Economic Environment and Business Strategy
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Credit Rating: Purpose, Process, and Impact

Hello everyone, and welcome back to this session. In this session, our focus will be on the critical factor that explains why interest rates vary across different debt instruments, and we will utilize the tool of credit ratings to explain this variation. In real-world debt instruments, not all borrowers encounter the same borrowing costs, even for loans or bonds with similar maturity periods. Here, the credit ratings issued by independent agencies play a crucial role in differentiating this. They reflect the perceived risk of default and consequently directly influence the interest rate or yield that investors demand. This topic is particularly significant within the scope of the course on the economic environment and business strategy.

For firms, governments, and investors, credit ratings have a significant influence on access to capital, impact borrowing costs, and signal financial health to the market. Therefore, for managers and strategists, understanding how credit risk is priced and perceived can offer a competitive edge in corporate finance and investment planning. In this session, we will specifically explore how credit ratings are constructed and interpreted. We will subsequently examine the differences between investment-grade and low-grade bonds, as well as the role of domestic and international rating agencies, including how their evaluations influence investor behavior and borrowing costs.

Next, we will examine real-world examples from both government and corporate bond markets, including the case of India. By the end of this lecture, I hope that you will understand how credit ratings act as a bridge between macroeconomic fundamentals and financial market outcomes. And how they influence business strategy in a world of capital mobility and investor risk assessment. Let's begin with the question: what is a credit rating, and why does it matter so much to financial markets? To understand this, let us follow up on our previous session, where we discussed the existence of several rating agencies. Let us begin with one of the rating agencies' rating scales.

For example, Moody's global long-term rating scale is used. In the previous session, I mentioned AAA ratings while explaining the figure of interest rate movement, using the terms 'AAA ratings' and 'AAA corporate bonds.' AAA signifies the highest quality of debt instruments. That means obligations rated AAA are judged to be of the highest quality, subject to the lowest level of credit risk. That means the perceived default risk of this debt instrument is also very low for this financial institution.

That means high-quality bonds. Those who receive AAA ratings, or countries that receive AAA ratings, or firms that receive AAA ratings, are considered to be of very low risk. That means they need to pay a low rate of interest when they raise finance from the debt markets. Then it follows, AA. Then, at the bottom of the ranking, you can see BAA.

This is the term I used in the previous figure, where obligations rated BA are considered medium-grade and are subject to moderate credit risk; as such, they may possess specific speculative characteristics. Then we have BA and even lower grades, which imply that when reading from top to bottom, the top indicates high quality and a high rating, signifying low risk. As we go down, the ratings decrease and the default risk increases. Next, there is a category called CAA. CAA means obligation-rated; CA is considered speculative or in poor standing and faces a very high credit risk.

Below that are CA and, finally, C. Look at, for example, the C obligations. C is the lowest-rated category and is typically in default, with little prospect for recovery of principal or interest. Overall, these are referred to as speculative-grade bonds or junk-rated bonds. We usually refer to them simply as young bonds.

We refer to those bonds with this kind of rating as young bonds. Moving further into the short-term global rating scale, I start with the P1, which is the premier rating. It reflects a superior ability to repay short-term obligations. Mainly, corporate commercial paper is a type of debt instrument. It initially receives a P1 rating, indicating the highest quality.

The second rating is P2, and then P3. NP issuers, rated as not prime, do not fall within any of the prime rating categories. Let me summarize this. The standard linkages between global long-term ratings and short-term rating scales are established. These are all long-term ratings, as we have already seen that those who receive AAA ratings are considered to have superior quality, meaning the perceived default risk is significantly lower compared to short-term ratings.

The corresponding rating P1 is for AAA to A3; this one has a prime rating, and accordingly, you can see the ratings. These are not all with a prime rating. I am providing a summary of the rating scales used by the three international rating agencies. There are slight differences in the rating scale they use, but overall, these are all comparable. As you can see, Modi starts with AAA.

S&P also uses AAA, as does Fitch. However, there are slight variations here: AA1, AA2, AA+, and AA++. What you can see here is that those who are receiving high ratings have a very low default risk. Those bonds that carry ratings of AAA are of superior quality. That means the default risk, or credit risk, is very low.

And accordingly, they need to pay a low interest rate in the market. To sell, they need to pay a low interest rate. And the investors, the lenders, can, if they wish, give more preference and priority to safety by buying AAA-rated bonds. However, you know that they will receive a yield to maturity, and the yield they receive will be low. I also offer some petitions for junk bonds and fallen angels.

Junk bonds: I already mentioned that those are coming here. These are junk bonds. A fallen angel is an entity that has been reduced to junk status because its issuer faced financial trouble. Especially during the 2007-2008 financial crisis, it initially stemmed from a real estate crisis, then escalated into a financial crisis, and further developed into an economic crisis. AAA-rated bonds and firms have seen their ratings decline due to financial difficulties.

