desire to actually take away the property of the rich. Socialism and then some."[21] Because Treasury Secretary Ogden Mills considered "the final form of the revenue act of 1932...very uncertain up to the time of passage by Congress during the first week of June," these opinions prevailed until the tax legislation was passed.[22]

THE AFTERMATH OF THE REVENUE ACT OF 1932

The popular press reported that despite their displeasure at the prospect of higher taxes, most people were relieved by the passage of the tax bill. A June 15 headline in *Business Week* provided a glimpse of business sentiment: "The tax act, whatever its faults, at least concludes the horrible uncertainty." Shortly after the legislation was signed, capital outflows reversed, and the Fed sharply curtailed its open-market purchases by July. The behavior of the risk premia shown in Figure 2, with the date of tax bill marked by vertical lines, is consistent with restored confidence. All three measures—but espe-

cially the quality spread—declined significantly, and stock prices also rallied at this time. Did real activity recover as well?

Half-a-century after the fact, the seasonally adjusted industrial production index constructed by Jeffrey Miron and Christina Romer fell in July, rose in August, and then remained steady in September.[23] Contemporary accounts were more optimistic. The US Department of Commerce observed that business conditions improved between July and September 1932 and held steady until November,[24] and Ray Lyman Wilbur and Arthur Mastick Hyde wrote:

> As quickly as it became evident at the end of June 1932 that the President would secure a large part of his financial program; that he would defeat destructive legislation; that credit would flow free; that the American dollar would ring true on every counter of the world, at once new hope sprang up in the country...The prospect of balanced budgets and stabilized currencies all began to have their effect."[25]

Wilbur and Hyde noted that the industrial production index rose from 56 in July to 68 in September, bank failures slowed, gold imports resumed, new construction contracts increased 30 percent, and department store sales rose 8 percent.

Higher tax rates may have contributed to the worsening of economic conditions between late 1932 and early 1933 by lowering aggregate demand. But the impact of a fiscal lag is lost in an array of contractionary forces such as fears about Franklin Roosevelt's commitment to the gold standard and a resurgence of banking problems.

CONCLUSION

Financial market behavior suggests that both the Hoover administration and US investors were concerned about the country's finances during the first half of 1932. Could the federal budget deficit be controlled, and if not, would the US be forced off the gold standard? By signing the Revenue Act of 1932, President Hoover temporarily calmed these fears and spurred securities markets.

As it became likely that Hoover would lose the 1932 election to Roosevelt, uncertainty about the new administration's commitment to the gold standard combined with budget problems to roil financial markets. A short recovery and a complex of economic forces complicate an econometric

evaluation of the tax legislation. Notwithstanding, market response to the Revenue Act of 1932 shows that the difficulty of predicting investors' reactions to mounting federal debt and debt-management policies does not free officials from fiscal responsibility.

NOTES

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1. Gary M. Walton and Hugh Rockoff, *History of the American Economy*, 8th ed. (Fort Worth, TX: Dryden Press, 1998), 532; and J. Bradford DeLong, "Fiscal Policy in the Shadow of the Great Depression," in *The Defining Moment: The Great Depression and the American Economy in the Twentieth Century*, ed. Michael D. Bordo, Claudia Goldin, and Eugene N. White (Chicago: University of Chicago Press, 1998), 67–85.
2. Harold James, "Financial Flows across Frontiers during the Interwar Depression," *Economic History Review* 45, no. 3 (1992): 594–613; and Scott Sumner, "News, Financial Markets, and the Collapse of the Gold Standard: 1931–32," in *Research in Economic History*, ed. Alexander Field, Gregory Clark, and William Sundstrom (Greenwich, CT: JAI Press, 1997), 17:39–84.
3. Laurence Ball and N. Gregory Mankiw, "What Do Budget Deficits Do?" in *Budget Deficits and Debt: Issues and Options* (Kansas City: Federal Reserve Bank of Kansas City, 1995), 95–119.
4. Robert E. Rubin, Peter R. Orszag, and Allen Sinai, "Sustained Budget Deficits: Longer-Run U.S. Economic Performance and the Risk of Financial and Fiscal Disarray" (Paper presented at the meeting of the American Economic Association, San Diego, CA, January, 2004).
5. Herbert Stein, *The Fiscal Revolution in America*, rev. ed. (Washington, DC: AEI Press, 1990), 26–38.
6. Milton Friedman and Anna J. Schwartz claimed that the unloading of bills by foreigners reached "panic proportions at this time." *A Monetary History of the United States, 1867–1960* (Princeton, NJ: Princeton University Press, 1963), 316.
7. Barry Eichengreen, *Golden Fetters: The Gold Standard and the Great Depression, 1919–1939* (New York: Oxford University Press, 1992), 294.

