



The restoration of the gold standard after the US Civil War: A volatility analysis



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ABSTRACT

This paper presents a new view on the gold price of greenbacks during and after the American Civil War by analyzing exchange-rate volatility rather than exchange-rate levels. Our empirical investigation detects regimes of high and low volatility alternating in a way that is consistent with a theoretical exchange-rate model in which the rate is primarily driven by investors' expectations and not by fundamentals. We interpret these findings as evidence that monetary policy makers were surprisingly able to credibly announce the resumption to gold half a year before it actually took place on January 1, 1879. Given the intense political debate about the appropriate design of the United States' financial system, this is a remarkable result. It indicates that the policy makers' ability to anchor investors' expectations is relevant to achieving asset-price stability as well as effectiveness of financial market regulation. The insights from this historical episode should therefore be of interest to policy makers and regulators combating financial crises like the ongoing current debt crises worldwide.

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1. Introduction

The Civil War was not only a decisive moment in American history but also a fundamental turning point in financial development. The return to the gold standard constituted an important signal to financial markets worldwide since this monetary regime was appreciated by almost all major countries until World War I and ultimately let the US dollar inherit the role of the leading world currency from the British pound. However, within the US bullionists and inflationists fought a fierce political battle over the expected distributional consequences of either monetary regime.

In this paper we study the period between the end of the American Civil War and the return to gold in 1879 and contribute to the theoretical debate on the factors that may drive exchange rates. In the literature covering this debate two opposing opinions predominate. On the one hand, monetarists like [Friedman and Schwartz \(1963\)](#) argue that exogenous macroeconomic fundamentals like money supplies, price inflation and price parities cause the high premiums on gold. This view is supported, *inter alia*, by [Kindahl \(1961\)](#), and [Officer \(1981\)](#). On the other hand, [Calomiris \(1993,](#)

[1988, 1985\)](#) strongly opposes this view by stating that expectations are more important to the greenback exchange rate than the classical fundamentals (like money supplies). Consequently, [Calomiris](#) supports the research pursued, among others, by [Mitchell \(1903\)](#) and [Willard et al. \(1996\)](#) who attempt to incorporate news and significant events in their study of the greenback markets. However, besides these opposing views other authors (e.g. [Smith and Smith, 1997](#)) argue that both expectations and macroeconomic fundamentals did play a role in the evolution of the greenback exchange rate.

In this paper we make contributions to both the financial history of the US and to the debate on the factors that drive exchange rates. To this end we implement a so-called Markov-switching GARCH model that has recently emerged in the macrofinance literature (see for example [Wilfling, 2009](#)) and which enables us to analyze time-varying conditional variances of daily greenback-gold exchange rates.

More explicitly our methodology helps us to identify distinct phases (regimes) of high and low exchange-rate volatility. Since such distinct exchange-rate volatility regimes can easily be reconciled with market participants' expectations on future changes in the exchange rate (rather than with changes in fundamentals), we interpret our results as empirical evidence that agents had anticipated the exchange-rate fixing associated with the return to the gold standard beforehand. In particular, our econometric analysis detects a regime switch from high to low exchange-rate

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volatility several months before the actual resumption thus supporting Calomiris' view that expectations may have mattered more than macroeconomic fundamentals.

Our econometric technique also provides a new means of gauging the Civil War and the postbellum period. Initially, from a financial investor's perspective, our results reflect the considerable political uncertainty that characterized the postbellum years. However, the switch to a low volatility regime long before the actual resumption date demonstrates that policy makers were surprisingly able to commit to their announced resumption plan.

This paper contains six sections. In [Section 2](#), we briefly review the historical background for which we rely on some of the established historical literature (e.g. [Mitchell, 1903](#); [Friedman and Schwartz, 1963](#); [Unger, 1964](#)). [Section 3](#) presents our data set. In [Section 4](#), we specify our econometric model in the form of a two-regime Markov-switching GARCH model. [Section 5](#) presents the estimation results while [Section 6](#) offers some concluding remarks.

2. Historical background

Before the Civil War the US money supply consisted of gold and silver coins, copper pennies, and notes issued by state or private banks. All non-specie money could principally be converted into gold. There was no paper money issued by the federal government. However, the US was practically on a gold standard since the relative price of gold to silver was higher than the world-market price so that not many silver coins were in circulation.

Bank notes were issued by hundreds of private or state banks under at least as many banking laws as there were states, and their solvency varied extremely ([Unger, 1964](#), p. 17; [Friedman and Schwartz, 1963](#), pp. 16–19). In order to put the banking system in order, the so-called national banking system was installed in the year 1863 under federal law. These banks issued notes and had to deposit federal bonds with the Treasury, thus they also served the fiscal needs of the government. The national bank notes could be exchanged for greenbacks (i.e. federal money) at par and were thus equivalent to legal tender notes. They were supervised by the Comptroller of the Currency, a position that was then created and has been existing until today. Although initially subject to resistance by the banking community, 1600 national banks existed by the end of 1865, many of which were former state banks.

