



Bocconi Students Investment Arena was born in 2022 from the idea of bringing together students of different degrees and experience, but all with the same ardent passion for finance. Through dedicated competitions, masterclasses, and a members' forum, we aim to develop a community of students that fosters quantitative and qualitative skills like in-depth practical investments and valuation skills, teambuilding, and analytical skills.

The uniqueness of this association is that members would be able to put their investment knowledge into practice by competing against each other in two main events: portfolio competition and company valuation competition.

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Could Credit Suisse have seriously failed?

By Nicola Barone

Credit Default Swap Trends

Over the past months there have been numerous rumors around the popular Swiss bank on social media such as Reddit and Twitter about a possible collapse similar to what happened to Lehman Brothers in 2008. This led to a major sell-off in the bank's stock and a rise in the Credit Default Swap of more than 370 points (levels not seen since the crisis mentioned above, 14 years ago).

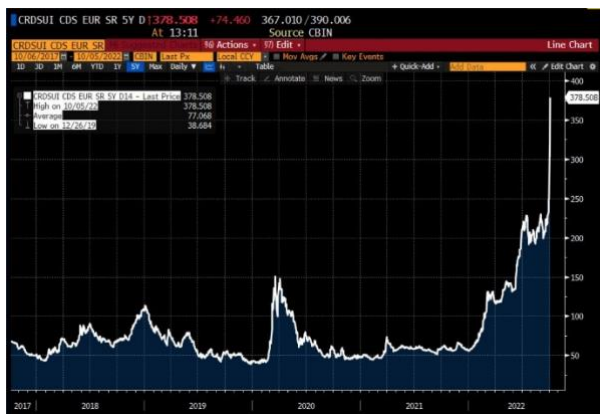


Figure 1. Credit Suisse CDS. Source: Bloomberg

These elements have driven the stock down to a bottom spike of -55% YTD (at the time of writing Credit Suisse is down of -54% since the 1st of January), but what are the actual risks of failure for the Swiss bank?

Operational and reputational concerns

Over the past 15 years, the bank has highlighted the severity of problems in compliance, risk management, and lack of internal controls. There are several cases that have tarnished the financial institution's image. Starting with events that ruined the bank's reputation, such as the tailing of some executives, to a series of bad transactions that

severely affected the financial statements. In the last two years alone, we recall the cases of Archegos, Greensill Capital, and the Mozambique bonds (known as Tuna bonds).

From an operational standpoint, there is a weak performance with a sharp decline in the last four quarters. This is mainly due to the fact that investment banking commissions are the most influential driver in Credit Suisse's revenues, and, in the current macroeconomic scenario, they are being severely penalized (58% decline in investment banking fees by Credit Suisse for the first nine months of 2022).

Reassurances for investors

The greatest fear for investors is, clearly, liquidity, but as the latest figures released by the bank show, there would not appear to be many problems in this regard. Cash and cash equivalents amount to CHF 147 billion, while short-term loans are around CHF 47 billion, therefore it seems that Credit Suisse has no problem when it comes to liquidity ratios, but it is well known that in financial markets the difference between liquidity and trust is very blurred.

Another problem is related to the large amount of debt and the massive and constantly increasing use of leverage, in fact only 6 percent of assets are covered by equity. Nevertheless, even from this perspective by looking at ratios such as Core Tier 1 it can be seen that the bank is absolutely aligned with other European banks. The debt is high but so is its quality, and the company says they will have to lose about 100 billion Swiss Francs to have solvency problems.

In the banking sector, risks are very high and there are always many asymmetries concerning financial reports. Furthermore, others UE banks are suffering the same problems as Credit Suisse but are not as significantly exposed to the public. As a result, the bank's situation needs to be monitored, but it will not necessarily lead to a collapse.

A positive outlook

With this in mind, the results for the third quarter of 2022 will be significant, but Credit Suisse will evidently need to take measures to improve its position. In fact, the Swiss bank has already set a 2 billion equity issuance and planned a major asset sell-off, as well as a necessary staff reduction.

In conclusion, in 2022 it seems very difficult for such a renowned financial institution to completely collapse, both because of the actions it can still put in place and because of the guaranteed support that the Swiss state would offer in the event of a real risk.