8. All financial data are from Board of Governors, Federal Reserve System, *Banking and Monetary Statistics* (Washington, DC: Federal Reserve System, 1943).
9. David C. Wheelock, "Inflation and Quality Spreads," in *Monetary Trends* (St. Louis, MO: Federal Reserve Bank of St. Louis, November 1997).
10. J. Peter Ferderer and David A. Zalewski (1994) estimated another measure of interest-rate risk—the risk premium embedded in the term structure of interest rates—for the United States during the interwar period. These values are highly correlated with those presented in this paper. "Uncertainty as a Propagating Force During the Great Depression," *Journal of Economic History* 54, no. 4 (December 1994): 825–49.
11. Edwin J. Elton, Martin J. Gruber, Deepak Agrawal, and Christopher Mann, "Explaining the Rate Spread on Corporate Bonds," *Journal of Finance* 56, no. 1 (February 2001): 247–77.
12. Albert U. Romasco, *Poverty of Abundance: Hoover, the Nation, the Depression* (New York: Oxford University Press, 1965), 222.
13. Robert Higgs claimed that Hoover employed "emergency" rhetoric as a political ploy to enact his program. *Crises and Leviathan: Critical Episodes in the Growth of American Government* (New York: Oxford University Press, 1987), 164.
14. Quoted in Romasco, *Poverty of Abundance*, 228.
15. Charles P. Kindleberger, *World in Depression: 1929–1933* (Berkeley: University of California Press, 1986), 182.
16. Lester V. Chandler, *American Monetary Policy: 1928–1941* (New York: Harper & Row, 1971), 178–79.
17. See Elmus R. Wicker, *Federal Reserve Monetary Policy: 1917–1933* (New York: Random House, 1966), 167; and Gerald Epstein and Thomas Ferguson, "Monetary Policy, Loan Liquidation, and Industrial Conflict: The Federal Reserve and the Open Market Operations of 1932," *Journal of Economic History* 44, no. 4 (1984): 957–83.
18. Murray Rothbard, *America's Great Depression*, 3d ed. (Kansas City: Sheed & Ward, 1975), 266–67.
19. See Jordan A. Schwarz, *Interregnum of Despair: Hoover, Congress and the Depression* (Urbana: University of Illinois Press, 1970) for a detailed account of political conflicts during tax legislation debates.
20. Peter Temin, *Did Monetary Forces Cause the Great Depression?* (New York: Norton, 1976), 120.

21. Eaton's and Johnson's quotes are from Schwarz, *Interregnum of Despair*, 125.
22. U.S. Department of Treasury, *Annual Report of the Secretary of the Treasury on the State of the Finances for Fiscal Year ended June 30, 1932* (Washington DC: 1932): 73.
23. Jeffrey A. Miron and Christina D. Romer, "A New Monthly Index of Industrial Production, 1884–1940," *Journal of Economic History* 50, no. 2, (June 1990): 321–37.
24. U.S. Department of Commerce, *World Economic Outlook* (Washington DC: 1933).
25. Ray Lyman Wilbur and Arthur Mastick Hyde, *The Hoover Policies* (New York: Scribner, 1937), 524.