The introduction of national banks in addition to federal money alongside the circulation of state and private bank notes created a more than confusing situation. It reflected the deep and prolonged struggle for a monetary system that served the very diverse interest groups in the country as well as municipal, state and federal governments. The creation of the federal reserve system just before the First World War was finally a decisive step toward a more centralized monetary system. In its history, it experienced its only fiat money regime (before the official end of Bretton Woods in 1973) in the greenback period.

The greenback was introduced at the beginning of the Civil War. The Unionist government encountered difficulties in selling sufficient bonds to finance its war efforts, which led to the suspension of specie payment by private banks and the government on December 30, 1861. This was partly due to the increased war expenditures and the low confidence in public securities and to some extent to the lack of confidence in the government and the prospects of the war. These were gravely tampered by the danger of a war with the United Kingdom because of the Trent affair (an incident in which two Confederate envoys were captured from the British Mail steamer Trent). The government reacted by issuing an inconvertible currency which became rapidly known as the 'greenback' to cover war expenditures. Three Legal Tender Acts

in February 1862, July 1862, and January 1863 put around \$450 million greenbacks into circulation.

However, since transactions with foreigners and the payment of customs duties and tariffs required gold, greenbacks did not constitute a perfect substitute for gold dollars. Consequently, a market emerged soon after the greenback issuance and the greenbacks depreciated from par, the main reasons for the depreciation being the increased demand induced by the government's war spending, the expansionist fiscal policy, negative trade balances and also war news. Bad news induced hoarding in an expectation of a higher gold price while good news prompted people to sell gold in anticipation of declining prices. Nevertheless, contemporaries believed this to be a temporary measure and the parity to be restored after the war, although nothing had been specifically declared ([Willard et al., 1996](#), p. 1003; [Unger, 1964](#), p. 16). Meanwhile, greenbacks served as legal tender in most parts of the country where prices were quoted in greenbacks and gold was valued at its current premium market price. Only at the West Coast prices were quoted in gold and discounted to greenback prices at the current market value.

The time after the Civil War saw a huge decline in commodity prices which may be ascribed to the contraction efforts undertaken by the Secretary of the Treasury, Hugh McCulloch ([Comptroller of the Currency, 1865](#), pp. 6–7). These efforts were affirmed by the Congress in December 1865, but later restricted by the Congress in April 1866 and finally completely ceased in 1868 (see [Table 1](#)). In addition, 'natural growth' reduced price levels as the money stock was held fairly stable.

Three legal decisions in 1868 reduced the role of greenbacks in business transactions. (1) In *Lane County vs. Oregon* it was ruled that state taxes could only be paid in specie, but not in legal tender notes. (2) In *Bronson vs. Rhodes* the Supreme Court decided that contracts demanding payment only in specie were legal. (3) In *Bank of New York vs. Board of Supervisors* the state was denied to levy property taxes on state notes which meant that the court did not consider them as money. The decision about the legal status of greenbacks was engaged by the Supreme Court in 1869. Initially, it was ruled under Chief Justice Chase (who himself at that time had issued the Legal Tender Acts) that greenbacks had no legal tender status for contracts before the Legal Tender Acts. Owing to the accession of two new members to the court, this decision was reversed in 1871 when it was ruled that the government had the right to issue legal tender notes. However, the issue was not settled before 1884 when it was ruled that the government was eligible to do so also in times of peace. The government's commitment to debt payment in coin was shown when President Grant came to power and the gold-payment bill was enacted – which obliged the government to pay its debt in specie (March 18, 1869 in [Table 1](#)).

In the fall of 1873, the railroad boom suddenly came to an end and the subsequent banking panic marked the beginning of a crisis in most parts of the country. For the rest of the decade the currency problem and the conduct of financial policy became the issues of major public and political concern. President Grant was cautious in following either expansionary or contractionary monetary stances, an attitude that deeply confused the public opinion. [Mixon \(2006\)](#), for example, reports that the business community characterized the situation as "frustrating, uncertain, and unclear, and the finger of blame is clearly pointed at the government."

After a period of controversial debate the Inflation Bill finally emerged in 1874. The bill was to provide for additional national bank note circulation and to return to the \$400 million of greenbacks which had circulated before the contraction measures in the 1860s. It was intended to resume specie payment on January 1, 1876. Although a rather modest measure, it represented a retreat from the resumption policy and therefore conservatives appealed

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