Exploring Financial Cataclysm of Silicon Valley Bank (SVB) and Analysing Credit Suisse Fiasco Tangentially.

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Schema of Presentation

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About Silicon Valley Bank

- Silicon Valley Bank, which catered to the tech industry for three decades, collapsed on March 10, 2023, after the Santa Clara, California-based lender suffered from an old-fashioned bank run.
- Silicon Valley Bank (SVB), a subsidiary of SVB Financial Group, was the 16th largest bank in the United States. The bank had assets of about $209 billion in December 2022.
- Silicon Valley Bank provided business banking services for companies at every stage, but it was particularly well-known for serving startups and venture-backed firms.
- According to the company's website, 44% of the venture-backed technology and health care initial public offerings (IPOs) in 2022 were clients of Silicon Valley Bank.

Factors Engendering Silicon Valley Bank Failure

- Raising of interest rates by Federal Reserve.
- Cash crunch for some Bank's clients.
- Selling of Bond Portfolio at a loss.
- Loss in Stock Sale.

Chronology of Collapse

Date (2023)	Events
March 8	Silicon Valley Bank announced its $1.8 billion loss on its bond portfolio, along with plans to sell both common and preferred stock to raise $2.25 billion. In the aftermath of this announcement, Moody's downgraded Silicon Valley Bank's long-term local currency bank deposit and issuer ratings.
March 9	The stock for Silicon Valley Bank's holding company, SVB Financial Group, crashed at the market opening. Other major banks also saw their stock prices take a hit. Additionally, more SVB customers began withdrawing their money, for a total attempted withdrawals of $42 billion.

Chronology of Collapse

Date (2023)	Events
March 10	Trading was halted for SVB Financial Group stock. Before the bank could open for the day, federal regulators announced they would take it over. After regulators were unable to find a buyer for the bank, deposits were moved to a bridge bank created and operated by the FDIC, with a promise that insured deposits would be available by Monday, March 13.
March 12	Federal regulators announce emergency measures in response to the Silicon Valley Bank failure, allowing customers to recover all funds, including those that were uninsured.

Objectives of the Research Study

- To decipher the bankruptcy of Silicon Valley Bank.

- To comprehend the contribution of Net Profit Margin, Assets Turnover and Equity Multiplier to Return of Equity of Silicon Valley Bank.

- To explore the impact of Interest Income on Net Profits and Non-Interest Income on Net Profits of Silicon Valley Bank.

Research Methodology and its Linkage with the Objectives of the Research Study

S.No.	Research Methodology	Linkage with the Objectives of the Research Study
1.	Altman Z-Score Model	To decipher the bankruptcy of Silicon Valley Bank.
2.	DuPont Analysis	To comprehend the contribution of Net Profit Margin, Assets Turnover and Equity Multiplier to Return of Equity of Silicon Valley Bank.
3.	Regression Analysis	To explore the impact of Interest Income on Net Profits and Non-Interest Income on Net Profits of Silicon Valley Bank.

Limitations of the Research Study

- The research study is based on the secondary data.

- Due to technical constraints other crucial financial facets of Silicon Valley Bank, like Earnings Per Share, Non-Performing Assets, Return on Assets, Ratios covered under CAMELS etc. and Overall US Bond Market performance etc. could not be studied.

Deciphering the Bankruptcy of the Silicon Valley Bank

- To comprehend the journey of bankruptcy of Silicon Valley Bank, Altman Z-Score Model have been applied. In other words, through Altman Z-Score Model, an endeavour has been made to ascertain the evolving fissures in the financial structure of the bank.
- It is to be noted that Altman Z-Score Model have three variants-

(i) Publicly held manufacturing firms-

The formula for this model for determining the probability that a firm to close bankruptcy is:

Altman Z Score formula = (1.2 x A) + (1.4 x B) + (3.3 x C) + (0.6 x D) + (0.999 x E)

