



# In search of a safe haven in times of turbulence: Effects of First Republic Bank failure on global asset markets

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## ABSTRACT

The failure of First Republic Bank (FRB) – the largest bankruptcy in the US banking system since the GFC – may send chilling effects through different asset markets in the US and even worldwide. This paper aims to clarify the effects of FRB failure on several assets and figure out potential safe havens for investors during the 2023 US banking turmoil. Results from the event study approach reveal that eleven particular assets are relatively safe during the current turbulence. Several important implications are made for investors, portfolio managers, and policymakers.

## 1. Introduction

The year 2023 has witnessed banking turmoil with a series of bank runs and bank collapses that exhibit no sign of dissipating. The latest bankruptcy exposed in the US banking system was the case of First Republic Bank (hereafter - FRB) – the largest victim in the banking system turmoil happening in the US. The collapse of the FRB may make a bad situation even worse as it is ranked as the 14th largest commercial bank in the US – even greater than the Silicon Valley Bank (SVB) that broke out before (which was the 16th largest bank in the US). Similar to the collapse of the FRB (which marks the second-largest bankruptcy in the US banking system since the eruption of the global financial crisis-GFC in 2008, Yousaf and Goodell, 2023), the case of FRB is also one of the most noticeable US bank failures over the past decade. These events bode ill not only for the US economy but for other economies in the world [1]. The fourth case of bank collapse (FRB failure) in a short period of time may also signal that a full-blown banking crisis (even economic crisis) is imminent which in turn, necessitates the need for investors (individual and institutional alike) to find safe havens for their assets to limit and minimize their risks as well as protect their wealth.

Regarding the impact of the eruption of banking turmoil in the US since early March 2023, there have been several studies examining the impact of the SVB collapse on different assets and/or sectors. Yousaf and Goodell [2] examine the impact of the SVB collapse on several sectors in the US equity market. Yousaf et al. [3] explores the effects of this collapse on global financial markets

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while Yadav et al. [4] analyse the contagion of the SVB collapse to the top nine global equity indices.

As the FRB has just been declared bankrupt and to be bought by JP Morgan Chase at the beginning of May, there has been no study examining its possible contagious effects. This study, therefore, aims to fill this void in the literature and make several novel contributions to it. First, to the authors' best knowledge, this paper is the first-ever one examining the impact of the FRB collapse on several types of assets (oil, equity, bonds, foreign exchange, energy, metal, and cryptocurrency) – which may provide different stakeholders with a comprehensive examination of potential risks arising from the banking turmoil. For investors, it can also help investors select safe assets and make informed decisions about whether to buy, sell, or hold their current portfolios. For US policymakers and regulators, results from the papers may help them examine whether their corrective actions and measures to deal with bank failures are effective or not. For policymakers and regulators in the rest of the world, findings from the paper may help them better-prepared to deal with potential macroeconomic shocks from these assets. Second, even though there have been several studies examining the effects of black-swan events (the COVID-19 pandemic, and the Russia-Ukraine war) but most of them only considered individual stock indices or individual industries. On the other hand, this study investigates the impact of the FRB collapse on major assets classes, namely: Brent crude oil, WTI, S&P 500 index, USD Index, US T bill, FTSE4 Good Global 100 Index, S&P Global Clean Energy, Gold, Silver, Bitcoin, and Ethereum.

## 2. Background

This study is motivated by the fact that since the start of the decade, the world has been experiencing major unexpected events, ranging from the outbreak of the COVID-19 pandemic to the ongoing Russia-Ukraine war and the failures of major US commercial banks. These events have created tremendous shocks in the global economy with long-lasting effects on different markets, prompting researchers to call for examinations and/or investigations of the contagious effects of these unexpected shocks and reputational events on various aspects of the economy. Yadav et al. [4] argue that the failures of big financial institutions like the SVB before (and FRB now) may inflict severe consequences on the US financial system which in turn, can release adverse impacts on the resilience and stability of the system or even cause contagion effects spreading across markets and borders. Being prompted by the need to understand these potential impacts to safeguard the financial system as well as protect investors' portfolios, this study employs an event study approach to search for safe assets in the context of the banking turmoil (which can eventually develop into a full-blown banking crisis).

To illustrate the severity of the failure of FRB, the Financial Times [5] says that even after being acquired by JP Morgan Chase, the costs incurred by the Federal Deposit Insurance Corporation (FDIC) will stand at about 13 billion USD. It is also reported that in the first quarter of this year, depositors have withdrawn more than 100 billion USD from FRB. Even though on March 16th, FRB was injected with nearly 30 billion USD from other commercial banks to prevent any possible bank run, the problems did not improve. On March 19th, the credit rating agency S&P announced a downgrading of FRB with a negative outlook for this 14th largest commercial bank in the US. One month later, on April 28th, FRB started selling off its assets (bonds and securities) at a loss and firing its employees. On the same day, the FDIC declared its plans to seize the bank and on May 01<sup>st</sup> the FDIC announced that JP Morgan Chase will acquire the FRB. Unlike the problems with SVB (which relied mainly on technology startups), the FRB mainly focused on wealthy customers which implies that the net value of their assets would far exceed the coverage limit by the FDIC (which is currently 250,000 USD). Therefore, a big challenge arising from this bankruptcy is to find a safe alternative to deposits at this bank. This study aims to provide (part of) the complete answers by using an event study approach.