After the financial crisis, they were rated as junk bonds, and their ratings dropped to this level. These bonds are called fallen angels. They offer higher returns than investment-grade bonds but carry greater risk. This is also a further summary, highlighting some of the companies that receive higher ratings. As you can see, in the case of corporations, for example, these companies have been rated AAA.

For example, Microsoft and Canada have received AAA ratings. In AA, you can see General Electric, Procter & Gamble, and China; all these companies have AA ratings. Many low- and middle-income countries often see their ratings plummet, dropping to the lowest levels. For commercial paper ratings, which are short-term credit instrument ratings, I also have some examples of who received the prime P1 rating, who received P2 ratings, and who got P3 ratings. I'm providing you with some web links to the rating agencies.

When you click here, you will access data on the ratings received by various countries over time. I am also providing some links from Wikipedia, where you can view the list of countries by credit rating and infer which countries have superior credit ratings based on this information. And because of that, they can earn at a low interest rate from the market, which means their borrowing costs are very low. In contrast, countries with low credit ratings must pay higher interest rates in the market to borrow. Here, I'm simply showing you the ratings from Moody's, S&P, and Fitch.

You can see that the US has a triple-A rating. Then you come to Australia, and you can see that Australia also has a triple-A rating. These are the ratings for various countries. If you follow the link I shared with you, you will find more information and data on the sovereign ratings for every country in the world. I'm showing you some screenshots of India's credit rating.

According to the rating agencies, Fitch has assigned India a rating of triple B minus. Moody's rating is BAA3, and it has given a stable outlook. So, based on this rating outlook, the agencies have the following watchlists. Positive means the rating may be raised in the future, while negative means it may be lowered. Stable indicates the rating is unlikely to change soon.

Here, you can see that all three rating agencies gave a stable rating during this period, despite the ratings being low. This suggests that these ratings are less likely to change soon. However, in 2020, particularly during the COVID-19 pandemic, notable changes occurred. All these rating agencies provided us with a negative outlook. That means that in the coming days, the upcoming ratings will lower our rating.

However, the positive was evident in 2014 and 2015. By visiting this website, you will find the most up-to-date ratings for India. What are the factors that determine the sovereign rating? I'm presenting to you the factors that these rating agencies consider when assigning sovereign ratings. The primary factor is the one that affects the sovereign government's willingness and ability to service its financial obligations to nonofficial creditors on time and in full. The criteria vary across rating agencies; however, we can present all these factors in five main categories.

One is institutional assessment, which measures the strength and robustness of the country's institutional foundation. How strong is the foundation of the economy? Then, the external assessment of the economy is conducted. Fiscal assessment. Fiscal assessment refers to the budgetary position of the economy, including the total budget size, total expenditure, total revenue, budget deficit, and the government's borrowing requirement. And what is the interest payment obligation for the country, including all factors, along with the monetary assessment of how stable inflation is in the country, how consistently the country has been following monetary policy, and how strong and credible the monetary authority is the monetary authority and monetary policy framework in the country, so all these factors vary from country to country and over time. All these reflect the sovereign ratings by these three international rating agencies, so what are the reasons why countries care about their sovereign ratings and why they see them as important? Suppose one country receives a triple-A rating and another, for example, gets a double-A rating. How does this make a difference? The main point is that a higher, more superior rating typically means you will pay a lower interest rate when borrowing from the market. Here, the rating is a mapping of the probability of default, which depends on the borrower's ability and willingness to repay. The criteria for sovereign ratings are mainly based on fiscal discipline, debt servicing, stability, and reputation.

Therefore, if a country receives poor ratings, it negatively impacts its business environment and assets. Because a country has a low poverty rating, the firms operating in that country also carry similar risks. They need to pay high interest rates to raise external finance, which means higher production costs. This can negatively impact the business environment, resulting in lower foreign direct investment. In many countries, such as the US and other developed nations, institutional investors, including pension funds, mutual funds, and insurance companies, are not permitted to invest in countries where the sovereign rating falls below a certain critical threshold.

That means it will hurt foreign direct investment. The reasons and consequences being discussed involve poor sovereign ratings. One of the main factors is the fiscal deficit, which is a key criterion. And that is why you can see that over the years, the government of India has been trying to reduce its fiscal deficit, which is the amount of borrowing required from the market. A high fiscal deficit will lead to lower sovereign ratings, which in turn result in higher interest rates.

Many foreign governments also prohibit their companies from investing in countries with low sovereign ratings. It has negative implications for economic growth. Additionally, the stability of political and economic systems, as well as creditworthiness, influences poor sovereign ratings. Regarding the impact of ratings on yields, as explained at the beginning of this lecture, when a company or debt instrument receives a high rating, such as AAA, it has a significant effect on the yields. They need to pay a low interest rate to raise capital from the market.

Then, those with low default risk and those receiving high ratings are considered benchmark bonds. Globally, the U.S. Treasury bill is considered the benchmark bond. The yield on other bonds is measured in terms of the spread over the Treasury yield.