Moody's possible cut to Italy's rating

By Francesco Zunino

Italy's downgrade

Earlier this year, on the 5th of August, the worldwide-known rating agency Moody's decided for an important revision in Italy's overall rating: the outlook was lowered from "Stable" to "Negative". This represents an important adjustment, as it opened the door for a further future correction, which could bring the country's rating from the current "Baa3" (which is equivalent to a "BBB" if we compare it to the S&P's scale) to "Ba1" (or "BB").

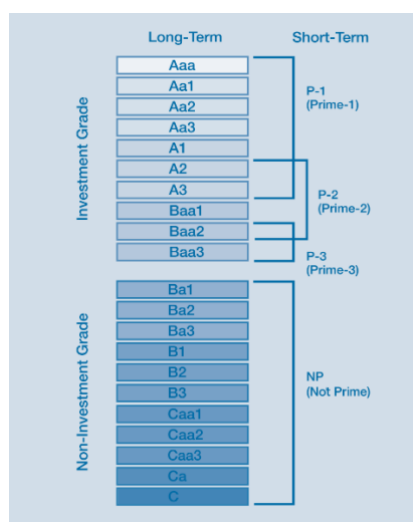


Figure 2: Moody's rating scale. Source: Moody's

This would represent a significant adjustment, since Italy would no longer be regarded as a low-medium grade investment, instead becoming a speculative investment.

Reasons behind the downgrade

But what are the drivers of this downgrade? According to the rating agency, the impact of the Russia-Ukraine war, which severely endangered

the country's energy supply chain, which relies for 50% on gas and is heavily dependent from Russia, together with the unstable political situation in a moment during which the country has to face the challenge of efficiently allocating the resources, have contributed to "accumulate risks" that could potentially threaten the Italian government's credit profile.

In their own words, the three main factors of risk for Italy's reliability, which led Moody's to reduce the country's outlook from "Stable" to "Negative", are:

- Heightened risks that the political environment will impede the implementation of structural reforms, including those contained in Italy's National Recovery and Resilience Plan (NRRP);
- Increased risk that energy supply challenges will weaken economic prospects;
- Risks that Italy's fiscal strength will be further weakened by sluggish growth, higher funding costs, and potentially weaker fiscal discipline.

If these scenarios were to be confirmed in practice, Italy would be likely to receive a downgrade in its rating as well, from "Baa3" to "Ba1", but nothing is said yet. The key point for Moody's will be Italy's ability to implement growth-enhancing reforms thanks to the funds received from the EU and to stick to those reforms outlined in the NRRP. Another crucial point for Italy's mid-term and long-term growth will be the implementation of a strong fiscal policy. Italy is indeed the first country in the EU when it comes to tax evasion, and a partial recovery of the taxes evaded every year

would contribute to keep the debt/GDP ratio from a further raise.

The path towards a stable outlook

According to Moody's, if the newly elected government will prove its resilience against the current geopolitical risks, the rising energy and borrowing cost, together with a "credible medium-term fiscal consolidation plan", the outlook could potentially return to "Stable". But if, on the contrary, the government was to fail to implement significant growth-enhancing reforms, or if the raise in the interest levels and fiscal weakness were to cause a substantial increase in debt levels, then a rating downgrade would become a concrete option.

Space Economy, An Opportunity for the Daring

By Saeid Kazemi

Trends in the space industry

Ever since humans first looked at the sky, it filled them with a cryptic sense of wonder. Its vastness and puzzling patterns, ever filling half of our globe of vision, inspired religion, mythology, literature, great philosophers of old, and scientist and mathematicians that took the arduous task of deciphering its secrets. Nevertheless, it took us millennia to move from the works of Ptolemy in 100 AD to the first moon landing in 1969. However, it has been decades since we had any meaningful strides towards expanding our civilization into the vastness of space. Fortunately, this trend is changing.

According to an extensive report by Citigroup analysts, the space industry is projected to grow to \$1 trillion in revenue by 2040, with the launch costs dropping up to 95%. This tremendous decline in the launch costs, will surely enable a myriad of economic opportunities waiting to be explored, such as orbital services as satellite and broadband availability will increase, along with space tourism, space mining, and most excitingly, space exploration.

According to Morgan Stanley and Bank of America, the global space economy's value was around \$424 billion in 2020, having expanded 70% since 2010. This expansion was mostly due to the privatization of space services and launch systems, mainly spurred by the newly formed competition between SpaceX, and the established giants such as Boeing and Lockheed Martin, now merged as United Launch Alliance.