Deciphering the Bankruptcy of the Silicon Valley Bank

Financial ratio used	The formula for the financial ratio
A (Liquidity Ratio)	(Current Assets – Current Liabilities)/Total Assets
B (Leverage Ratio)	Retained Earnings/Total Assets
C (Profitability Ratio)	Earnings Before Interest and Taxes/Total Assets
D (Solvency Ratio)	Book Value of Equity/Total Liabilities
E (Turnover Ratio)	Sales/Total Assets

Deciphering the Bankruptcy of the Silicon Valley Bank

S.No.	Altman Z-Score	Inference
1	Z > 2.99	Safe Zone – Low likelihood of bankruptcy.
2	Z value between 1.81 and 2.99.	Grey Zone – Moderate risk of bankruptcy.
3	Z value < 1.81	Distress Zone- High likelihood of bankruptcy.

(ii) Private firms

Z Score = (0.717 x A) + (0.847 x B) + (3.107 x C) + (0.420 x D) + (0.998 x E)

S.No.	Altman Z-Score	Inference
1	Z > 2.99	Safe Zone – Low likelihood of bankruptcy.
2	Z value between 1.23 and 2.99.	Grey Zone – Moderate risk of bankruptcy.
3	Z value < 1.23	Distress Zone- High likelihood of bankruptcy.

(iii) Non-manufacturing firms – Developed Markets

Z Score = (6.56 x A) + (3.26 x B) + (6.72 x C) + (1.05 x D)

(iv) Non-manufacturing firms – Emerging Markets

Z Score= 3.25 + (6.56 x A) + (3.26 x B) + (6.72 x C) + (1.05 x D)

Deciphering the Bankruptcy of the Silicon Valley Bank

For (iii) and (iv)

S.No.	Altman Z-Score	Inference
1	Z > 2.60	Safe Zone – Low likelihood of bankruptcy.
2	Z value between 1.10 and 2.60	Grey Zone – Moderate risk of bankruptcy.
3	Z value < 1.10	Distress Zone- High likelihood of bankruptcy.

Deciphering the Bankruptcy of the Silicon Valley Bank

Since Silicon Valley Bank is a non-manufacturing organisation situated in developed economy, i.e., USA, so for gauging bankruptcy of the bank, Altman Z-Score formula provided under point (iii), i.e., Non-Manufacturing Firms – Developed markets have been applied for conducting the analysis.

Years	Working Capital	Total Assets	A (Working Capital / Total Assets)	6.56 * A
2018	10730170	56927979	0.188486754	1.236473109
2019	20779272	71004903	0.292645594	1.919755095
2020	48566648	115511007	0.42045039	2.758154562
2021	41719	211478	0.197273475	1.294113998
2022	26307	211793	0.124210904	0.814823531
	Retained Earnings	**Total Assets**	**B (Retained Earnings / Total Assets**	**3.26*B**
2018	3791838	56927979	0.066607634	0.217140887
2019	4575601	71004903	0.064440634	0.210076468
2020	5671749	115511007	0.049101373	0.160070475
2021	7442	211478	0.035190422	0.114720775
2022	8951	211793	0.042262964	0.137777264
	EBIT	**Total Assets**	**C (EBIT / Total Assets**	**6.72*C**
2018	1362909	56927979	0.023940934	0.160883078
2019	1610402	71004903	0.022680152	0.152410622
2020	1742	115511	0.015080815	0.101343076
2021	2724	211478	0.012880772	0.086558791
2022	2172	211793	0.010255296	0.068915592
	Book Value of Equity	**Total Liabilities**	**D (Book Value of Equity / Total Liabilities**	**1.05*D**
2018	5264843	51663136	0.101907151	0.107002509
2019	6621080	64383823	0.102837634	0.107979515
2020	8433491	107077516	0.078760615	0.082698646
2021	16609	194699	0.085306036	0.089571338
2022	16295	195498	0.083351236	0.087518798

Years	Altman Z-Score	Inference
2018	1.721499583	Since Z-Score lies between 1.10 and 2.60, thereby indicating moderate risk of bankruptcy.
2019	2.390221701	Since Z-Score lies in the range of 1.10 and 2.60, it is a metaphor of moderate risk of bankruptcy
2020	3.102266758	As Z-Score > 2.60, it is an indication low likelihood of bankruptcy.
2021	1.584964902	As Z-Score lies between 1.10 and 2.60, moderate risk of bankruptcy looms over the bank.
2022	1.109035184	Z-Score is almost equal to 1.10, thereby giving a vivid indication of bankruptcy.