FIGURE 1

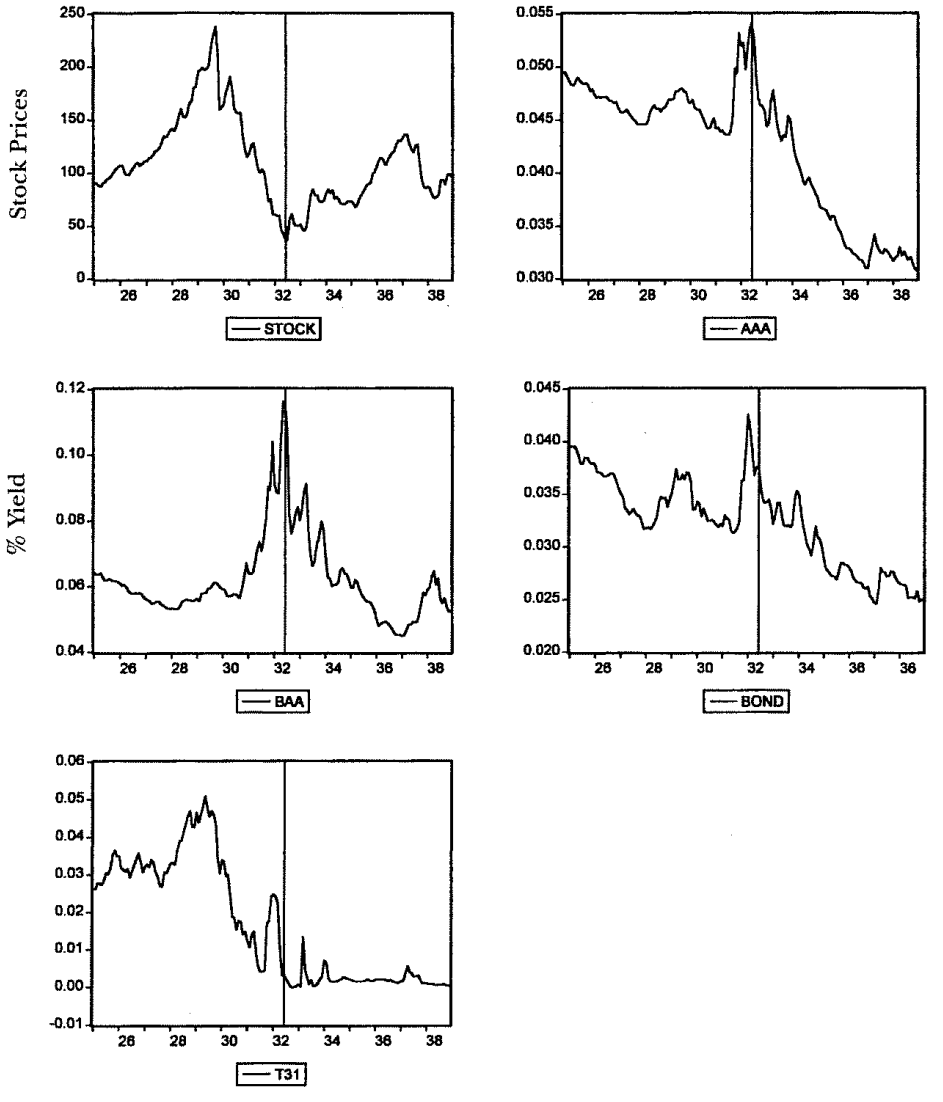
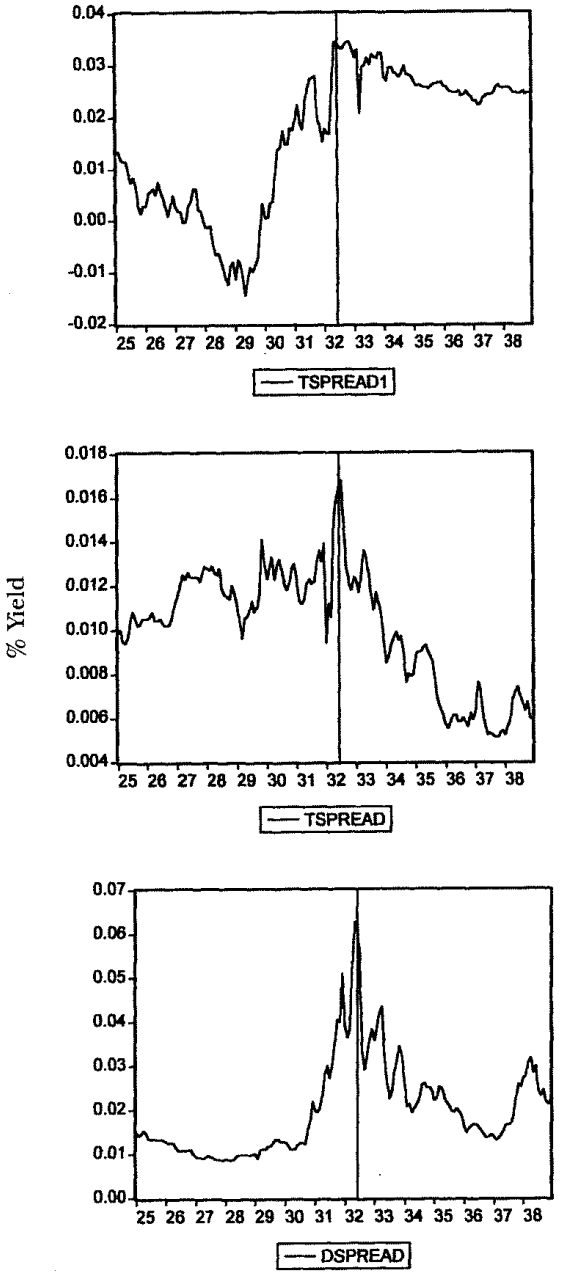


FIGURE 2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TSPREAD1
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TSPREAD
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25 26 27 28 29 30 31 32 33 34 35 36 37 38
DSPREAD