So, when discussing the bond yield of India, we typically express it as the yield or interest rate of a benchmark bond plus the default risk premium for India. In this case, inside one, the higher the default risk, the higher the yield. When treasury yields move, all other yields follow them. If bond ratings accurately reflect the probability of default, then the lower the issuer's ratings, the higher the default risk premium and, consequently, the higher the interest rate. I'm showing you a comparison of international 10-year government bond yields.

Starting with Switzerland, they are the ones with a negative yield. That means that when someone buys a government bond, such as Switzerland's government bond, they need to pay the government to purchase it. That means investing in a Swiss bond is a relatively safe investment for your money. However, in contrast to this, consider the countries where you know the interest rate is very high.

That means the default risk is also very high. So, let's discuss the benchmark bond further. As I mentioned, U.S. Treasury bonds are considered default-free. Here, what is the difference between, for example, a US bond and an Indian bond? So, suppose the interest rate in the US is 2%. And whereas in India, for example, this is 2%, in the US.

In India, for example, this is going to be 7 percent. Therefore, the difference between the benchmark bond and the Indian bond, which is 7%, is 7 minus 2, resulting in 5%. This is the risk premium. The spread between interest rates on bonds with default risk and those on the same-maturity Treasury bonds is significant. Normally, we, the leading financial dailies, publish the risk spread or the risk premium periodically.

Let's examine this table. Here's what I'm presenting: the country's name, the list of countries, the S&P rating, the 10-year yield, and the spread between the U.S. and the other countries' bond vis-à-vis this country.

You can see here that Switzerland is at a minus 2.96% rate. That means, compared to US bonds—the benchmark bonds—Switzerland has the lowest, which indicates it has a key bond, a bond of superior quality. Then, yes, obviously, you know the benchmark, so the risk rate is zero. However, when you examine, for example, India, you can see that the spread is 5.18. In Venezuela, this number is very high, at 43.11. What you can see is that the Venezuelan government, when it wants to borrow from the market for a 10-year bond, needs to pay an annual interest rate of 45.98%. You can see some countries here. These countries need to pay a high rate of interest, which corresponds to their high-risk spread. I am also showing you another figure that compares the risk spread of selected countries to that of the US, which serves as the benchmark.

Obviously, the spread for the US is zero. You can see that Germany and Canada have significantly superior risk ratings compared to their credit quality ratings, as well as the US. In countries like India and Brazil, the risk spread is much higher than in the US. Having discussed the default risk, bonds with the same maturity have different interest rates due to differences in default risks. Apart from default risk, other factors also determine the structure of interest rates. One is called liquidity.

Liquidity refers to the ease with which a bond can be sold. The bond market, as the secondary market, is well-developed and highly liquid. There is many buyers and sellers in the bond market, and you can buy or sell your liquidity at any time you want. That means the liquidity is very high. Therefore, when liquidity is very low, the interest rate will be high; conversely, when liquidity is very high, the interest rate will be low. When liquidity is extremely low and the market is less liquid, the interest rate tends to be high.

Then, the tax consideration mainly involves income tax considerations. Income tax consideration means that the interest payments on municipal bonds are exempt from federal income taxes. Municipal bonds are issued by local governments. I am providing an illustrative example here. Consider a one-year, $100 face-value, taxable bond with a 6% coupon rate and a 30% tax rate.

After-tax bond yield, we will see what the after-tax bond yield is. Consider a 1-year taxable bond with a face value of $ 100 and a coupon rate of 6%. This is a promise to pay

106 in one year. If the bond is selling at par for $100, then the yield to maturity is 6%. From the government issuer's perspective, bondholders receive a 6% return on taxable income at maturity.

If the tax rate is 30 percent, the tax on that income will be $0.60. Therefore, the $100 bond yields $104.20 after taxes. In other words, at a 30 per cent tax rate, a six per cent taxable bond yields an equivalent of 4.2 per cent. Here's what happens if municipal bonds suddenly become tax-free: when the government announces they are tax-free, demand for municipal bonds increases.

As a result, bond prices go up, which means interest rates decline. At the same time, demand for competitors, like treasury bonds issued by the federal government, declines, causing their prices to drop and interest rates to rise. What you can see here is that when a tax-free status is announced for municipal bonds, their demand curve shifts to the right, leading to a decline in interest rates. At the same time, its competitor, the Treasury bonds, has its demand curve shift to the left, and its interest rate rises. That means a market adjustment has occurred. So, as a result, municipal bonds have a higher price and a lower interest rate than Treasury bonds.

So here is a real-world example: the Obama tax increase on bond interest rates. In 2013, Congress approved legislation favored by the Obama administration to raise the income tax rate on high-income taxpayers from 35% to 39%. Consistent with the supply and demand analysis, the increase in income tax rates for wealthy individuals helped to lower the interest rate. Interest on municipal bonds is related to the interest rates on treasury bonds.

Let me now show you some examples of tax-free bonds in India. The Rural Electrification Corporation and the National Highway Authority of India issue tax-free bonds. This means that when they are tax-free, high-net-worth individuals are likely to invest in these bonds to save on taxes. Thank you for watching this video. See you in the next session. Thank you.