DuPont Analysis – Analysing ROE through Net Profit Margin, Asset Turnover and Equity Multiplier

Years	Net Profit Margin	Assets Turnover	Equity Multiplier	ROE	ROE (%)
2018	0.381733071	0.044812798	10.81285406	0.184970378	18.4970378
2019	0.353977253	0.045231581	10.72406662	0.171702502	17.17025017
2020	0.315329627	0.032698185	13.69749792	0.141230879	14.12308787
2021	0.305488436	0.027419691	12.72249985	0.106568728	10.65687278
2022	0.260486794	0.027352179	12.99742252	0.092605094	9.260509359
Mean	**0.323403036**	**0.035502886**	**12.19086819**		
Standard Deviation	**0.046587933**	**0.008957684**	**1.346618457**		
Coefficient of Variation	**14.40553355**	**25.23085994**	**11.04612432**		

Regression Analysis- Interest Income and Net Profits

Multiple R	R Square	F- Value
0.766440615	0.587431216	4.271514761
Result Analysis and Discussion		
The correlation coefficient value indicates fairly robust relationship between Interest Income and Net Profits.	R-Square which is also known as Coefficient of Determination indicates that 58% of the dependent variable (Net Profits) is explained by the Independent Variable (Interest Income). Thus, it may be inferred that Interest Income has not exerted a high impact on the Net Profits.	For v_1= 1 and v_2 = 3, $F_{0.05}$ = 10.13. The calculated value of F is less than the table value. Thus, it indicates that Interest Income has not influenced / exerted a positive impact on the Net Profits of the Silicon Valley Bank to a great extent.

Regression Analysis- Non-Interest Income and Net Profits

Multiple R	R Square	F- Value
0.914052252	0.835491519	15.23614186
Result Analysis and Discussion		
The correlation coefficient between Non-Interest Income and Net Profits is extremely high, thereby indicating a strong relationship between the two variables.	R-Square which is also known as Coefficient of Determination indicates that 83% of the dependent variable (Net Profits) is explained by the Independent Variable (Non-Interest Income). Thus, it may be inferred that Non-Interest Income has exerted a high impact on the Net Profits.	For $v_1 = 1$ and $v_2 = 3$, $F_{0.05} = 10.13$. The calculated value of F is more than the table value. Thus, it indicates that Non-Interest Income has influenced / exerted a positive impact on the Net Profits of the Silicon Valley Bank to a great extent.

Impact on Indian Start-ups

- SVB has been a real supporter of the Indian start-up scene and provided banking services.
- Most of the start-ups of India that conduct business activities in the US, preferred Silicon Valley Bank because it was one of the few financial institutions that exhibited willingness to work with the Indian banks.
- Dozens of young Indian start-ups backed by the likes of YC, Accel, Sequoia India, Lightspeed, SoftBank and Bessemer Venture Partners banked with Silicon Valley Bank, sometimes as their only banking partner.
- Start-ups exposure to SVB are mainly of three forms- a) Money deposited with SVB Bank, b) Equity funding received from SVB and c) Debt funding received from SVB.
- Start-up firms backed by Silicon Valley accelerator Y Combinator (YC) (Venture Firm) are facing trouble. Industry experts say the bank’s failure is likely to impact Indian start-ups as it has injected much uncertainty in the industry.
- Some Indian firms couldn’t timely withdrew their deposits from Silicon Valley Bank because they didn’t have another US banking account readily available to hold that capital.

