How interest rates helped precipitate Silicon Valley Bank's collapse

SPEAKERS

Darien G. Leung

Simon J.C. Williams

15:27

Video transcript

Darien Leung (00:06): Three of the four largest bank failures in US history have occurred in the past several months. Today, we're going to talk about Silicon Valley Bank in particular, the macroeconomic factors that led to the US bank failures and potential implications for Canada. My name is Darien Leung. I'm a partner in the debt finance group of Torys' New York office. Before we get into the details of SVB, my colleague, Simon Williams, will outline some of the fundamental concepts that contributed to SVB's collapse.

Simon Williams (00:40): Thanks, Darien. So my name is Simon, I work in the lending structured finance and derivatives groups at Torys. SVB's collapse can really be attributed to two main factors. One is fractional reserve banking, which is really a central component in any bank failure. And the second is the financial whiplash that companies, banks and consumers have experienced with the fastest pace of interest rate hikes in history.

Simon Williams (01:27): Fractional reserve banking dates back to the 15th century. Most modern capitalist economies are based on it. We'll walk through an example here where we have a depositor who could be an individual or a corporation. Let's say they have $100,000 in cash, so no liabilities attached to that. Just cash as a bearer asset.

They deposit the cash into their bank.

The bank's required to keep some portion of that on reserve, either in cash or some cash derivative that becomes easily liquid, such as a Treasury bill. And that's to meet the demands of depositors if and when they take their money out. That percentage is usually around 10-15%. For purposes of this example, we'll call it 10% just to keep things simple.

So the bank has to keep $10,000, which they buy, say, a T-bill with. The remaining $90,000 is free to lend. And so that money re-enters the economy when the bank lends, for example, to a small business owner, we'll call him "Joe" in this example. Joe goes and takes the $90,000 loan from the bank and buys a truck for his business.

The truck vendor will then have $90,000, which they can deposit into their bank. And that bank has to keep 10% of that, $9,000, in high-quality liquid assets, and is free to lend $81,000 and so on. And as this repeats, what we've actually got is the creation of new money. And when you play this out, that $100,000 cash asset with no liabilities attached to it becomes up to $1,000,000, so it's inversely proportional to the reserve requirement, $1,000,000 total. So $900,000 of new money has been created. We have $1,000,000 total, and that is backed by only $100,000 of actual cash. And so the entire fractional reserve banking system is predicated on this bet. It's essentially a probability bet that not all depositors will try to get their money out at the same time.

Simon Williams (03:47): The next factor that really hit Silicon Valley Bank and other banks was just the movement of interest rates. The Fed funds rate, as the key risk-free rate in all of financial markets, is used as a tool of monetary policy to stimulate the economy in times of recession, or more recently times of COVID, cut rates, stimulate borrowing and the creation of new money. That new money enters the economy, consumers and businesses have capital and money they're able to buy goods and services. And that continues until inflation heats up as it is now. And then the Feds are forced to hike rates in an effort to tame inflation. And we can see here the blue line being the Fed funds rate and the inflation rate.

And this cycle, the debt cycle, as it repeats over and over again, what's striking about what's happened most recently is the rate of change of the interest rate hikes. We've had high interest rates before, back in the mid-eighties, interest rates got up to 17%, 18%, 19%. But never before have we seen just the rate of change of hikes. The Fed funds rate going from near-zero, 25 basis points, and just off the charts up by a factor of 20x to now over 5%. And that has been a key factor in Treasury Bank management.

Simon Williams (05:34): So here we've got a look at yield curves. And in a normal yield curve environment, this is the projection, this is the market's expectation of where interest rates will be in the future. And in normal times, rates are expected to rise over time to reflect the time value of money, the fact that productive capital is tied up, there's an opportunity cost to that.

The lender has to be compensated. However, in times of economic stress, as we have now, short-term rates spike. Again, we've gone from near-zero to over 500 basis points, and the market is expecting a recession and therefore expecting a Fed policy response to that recession, which will be to cut interest rates. And so we get this yield curve inversion where the rates are high now and then taper down. And that proved very difficult for banks to manage.

Simon Williams (06:38): In this diagram, we've got a look here at the COVID period. You can see that the gray bar on the left is the start of the lockdowns, where we have swaths of the economy shut down with various lockdowns. The blue line is the Fed interest rate being cut to near zero. The red is the S&P 500, so notwithstanding a shutdown of the real economy just because of the stimulus, the fiscal stimulus, the CARES Act, all the additional money in the system, the S&P went on to record highs. And it was during this period in early COVID, where the Federal Reserve, who sets policy for the Fed funds rate, told the market that they thought inflation would be transitory.

It was due to supply chains, the Suez Canal was blocked up, etcetera, and essentially told the market, we don't expect to be raising rates any time soon. And in fact, in the summer of 2020, they were famously quoted as saying, We're not even thinking about thinking about raising rates. And banks like SVB took that to heart and took their capital at the time and bought Treasuries.