The event study approach was developed by Fama [6] about 50 years ago based on the assumption of the Efficient Market Hypothesis (EMH). Under EMH, financial markets are assumed to be efficient, implying that all publicly available information is incorporated into asset prices. The event study approach assumes that news and information will be fully and immediately reflected in asset prices following the eruption of an event on a stock's price [4]. Since its introduction, the event study approach has been widely utilized in empirical finance studies to gauge the impact of major events (macroeconomic shocks, regulatory news, and corporate news) on stock prices [7–11].

Recently this event study method has also been utilized to explore the impacts of unexpected events (black swans) on various aspects of the economy. For example, Yarovaya et al. [12] explore the transmission mechanism of the COVID-19 pandemic to financial markets. With respect to the Russia-Ukraine war, Cui et al. [13] investigates the impact of the Russia-Ukraine war on various aspects of the economy and the environment. Meanwhile, Saâdaoui et al. [14]; Yousaf et al. [15]; Boubaker et al. [16]; Khalfaoui et al. [17] also investigate the effects of this conflict on different markets. Corbet and Goodell [9] examine the contagion effects of a reputational attack on a major energy firm.

## 3. Data and methodology

The quarterly results of the First Republic Bank (FRB) reported a plunge of more than \$100 billion in deposits. The report was published on 24th April (2023) which resulted in panic selling and led to a drop of more than 20% in its stock price.

We use the event study approach to find the impact of this event on the chosen 11 assets namely Brent crude oil, WTI, S&P 500 index, USD Index, US T bill, FTSE4 Good Global 100 Index, S&P Global Clean Energy, Gold, Silver, Bitcoin and Ethereum using event study methodology. To perform the event study, a constant mean approach is employed as most of the asset classes employed in this paper are benchmarks themselves and hence employing CAPM or market adjusted models are not applicable in our case.

As mentioned above, FRB witnessed a deposit withdrawal of more than \$100 billion and a massive drop in share prices on April 24, 2023. We use this as an event day. The estimation window for the study is 120 days (October 20, 2022 to April 14, 2023). Finally, we

**Table 1**

Abnormal returns on event day This table reports the abnormal returns for 11 global assets on the day event day. \*\*\* significant at 1%, \*\* significant at 5% & \*significant at 10%.

Assets	Abnormal returns (AR)	t stat AR
S&P 500 Index	0.00%	-0.0031
Silver	0.71%	0.3692
Gold	0.31%	0.3036
FTSE4Good Global 100 index	-0.17%	-0.1493
S&P Global Clean Energy Index	-0.11%	-0.0814
USD Index	-0.40%	-0.6706
US Treasury Bills	-0.32%	-0.1289
Bitcoin	-0.60%	-0.1814
Ethereum	-1.46%	-0.3538
Brent Crude Oil	1.35%	0.6379
WTI Crude Oil	1.20%	0.5383

**Table 2**

Aggregate Assets' AARs and CAARs for the pre and the post-event days This table reports the aggregate abnormal returns (AARs) and the cumulative aggregate abnormal returns (CAARs) for 11 global assets, pre and post event. \*\*\* significant at 1%, \*\* significant at 5% & \*significant at 10%.

Dates	AAR	t stat AAR	CAAR	t stat CAAR
t-5	-0.80%	-0.7397	-0.80%	-0.7397
t-4	0.38%	0.3551	-0.42%	-0.2719
t-3	-1.74%	-1.6056	-2.15%	-1.1490
t-2	-0.90%	-0.8357	-3.06%	-1.4129
t-1	-0.88%	-0.8164	-3.94%	-1.6289
t	0.05%	0.0426	-3.90%	-1.4696
t+1	-0.83%	-0.7681	-4.73%	-1.6509*
t+2	-1.16%	-1.0742	-5.89%	-1.9240*
t+3	1.32%	1.2215	-4.57%	-1.4068
t+4	0.17%	0.1605	-4.39%	-1.2838
t+5	-0.70%	-0.6439	-5.09%	-1.4183

define the event day as t-5 to t+5 days (April 17, 2023 to May 1, 2023) where t is the event day. The estimation window and the event day is defined as per Yousaf et al. [15] and MacKinlay [18]. The overall period is from October 20, 2022 to May 1, 2023.