Indian Companies Funding with SVB

S.No.	Company	Total Funding (USD)
1	Shaadi.com	8,000,000
2	CarWale	9,873,512
3	Asklaila	12,000,000
4	Sarva	12,281,001
5	Games2win Media	13,085,782
6	Loylty Rewardz	28,270,232
7	PubMatic	31,000,000
8	Drip Capital	85,120,000
9	Numerify	88,000,000

Indian Companies Funding with SVB

S.No.	Company	Total Funding (USD)
10	TutorVista	102,250,000
11	BlueStone	111,502,585
12	Naaptol	133,305,783
13	Icertis	520,000,000
14	Paytm Mall	808,241,000
15	Paytm	4,637,862,461

The Silver Lining for Indian Start-ups and Key Takeaways

- As a big financial relief to the Indian Start-ups, the US Government assisted the depositors of the failed Silicon Valley Bank in getting access to their funds from March 13, 2023.
- US Government also announced to make additional loans available to eligible depository institutions.
- This issue is expected to be trivial for those start-ups who have deposits only with SVB, as they can withdraw the amount. However, for startups who have received funding, the situation is different.
- Indian government is working on ways to shield the start-ups from any economic uncertainty that may arise due to SVB collapse.
- In this regard, the Union Minister of State for Electronics and Information Technology has proposed a slew of measures like enabling US fund transfer to Indian banks and development of innovative credit products like deposit backed credit lines.

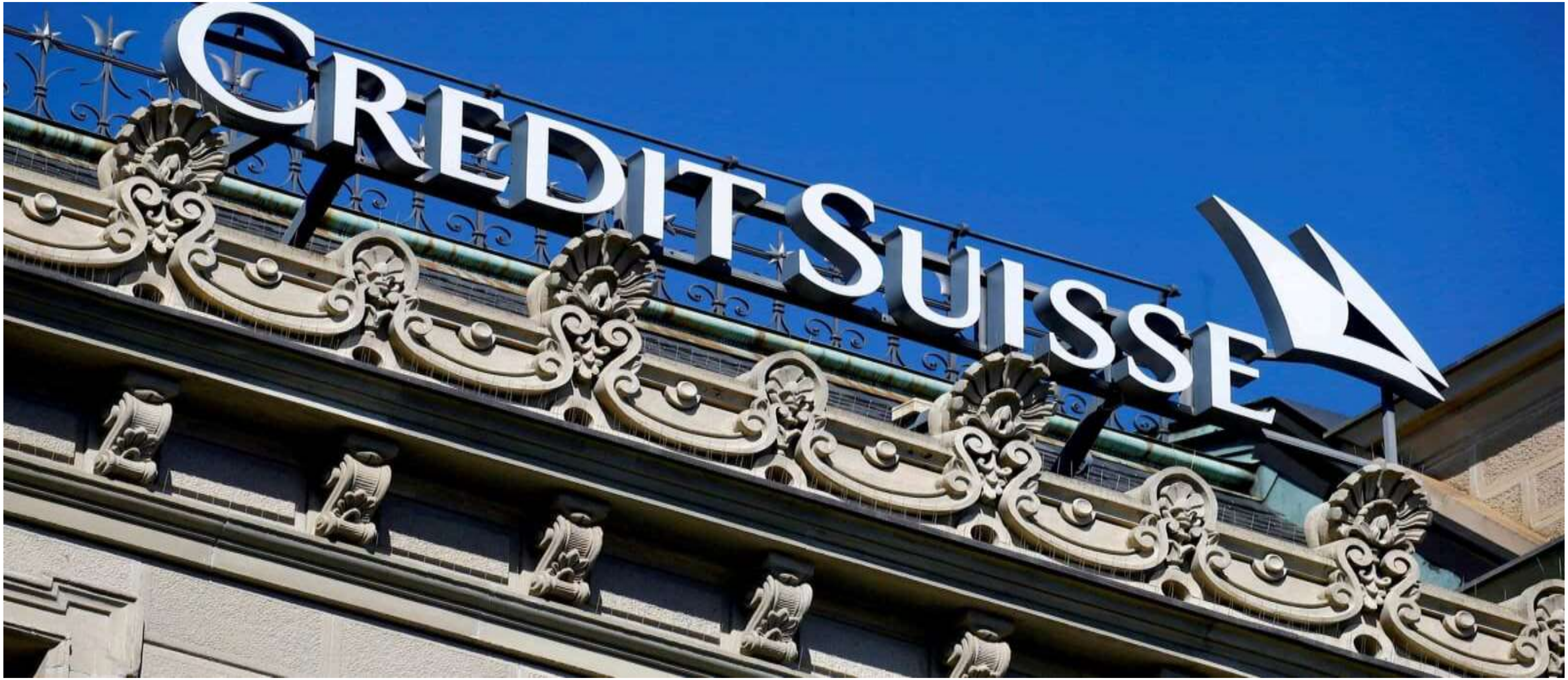
The Silver Lining for Indian Start-ups and Key Takeaways