This competition which has already triggered innovation and decreased launch costs, has greatly increased other firms' ability to generate revenue, mainly from manufacturing, satellite service, launch services and ground equipment, which will make up the majority of the revenue growth in the satellite sector in the coming decades. However, the fastest growth rate is expected to come from new space applications and industries, with revenue forecast to rise from zero to \$101 billion over the period.

Private investment in space companies, especially from venture capital, has steadily broken annual records over the past decade. Last year, space infrastructure companies received \$14.5 billion of private investment, according to Space Capital's quarterly report, which tracks about 1,700 companies.

A flurry of space companies went public last year through SPAC deals, but most of the stocks are struggling despite the industry's growth, due to adverse macroeconomic situation and rising interest rates.

One major factor negatively affecting these startups is the speculative nature of the industry and many of its growth avenues. It broadly reminds investors, of sci-fi ambitions and dreams that might not be realistic and financially feasible. These include space based solar power ranging from orbital panels to Dyson swarms, to moon and asteroid mining which considering the long delay in humanity's presence in moon, sounds like a very long-term investment, space tourism which is mostly targeted at hyper wealthy customers, and

microgravity R&D and construction which is still monopolized by intergovernmental agencies such as NASA and ESA. Despite these concerns, many of these technologies have long been available and financially feasible, only looking for a daring investor to kick start, such as what is currently happening in the nascent space tourism industry.

The long-term risk of these investments though is justified, as a similar analogy would be attempting to forecast the value of the internet today versus nearly 20 years ago when the term ‘smartphone’ was relatively unknown and before broadband replaced dial-up internet connections. Therefore, raising investor awareness regarding the potential profitability and feasibility of space industry and opportunities is of paramount importance for aspiring entrepreneurs and enthusiasts.

In the following sections, we examine some of the main points of concern which sheds light on the actual potential and risks of the space sector in years to come.

Launch Costs Plummeting

A \$1 trillion space economy would happen only through a decline in launch costs, which has already started by falling precipitously since the 1980s, to about 40 times lower. The cost of a rocket launch is typically broken out on a dollar-per-kilogram basis. From 1970 to 2010, the average launch cost plateaued around \$16,000 per kilogram for heavy payloads and \$30,000 per kilogram for light payloads.

However, thanks to reusable rockets, first introduced unsuccessfully by NASA’s Space Shuttle, and later perfected by the private sector, mainly SpaceX’s Falcon 9 and Falcon Heavy rockets, we have seen a sharp decline in costs, that is projected to further fall after the introduction of SpaceX’s Starship. Introduced in 2010, Falcon 9 has single handedly revolutionized space launch,

dropped the average cost per kilogram down to around \$2,500, 30 times lower than NASA’s Space Shuttle’s costs retired in 2011, a year after Falcon 9’s introduction.

“Fundamentally, with the new generation of space being driven by the commercial sector, the launch industry is seeing a secular shift from being largely cost-plus pricing-based to being value-based in order to open up new markets and maximize profitability,” Says Citibank analyst. “Previously, the launch market had a limited number of government-supported companies that were concerned more with military capability and creating revenue and jobs than with increasing operational efficiency.”

The increasingly common practice of reusing rocket boosters and launchers is driving that cost down. It is estimated that launch costs could fall to about \$30 per kilogram by 2040 in a best-case scenario. If rockets are “still only being reused around 10 times” each by 2040, which SpaceX is already doing, the cost still comes down significantly to about \$300 per kilogram, which in itself, enables untold opportunities for potential customers and businesses.

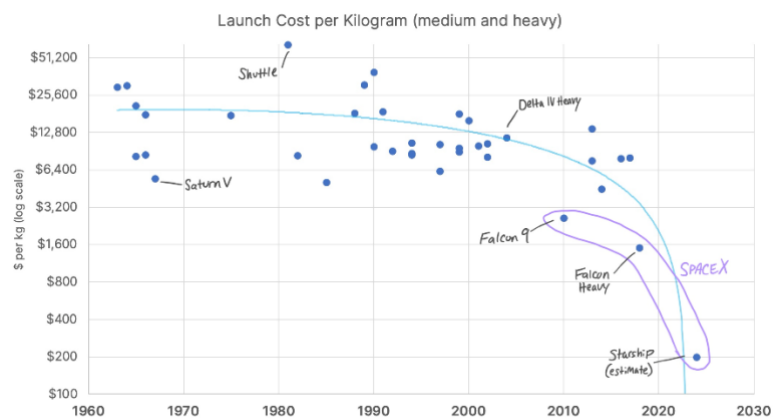


Figure 3: Launch cost per kilogram. Source: FutureBlind

Satellite Boom

The satellite market makes up the largest slice of the space economy, at over 70%, and it is undergoing a paradigm shift in demand.