We calculate the abnormal returns (ARs) and the cumulative abnormal returns (CARs) following Brown and Warner [19].

$$AR_{i,t} = R_{i,t} - \bar{R}_i \tag{1}$$

In the above equation,  $R_{it}$  is the actual return of each asset class 'i' on day t whereas  $\bar{R}_i$  is the mean return.

Once we get the ARs of each index, we estimate the CARs as follows:

$$CAR_{i,p-q} = \sum_{t=p}^q AR_{i,t} \tag{2}$$

Where  $CAR_{i,p-q}$  is the CAR of each asset class throughout the event window defined as p-q.

As a usual practice in event study approach, the mean return is the average return over the estimation window (120 days).

#### 4. Findings and discussion

Table 1 presents the abnormal returns on the event day for all the selected assets. The results show that none of the selected asset classes responded to the announcement.

In Table 2, we report the Aggregate abnormal returns (AARs) and Cumulative aggregate abnormal returns (CAARs) of the asset classes from t-5 to t+5 days. The results show that AARs of the asset classes are insignificant whereas CAARs for the asset classes post event (t+1 and t+2) are significantly negative.

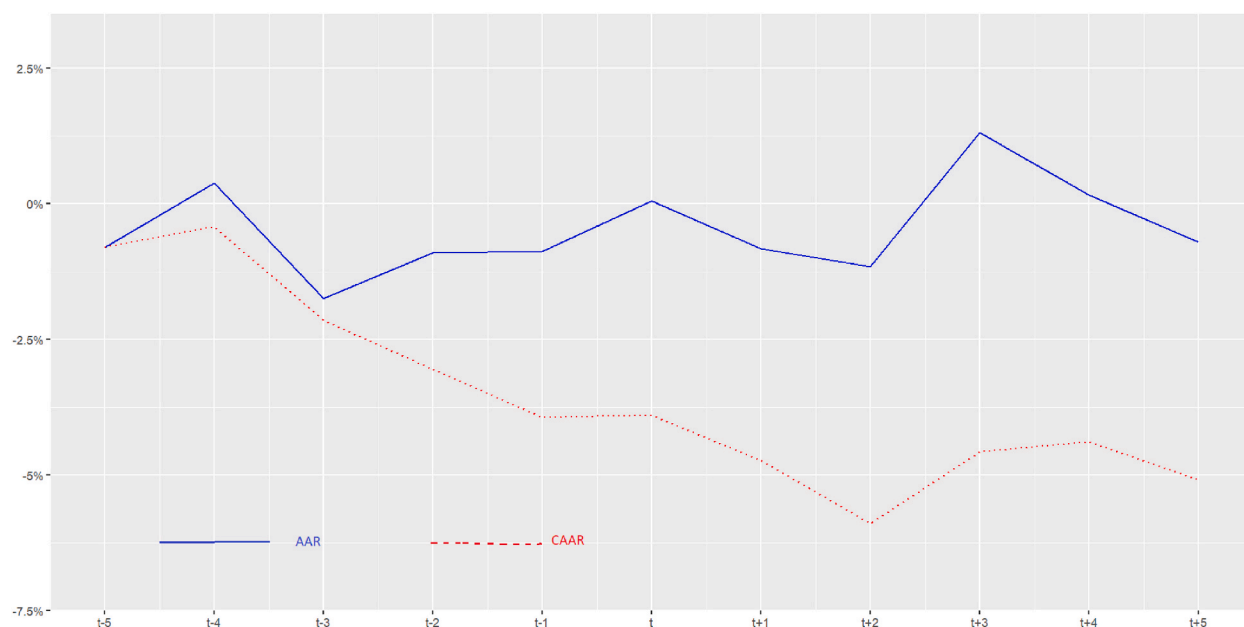
Cumulative abnormal returns (CARs) for the asset classes on t-5, t-3, t-1, t+1, t+3, and t+5 days are presented in Table 3. In line with earlier results, we do not find any significant response of individual asset classes to the announcement of FRB's quarterly results. We also plot the AAR and the CAAR graphs during the event window in Fig. 1.

As a summary, we do not find any significant response of our sampled asset classes to the quarterly result announcement of FRB. In other words, our findings indicate no evidence of reputation contagion from FRB's poor showing to global asset classes. This implies that these assets are immune to such events and hence can be part of portfolios to diversify and protect the downside risk. These findings are in sharp contrast with those reported in case of Azmi et al. [20]. There could be at least two reasons for such findings. First, the investors in these asset classes may have already made adjustments to the recent debacles (Silicon Valley Bank, Signature bank, and

**Table 3**

Asset wise CARs. This table reports the aggregate cumulative abnormal returns (CARs) for 11 global assets for 5 days before and 5 days after the event. \*\*\* significant at 1%, \*\* significant at 5% & \*significant at 10%.