- According to Aviral Bhatnagar, VC at Venture Highway opined that the impact of SVB turmoil will not affect India much than the US since start-ups domiciled in India do not have SVB exposure.
- India potentially has 15-20% exposure (out of funded companies) to the US through being incorporated in the US. This is primarily SaaS companies and YCombinator companies. The ones that are sub-Series B are likely to have significant SVB exposure.
- Since start-ups who hold only deposit accounts with SVB may not be affected to a great extent, as they can withdraw the amount to meet expenditures on day to day business operations.
- The start-ups that have received funding through equity route from SVB should not experience immediate tremors, since those shares may be transferred to the acquiring entity.
- For the start-ups that have received funding in the form of debt capital from SVB, their case may be little complicated, especially with reference to undrawn capital lines.

The Silver Lining for Indian Start-ups and Key Takeaways

- The SVB Bank fiasco should serve as a wake up call for Indian startups. No one should take it for granted that the regulator will always step in, but rather have their own precautions and risk management in place.
- Indian start-ups needs to diversify heir exposure by having accounts with different banks, as deposits are insured only up to a certain amount.
- In view of the robust banking system in India, start-ups of India henceforth may keep less money with US banks and substantial amount with Indian banks.
- Since the situation is much better in India, due to RBI’s monetary policies and its stringent banking norms.
- In future, there may be drastic change in start-ups scenario in India, as more of start-ups may open accounts in GIFT City. Going ahead, start-ups may undertake evaluating the option of having banking operations in GIFT City.
- Indian start-ups needs to develop business models that is sustainable and address the real problems of business.

The Apocalypse of Credit Suisse



Brief about Credit Suisse

- Zurich-based Credit Suisse traces its history to 1856, when it was founded to finance the expansion of Swiss railroads. The company was founded by Alfred Escher on July 5, 1856 and is headquartered in Zurich, Switzerland.
- Credit Suisse began as a commercial bank in 1856, at a time when Switzerland was first embracing the industrial revolution. Today Crédit Suisse is one of the Big Three powerhouses of the Swiss banking industry, along with the Union Bank of Switzerland and the Swiss Bank Corporation. In that role alone, the bank ranks among the major players in the world financial arena.
- The growth of various industries in Switzerland and the continued expansion of the railroads provided ample opportunities for Crédit Suisse to grow.
- Credit Suisse played a pivotal role in development of Swiss monetary system, and by the end of the Franco Prussian War in 1871, Credit Suisse was the largest bank in Switzerland.
- Recently, Credit Suisse had been working to spin off its investment-banking arm as part of an attempt to move on from a long stretch of scandals and quarterly losses.

Cracks in Credit Suisse

- First, aggressive investment banking and skewed incentive structures led to excess risk taking by the sales team.
- Second, Credit Suisse allowed the sales and business development team to overrule the risk and compliance team, which triggered bad decisions.
- Third, bankruptcy of Greensill, a supply chain financier in March 2021. Credit Suisse had an exposure of $10 billion. The supply chain receivables were securitized and converted to bonds and were sold as safe assets to clients. The bank could recover only part of the funds and might have end up in losses.
- Fourth, despite massive losses of Archegos Capital, the Family Office of Bill Hwang, Credit Suisse kept on funding the family office heavily, thereby leading to loss of $5.5 billion in Archegos. Loss from investments in Archegos would have been lower for Credit Suisse had it exited positions like Goldman Sachs and Morgan Stanley.