But at the time they bought them, Treasuries, again the high-quality liquid assets they're required to keep on reserve, those Treasuries were only yielding 1.5%, 2%, but out for 10 years. So when you're holding a fixed yielding asset at 2% and then interest rates spike to 5% or 6%, that asset becomes unmarketable and needs to be marked down. You'd

have to sell that at a discount to par about 15% to 20%. And it's that mark down, that unrealized loss, that was one of the key triggers for the loss of confidence in banks like Silicon Valley.

Simon Williams (08:41): Darien, can I turn it over to you to give us a little more background on SVB in particular and the timeline and how that played out?

Darien Leung (08:48): Sure. Thank you, Simon. So as Simon described, SVBs, Silicon Valley, in addition to other regional banks, were caught in a situation where rising interest rates and an economic weakness was creating a very volatile environment for them. SVB's timeline is particularly interesting I think because it happened so quickly. So I'm going to walk us through really quickly what actually happened.

So on March 8th, two things that day. One, which was not highlighted as much in the news, or we didn't focus on it as much, but it was a harbinger of things to come. Silvergate Capital, which is a California-based crypto bank, announced that it was closing down because it had become the subject of a bank run. In order to pay customer funds on deposit, the bank was forced to sell off debt securities, which they were holding on their books as assets. But as a consequence, they were rendered insolvent. So that happened. At the same time, SVB announces that it needs to raise $2 billion in capital. And like Silvergate capital, SVB was being forced to sell a bond portfolio of $1.8 billion to satisfy customer outflows. So they were both in a situation where they were fundamentally insolvent. March 9th, customers start to panic, and SVB's stock price drops 60%. It's important to note that the client base for SVB was particularly vulnerable or made the bank particularly vulnerable because it comprised venture capital customers and high net-worth individuals. As a consequence, most accounts had high balances and were not fully covered by FDIC insurance, which doesn't exceed $250,000 per account. So throughout the day, people were trying to get their money out of the bank, but by the end of the day, cash had stopped moving. So the next day, with $175 billion of deposits in limbo, the bank is shut down by the FDIC.

Concerns about other regional banks, including First Republic and Signature, as I mentioned earlier, led customers to try to move their cash out of those banks. And stock prices dropped across the board. Meanwhile, regulators were trying to sell the bank, which at the time seemed like the best option so that depositors could at least recoup some of their funds. By Sunday, the Fed, the Treasury and the FDIC announced they were going to step in and all funds would be guaranteed starting, and available for withdrawal the next day, Monday the 13th.

Simon Williams (12:12): So Darien, how exactly did SVB fail?

Darien Leung (12:15): Ultimately SVB failed because of a combination of issues. As I mentioned before, the venture capital market was suffering in the economic downturn, which resulted in deposit outflows. Interest rates, there was a mismatch in terms of borrowing and lending, and also the cost of borrowing was high. This is all with the backdrop of what you described, Simon, in how Treasury management was basically out of whack.

But ultimately SVB failed because it was a classic run on the bank. You may recall we talked about how this all got started by an announcement that the balance sheet was or that the bank was insolvent with everybody running to get their funds out. There was a real concern as to how the bank was going to meet the demand.In any event, it was compounded by the fact that with the click of the button on your phone or your computer, customers were able to withdraw or try to withdraw their deposits. So it happened very quickly.

Simon Williams (13:31): So we have this banking crisis playing out in the US. It sounds like it's contained mostly within the regional banks. We have a swift response by the Fed and Treasury. Is there still a risk of contagion within the US? And perhaps beyond that up in Canada? Are we seeing effects of that playing out here as well?

Darien Leung (13:56): Yeah, that's a great question, Simon. As a reminder, here in the US, we have our large national banks like Bank of America, Citibank, J.P. Morgan, and we have these regional banks, SVB being one of them, and Signature. The regional banks are important because they're specialized in terms of the customers that they service and they fill a role that the larger banks cannot.

They are not in a position to take the risk. They might not know the industry as well. So they're very important. That said, we are seeing a general flight of depositors from those regional banks to the larger banks. So yes, Simon, this is happening. It's still happening now.

So we can't predict how things will play out in terms of regional failures. Hopefully we've identified the factors and we can control going forward how this will all play out. It's important to note, though, that because the regional banks serve an important purpose, the economy, as the economy improves and the banking sector stabilizes, we think regional banks may present an opportunity for Canadian acquirers. So we'll see how that plays out.

The failure of Silicon Valley Bank in March 2023 set in motion a cascade of financial fallout.

Darien Leung and Simon Williams take a deeper look at why SVB collapsed in the context of rising interest rates. In this video they explain:

- How fractional reserve banking works
- Interest rates vs. inflation
- The role of normal and inverted yield curves
- Why fluctuations in interest rates led to SVB's failure
- What SVB's collapse means in perspective

To discuss these issues, please contact the author(s).

Related

VIDEO

Interest rates: a primer

Learn what makes up interest rates and how they impact business and the wider economy.

JUN 26, 2023

VIDEO

An in-depth look at the transition from CDOR to CORRA

We explain how this once-in-a-generation change will impact your deals.

JUL 24, 2023