While satellite revenues have traditionally been from services like television and military, they are already expanding toward new applications such as consumer broadband to mobile connectivity to internet-of-things networks, such as with SpaceX's Starlink, and Amazon's project Kuiper. These services will accelerate this shift through greater accessibility to internet services across the globe.

Space Tourism and Travel

One other front where the space industry is projected to boom in the coming decades, is the space tourism and travel industry. With companies such as Blue Origin and Virgin Galactic pioneering space tourism for enthusiasts and without major prior training that is already the case with NASA and SpaceX's tourism programs, new possibilities are being tested to service a niche customer base, wealthy enough to pay for these services and enable these companies to reduce the price to offer the service to the masses in the future.

On the other hand, there are proposals looking at the possibility of sending passenger and cargo to another point on Earth through space, which is becoming increasingly possible thanks to the reduction in launch costs. These proposals are already being explored by the likes of the US Department of Defense which shows the seriousness of these ideas in the near future.

Regulations and Space Junk

Expanding the space economy won't be easy though, noting that the harsh environment of space, the steep upfront capital costs and the long timeline

to see returns on space projects all represent significant growth risks.

The perception of space as a mere hobby for billionaires represents another risk, as the industry needs to gain public acceptance before it can be adopted across various industries. While investment from private entities has driven down the cost of access to space, with more people and spacecraft flying for a fraction of what governments have been able to accomplish, the perception that space companies are ego-driven pet projects of the most wealthy individuals can damage the industry's potential.

On the other hand, one major front where the space industry is lacking is regulation. We are all living on a small planet, vulnerable to disasters and extinctions and our only chance of long-term survival comes from exploring the space and expanding beyond the boundaries of our planet. This requires us to act responsibly and not just in our short-term self-interest.

Space is nobody's territory, and therefore, no regulatory body is responsible for setting up rules of conduct and doing business in space. The United Nations is currently trying to establish new organizations and international agreements to help regulate the booming industry, which has been observed first hand by the author, but these efforts should be binding and apply to military activities to prevent disasters that might cause space debris falling down on us from space, and also minimize the very real risk of a Kessler Syndrome, which in case it becomes a reality, might destroy our chances of space exploration, for decades and centuries.

It has been said that astronomy is a humbling and character-building experience. There is perhaps no better demonstration of the folly of human conceits than this distant image of our tiny world. It underscores our responsibility to deal more kindly with one another, and to preserve and cherish the

pale blue dot, the only home we've ever known. -
Carl Sagan, Pale Blue Dot, 1999

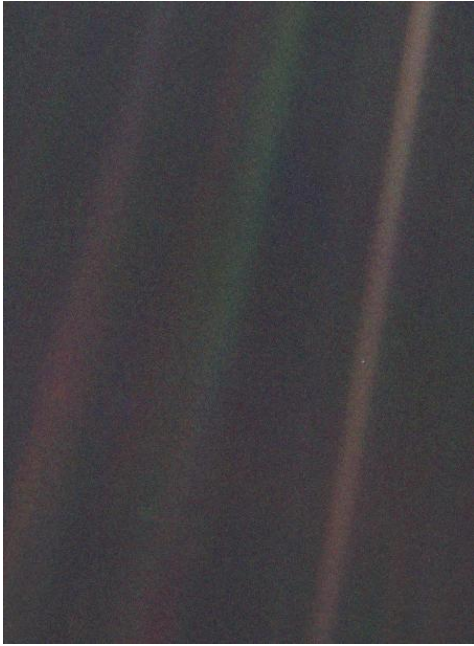


Figure 4. Pale Blue Dot, the furthest picture ever taken from Earth by Voyager 1 in 1990 before turning its off its camera, forever journeying in the vastness of space.