Cracks in Credit Suisse

- Fifth, the fall in ethics due to greed for slush money. Credit Suisse handled cash for a cocaine trafficker and is facing criminal money laundering charges.
- Sixth, Credit Suisse has been fined Â£350 million over the Mozambique tuna bonds scam, which were loans arranged for the Republic of Mozambique.
- Seventh, Credit Suisse has funded high risk assets like private aircraft and superyachts for Russian oligarchs and that is in trouble with amidst the Ukraine war.

Repercussions

- Investors have been on high alert for signs of contagion following the rapid collapse of California-based Silicon Valley Bank earlier this month. That led to a selloff in shares of banks around the world, including Credit Suisse's.
- The larger and long time rival of Credit Suisse, UBS Group have agreed to buy the bank, thereby marking the mammoth deal in the global banking system. The purchase consideration stood at around $3 billion.
- UBS was pushed into the deal by regulators who were eager to curb further panic about the stability of the banking industry.
- According to Finma, Switzerland's financial regulator, the aforesaid initiative was necessary to prevent damage to the Swiss and global financial markets.
- UBS agreed to pay Credit Suisse shareholders 3 billion Swiss francs, or around $3.1 billion, in the all-share deal. The Swiss government also agreed to backstop 9 billion francs of potential losses from Credit Suisse's assets and allowed UBS to wipe out about $17 billion of Credit Suisse bonds.

What Next?

- Impact on Indian financial markets may be less as they are not as interlinked with global financial markets as those of some other countries. But there will be a negative shock, possibly leading to a further slowdown in economic growth.
- Credit Suisse operations in India are limited. However unlike SVB, Credit Suisse is a much larger global financial entity.
- The positive outcome from takeover of Credit Suisse is awaited. Generally, it is a myth that a larger capital base can absorb risk. In the case of Credit Suisse too, the takeover by UBS is the latest example in a long line of desperate attempts to create stability through mergers that have seen many large European lenders merging since the global financial crisis.
- Desperate attempts imply that takeover deals inked to save collapsing banks have not gone well.
- For instance, public-private emergency rescues resulted in the disappearance of Dresdner Bank (taken over by Commerzbank) and ABN Amro (which was bought by a consortium of Royal Bank of Scotland, Fortis, and Banco Santander). Both deals were disastrous for the buying banks and more public money followed.
- The Dutch government resurrected ABN Amro and the German government still has a stake in Commerzbank. UBS might well see similar problems from the Credit Suisse takeover.

Way Forward

- Continuous debacles of leading banks in developed world may be a harbinger of another global economic crisis, may be of lesser magnitude than what happened in 2008.
- Banks of the countries that witnessed banking failures need to work on CAMELS.
- Corporate Governance, especially financial governance is in doldrums which needs to be reconnoitred for creating an optimum edifice of corporate and financial governance.
- Banks needs to rework on their both loans and investment portfolios.
- Central banks of US, Switzerland and other developed countries needs to make lending rules more stringent.
- As mentioned, Indian start-ups should now knock the doors of Indian banks more than foreign banks due to robust banking structure in India.
- If possible and subject to regulatory framework, start-ups financial information / Annual Reports should be make accessible to public like those of listed companies, so that stakeholders can be conversant of the raising and utilisation of funds by start-ups and other significant financial information.

Scope for Further Research Study

- How banking policies will shape up in the future in developed countries, particularly those where bank debacles happened with reference to prevention of further banking failures may be explored.
- Business sustainability of selected mammoth banks of developed countries having large exposures to various countries across the globe, especially India using CAMELS approach, Regression Analysis, Parabolic Trends and other Time Series Analysis tools, Altman Z-Score Model etc. may be studied to determine the financial stability scenario of global banking sector and its probable impact on the Indian banking sector.
- Corporate Governance of selected big global banks may be examined to decipher the fault lines and determine resuscitating measures. In this regard, Piotroski Score may be applied which would assist in ascertaining the strength of banks financial position, a key component of banks corporate governance.
- A comparative study of Global and Indian banking systems may be undertaken by analysing the factors of ESTEMPLE.

THANKS