Our project is based on the paper Quality minus Junk by them. Empirically, we find that high-quality stocks do have higher prices on average. And high-quality stocks have high risk-adjusted returns. Indeed, a quality-minus-junk (QMJ) factor that goes long high-quality stocks and short low-quality stocks earns significant risk-adjusted returns.

What is quality? We define quality as characteristics that investors should be willing to pay a higher price for, everything else equal. For example, investors are willing to pay more for safer stocks.

How can we address those characteristics? Let’s look at some formulas first. This is the Gordon growth model. Price equals to dividend divided by required return minus growth. Then we divided price by book value to get price to book ratio. In the numerator, we can multiply by profit and divided by profit.

From the formula, we can get some characteristics. First, profitability. Profitability is the profits per unit of book value. All else equal, a more profitable company should command a higher stock price. Second, growth is the growth rate of profits. People pay a higher price for stocks with growing profits. Last one, safety. Investors should also pay a higher price for a stock with a lower required return, that is, a safer stock. We consider both return-based measures of safety (such as market beta) and fundamental-based measures of safety (such as low volatility of profitability, low leverage, and low credit risk).

At last, our data source. We get monthly pricing, returns, shares outstanding and so on from CRSP. And we download accounting data to get like book value from Compustats North America fundamentals. At last, to compare our strategy with other portfolios, we downloaded Fama-French 3 factors from Kenneth R. French’s website’s data library.

How to calculate the quality characteristics using those data, I will hand over to Nanhao.