Assets	t-5		t-3		t-1		t+1		t+3		t+5	
	CAR	t value	CAR	t value	CAR	t value	CAR	t value	CAR	t value	CAR	t value
S&P 500 Index	0.24%	0.1930	0.13%	0.0061	-0.57%	0.0061	-2.25%	-0.6937	-0.85%	-0.2325	-0.25%	-0.0619
Silver	-1.72%	-0.9007	-0.25%	-0.0756	-1.99%	-0.4645	-3.25%	-0.6428	-3.30%	-0.5751	-3.74%	-0.5891
Gold	-0.56%	-0.5385	-0.67%	-0.3739	-1.81%	-0.7843	-1.42%	-0.5211	-1.54%	-0.4959	-2.19%	-0.6391
FTSE4Good Global 100 index	-0.18%	-0.1580	-0.36%	-0.1832	-0.82%	-0.3183	-2.36%	-0.7769	-1.01%	-0.2940	-0.41%	-0.1065
S&P Global Clean Energy Index	1.49%	1.0665	0.80%	0.33117	0.63%	0.2029	-1.02%	-0.2778	-4.02%	-0.9617	-6.10%	-1.3192
USD Index	0.61%	1.0326	0.63%	0.6105	0.62%	0.4688	0.81%	0.5139	0.60%	0.3378	1.36%	0.6893
US Treasury Bills	0.74%	0.3019	-0.86%	-0.2029	-1.94%	-0.3532	-4.57%	-0.7042	-1.57%	-0.2136	0.11%	0.0130
Bitcoin	-3.19%	-0.9634	-5.73%	-0.9993	-11.79%	-1.5912	-9.82%	-1.1202	-6.28%	-0.6318	-11.42%	-1.0396
Ethereum	-2.48%	-0.6013	-9.81%	-1.3749	-15%	-1.6278	-15.53%	-1.4251	-13.98%	-1.1311	-17.71%	-1.2957
Brent Crude Oil	-1.76%	-0.8319	-3.62%	-0.9879	-5.28%	-1.1162	-6.26%	-1.1185	-9.11%	-1.4354	-7.83%	-1.1161
WTI Crude Oil	-1.99%	-0.8942	-3.93%	-1.0199	-5.43%	-1.0897	-6.32%	-1.0725	-9.17%	-1.3728	-7.81%	-1.0579



**Fig. 1.** AAR and CAAR graphs during the event window

This figure shows the aggregate abnormal returns (AARs) and the cumulative aggregate abnormal returns (CAARs) for 11 assets, during the event window.

Silergate bank) and hence we find no significant responses in FRB case. Second, and more importantly, the immediate announcement of Federal Deposit Insurance Corporation's taking control of FRB under its control and selling it off to JP Morgan at a subsidized rates could be the underlying reason behind no response of the sampled asset classes.

Federal Deposit Insurance Corporation's early morning decision to take the ailing regional lender First Republic under its control and immediately sell it to JPMorgan Chase at a subsidized price.

## 5. Conclusion

Being the largest failure in the US banking system since the GFC, the FRB collapse may exert disastrous consequences for economies, regulators, and especially investors. This study explores the impact of the FRB failure on several asset markets to figure out a safe haven for investors and other stakeholders in the context of the current banking turmoil (which exhibits no sign of dissipating). Results from the event study approach reveal that none of the chosen eleven assets show significant responses to the FRB failure. In other words, these assets (Brent crude oil, WTI, S&P 500 index, USD Index, US T bill, FTSE4 Good Global 100 Index, S&P Global Clean Energy, Gold, Silver, Bitcoin, and Ethereum) could act as potential safe havens for investors if they want to secure their portfolios and survive the current turbulence in the global financial system in general and in the US banking system in particular.

Our results carry several important implications for a wide range of stakeholders. Investors and portfolio managers, they may wish to switch or diversify their portfolio to these assets to protect their wealth. For policymakers and regulators, higher demand for oil, gold, silver, cryptocurrencies, and other equities may imply that their prices are likely to increase in the future which in turn, may result in higher inflation, fluctuations in the exchange rate and GDP. Therefore, policymakers are strongly advised to take these effects into thorough consideration when they want to craft and implement any relevant policies. Finally, higher demand for US T-bills may further drive their interest rates upward which can make the bad US banking situation even worse. This implication also calls for prompt actions against the potential problems ahead in the US banking system.

## Author contribution statement

Haitham Nobanee; Dipanwita Chakraborty: Conceived and designed the experiments; Performed the experiments; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Philip Anthony Hamill; Xuan-Hoa Nghiem: Conceived and designed the experiments; Performed the experiments; Contributed reagents, materials, analysis tools or data.

Wajahat Azmi: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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## Data availability statement

Data will be made available on request.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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